

VISUAL ART THERAPY: A VIABLE TOOL FOR CHILDREN DIAGNOSED WITH AUTISM SPECTRUM DISORDER

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ABSTRACT

Autism is a developmental disorder that negatively affects a person's ability to communicate verbally, nonverbally, gesturally and inhibits their capability of imaginative self-play. Autism is not a single disorder, but a spectrum of closely-related disorders with a shared core of symptoms. Every individual on the autism spectrum has problems to some degree with social skills, empathy, communication, and flexible behaviour. This paper seeks to explore the use of visual art as a therapeutic means of helping children with emotional, developmental and behavioural disorder. The study area is Modupe Cole Memorial special care & treatment school, Lagos. The survey focused on the visual artworks of children with autism selected from 3 classes for a period of one month. 20 school Children diagnosed with autism were identified and selected in the classes to produce art works using various art therapy interventions to discover which techniques improve self expression as well as communication skills and abilities. This serves as the study population with the recruitment of 6 teachers. A random continuous sampling technique was adopted in selection of the participants. The instruments used for this study is visual art practical performance test. The research instrument was given to research expert for content validity and reliability. The Findings of the study shows how change occurs during the process of physical involvement with the materials; making of a significant art object; sublimation of feelings into the images; and through communication with the teacher via the art object drawing attention to the changes that occur as a result.

Keywords: Autism, Visual art therapy, Spectrum disorder, Sublimation, Mental wellness

INTRODUCTION

Visual art has always been an effective form of self-expression, whether in a visual, performance, or interactive setting. It has the potential to change lives and often in profound ways allows us to communicate through a completely different channel when words are not enough to change specific disorder in children. Images and symbols are also utilized to create something in the world that is a true representation of us and to tell stories. And in telling stories through art, path to health, wellness, emotional reparation, recovery, and ultimately, transformation can be located.

Autistics respond well to visual, concrete, hands-on therapies. Quite a reasonable numbers of people are still confronted with limitations on how therapeutic art making actually works for autistics. These limitations of understanding and quantifying the experience of making art, and the small number of art therapists publishing on the topic calls for concern. Nonetheless, research literature explicates that art making is an effective, clinically-sound treatment option for autism when supplemented with studies from the fields of visual art, art education, psychology, and other creative arts therapies. (Martin, 2009).

METHODS

Purpose of the Study

The purpose of this paper is:

- To facilitate positive change through engagement with the therapist and the art materials in a safe environment.
- To explore the use of visual art as a therapeutic means of helping children with emotional, developmental and behavioural disorder.
- To change lives and often in profound ways allows us to communicate through a completely different channel when words are not enough to change specific disorder in children.
- To use visual art images as interventions to primarily enhance communication, self expression, hand-eye coordination, conceptualization, build visual-spatial strength and promote socialization with peers

Study Area: The study area is Modupe Cole Memorial special care & treatment school, Lagos. The survey focused on the visual artworks of children diagnosed with autism selected from 3 classes for a period of one month.

Study Population and Sample Size: The sample size for this study is 20 participants which is the study population comprising 10 boys and 10 girls.

Sampling Method: A random continuous sampling technique was adopted in selection of the participants.

Fieldwork and Constraints:

A total of 6 teachers were recruited for this study. A detailed explanation of the goals the researcher want to achieve was given to them as well as thorough training. Pupils with autistic disorder were carefully identified by the trained teacher in each of the classes for a visual art performance test.

The major challenge posed is the unwilling attitude of the teachers to approve of the invasion into the privacy of their pupils due to the fear of the unknown. Some also expressed reservation about the essence of instrument. With some persuasion, we were able to secure maximum cooperation in most cases.

Instrumentation: the instruments used for this study is visual art practical performance test. The research instrument was given to research expert for content validity and reliability.

Visual Arts

Visual art are forms of art that seek to present diverse concept and complex emotion as documented by the artist. This in turn is communicated to the audience through representation media. These are any works of art that appeals to our sense of vision which include drawing, painting, sculpture, textile design, graphics design, industrial design and ceramics. (Quadri, 2012)

Wangboje (1990) defines Art as a process as well as a product. He explains that art as a process is a means through which we give sensual and concrete expression to our ideas and feelings

about the world around us. According to him art as a product includes pictures, images, buildings, clothes, furniture, utensils, music, dance, drama, food, etc.

Hornby (2001) defines Art as the use of imagination to express ideas or feelings particularly in painting, Drawing or Sculpture. While Elsen (1981) sees art as a skillful and imaginative process of expression that historically has led to the creation of objects capable of producing an aesthetic response.

Read (1966) his impression of what art is and what art cannot stand for depends on whether or not it is expressive. The man who makes, becomes potentially or partially an artist, the moment the things he makes express feelings and invite responses. Read (1972) also explains that Benedetto Croce defines art as an “expression”.

CONCEPTUAL MEANING OF VISUAL ART THERAPY

Visual Art Therapy is an effective, versatile treatment modality that addresses a myriad of complex issues such as Abuse, Adolescence, Bullying, Death & Bereavement, Disasters, Homelessness, Illness, Lifestyle Choices, Sexual Abuse, Terrorism, and Violent Crime Psychologically, art therapy is the use of artistic methods to treat psychological disorders and enhance mental health. Art therapy integrates psychotherapeutic techniques with the creative process to improve mental health and well-being.(Martin, 2009). It is also refer to as "a mental health profession that uses the creative process of art making to improve and enhance the physical, mental and emotional well-being of individuals of all ages. It is based on the belief that the creative process involved in artistic self-expression helps people to resolve conflicts and problems, develop interpersonal skills, manage behavior, reduce stress, increase self-esteem and, foster self-awareness, manage behaviour and addictions, develop social skills, improve reality orientation, reduce anxiety, and increase self-esteem and achieve insight." Art therapy practice requires knowledge of visual art (drawing, painting, sculpture, and other art forms) and the creative process, as well as of human development, psychological, and counseling theories and techniques. A goal in art therapy is to improve or restore a client’s functioning and his or her sense of personal well-being. (Betts, 2005).

Today Visual art therapy is widely practiced in diverse settings including hospitals, psychiatric and rehabilitation facilities, wellness centers, forensic institutions, schools, crisis centers, private practice, and other clinical and community settings. During individual and/or group sessions art therapists elicit their clients’ inherent capacity for art making.

OBJECTIVE OF VISUAL ART THERAPY

In practice, visual art therapy involves both the process and products of image making (from crude scribbling through to more sophisticated forms of symbolic expression) *and* the provision of a therapeutic relationship. It is within the supportive environment fostered by the therapist-client relationship that it becomes possible for individuals to create images and objects with the explicit aim of exploring and sharing the meaning these may have for them. (Lynn,2012)

The aims of visual art therapy often vary according to the particular needs of the individuals with whom the art therapist works. Visual art therapy is aimed at facilitate positive change through engagement with the therapist and the art materials in a safe environment. These needs may change as the therapeutic relationship develops. For one person the process of art therapy might

involve the art therapist encouraging them to share and explore an emotional difficulty through the creation of images and discussion; whereas for another it may be directed towards enabling them to hold a crayon and make a mark, thereby developing new ways of giving form to previously unexpressed feelings. While it is often assumed to be so, it is not the case that only those individuals who are technically proficient in the visual art are able to make use of visual art therapy in a beneficial way. Indeed an emphasis on artistic ability – as might be the case when art is used primarily for recreational or educational purposes – is likely to obscure that with which art therapy is most concerned.

COMMON USES OF ART THERAPY

Betts (2005) outlined Common uses of art therapy which include, but are not limited to, the following:

- People under lots of stress or pressure may use art as therapy.
- Managers and/or staff may be someone who uses art therapy.
- Someone who has mental health problems uses art therapy.
- Someone with learning disabilities or difficulties can use art as therapy.
- Children or young adults having problems in school can use art therapy.
- Kids, teenagers, or adults with personal problems can benefit from using art therapy.
- People with more serious issues can make use of art therapy...For example, people with autism, brain injuries, eating disorders, cancer, post traumatic stress disorder (PTSD), depression, etc.
- Someone who believes they are problem-free and simply would like to explore themselves more deeply can be someone who uses art therapy.

Goals of Visual Art therapy

Wetherby (2006) states the goal of visual art therapy for children and adolescents.

For hospitalized children and adolescents:

- Encourage the self-expression of thoughts and feelings related with illness/hospitalization
- Help children process and work through traumatic experiences associated with hospitalization
- Facilitate positive self-esteem and positive body image
- Promote a sense of independence and feelings of control
- Provide peer interaction and a sense of community within the hospital environment
- Encourage the development of healthy strategies for coping with hospitalization

For children living with chronic pain or chronic illness:

- Encourage the self-expression of thoughts and feelings related with chronic pain/illness
- Facilitate children/adolescents' understanding of how chronic pain affects their lives
- Understand how situations may increase pain perception and/or stress
- Learn effective techniques to promote self-management of chronic pain
- Learn effective techniques to self-manage stress and anxiety related to chronic illness
- Facilitate the process of acceptance for children struggling with a chronic condition

For children with newly acquired physical limitations:

- Facilitate adaptation to physical limitations

- Promote problem-solving skills
- Facilitate hand-eye coordination and gross motor skills
- Encourage non-verbal communication skills

AUTISM

Autism is a pervasive developmental disorder that is characterized by impairments in social interactions, interests, activities, and language development. Children with autism are deprived of the resources from which the mind develops and organizes. For example, children with autism may exhibit severe language deficits, may not relate well to people, often have a desire for repetition, exhibit exacting attention to detail, and display rigid behaviours. If the children's routines, patterns, or objects change in their external world, they may experience emotional intensity and distress. These behaviours are often challenging to parents and professionals (Green & Luce, 1996).

Autism negatively affects an individual's ability to effectively communicate with others verbally, non-verbally and gesturally. It is also difficult for individuals with autism to engage in joint attention with another person and shift their gaze to focus on an object or an action that is being pointed out to them (Wetherby, 2006). Playing alone imaginatively is also a difficult task for these individuals (Evans & Dubowski, 2007). The number of children diagnosed with this disorder has grown in recent years, in part due to changes in diagnostic criteria (Grinker, 2007; Wetherby, 2006)

VISUAL ART THERAPY AND AUTISM

According to Osborne (2003), it is believed that Visual art is an excellent tool to bridge the communication gap between children with autism because it does not rely on Verbal communication or purely cognitive skills. Visual Art therapy offers the child a new pattern and form of relating to others while helping them become more confident, creative and establish a feeling of control in their world (Waller, 2006).

Although children with autism often have difficulties in understanding and processing verbal instructions. Tissot and Evans (2003) insist that this is not always correct when the instructions take a visual form. For example, many children can process and retain information when it is presented to them in written words, icons, pictures, gestures or expressions (Tissot & Evans, 2003). They do not suggest that verbal cues be eliminated, but in fact encourage spoken words to help the children make connections between auditory and visual stimuli. Emery (2004) discusses how art making helps children develop their internal schema of objects around them, or a personal blue print to represent the external world around them. As stated by Robbins (1994), these schema drawings can indicate a child's object consistency and give insight to how they feel in and view their internal world (as cited in Emery, 2004). Osborne (2003) opined that many children with autism do not have a developed inner or outer reality due to their lack of symbolic understanding. This inhibits the ability to imagine and forces children to think in the present in a concrete manner.

VISUAL ART THERAPY INTERVENTIONS

Visual art interventions are images created to primarily enhance communication and self expression but to also increase fine and gross motor functioning, hand-eye coordination, conceptualization, build visual-spatial strength and promote socialization with peers. (Silvers, 2008). The art interventions used in this study are classified into five different categories which are, paper weave, okro print, paper craft, sculptural paper Mache, colouring of images with crayon and Drawing. Also, a summary about the category with suggested media are listed for each. Three paper weave were analyzed and discuss, one okro print, three paper craft, two sculptural paper Mache, four colouring of images and six drawing. Each intervention states the degrees of complexity and structure, the objectives, materials, procedures, directives and any possible modifications. Each intervention states the degrees of complexity and structure, the objectives, materials, procedures, directives and any possible modifications.

Paper Weave: with selected illuminous sugar paper

There are no limits to the list of colours that could be used in this intervention. This invention tends to address colour selection and interaction as a therapeutic means of healing autistic disorder in children. With many children affected with autism, deciding between two choices can be difficult, so an unlimited number of stripes of illuminous coloured paper were provided. The specific items used for this art intervention is sugar paper, scissors, cutter, pencil and Glue.

A pencil was used in marking a measured 2cm by 2cm vertical and horizontal lines on the sugar paper. Which was cut into stripes by the teacher as the children could not handle blade or cutter. The stripes of paper in different colours were given to the children to make their selection for paper weave. The outcome is what we have in figures A, B and C produced by Courage, Olagunju and Sean.

It was observed from the study that the children had flair for brilliant colours i.e. brilliant yellow, fluorescent yellow, fluorescent green and light blue using dark colour as juxtaposition. It was revealed that with these colours in place the children are able to respond positively and overcome the inability to relate with friends and class mate as a result of the attraction initiated by the colours used.

Okro's Printing as an Art therapy intervention

This intervention in figure D above, okro printing by Emmanuel was employed to help children advance confidence, resilience, self-esteem, and bring promise to the future using okro dissected into two equal half's. Paper was made available to the selected children with paint and cardboard to print on. Poster colour was applied to the surface area of the cut out okro with brush and stamp on cardboard using an ordered manner of rows and column

Paper Craft as an Art therapy intervention

This intervention is the use of illuminous paper to carve out the functional shapes and images. Ochuole produced butterfly as indicated in figure E while Allen on the other hand made wall clock as indicated in figure F. The production of this intervention had a mix of some challenge and prospect. It was during this particular intervention that Allen, that made Figure 6, started licking top bond (glue) because he thought it was an ice cream. An immediate measure was taken to control the situation by forcefully withdrawing it from him. It became very obvious that keeping away liquid and dangerous materials from autistic children is of a necessity from that

point forward. However before this incident happened, Allen was able to create a thoughtful and positive functional wall clock that demonstrated full understanding of the directive using fluorescent orange and green.

Sculpture: Paper Mache

There are numerous categories of sculpture that can be applied on mental disorder to correct problems affecting children affected by autism. This category centres on sculpture using paper Mache as a medium that can be applied in treating autistic disorder.

Paper Mache

There are no boundaries to the materials that could be used in this intervention, but for the sake of the selected population it is important to limit the amount of choice made. With many children affected with autism, deciding between two choices can be difficult, so an unlimited number of materials can be extremely overwhelming. The specific items used for this art intervention is paper Mache. This task can be very simplistic or overwhelmingly complex, so this was an excellent way to determine the children's ability to conceptualize and communicate meaning behind their work.

Macaulay and Ben, two autistic student made used of paper Mache to make lizard on a plywood by using fluorescent and sugar paper with top bond (as seen in Figure G & H).

They knew immediately that they wanted to make lizard and randomly selected paper that were attractive to them to create the animal. Macaulay and Ben were able to choose the objects they wanted with ease and did not indicate any feelings of frustration and molestation. They made the lizard by sticking it on the drawing of lizard on the plywood which is the only aspect they did not do themselves.

Painting

The painting in this category of intervention is the type that can best be executed by children with autistic disorder. The teacher made series of photocopy of picture drawings from their text books, cut it out and gave one to each of the pupils to test their reaction to colour usage and interaction. In figure I, Tunde made use of paper to depict is own painting with special interest for green, florescent green and fluorescent green. Figure J which is Tunde's Hut Painting is a reflection of what he perceived a house to be. Figure K is Esther's Garden colouring where she made used of green, purple and red as a dominant colour. Figure L is Vivian's Window and Paul's Masquerade colouring in Figure M are well rendered paintings using the colours to differentiate the images in the pictures while Blessing's Tortoise colouring in Figure N was just rendered with a dominant orange colour with rough marks of purple and green.

Drawing as an Art Therapy Intervention

The drawing interventions above were designed to primarily enhance communication and self expression but to also increase fine and gross motor functioning, hand-eye coordination, conceptualization, build visual-spatial strength and promote socialization with peers. Six drawing will be discussed here as listed above. The materials that can be used for drawing include pencil, charcoal, pencil crayon, pen and chalk. But for the sake of simplicity and proper coordination of autistic children and the materials they are familiar with, pencil was adopted.

The following drawing used as art interventions range from being simplistic to more complex interventions. Many of the tasks can be an effective way to gauge a child's conceptualization skills and encourage imaginative thinking. The drawings include Figure O: Akara's Flag, Figure P-Q Akara's & Ann's mother and child drawing, Figure R: Demola's Bucket Drawing, Figure S: Dorothy's Window Drawing & Figure T: Chinazor's Bull drawing.

Akara was trying to conceptualize Nigerian flag based on what she had seen before using black for the pole as well as green white green for the flag. Both Akara and Ann depicted mother and child drawing. Akara depicted a mother placing something on her head while the kid stands beside her. Ann drew a mother plucking fruit from a tree into a basket with the kid standing beside her. These two drawings showcase Akara and Ann's perception on what a nursing mother does most.

Demola drew captivating bucket with casted shadow with linear representation. Dorothy made a window drawing denoting floral design as a pattern all around the curtain. Although in the drawing in Figure 20, it is difficult for Chinazor to visualize a bull, there are many elements of the bull that the client was able to capture. The dark jagged lines mimic the coarse hair on part of the bull's neck, and the many jagged lines all over the page are reminiscent of the thousands of rippling muscles throughout the bull's flexed body. He had an incredible eye for detail that was not obvious before this intervention.

CONCLUSION

Findings:

- The need to develop positive and reliable means of self expression for children and adolescents with autism is imperative because of the many natural communication barriers that exist for them.
- Not being able to converse with others or say what they would like to say is a reoccurring problem that this population faces constantly with little or no new developments in sight.
- Due to the prevalence of the autism diagnoses in today's society, these additional methods of Communication must be further developed to assist the growing number of newly diagnosed children.
- Through the art interventions completed in this study, evidence of self-expression, communication and increased socialization can be observed as a result of the art tasks in which the clients participated. In many of the art intervention examples, the pupils displayed evidence of understanding their emotions and communicating with colours they associated with those feelings. In others they demonstrated imaginative thinking when they drew an animal they would like to be, or built them from a variety of objects.
- It was discovered that the most effective art therapy interventions are the least complex with step by step directions to follow. The pupils responded well when directions were written and posted for them. By making the directions clear and not abstract in any way seemed to simplify the process and thereby engage the pupils even more in the process.
- Interventions that worked well are Paper weave, okro printing, colouring and the drawing perception. All of these interventions provided detailed directions for the pupils to follow while encouraging abstract and imaginative thinking.
- The concept that was too abstract and did not seem to work as well because of this lack of understanding of the anatomical structure was the lizard image sculpture. These conclusions

were made based on the results from general observations, comments by the class teacher of the pupils after cross examining and evaluating each artwork.

RECOMMENDATION

By and large, this study has been successful in that multiple art therapy interventions have been identified as effective in assisting children with autism to communicate through artwork. It is important for further research to be done on this topic so that more interventions can be identified and used to assist this population. Perhaps early intervention programs that provide therapy to children with autism would add an art therapy element to their programme, thus enhancing effective communication.

The findings are significant because many of the art interventions from this study have shown to be effective in enhancing communication and self-expression in children with autism. It may serve as a reference tool for art therapists who begin to work with this population. If more children with autism can be exposed to this alternative method of communication and receive art therapy sessions regularly, it is possible that even more individuals will find success in expressing themselves.

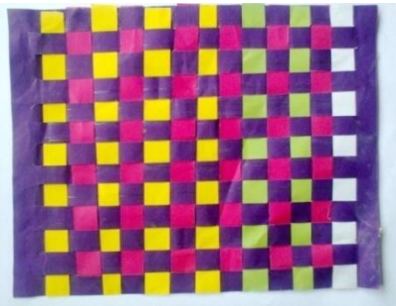
Above all, it is recommended that close attention should be placed on visual art as a viable tool to enhance communication of autistic disordered children to enhance representational artwork, socialization and behavioural change.

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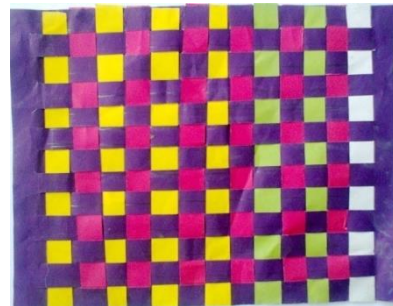
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FIGURE CAPTION



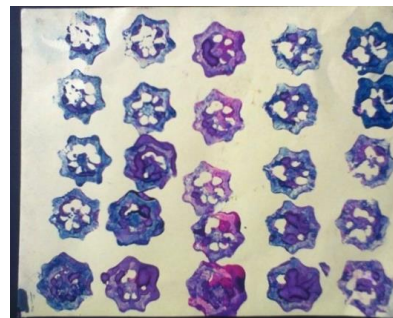
(A): Courage's paper weave,



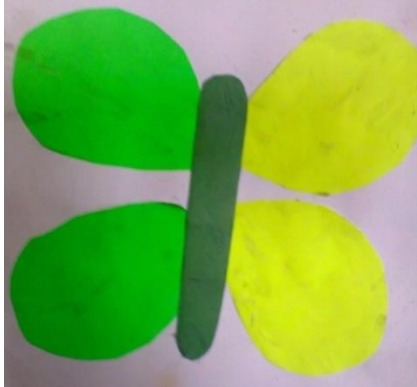
(B) Olagunju's paper Weave



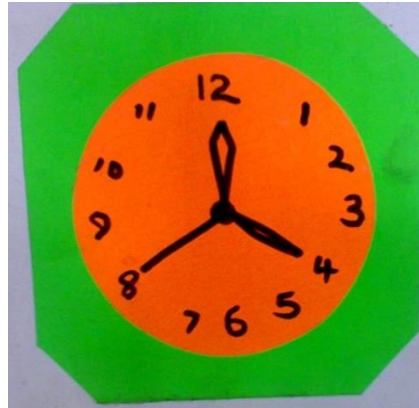
(C) Sean's Paper Weave



(D) Emmanuel's Okro's Printing



(E):Ochuole's Butterfly



(F): Allen's Paper Craft Clock



(G): Macauley's Paper Mache Lizard



(H): Ben's Paper Mache Lizard



(I): Tunde's Paper flower



(J): Charles's Hut Painting



(K): Esther's Garden colouring



(L): Vivian's Window colouring



(M): Paul's Masquerade colouring



(N): Blessing's Tortoise colouring



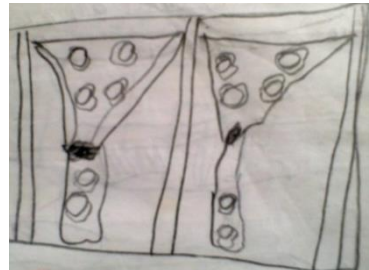
(O): Akara's Flag



(P-Q) Akara's Ann's mother and child drawing



(R): Demola's Bucket Drawing



(S): Dorothy's Window Drawing &



(T): Chinazor's Bull Drawing

MUSICAL THEME, A VERITABLE TOOL FOR CREATIVITY AND STRUCTURAL UNITY IN CONTEMPORARY IGBO POPULAR MUSIC IN NIGERIA

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ABSTRACT

Musical theme is a phenomenon that originated from Western music. This terminology has been adapted or used through different musical periods of Western music within its derived musical styles from the medieval to the modern or contemporary periods. This study therefore, tries to investigate thoroughly into the contemporary music scene in Nigeria, with special emphasis on Igbo popular music, in order to establish its form and structure as developed by different musical themes. Furthermore, this study shows its relevance in that it tries to subject this musical style (Igbo popular music) under scholarly scrutiny to establish various forms and structures that exist and how these structures are developed using musical themes creatively by the musicians. Three (3) popular songs by different notable musicians of Igbo extraction were selected randomly in this study and they included; Ibir kam biri (Oliver De Coque); Alleluyah Chim le (Onyeka Onwenu); and Nabania (Mr. Flavour). The findings of this study however, shows that these 3 songs emanated from the same musical genre – highlife, but with different creative approaches and presentations due to dispensational idiosyncrasies and musical trends which came under these years: 1960-80; 1980-2000; 2000-2010 respectively. It is recommended however, that Igbo musicians should explore more musical genres which are germane and relevant within this present era.

Keywords: Theme, Popular music, Creativity, Highlife

INTRODUCTION

Music as a thought process and expression of feelings in a more meaningful manner is held in high esteem by every single society around the world. It is a universally recognized synthesis of the substance and style of human existence promoting greater experiences for both the makers and the listeners and turning perilous emotional edges, vulnerabilities, triumphs, celebrations and antagonisms of life into hypnotic, reflective tempos that can be experienced privately or shared with others (James Lull, 1).

Popular music can be described as generic name for music of all ages and its acceptability can be within a given cultural or geographical location or can transcend beyond it. In describing the word Popular, Shuker relates it as a person, product, practice, or belief that is liked or approved of by a large audience or the general public (3). In these contemporary times, popular music in Nigeria has been fully identified with the younger generation, having also evolved through series of changes and modifications from the time of its inception till this present moment.

Igbo Popular music like other musical genres in Nigeria cannot be divorced from its socio-cultural sensibilities and aesthetic perceptions which hitherto has been the major influence shaping its form, mode of presentation/ performance and acceptability. It has had its fair share

from the overall physiognomy of Nigerian contemporary music scene as initiated by various ethnic groups and entities. Succinctly put by Vidal:

Various communities of taste and preferences emerged, each with its own value system of aesthetic evaluation dependent on the religious, social, political and cultural sensibilities that form and inspire the production of its creative forms (5).

From the foregoing, it is deduced that each ethnic group in Nigeria has its set of values and customs embedded in their socio-cultural lives which by extension affects the philosophy and creative instincts of its members. For example, Bright Chimezie, in one of his interviews with the researcher, stated categorically that his music epitomizes his cultural beliefs and affiliation and that he cannot change this for any frivolities or mundane quest for popularity. And because of his musical ideologies he has been referred to as the ‘Duke of African music’, a title given to him by the Queen of England.

Musical theme, like the name suggests, deals with the subject matter inherent in a particular music. By subject matter, we imply the section in a song which is repeated more or which greater emphasis is given to by both the vocal and instrumental forms in the entire musical structure. It is believed that a particular musical style is differentiated from other musical styles by its general form, rhythmic structure or pattern, and instrumental accompaniments.

Going by the above, this study therefore hinges its framework on the Theory of Standardization as propounded by Theodor Adorno (a social theorist and musicologist). He postulated that popular music is standardized in the sense that it contains a verse, chorus and bridge, and that these elements can be varied without much distortions to the whole structure of the song (Darbyshire, web). Bringing this home, you will agree that all popular musical styles that exist, both the ones imported (highlife, reggae, hip hop, rock R&B etc) and the ones developed within cultural boundaries (ikwokirikwo, odumodu, etc) do have standard forms in which they are performed or presented. Variations of these forms are mostly dependent on individual’s creativity and idiosyncrasies, but the basic structure of the musical style is still maintained. In describing the form and structure of Highlife music, Omojola corroborates:

The rhythmic flow of highlife is often syncopated within a metric framework of four beats per bar in both the simple and compound types. The typical format is ternary in which the middle section is made up of improvisations of the main themes which are introduced in the opening section and repeated at the end... the middle section may also feature a dance section in which the percussive members of the band as well as dancers hold sway, with instruments such as wind and guitar taking a temporary rest (53).

By this description, it is easy to picture mentally the whole musical structure of highlife music with emphasis on how the musical (main) theme is creatively manipulated. This study, however, will examine other popular musical styles as propagated or initiated by Igbo musicians in the contemporary music scene in Nigeria, with the sole aim of identifying and establishing the creative use of musical themes in few of the songs selected.

What is Musical Theme?

According to Dictionary of Music, a theme is a musical idea or succession of notes that forms an essential structural part of a composition (385). It is most times perceived as a complete musical expression in itself, separate from the work in which it is found (Drabkin 2001 and Dunsby 2002). A theme assumes its structural importance when those elements (melodic and rhythmic) which make up the theme are repeated and developed within a composition. This compositional style and technique has been in use since the Medieval and Renaissance periods down to the Baroque, Classical and then the Romantic periods respectively and it has featured in various compositions (vocal and instrumental). The Modern period with its attendant musical styles such as atonal music (without key centres), serialism, expressionism etc discouraged the use of recognizable melodic or rhythmic elements in building the entire structure of a musical composition. Music or composition based on one theme is called *monothematic*, while music based on several themes is called *polythematic* (Randel, 429). Musical theme, therefore, differs from theme music or theme song as this refers to a song or other musical theme that occurs from time to time during the performance of a musical operetta, film, etc (Alan I. & Martin E, 385). This study discusses, therefore, the musical theme and how it is used in Igbo popular music.

The major musical styles that notable composers from the Renaissance to the Romantic periods of Western music used in executing musical themes for both vocal and instrumental forms were:

Vocal forms

- Motet
- Canon
- Oratorio

Instrumental forms

- Fugue
- Theme and Variations
- Inventions

Motet

This form has been in existence from the medieval period having been reflected in different musical styles in successive musical histories. It is a piece of choral music based on Latin text and composed for use in the services of the Roman Catholic Church. (Alan I. & Martin E, 253).

Example 1:

De pro - fun - dis cla - ma - - vi ad - - te - do - mi - ne.
 De pro - fun - dis cla - ma - - vi ad - - te do - mi - ne.
 Do - mi - ne, cla - ma - - vi ad - - te do - mi - ne.
 De pro - fun - dis cla - ma - - vi ad - - te do - mi - ne.

Beginning of psalm motet De profundis by Josquin des Prez, (web)

Canon

A technique or piece in which one melody exactly imitates another at the unison or at different intervals while the first continues and it originated in the 13th century and featured in (Alan I. & Martin E, 59). Canon can be written for two, three or four parts respectively if the rules that guide the composition are adhered to (Walter Piston, 188-203).

Example 2:

Allegro ma non troppo

Haydn – Quartet, op. 76, no.2 (Walter Piston, 189)

Oratorio

This is a composition for voices made up of solos, chorus and accompanied with orchestra instruments. Its theme or libretto is derived from a religious text and usually performed in a concert hall. The musical style evolved in Italy during the mid – 16th century of the baroque period (Alan I. & Martin E, 274). Each composition has specific theme(s) that build up the entire musical structure and most composers (especially G.F. Handel) employed the canon or fugue technique for their compositions.

Example 3:

Allegro

The image shows a musical score for four voices (Soprano, Alto, Tenor, Bass) and piano accompaniment. The tempo is marked 'Allegro'. The key signature has three sharps (F#, C#, G#) and the time signature is 3/4. The vocal parts enter at measure 4. The piano accompaniment begins at measure 7.

Excerpt of 'And the Glory' – G.F. Handel's Messiah

Fugue

This is a form of disciplined imitative contrapuntal writing which evolved in the 17th century. A fugue is written for number of consistent voices or parts using accepted structural principles (137). The main theme (Subject) of a fugue is usually announced by the first voice in the tonic and an imitation (answer) of it by another voice in the dominant and each are accompanied with counter-subjects. There are two types of fugue writing which are; Real fugue and Tonal fugue. J.S. Bach is considered as the father of fugue as he did write on the 'Art of fugue writing'.

Example 4:

The image shows a piano fugue score with two staves, treble and bass clef. The key signature has one sharp (F#) and the time signature is common time (C). The piece features a single melodic line in the treble clef that is imitated in the bass clef, characteristic of a fugue.



Fuge – E-moll by J.S. Bach (Tonal fugue)

Example 5:

Fughetta C-moll by J.S. Bach (Real fugue)

Theme and Variations

In this form of music, a theme which is introduced is repeated in an altered or varied form using either the harmony, melody, rhythm, counterpoint, timbre or any combination of these (Copland, web). The theme may retain some features of its original version, while others are discarded, developed or replaced (401).

Example 6:

Var. 2 *Lo stesso tempo*

The image shows a musical score for 'The Harmonious Blacksmith' by G.F. Handel. It consists of two systems of staves. The first system has two staves with a treble clef and a bass clef. The second system also has two staves with a treble clef and a bass clef. The music is in 3/8 time and D major. The first system is marked 'p' (piano) and the second system is marked 'mf' (mezzo-forte). The tempo is 'Lo stesso tempo'.

The Harmonious Blacksmith by G.F. Handel

Inventions

A short composition, usually for keyboard instrument, that counterpoints between two parts or voices. Inventions are usually not performed in public, but serve as exercises for keyboard students and as pedagogical exercises for composition students. The invention is primarily the work of J.S. Bach who adapted and modified the form to what is considered to be a formal invention.

Example 7:

The image shows a musical score for 'Invention 3 in D major' by J.S. Bach (BWV 774). It consists of two systems of staves. The first system has two staves with a treble clef and a bass clef. The second system also has two staves with a treble clef and a bass clef. The music is in 3/8 time and D major. The first system is marked 'mf' (mezzo-forte).

Invention 3 in D major, by J.S. Bach (BWV 774)

From the various examples given, it is deduced that in every musical structure, both vocal and instrumental, a theme (mono-thematic) or themes (poly-thematic) play pivotal role in the build up or creation of musical forms which by extension brings about unity and cohesion in entire composition. Composers of these musical periods, especially of the baroque period really applied this technique in every of their compositions both for vocal and more intently for instrumental music.

Contemporary Igbo Music and Its Evolution

Musical practices of the Igbo are seen through their social, religious and cultural lives as music accompanies every stage of their human and social development (child – adulthood - death) as individuals and as an ethnic entity. Music is equally useful as a tool for educational and recreational purposes. Musical genres common to the Igbo from the historic past to the present dispensation are:

- Traditional Music – *Egwu odi-na-ala*
- Church Music – *Egwu ndi-uka*
- Popular Music – *Egwu ogbara-ofu*

Traditional music (*Egwu odi-na-ala*) in a typical Igbo society dates back to their historic existence, before the advent of the colonial administrations which inadvertently came with civilization and western education. Traditional music as embedded in the cultural practices of the people is associated with social and ritual ceremonies. Folk songs were commonly used materials in this aspect of music as nobody has ownership of the songs. These songs were developed and popularized among the people and transferred from one generation to another through oral tradition. Social ceremonies in Igbo-land are usually accompanied with music/ dance and they include the following: naming ceremony, wine carrying marriage ceremony, new yam festival, Chieftaincy installation ceremony and host of others.

Ritual or religious ceremonies include all activities involving the worship, appeasement and consultation of terrestrial beings and ancestral spirits by designated diviners/ priests and worshippers. These spirits have different appellations in Igbo language: alusi or arusi, agbara, ekwensu, amadioha, ogwugwu and so on. These appellations are given based on geographical domain and jurisdiction of these gods or deities, for example, Alusi Ukpok (deity from Ukpok), Alusi Awkuzu (deity from Awkuzu), Alusi Okija (deity from Okija), and so on. Those who worship these deities are referred to as ‘ndi na-efe alusi’ and the chief priest as ‘dibia’ (which could also mean a healer). All ritual ceremonies and religious healings are performed using incantations, traditional sacred songs and dances known only to the chief priest and his initiates or cult members.

Furthermore, Igbo traditional musical instruments have functional purposes especially in dictating the rhythm, while voices generate the melody and necessary harmony (Ekwueme 255). Whatever occasion (social or sacred) any musical instrument is employed for definitely defines the role and functions it plays within that context. For the purpose of emphasis, these traditional musical instruments are hereunder outlined:

- | | | |
|---|---|-----------------------------|
| <ul style="list-style-type: none"> • Igba (cylindrical drums of various sizes and shapes) Membranophone • Ekwe na Ikwemgbo (slit drum) • Ngedelegwu (xylophone) • Udu (Pottery or iron pot) | } | melodic rhythmic Idiophones |
|---|---|-----------------------------|

- Alo na Ogene (conical shaped metal gong)
 - Egede (tiny bells worn around the waist)
 - Uyo na Ekpili (rattles and shakers)
 - Okpokolo (wood clappers)
 - Agbe (beaded gourd)
 - Une na Ubo- Akwara (plucked bow) } Chordophones
 - Opi (Elephant tusk) } Aerophones
 - Oja (wooden flute) }
- } non melodic rhythmic Idiophones

Church Music (*Egwu ndi-uka*) came as a result of the contact between the Igbo and the Church missionaries. Those who were converted to Christians were educated on how to read, write and speak the language of the missionaries. Christian schools were established alongside churches and many Igbo converts were indoctrinated into believing that all indigenous songs and dances were evil and, therefore, should be done away with. Traditional musical instruments, being termed as unholy and evil, were not allowed in Christian worships except for portable organ or the harmonium. Western hymns were translated into Igbo using the same metre of the original Western verses and sung to tunes from the same source. These hymn tunes became popular household melodies in Christian homes. However, the term ‘*egwu ndi choochi or ndi-uka*’ came to existence. Using Western metric tunes to sing Igbo translated hymns, according to Ekwueme “*unexpected tonal inflections often occur in these hymns, giving rise to unintended meanings, especially as several different stanzas are sung to the same tune*” (210-212). Many notable Igbo Church musicians or Choirmasters/ Organists came on board in the 40’s, 50’s and 60’s to advance the fusion of Igbo Christian texts with Western style of notation and documentation. These activities helped immensely in developing the musical genre - Art Music from the historic past to present day. Examples of these Church musicians were: Nelson E. Okoli, Harcourt Whyte, W.W.C Echezona, Felix Nwuba, Lazarus Ekwueme and host of others. The musical instruments available in this period were:

- Accordion or Reed Organ
- Tambourines
- Wood clappers
- Few percussive instruments

Popular Music (*Egwu Ogbara-ofu*) evolved as a result of contact with urban life, some of the itinerant Igbo merchants who travelled from one city to the other were exposed to musical styles prevailing in such cities, especially Lagos and some major cities in West Africa. During this period 40’s and 50s, the popular music styles prevalent in the urban cities were European dance forms like country music, ballroom dance, jazz music, soul, swing, waltz and rock music. Introduction of radio stations and cinemas helped in disseminating these foreign music forms or styles and sales of record plates equally gave people opportunity to have these songs in their possessions. The earliest popular musical style that was developed by the Igbo according to Omojola was palm-wine music, which was the combination of acoustic guitar, conga and the thumb piano (ubo-aka). The music was performed in local palm-wine bars that used to be recreational facilities for urban workers and the lyrical content was basically Christian texts. Musicians who pioneered this musical genre within the period were, Okonkwo Adigwe, G.T. Onwuka and Israel Nwaba (46).

In the 60s and 70s some Igbo musicians came in contact with highlife music through one its initiator in West African region, E.T Mensah of Ghana (known also as King of Highlife) in one of his visits to Nigeria with his dance band (Thomas Turino,195). These musicians went back and developed their own style of highlife music embellished with traditional elements drawn from their cultural affiliations. Prominent among these was the Ikwokilikwo music which was referred to as the ‘Native blues’ of the Igbos. This musical style existed side by side with other musical styles (fuji, waka, juju) developed by musicians from the western region of Nigeria. Notable Igbo musicians who propagated highlife music in this era were:

- Chief Steven Osita Osadebe
- Prince Nico Mbarga
- Zeal Onyia
- Celestine Okwu
- Augustine Awuzia
- Eric Onugha
- Stephen Amaechi
- Oliver De Coque – Ogene Sound Super of Africa
- Vincent Okoroego and his Ikenga Super Stars of Africa
- Dr. Sir Warrior and his Oriental Brothers International Band

Furthermore, the 80s and 90s were characterized with the evolution of diverse musical styles by the new generation of popular musicians. Most of the musical styles prevalent in the period were those imported from the Western cultures such as, Pop, Reggae, Rhythm & Blues, Disco, Rap, Gospel, and so on. Alongside these foreign musical styles existed the highlife music and few indigenous styles that were prevalent mostly in rural areas of the eastern region. Notable Igbo musicians within this period achieved popularity through their style of music and lyrical dexterity. Many Western musical instruments such as Guitars, keyboard, saxophone, trumpets, jazz drums were introduced into the music industry and this helped many musicians to create their unique sound and musical identity. While, some delved into secular songs, a few others indulged in gospel music using biblical texts and existing hymn tunes for musical performances especially at social events. Songs were performed using both mother tongue (Igbo) and English language and notable musicians of the period were:

- Tony Okoroji
- Alex O
- Tony One-week
- Onyeka Onwenu
- Chris Mba
- Junior and Pretty
- Mannix Okonkwo
- Christy Essien Igbokwe
- Voice of the cross
- Chika Okpala and host of others

Lastly, the millennium (2000 till date) witnessed great influx of diverse musical styles, styles that were creatively evolved by the generation of younger musicians. These young musicians, in their quest for change in the entire music scene, developed musical styles that were fused with Western elements such as instrumentation and local or native flavours in terms of language.

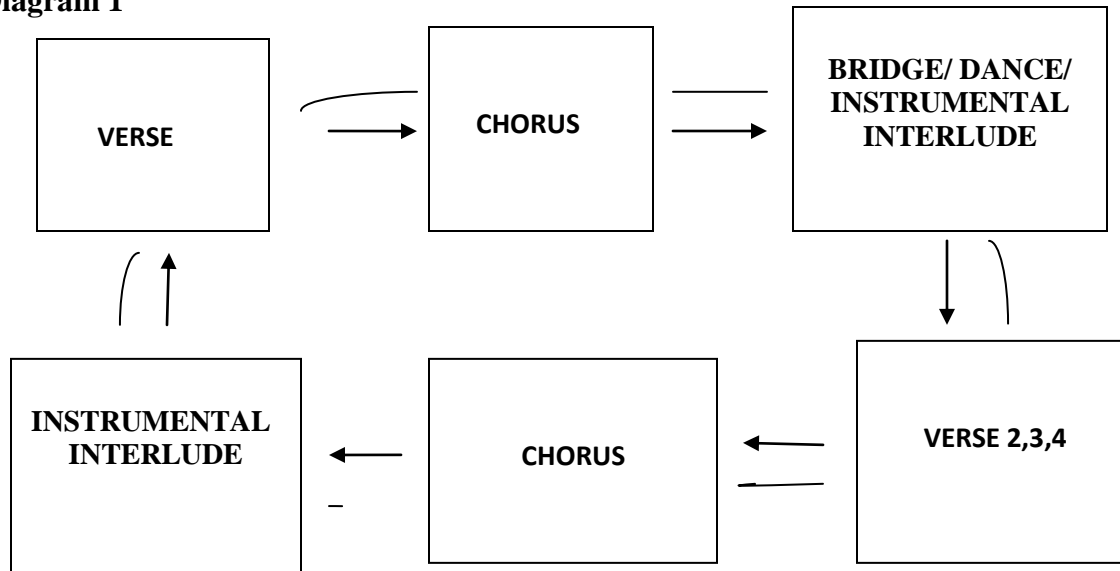
Local dialects were infused into musical styles imported mostly from the United States of America, such as; hip hop, Rhythm and Blues, Rap, mid-tempo, pop, rock, dance hall, etc. There were lots of remixes of old tunes especially highlife to fit into the modern musical styles (old skool). Some of the musical styles that evolved within the period were named based on its syncretic structure and form (African pop, hip-life, naija rap etc). Musicians aped seriously after popular musicians from the United State of America and this affected their dress cultures, mannerisms, philosophies and tastes. Lyrical content of most songs contained vulgar and dirty words accompanied with loud, strong, pulsating and exhilarating beats pattern. Technological advancement, in terms of sound recording (digital), actually discouraged less use of musical instruments for stage performances.

- P Square
- Sunny Bobo
- African China
- Nigger Raw
- Ruggedman
- Bracket
- 2 Shot
- Obiwon
- Mr Flavour
- Ikechukwu
- Duncan Mighty
- Naeto C and host of others

Thematic Usage in Igbo Popular music

It is a known fact that in Africa, singing is Antiphonal – that is the use of Call and response, and this method has been inadvertently applied in popular music despite having its origin from Western music culture. In buttressing antiphonal singing, Ekwueme stated that such singing involves a leader who announces an antecedent to which a chorus, either large or small responds. He further opined that a regularly recurring refrain in African song is a short cut method for maintaining thematic unity (22). This assertion however, fits in well into the music practices of Igbo musicians in the popular music genre cutting across different musical styles such as highlife, reggae, hip-hop, gospel, and so on. Going by Adorno's theory of Standardization in popular music, we can represent the form or musical structure of any popular song (especially that of the Igbos) as thus:

Diagram 1



From the above diagram, the musical structure is made up of the Chorus or Refrain which is re-echoed or sung by group of singers usually referred to as backups, and these backups may include males or females or instrumentalists within the performing band. The solo sections (verses) within the song structure is usually done by the musician who is the owner or initiator of the band, who may also be handling specific solo instruments like, Trumpet, Electric guitar or Reed instruments. The above diagram, if perceived in a cyclical form, truly depicts the common form or shape which various popular musical styles and musicians adopt during stage performances or when disseminating the same through electronic media.

Highlife Music

This particular music style has been creatively utilized by various musicians in Nigeria right from the 50s down to this present era, and the Igbo musicians are not equally left out at all in the development and evolution of this musical style. Focusing on the Igbo exponents of highlife music, this study considers the music of Sunday Akanite (alias Oliver de Coque) – *Ibiri kam Biri* (Live and lets live).

Description of the Song

Going by Omojola's description of the form and structure of highlife music, *Ibiri kam biri* song can be said to be in ternary form also having different sections embedded in it. The length of the song is within the duration of 6 minutes (having other song themes included in the same track). The song is on the key of G and the music starts on an anacrusis in a metric framework of 12 (12/8) or 4 (4/4) beats (impliedly) in a bar with syncopations. According to Ekwueme, mixed rhythm units are standard in Igbo music especially the mixture of duple and triple time (122).

The first section of the song is like the Chorus Section where the song title – *Ibiri kam biri* - is extensively expressed musically by both instruments and voices. First, was an instrumental prelude involving the electric guitar, keyboard and few percussive instruments before the lead guitar introduced the full length of the song theme. The chorus and the solo take the refrain part repeatedly, where the solo sings the refrain in an inverted form with little variations. The lyrics of the song as expressed by the chorus part:

Ibiri o, ibiri kam biri (2x)

Onye azo n' uwa-azo, uwa gabacha onye-obuna o:

Ibiri o, ibiri kam biri

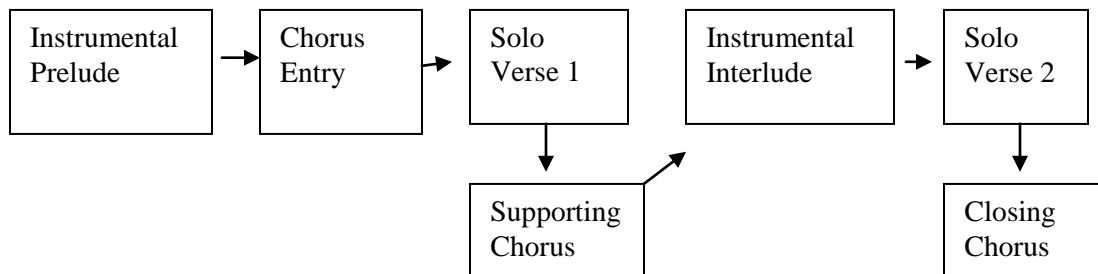
English Translation

Live and let's live,

Do not strive for anything; the world is big enough for everyone;

Live and let's live

The song is structurally represented as thus:



The main chorus in this song is musically and harmonically illustrated as thus:

Example 8

1. 2.

I-bi-ri o, i - bi-ri kam bi - ri; i-bi-ri ri, O-ny'a-zo-n'u w'a - zo,

4 -

u-wa ga - ba si'o-nt'o-bu - la: I-bi-ri o, i - bi-ri kam bi - ri.

The second section of the song is where the solo interacts with the chorus in a Call and Response or Statement and Answer technique in what may be described as verses of the song. These verses are separated with an instrumental interlude in the middle by the use of electric guitar. In this section also, the voices (solo and chorus) take few melodic phrases of each verse in unison including the instruments. The last section tends to conclude the song with a short refrain repeatedly sung by the chorus part while the solo does an overlapping interjection.

Thematic Structure of the Song

It is understood that musical theme is usually perceived as a recurring idea or statement in a musical composition. Repetition of musical phrase or motif creates unity and cohesion and inadvertently builds a creative structure (thematic) of a song. The thematic structure of this song is perceived from the second section of the song where the solo voice starts a musical idea (verse) and afterwards initiates a call and response. The musical phase as contained in the statement and answer is considered as the musical theme of the song due to the fact that the motific structure of the solo part (especially in the beginning) was creatively used in both verses to initiate the Call while the Chorus had different musical phrases as response. The musical theme as indicated in the Call and Response by the solo and chorus parts is represented musically as thus:

Example 9

Example 9 is a musical score in 12/8 time, consisting of three systems. Each system has a Solo part (treble clef) and a Chorus part (treble clef). The key signature has one sharp (F#).

System 1:
 Solo: U-mu Ni - ge-ria
 Chorus: We - nu ndi-dio! nu ndi dio!

System 2:
 Solo: N - di na - chi Ni - ge - ria,
 Chorus: we nu ndi dio; Ji-sie -

System 3:
 Solo: N -
 Chorus: n'i - ke a - yi kw'u - nu na - zu:

The next theme replicates the first one in its structure but tends to be longer in length especially in the response (chorus) part. The solo part takes to the rhythmic or motific pattern of the first theme especially in the first call.

Example 10

Example 10 is a musical score in 12/8 time, consisting of two systems. Each system has a Solo part (treble clef) and a Chorus part (treble clef). The key signature has one sharp (F#).

System 1:
 Solo: O - nye na mu'o - kpo;
 Chorus: Ya bu - go d'u - zo tie'a - kp'a - ja:

The musical score is written in G major (one sharp) and 4/4 time. It consists of two systems. The first system starts with a Solo line (measures 1-4) and a Chorus line (measures 1-4). The second system starts with a Solo line (measures 5-8) and a Chorus line (measures 5-8). Lyrics are provided below the notes.

System 1:
 Solo: O-nye na-mu'i-ti'o- kpo; I - ti-sie a-kp'a-ja
 Ch: ya bu-l'u-zo tie'a-kp'a-ja:

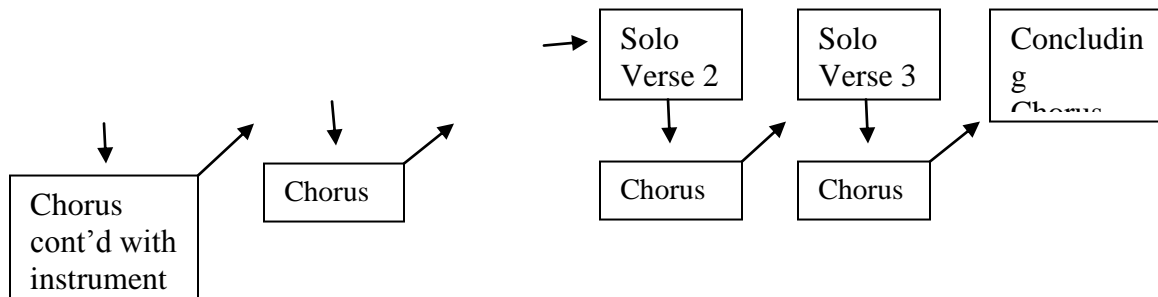
System 2:
 Solo: Ne kwa-nu-mo
 Ch: I-we cho ba'o-ny'i ga'e-ti-gbu: Ne-kwa-nu- mo, ne-kwa nu'o-ko-ro!

Gospel Highlife Music

This is one of the musical styles within the contemporary (popular) music in Nigeria that evolved in the 80s and 90s. Few Igbo musicians had their fare share in the development of this musical style and among them is Onyeka Onwenu (the Elegant Stallion) with her popular song – **Halleluyah Chimle**. Though, it is believed that the lyrics of the song were adapted from an existing Christian song which she just added some verses to.

Description of the Song

The duration of this song is 3 minutes 48 seconds, and sung on the key of C sharp (D flat). The song is performed in a strophic form (that is chorus and verses) with slight variations on the verses. The song starts with the refrain that has an anacrusis of 2 beats within a metric framework of 4 beats in a bar. The refrain is sung four (4) times before the introduction of the verses by the solo voice. The full complement of the musical instruments was introduced at the start of the 3rd refrain by the chorus. Instrumental interlude was given in the middle of the song and this equally initiated the concluding aspect of the song through repetition of a short melodic phrase. The song is structurally represented as thus:



Thematic Structure of the Song

The thematic structure of this song is achieved through the repetition of the chorus line in the entire song creating the desired unity and cohesion. The verses though having different rhythmic units at the beginning equally employs some aspects of the refrain at the tail end of the phrase.

This assuredly puts the refrain as the basic theme of the song despite equally expressing the main title of the song:

Halleluyah Chimle

Jehova Chim imela, ebe igworom oria jim le

Agama turu gi ma nma

English Translation

Halleluyah, Jehovah God I thank you for healing my diseases

I will ever praise you

The main theme (refrain) is illustrated musically below:

Example 11

Chorus

Hal-le-lu-yah, Chim-le, Je-ho va Chim i - me-la; E-b'i-gwo-rom o-ria

Ch.

3 jim le, a - ga-ma tu - ru gi nma nma: Hal-le - lu -yah(etc)

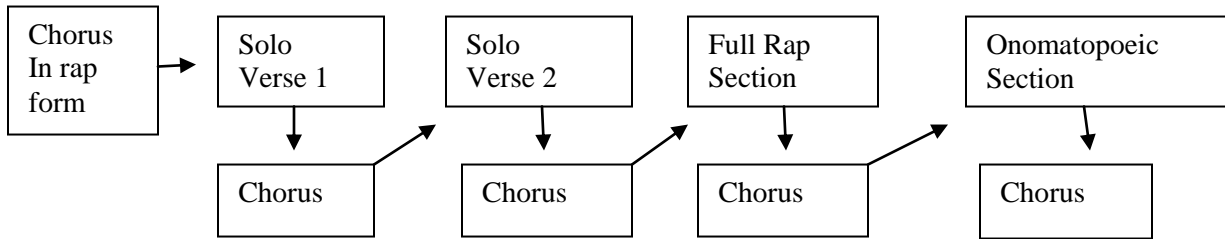
Hip-life Music

This is a syncretic form of highlife music - fusion of highlife and hip hop. This musical style evolved within this modern period (2000 till date) and it was pioneered by young Nigerian musicians who for creativity and identity fashioned out musical styles that best portray their musical identity that is highly influenced by western cultures and styles. Most musical styles were created through the fusion of other several existing styles in-order to carve a niche and create uniqueness within the Nigerian music industry. Notable among these musicians is Chinedu Izuchukwu Okoli (Mr Flavour), a popular musician from the south-east of Nigeria. This study analyses his song 'Nabania' (tonight) in order to establish how musical theme is creatively applied.

Description of Song

This song having gone through a digital production is accompanied with some form of programmed beats and digital sound with duration of 4 minutes 33 seconds. The vocal parts are equally enhanced using digital devices. The song is performed on the key of Bflat within the metric measure of 4 beats in a bar. The refrain part however, starts on the half beat of the 2nd measure of the first bar. The song starts with a rap by the chorus part with repetition of a particular phrase – O kwa nabania ka-ihe nile geme, nabania - before the solo comes in with the verse. The form in which the song takes depicts a strophic pattern which has verses with definite chorus or refrains. In the middle of the song is a rap section by a guest artist (Nigga Raw).

The structure of the song is represented thus:



The lyrics of the refrain are expressed below:

Na abania! Onwelife neme, ife nile geme,
 Okwa na abania o o o o!
 Imana okwa na abania, k'ife nile geme
 Okwa na abania o o o o!

English Translation

Tonight! Nothing will happen
 But all things will take place tonight;

Thematic Structure of the Song

The theme of this song is derived from the refrain which is repeated severally within the entire song. The constant repetition of this musical phrase (refrain) gives the song the thematic unity and cohesion it requires. There is equally a sub theme which is used as a cue into the refrain especially in the verses (which happens to be just two). Logically, the refrain becomes the main theme because of the number of times it was repeated within the song. The refrain is illustrated musically below:

Example 12

Refrain (Na ba-nia) O-nwe-li-fe ne me, i fe ni-le ge me; O-kwa na-ba ni-a O!

Ref. I-ma n'o-kwa na-ba nia, k'i-fe ni - le ge- me,

Ref. O-kwa na-ba ni-a O! O-nwe-li - fe ne-me(etc)

CONCLUSION

Musical themes are very much relevant in the music of today (popular music), and with a critical look into different musical styles we can deduce that our music has its form, structure and standardization. The three musical styles analyzed in this study go to supports the theory of standardization as propounded by Adorno. In each of the songs, there is the chorus or refrain part

and equally the verses which most time is taken by individual musicians. It is in the verses that desired messages intended by the musicians are disseminated to the listening public. The rhythmic configuration of the verses differs due to the application of the tonal inflection as dictated by various dialectical connotations. Igbo musicians of various generational dispensations and affiliations have made quite a progress and achievements in the area of popular music in Nigeria and that is why several studies by the researcher are geared towards showcasing this trend.

However, it is strongly recommended that Igbo popular musicians of this era be made to explore the use of mother tongue (Igbo) in other musical genres such as Afrobeat, Jazz, R&B, Disco and Pop. This will greatly require a great deal of creativity and dexterity from the angle of the musicians and good application of linguistic element.

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SUSTAINING PUBLIC AND ENVIRONMENTAL HEALTH: RECYCLING WASTE DISCARDED COW HORNS TO ARTISTIC RELEVANCE FOR NATIONAL DEVELOPMENT

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ABSTRACT

Health is wealth. Unkempt environment leads to public nuisance and environmental hazard. Solid waste has become a major problem as well as potential threat to public health. Waste is any material that is considered of no further use to the owner and is, hence, discarded. However, most discarded waste can be reduced, reused or recycled, one of the principles of most waste management philosophies. What may be of no further use to one person can be of maximum use to the next person for national development. This Paper is geared towards sustaining public and environmental health, an attempt to recycle discarded cow horns to artistic relevance for national development. The purpose of this study is to examine the effect of discarded cow horn and the odour it emits in public and against environmental health. To discuss the use of cow horn as a raw material in the production of other useful items and to examine the impact of recycled discarded horn on national development. The research is expository and descriptive in nature. It hinged on oral interview, observation, personal communication, literatures, periodic and books. The finding of this study indicates that Cow horn, instead of littering the environment can be processed as a readily available raw material to produce artistic item such as chandelier. The paper concludes that harnessing this opportunity is a vehicle to enhance the contribution of industry to health and economic development via creation of employment and increased local content.

Keywords: Public and environmental health, Recycling, Cow Horns, Artistic relevance, National development.

INTRODUCTION

The Interaction between the environment and human health are highly complex and difficult to assess. Environment is a vital place where Writers are known to draw inspiration. In this context, environment is not just the physical and material manifestation but a condition of human activity. Environment therefore becomes the stimulus, focus the inspiration and the space where human health is sustain. A clean environment is essential for human health and well-being. Wastes are an unavoidable part of human activity. They either come from man's production activities or as a by- product of the materials consumed by man. Man appears not able to deal sufficiently with this waste. Even though the natural environment is the recipient of this waste, it is more capable of dealing with it within acceptable limits than man. The inability of man to deal decisively with these wastes has created both environmental and health problems (Bradshaw et al, 1992). A rising quality of life and high rates of resource consumption patterns have had an unintended and negative impact on the urban environment - generation of wastes far beyond the handling capacities of urban governments and agencies. Cities are now grappling with the problems of

high volumes of waste, the costs involved, the disposal technologies and methodologies, and the impact of wastes on the local and global environment (Srinivas, 2006 online).

If environmental sustainability is central to human being, this suggest that adequate knowledge about the source and aftermath of our actions on our environment is the best way to reverse whatever damage that must have been done to the environment. Recycling of waste discarded cow horns is an integral part of the way an environment can be catered for. The implementations of the emerging principle of the 3Rs-reduce, reuse, recycle is earnestly needed to sustain public and environmental health.

PURPOSE OF THE STUDY

The purpose of this paper is to:

1. Reduce greatly the rate at which waste discarded cow horns litter the community by converting it to artistic relevance for national development.
2. To sustain Public and environmental health through 3Rs-reduce, reuse, and recycle of cow horn.
3. Explore into inexpensive and readily available materials for producing locally-made chandelier for aesthetic value
4. To eradicate unpalatable environmental odour and desecrations caused by discarded cow horn.

METHODS

(a) Study Area: The study area was Bariga abattoir, Lagos. The study focused on descriptive analysis and construction of chandelier using discarded cow horn. A visit was embarked on to the abattoir to collect discarded cow horn which was used in making chandelier which is the concern of this study.

(b) Sample Size: The study entails the usage of ten selected cow horn and calabash to produce chandelier.

(c) Fieldwork and Constraints: A total of 2 research assistants were recruited for this study. An orientation and training programme was organized for the research assistants to acquaint them with the task and the basic logistics required for the study.

The major challenge was the reluctant attitude put up by the butchers in releasing the horn in large quantity, invasion into their work schedule and privacy due to the fear of the unknown. By and large a convincing explanation sustained their co-operation.

PUBLIC HEALTH

Public health, according to Turnock (2009) is "the science and art of preventing disease, prolonging life and promoting health through the organized efforts and informed choices of society, organizations, public and private, communities and individuals. It is concerned with threats to health based on population health analysis. The population in question can be as small as a handful of people, or as large as all the inhabitants of several continents. The dimensions of health can encompass "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity",

Garrett (2000) opines that the focus of public health intervention is to improve health and quality of life through the prevention and treatment of disease and other physical and mental health

conditions, through surveillance of cases and health indicators, and through the promotion of healthy behaviours. Promotion of hand washing and breastfeeding, delivery of vaccinations, and distribution of condoms to control the spread of sexually transmitted diseases are examples of common public health measures.

Modern public health practice requires multidisciplinary teams of professional including physicians specializing in public health, community medicine, infectious diseases, microbiologists, environmental health officers, Public health inspectors, nurses medical microbiologists, pharmacists, dental hygienists, dietitians and nutritionists, veterinarians, public health engineers, public health lawyers, sociologists, community development workers, communications experts, and others. (White & et.al, 2013)

ENVIRONMENTAL HEALTH

Environmental Health Schneider & et al (2008) is the art and science of protecting against environmental factors that may adversely impact human health or the ecological balances essential to long-term human health and environmental quality. Such factors include, but are not limited to: air, food and water contaminants; radiation; toxic chemicals; disease vectors; safety hazards; and habitat alterations. It also comprises those aspects of human health, including quality of life, that are determined by physical, chemical, biological, social and psychosocial factors in the environment. This refers to the theory and practice of assessing, correcting, controlling and preventing those factors in the environment that can potentially affect adversely the health of present and future generations. While the term community can be broadly defined, environmental health tends to focus on geographical areas rather than people with shared characteristics. (Heymann, 2008). The health characteristics of a community are often examined using geographic information system (GIS) software and public health data sets. Environmental health comprises those aspects of human health, including quality of life, that are determined by physical, chemical, biological, social and psychosocial factors in the community. It also refers to the theory and practice of assessing, correcting, controlling and preventing those factors in the community that can potentially affect adversely the health of present and future generations. It is also refers to as those services which implement community health policies through monitoring and control activities. This role is also carried out by promoting the improvement of environmental parameters and by encouraging the use of environmentally friendly and healthy technologies and behaviours.

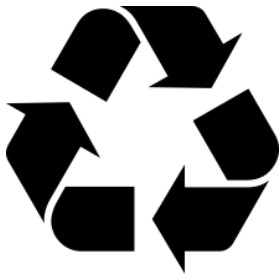
HEALTH, ENVIRONMENT, AND SOCIAL ASPECTS OF WASTE RECLAMATION

Solid wastes are household refuse, agricultural remnants, food leftovers, plastic bags, tin cans, ash and packaging, such as cartons, sacks etc, which are no longer needed in their present form, hence they are discarded. These can be organic or inorganic substance which can no more serve the purpose of the user Kreiger & et al (2013). Waste recycling the responsibility of the government or the public at large. In many cases, the public is unable to fulfill this role either due to financial constraints, lack of will or lack of organizational skills. In many cities, collection and separation of waste by the private or informal sector is seen as being too time consuming because of the content of the waste, often a mixture of organic and non-organic substances, such as plastic film. For there to emerge a successful organic waste reclamation process, it has been noted that it is of great help if the organic and non-organic waste is separated at source. It is here that the responsibility is thrown back onto the generator of the waste, the public. Many successful schemes are only successful because of community participation in the activities on a

day-to-day basis. Where waste is separated at source, this lessens the risk of contamination from such items as maggot, this means that the organic waste is cleaner (and will therefore fetch a higher price), it is easier to sort and the incidence of injury and disease related to sorting is decreased.

RECYCLING AND ITS PROCESS

“Life is all about recycling and if we as a nation recycle waste, we will be better off.” Recycling is a process of changing materials (waste) into new products to prevent waste of potentially useful materials, reduce the consumption of fresh raw materials, reduce energy usage, reduce air pollution (from incineration) and water pollution (from land filling) by reducing the need for "conventional" waste disposal, and lower greenhouse gas emissions as compared to plastic production. Recycling is a key component of modern waste reduction and is the third component of the "Reduce, Reuse, Recycle" waste hierarchy. Christian & et al (2013)



ENVIRONMENTAL BENEFITS OF RECYCLING

Recycling also promotes the sustainable use of our natural resources. Recycling saves energy. Recycling reduces pollution. Recycling, in short, is working. There are many environmental and health benefits associated with recycling according to the National Recycling Coalition and White et al, (2013)

- **Recycling reduces the need to build landfills and incinerators.** Typically, no one wants a Landfill or incinerator built in his or her community.
- Recycling reduces or eliminates pollution by reducing the need to extract, move and Process raw materials.
- **Manufacturing products from recycled materials saves energy.** It takes 95 percent less energy to make aluminum from recycled aluminum than it does to make it from virgin materials. It takes 60 percent less energy to make recycled steel, 40 percent less to make recycled newspaper or recycled glass, and 70 percent less energy to make recycled plastics. These savings far outweigh the energy created as a by-product of incineration or disposing of the materials in a landfill.
- Recycling helps reduce our reliance on foreign oil. Recycling helps by saving energy.
- **Recycling reduces greenhouse gas emissions.** Recycling helps reduce greenhouse gas emissions (e.g., carbon dioxide and methane) that may contribute to global climate change by (1) decreasing the energy needed to make products from virgin materials and thereby reducing the burning of fossil fuels (2) reducing emissions from landfills and incinerators, which are major sources of methane gas emissions and (3) slowing the harvest of trees thereby maintaining the carbon dioxide storage benefit provided by trees.
- **Recycling stimulates the development of green technology.**

Recycling allows for and encourages the development of more environmentally friendly products. The vast supply of low-cost recyclables from local collection programs has spurred many businesses to develop cutting-edge technologies and products. Waste tires, for example, are used in many applications including rubberized asphalt for paving roads.

VISUAL ART AND COMMUNITY DEVELOPMENT

Visual Art according to Esaak (2010) is something that makes us more thoughtful and well-formed humans. He explained that it is both functional and possibly aesthetically pleasing to our eyes. Art gives us a way to be creative and express ourselves.

Visual arts are forms of art that seek to present diverse concept and complex emotion as documented by the artist. This in turn is communicated to the audience through representation media. It also refers to any work of Art that appeals to our sense of vision. This includes drawing, painting, sculpture, textile design, graphics design, industrial design and ceramics. Visual art has been a reflection of the essence of social, historical forces and the cultural elements of the period in which the art were produced. They are products of a given cultural, psychology and social experiences of their time which serves as records of event. (Quadri, 2012) Artistic stock-taking enables a community to begin to understand the cultural, economic, and social context of a community—an essential foundation for developing and building sense of place. In Preserving and enhancing the community identity and uniqueness, arts should be explored as assets of a community required to enhance a face lifting for community character.

Visual Arts plays an important role in providing education about healthy living in the community as well as creating opportunities for participation in community life through display and installation of artworks, events and performances, interactive and intellectual discuss workshops, and a variety of other activities.

COW HORN

Horns are growths that protrude from the skulls of some animals. Horns are made of two components: 1) bone and 2) keratin. The bone is the center, or core, of the horn and is fused to the bone of the skull. The bone core is covered by a resilient sheath (protective covering) made of keratin. Horns are permanent part of the animal, which means the horns an animal is born with are the same horns it has its entire life. Horns do not branch out, but instead end in only one point on each side of the animal's head. Depending on the species of animal horns might be found on both males and females, or males only.

Horns are found on animals from the family Bovidae. The family Bovidae includes such species as cattle, sheep, goats, gazelles, antelope, bison, buffalo, and others. Bovids (animals from the family Bovidae) roam across the continents of North America, Europe, Asia, and Africa. In many species of Bovids horns are found on both males and females, but in some species are found on males only.

Horns are used by animals as weapons of defense, for fighting or display during mating seasons, and/or as a symbol of rank. Some animals with horns also benefit from the blood vessels in the bone core acting as a natural radiator, helping to keep the animal cool.

NATURE OF HORNS

Horns come in a wide variety of shapes, sizes, and lengths. Horns can be nearly straight, gently curved, tightly curved or curled, or spiraled. While it is most common for an animal with horns

to have only one set (one horn on each side of its head), certain animals, such as some sheep, have more than one set of horns.

What is Bone? What is Keratin?

Bone is a porous, mineralized, and rigid organ. While it is one of the two items that make up a horn, bone is probably best known for making up the endoskeleton of vertebrates. In a living animal bone is alive, made up of osseous tissue, blood vessels, nerves, marrow, and other components.

Keratin is a tough, non-mineralized, protein. It not only makes up the sheath of a horn, it is also a primary component of hair, nails, claws, hooves, feathers, and the shells of tortoises, turtles, and terrapins.

According to McCaffety (2007) chandelier is a decorative ceiling-mounted light fixture. Chandeliers are often ornate, and normally use lamps. Crystal Chandeliers has more or less complex arrays of crystal prisms to illuminate a room with refracted light.

The word chandelier appeared in English language in the late 14th century, borrowed directly from 12th century Old Spanish *candelero*. This was a new spelling of the 10th century French word *chandelabre*, which comes from the Latin *candelabrum*, itself from the Latin *candela* (meaning candle), and *Chandelle* gives the word chandelier.

The earliest candle chandeliers were used by the wealthy in medieval times. They were generally wooden crosses, with spikes on which candles were secured. They were hoisted to a suitable height, hooked on a rope or chain.

From the 15th century, more complex forms of chandeliers, based on ring or crown designs, became popular decorative features in palaces and homes of nobility, clergy and merchants. Its high cost made the chandelier a symbol of luxury and status.

By the early 18th century, ornate cast *ormolu* forms with long, curved arms and many candles were in the homes of many in the growing merchant class. Neoclassical motifs became an increasingly common element, mostly in cast metals but also in carved and gilded wood. Developments in glassmaking later allowed cheaper production of lead crystal, the light scattering properties of which quickly made it a popular addition to the form, leading to the crystal chandelier.

In the mid-19th century, as gas lighting caught on, branched ceiling fixtures called *gasoliers* (a portmanteau of gas and chandelier) were produced, and many candle chandeliers were converted. By the 1890s, with the appearance of electric light, some chandeliers used both gas and electricity. As distribution of electricity widened, and supplies became dependable, electric-only chandeliers became standard.

Towards the end of the 20th century, chandeliers were often used as decorative focal points for rooms, and often did not illuminate.

PRODUCTION OF CHANDELIER FROM HORNS AND CALABASH

This Chandelier was produced using discarded horns and calabashes. The waste disposed horns were collected from animal abattoir where it was lying fallow with collection of maggot hill, clustered in and out of the bone and keratin of the horn. The odour generated from this dump was disgusting and uninviting which made people keep enough distance and cover their nose from contamination and diseases which is transported by flies.

Processing the Horn

The bone which is a porous, mineralized, and rigid organ of the horn was separated from the tough, non-mineralized, proteinous **Keratin** using gas blower to generate the needed heat to conveniently separate the sheath of the horn. At times it can be difficult to remove the cartilage, when this occurs the horn can be hit against a hard surface to detach it from the hard part of the horn. The sheath of the horn is carefully separated by using hammer to strike the surface of the horn.

The horn was soaked in a solution of hot water, salt and detergent to get rid of the maggots and the odour generated by the horn. After few days, the keratin was finally washed with sponge, detergent and spread out for drying.

Production process of chandelier

- Ten keratins of moderate sizes were carefully selected.
- The selected keratins were grinded using grinding machine and sand paper to create a smooth effect. (Fig 7)
- Holes of 6cm in diameter were bored on five of the ten selected keratin.
- The other five keratins were inserted into the perforated keratin to create an interlock. This was seal up using saw dust and top bond. (Fig8 & Fig9)
- The keratins were then inserted into a decorative calabash of five circular openings to create a single unit of an assemblage and installation art. (Fig 10)
- A chain of 20 inches in length was connected into the calabash equidistance of the meeting point of the keratins in the calabash as reinforcement.
- The wiring of the chandelier was made using 10 yards of 2 x 1.0mm fire resistance wire and cable produce. (Fig 11)
- The ten openings of the chandelier were covered with circular plywood and installation of ten lamp holders and a plug for connection to power source.(Fig8)
- The chandelier was painted with wood finish.
- Ten colourful bulbs were installed to make a complete project.(Fig14)

FINDINGS

The following findings were discovered through recycling of waste discarded cow horn to artistic relevance:

- The production of chandelier with cow horn keratin will reduce environmental desecration and unpalatable odour emitted in abattoir.
- It will enhance the emerging principle of the 3Rs- reduce, reuse and recycle to sustain public and environmental health.
- Utilization of cow horn and calabash to produce chandelier is an affordable substitute to an imported chandelier.
- It also encourages patronage for indigenous or locally produced products.
- That cow horn does not just serve functional purpose but also aesthetically captivating.
- It was discovered that apart from chandelier, other valued artist items can be produced with cow horn such as lamp holder, mouth flute, chair, pen holder, flower vase, anklet and button.

RECOMMENDATIONS

- To avoid the deterioration of the environment. A more coordinated, consistent and reliable inventory should be put in place to passionately see to areas where the environment is desecrated with cow horns and create measures to harness the resources and salvage the environment.
- By implementing the outcome of this study dependence on incinerators and landfills will be reduced. And when using recycled materials in place of metal ores and minerals, there is less pressure to expand forestry and mining production.
- Investing and harnessing the rich value of artistic works generated through recycling of discarded cow horn to artistic relevance for national development is highly crucial. It is recommend that collaborative effort should be put in place through partnership with other stakeholders-manufacturing industries, banks, research institute, federal and state government to generate support and come out with emerging principle of 3Rs- reduce, reuse and recycle to sustain public and environmental health.
- Waste prevention and resource reduction essentially hold the key to solving our severe waste problems. Using methods such as eco-industrial parks to reduce waste would help eliminate the need for mountainous landfill sites and enormous pollution cleanup costs.
- Environmental policy which will be based on the belief that high environmental standards stimulate innovation and business opportunities should be implemented.

CONCLUSION

In Conclusion, it is true that we live in a throw-away society. So, sustaining public and environmental health is essential for the quality of life of current and future generations. The challenge is to combine this with continuing economic growth in a way which is sustainable over the long term. Interest in determining costs and benefits is increasing in the environmental field. The possibilities for performing cost-benefit analyses in the waste area depend, however, on what is known about the actual emissions or discharges associated with waste disposal methods and their effects on the environment and health. By implementing the above discussed recommendation, waste making to our landfills will be greatly eliminated. This will allow waste management agencies to focus more on energy and time studying other ways of controlling the negative effects of wastes that does make it to pollute our environment. A recycle conscience society can preserve the earth for many generations to come. Harnessing this opportunity is a vehicle to enhance the contributions of industry to health and economic development via creation of employment and increased local content.

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FIGURE CAPTION



Fig (A): Cows from Bovid Family



Fig. (B): Removal of the horn from Cow skull



Fig. (C): Heating of the Horn with fire



Fig. (D): Separating the bone and the keratin



Fig. (E): Washing the keratin



Fig. (F): Processed Keratin



Fig. (G): Grinding the Keratin



Fig(H): Using plywood to cover the Horn



Fig (I): Connecting the cable,



Fig (J): Fixing the horn to the calabash



Fig(K):Connecting the cable in the Calabash



Fig(L):Installation of Lamp Holder



Fig(M):Fixing the Bulb



Fig(N):Finished Work

Fig(O):Illumination

BRIDGING UNDERSTANDING IN MEDICARE: TEMPLATE FOR EFFECTIVE COMMUNICATION IN INDIGENOUS LANGUAGES

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ABSTRACT

One of the implications of globalization is to include all possible stakeholders in every enterprise, taking into consideration all enabling variables. The maintenance of a good patient-doctor relationship otherwise known as clinical relationship is central to the health care delivery in medical practice. For this reason, it is the usual practice in medical schools all around the globe to make the attainment of communication skills compulsory for all. A doctor's good communication skill therefore is a function of a well-built medical vocabulary with which he communicates with his patients. It has been observed that medical jargons in a contemporary African society, especially Yorubaland are mostly in the English language which inadvertently breaches clinical relationships. This paper however seeks to address the issue by proposing a template for the creation of medical terms in respect of consultation procedures and directional information labels in the hospital environment in the Yoruba language as a medium of clinical communication. Appealing to concepts embedded in the theory of lexical morphology, we aim in this paper to go through word formation processes to achieve a Yoruba language template for medical terminologies.

Keywords: Medical, Communication, Indigenous languages, Yorùbá language, Vocabulary.

INTRODUCTION

The need to foster a purposeful and effective healthcare delivery is primary to medical practice. The attainment of this is linked to considerate knowledge of medicine as an academic discipline and the ability to ensure that the knowledge is used for the benefit of human beings. The formal is attainable in the medical school but the application of this knowledge can only be enhanced if medical curriculum takes into consideration the importance of communication between the doctor and the patient. This makes for profound synergy of both medical knowledge and communicative skill. Healthcare delivery can only serve its purpose if a doctor fully comprehends the feelings of his patient. It has been observed that in most African counties, colonial languages, such as English, French, Portuguese and Spanish are mostly used as means of communication between doctors and patients. In Nigeria, healthcare delivery is being mainly done in the English language even when doctors practice in the rural areas where majority of citizens live and whose medical needs are somewhat complex as a result of environmental hazards. The best means of communication has been through interpreters. One frustrating observation is even common with doctors who share the same indigenous languages with their patients where it appears that medical training obliterates their competence in their indigenous languages such that patients are hardly comfortable with them during consultations. This paper however looks at this distressing situation by proposing the injection of the dose of communication in the indigenous languages in medical curriculum as a long term solution but

proposes an immediate solution by opening a window for effective communication in the Yorùbá language for consultation procedures and directional information labels in the hospital environment. Our worry is based on the fear that diagnoses may not be appropriate if the patient feelings are not perfectly understood by the doctor. The present situation may be achieving some success in the urban areas where patients have considerable competence in the English language, but the majority of patients in the rural areas would definitely not enjoy the gains of modern medical practice. Perhaps this is why rural dwellers still have more faith in traditional medical solutions to their health problems.

The problem of disharmony between contemporary medical education and African indigenous languages has been captured in this quotation which Owolabi (2006:17) rightly called Native Language Prejudice Syndrome (NALPS henceforth):

If anything, our local languages are constrained in a number of ways. Most of them are not developed enough to accommodate the intricacies and inflections that a dynamic language should have. New ways of doing things especially in the areas of science and technology as well as information technology can hardly be captured by the lexis and structure of our indigenous languages (Editorial comment of SUNDAY SUN of March 28, 2004, pp2.)

This paper will upturn this prejudice by aligning with previous efforts which will be mentioned in the fifth section of this paper.

THEORETICAL FRAMEWORK

Our analysis will greatly benefit from the lexicalist theory of Generative Morphology which is an advancement of the treatment of lexical items in Generative Grammar and Generative Semantics. The theory has two approaches to the study of words and the nature of the lexicon. One of the approaches which we refer to as *lax* allows “syntactic derivation of some words but also agrees to the fact that the lexicon contains idiosyncratic and unpredictable items” (Yusuff 2008:19). The proponents of this approach are Baker (1988) and Lieber (1992). The second approach which we label *strict* does not allow transformational approach or syntactic solution to the nature of word. It believes that all words are lexically derived. This approach is traceable to Chomsky (1970), Selkirk (1982), Di Sciullo and Williams (1987) among others. We find the *lax* version suitable to the analysis of our data.

DATA FOR STUDY

The major motivation for this choice of data sources is the observation that medical terms need to be reduced to indigenous languages. We intend to exemplify with Yorùbá language. Our data were collected in English from the staff of University of Lagos Medical Centre and the data in respect of the empowerment of Yorùbá language to capture contemporary medical notions and ideas were collected from recorded Yorùbá music, contemporary literary works, researchers’ introspection as native speakers and collections of scientific and technical terms.

THE YORUBA LANGUAGE

Yoruba language is one of the three major languages of Nigeria. The other two are Hausa and Igbo. Yorùbá is the mother tongue of a huge number of speakers in South-West Nigeria. This is expressed in Fakoya (2008) that the Yorùbá language is spoken as a first language by more than 22 million people spanning the south-western parts of Nigeria, the neighboring countries of the Republic of Benin and Togo and even outside the shores of Nigeria. The oral literature of the

Yorùbá race also has a trace in the cultures of countries like Brazil, Cuba and parts of West Indies, Trinidad and Tobago as a result of Yorùbá descendants now domiciled in countries. Yorùbá language is spoken wholly in Nigeria in states such as Lagos, Ondó, Kwara, Ògùn, Èkìtì, Òyó and Òşun States as well as in parts of Kogí and Edo States. The speakers are contiguously located in southwest Nigeria (Adétugbo 1967).

PREVIOUS EFFORTS

The deliberate efforts on Yorùbá language development can be said to be in two different categories namely: documented and undocumented. The documented are published works which are listed below:

- Nigeria Educational Research and Development Council (NERDC) 1990: A Vocabulary of Primary Science and Mathematics in Nine Nigerian Languages Vol.1
- Bamgbose (ed) (1992): Yorùbá Metalanguage Volume 1
- Awobuluyi (1990): Yorùbá Metalanguage Volume 2
- Federal Government of Nigeria (FGN) (1991): The Quadrilingual Glossary of Legislative Terms.

The undocumented source is the media. The media is an important source of language engineering. This is so because the media shapes the idea conceived of anything by the people. In line with this, Adeniyi and Bello (2006:154) agree that the media is a fast means through which we could get anything promoted. This however does not sidestep the deliberate language development activities of any nation. Apart from the media, Yorùbá language through the retinue of oral literature passed down from the rich historical past have witnessed a resourceful development over the years.

STRATEGIES

In response to NALPS, aside from the existing words in Yorùbá language whose meanings could be directly used, some meanings could be extended and various strategies such as compounding, coinage, reduplication, slang and borrowing, though as a last resort could be applied to formulate terms for expression of contemporary ideas and notions in whatever fields of human endeavor. Some examples of the strategies are discussed below:

• **Compounding**

Compounding is the process of putting words together to build a new one that does not connote two senses, but one and that is pronounced as one unit. Words that come together in this form are mostly nouns or nominal as well as other major lexical categories (Wisnicwski 2007, Yusuff 2008). Examples of this in Yorùbá are:

- i. Certificate - ìwé èrí (*lit.* book evidence) = ìwéèrì
- ii. Ascaris – aràn inú (*lit.* worm inside) = aràn-annú
- iii. Radiate – fẹ́ ká (*lit.* blow around) = fẹ́ká

• **Reduplication**

Reduplication is described as a morphological process whereby a copy of a morpheme (free or bound), in either slightly altered or identical form, is added to the form in order to produce a new word possessing a syntagmatic relationship with the copy (Awoyale 1989). Examples of this in Yorùbá are:

- i. Monthly - oşu + oşu (month + month) = oşoosù
- ii. Prostitute – dó ọkọ + dó ọkọ (copulate husband + copulate husband) = dókọdọkọ

iii. Chapter by chapter/in chapters – ori + orí (chapter + chapter) = oroorí

• Coinage

This is a process of word formation which takes cognizance of only the description of some aspects of an item in finding a name for it. In words of Delahunty and Garvey (2010), coining is the creation of new words without reference to the existing morphological resources of the language. Words in this process can be derived from the description of the appearance and sound of the item. It is employed in Yorùbá language in the following examples.

- i. Omnipresent- A tẹ rẹrẹ ká ayé (*lit.* one who spreads upon the earth) = Atẹrẹrẹkáyé
- ii. Omniscient – A rí inú rí òde (*lit.* one who sees both in and out) = Arínúróde
- iii. Bicycle – kẹkẹ (coined from the way it sounds when riding on it) = kẹkẹ

• Slang

Ali *et al.* (1993) define slang as a language whose use serves to mark the user as belonging to some distinct group within the society. Therefore, people who belong to more than one of such group may use very different slang depending on who they are communicating with. The Yorùbá examples for slang are:

- i. Chilled (drink) - ẹ̀wọ̀n (*lit.* be imprisoned (like a soft drink in a fridge)) = ẹ̀wọ̀n
- ii. Slim – lẹ pa (*lit.* very flat) = lẹpa
- iii. Defraud – gbá, (*lit.* to sweep (verb transitive)) =gbá

• Borrowing

This is a process of borrowing words from other languages. As resourceful as Yorùbá language is, borrowing is often allowed in the language but it is usually employed as a derivational process of last resort. It is highly imperative to mention here however, that all borrowed words must duly satisfy the phonological conditions of the language before they are used. Examples are:

- i. Machine- máşìni (from English)
- ii. Fenêtre - ‘window’- fẹ̀rèsé (from French)
- iii. As-salat ‘worship’– Àsàlátù (from Arabic)

• Folk etymology

This is a form of derivation where the form of a word changes in order for it to better correspond to its popular and new realization. According to Poruciuc (1991), this typically happens when a change in the meaning of a word occurs resulting from an incorrect popular notion of the origin or meaning of the term. Some Yorùbá examples are:

- i. Volkswagen-ìjàpá ‘tortoise’ (similarity in shapes)
- ii. Mercedes Benz- Ọ̀bòkún ‘robust expensive fish’ (similarity in shape and cost)

APPLICATION TO TERMS IN MEDICAL CONSULTATION

Our major concern in this paper is to proffer a solution to healthcare delivery in the short run. In achieving this, we will look at terms as they relate to the minimal consultation procedures and labeling of section in the hospital in the Yorùbá Language.

a. Procedures

From our interview, we observed that medical consultation starts from registration. This leads to documentation and vital signs such as measurement of blood pressure, temperature and pulse. After this, a patient is referred to a doctor for consultation. During consultation, dialogue will

ensue between the doctor and the patient. Such dialogue will center on drawing of information on likely symptoms from the patients. On retrieval of information from the patient, the doctor prescribes drugs, injection or further tests to the patient. A patient could be asked to take injection, drugs or both at this point.

For the purpose of analysis, we intend to formulate words for the following key terms observable in the process.

- i. **Registration**- iforúkọsílè: Ì+fí+orúkọ+sílè- the act of putting name down.
- ii. **Vital signs**-Ìyẹrawò: I+yẹ+ara wò- the act of examining the body (self).
- iii. **Blood Pressure**-Ìfún pá: Ì+fún+apá- the act of squeezing the arm.
- iv. **Temperature**-Ìgbóná ara: Ì+gbóná+ara- gauging of hotness of the body.
- v. **Consultation**-yẹ̀nwò: In Yoruba traditional society, this word is used for consulting the Ifá priest whenever they have challenges relating to health and spiritual matters. *Yẹ̀nwò* is derived from *yẹ mí wò* which literally means ‘cross-check me’. This term is drawn from folk etymology subjected to semantic extension.
- vi. **Prescription**- Àkọfáláìsàn: This literally means “that which is written for the patient”.
- vii. **Drugs**-egbò igi (*lit.* root of tree): This is used to mean tangible medicine among the Yorùbá. Oògùn (medicine) is not appropriate for drugs because the meaning includes both tangible and intangible medicines among the Yorùbá people. Intangible medicine includes incisions, amulets and even verbal charms.
- viii. **Injection**-abéré (*lit.* needle): This is already commonly used in hospitals but it is also used to describe ‘syringe’ and ‘injectible drugs’. In this connection, witness the term *relùwée* “railway” which refers to ‘train’ itself in Yorùbá and not the ‘track’. *Track* however is called *ojú-irin* “the eye of iron”. This underscores the importance of folk etymology in the formulation of terms. The word *abéré* is already in existence in the language, meaning ‘needle’. It therefore refers to *injection* by semantic extension. Consider *abéré àjẹsára* (immunization/vaccination) which refers to injection for boosting body immunity. This also refers to oral vaccination in the language.
- ix. **Medical test**-Ìyẹ̀wò: This is formed through the process of composition. *Ìyẹ̀wò* means the process of cross-checking. We can now easily derive various forms of tests as follows:
 - x. **Urinalysis**- Ìyẹ̀tòwò “act of cross-checking urine”
 - xi. **Stool test**- Ìyẹ̀gbẹ̀wò “act of cross-checking stool”
 - xii. **Blood test** – Ìyẹ̀jẹ̀wò “act of cross-checking blood”
 - xiii. **X-ray** – Ìyàgòarawò (i-yẹ̀ àgò ara wò) “act of cross-checking internal organs” Let us at this juncture consider **scanning** which even though may be covered by *iyàgòarawò* but may be differentiated by suggesting *iyàwòrán-inú* “the act of committing internal organ into graphical or pictorial forms”.
 - xiv. **Test result**- Èsì/Àbájádé iyẹ̀wò.

7.2 Directional Information Labels (àmì itọ̀nisọ̀nà)

The need to formulate terms for directional information labels in the hospital environment cannot be overemphasized. Even though consultation procedure terms earlier discussed improves communication process verbally, labels will increase the effectiveness of healthcare delivery if patient that are literate in Yorùbá language are provide for. It is interesting to note that there are numerous Yorùbá speakers who through adult education that have been institutionalized since the western region times have acquired literacy in the Yorùbá language.

- i. **Outpatient department**- Èka igbàwòsàn ráńpé
- ii. **Inpatient department** - Èka igbàwòsàn adánidúró
- iii. **Registration centre** – Ibùdó iforúkòsílè
- iv. **Emergency**- Ìwòsàn pàjávìrì
- v. **Pharmacy**- Yàrá egbòogi
- vi. **Consulting room** – Yàrá yèńwò
- vii. **Pharmacy store** – Yàrá itójú egbòogi
- viii. **Laboratory** – Ibùdó iyèwò
- ix. **Injection room** – Yàrá igbàbéré
- x. **Dressing room** – Yàrá iwẹgbò

CONCLUSION AND RECOMMENDATIONS

This paper attempted to provide a pragmatic solution to the problem of doctor-patient communication in indigenous languages with a view to enhancing considerable delivery of sustainable healthcare to the greatest number possible, especially among the rural dwellers who are hardly interested in the so-called modern or developed languages. The training of doctors should pay more attention to effective communication in the language(s) of the patient. To achieve this, in this paper, we have formulated terms in the Yorùbá language for sample English medical related words as are relevant to basic consultation procedures and directional information labels in medical centers. Consequently, we have beckoned on the theory of lexical morphology and have also highlighted similar efforts in terminology formulation. Also, strategies that could serve as template for the formulation of other medical terms have been provided. Our analyses should provide the enabling capacity to at least improve patient-doctor communication if only as a first aid solution.

To have a Yorùbá comprehensive medical terminology for a long term use, we will need to have workshops comprising linguists and experts of various specializations in medical education. We request for a joint proposal for series of workshops for the realization of this comprehensive project. A further step would also be needed for compulsory Yorùbá courses to be included in the curriculum of our medical students. If French is made compulsory for science students at the University of Lagos presently, we cannot argue against recommending Yorùbá language as a compulsory course in Southwest Nigeria, Igbo in the East and Hausa in the Northern part of the nation for medical students. After all, Nigerians have been going to different countries of the world where they learn the language of the land before they study their major courses even up to PhD level.

We are not advocating for total breakaway from the use of English in our curriculum for now, we are only proving that it is possible to be properly educated in African languages in general and yet remain relevant in the affairs of the world and indeed in globalization as it is conceived in modern times. We are well aware of other nationals like Chinese, Japanese and German who can hardly speak English but are involve in major infrastructural development activities in Nigeria and indeed the whole of Africa. Examples are CCECC (China Civil Engineering Construction Corporation), Julius Berger (Germany), Solel Boneh (Israel) which are common sights in this country. Their engineers and technicians are trained in their countries and in their languages. This shows that knowledge can only be useful to people when they are transferred in their mother tongues. Also, we can only be creative with knowledge when they are immersed in

indigenous cultures. The common and erroneous restraint of children from using their mother tongues is not only dangerous to the development of our nation but it is also a suicidal impediment to genuine emancipation. Technology can never be transferred for the benefit of a people if it is not soaked in the dye of an indigenous culture.

ACKNOWLEDGEMENTS

We are highly indebted to Professor Olu ALABA of the Department of Linguistics, African and Asian Studies, University of Lagos for his contribution and encouragement in the preparation of this paper. Also, our appreciation goes to the members of staff University of Lagos Medical Centre, Lagos-Nigeria for the useful time they granted us for our interviews.

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THE IMPLICATIONS OF RICHARD RORTY'S NEO-PRAGMATISM: FOCUS ON PSYCHOTROPIC MEDICATION

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ABSTRACT

Few issues in healthcare generate more heat than the growing use of psychotropic medications in the contemporary world. The need to improve healthcare calls for action. This research proposes a neo-pragmatist approach to this problem, using Richard Rorty's brand of neo-pragmatism as a framework. According to neo-pragmatism, the value for the adoption of any line of action is evaluated according to whether it serves desired interests. The chief aim of this work is to sketch the implications of Rorty's neo-pragmatism for psychotropic medication. From our critical analysis, our conclusion is that the negative effects of these drugs are clear indications of their unsuitability for human consumption; hence the coercive administration of these drugs is against the principles of medical ethics. The summary of our suggestion is that efforts should be intensified in discouraging the use of psychotropic drugs. In its stead, compassion, caring, and respect for human dignity, in addition to justice, beneficence and respect for autonomy should be enthroned.

Keywords: Philosophy, Neo-pragmatism, Richard Rorty, Psychotropic drugs, Epistemology.

INTRODUCTION

It is an uncontroversial submission that there has been an unparalleled increase in the level of global depression. In 2002, the World Health Organization declared that depression had reached endemic proportions. In the next twenty years, the WHO predicted, depression would be the world's second most devastating illness after cardiovascular malady (guardianunlimited.co.uk). Several social critics (e.g, Ehusani, 1991) have opined that the rise in depression is not a real phenomenon, but a symptom of a deeper underlying problem. Generally, this problem is identified as the increasingly alienating nature of modern society, which involves less human contact, and more impersonal technology. The industrialized societies appear to have waged a successful war against the family, leaving the individual as the free and autonomous unit of society. As the sense of community disappears, the individual loses his or her true identity. Indeed, the stress and mental breakdown which daily haunts the contemporary man is approaching an epidemic proportion.

In the midst of all these, psychiatrists have come up with psychotropic medications as a panacea for stress and mental breakdown. But whether this solves the problem is the fulcrum of this paper.

This work is an application of Richard Rorty's neo-pragmatist philosophy to determine the value of psychotropic medication as it relates to medical ethics.

Rorty's Neo-Pragmatism

Pragmatism originated over a century ago with the American philosophers Charles Sanders Peirce, William James, John Dewey and George Herbert Mead. Unlike realism, pragmatism does

not rest upon ambitious claims about knowledge reflecting an underlying reality. Unlike idealism, it rejects the idea that the mind is the basis of knowledge, and directly opposed to rationalism, it disagrees that abstract rationality is the path to reliable knowledge. For pragmatism, practical activity is the bedrock and the test of knowledge. Knowledge, here, is judged according to its consequences in action.

The pragmatist approach to the problem of knowledge is to change the question that we ask about knowledge. Instead of asking ‘Does this knowledge accurately reflect the underlying reality?’ the question becomes ‘Does this knowledge serve our purposes?’ The roots of this shift lie in a critique of the Platonic idea of Truth. According to Plato, beyond our flawed human perceptions, there exists an almost heavenly and timeless realm of ‘ideal forms’ which comprise Truth. In Plato’s allegory of the cave, human perceptions are akin to mere shadows on a wall, cast by the real ideal forms outside the cave. This Platonic conception of Truth was carried forward by philosophers such as Descartes.

Neo-pragmatism is a recent philosophical term in the history of philosophy that reintroduces many concepts from pragmatism. As a postmodern version of pragmatism, it repudiates the notion of universal truth, epistemological foundationalism, representationalism, and the notion of epistemic objectivity. While traditional pragmatism focuses on experience, neo-pragmatism centers on the self as a centerless web of beliefs and desires.

The characteristic idea of philosophical neo-pragmatism is that ideas and practices should be judged in terms of their usefulness, workability, and practicality for the individual person, and that these are the criteria of their truth, rightness and value.

Richard Rorty is described as “*one of the most original and important philosophers writing today*” (Brandom, 2000: ix) and as adopting a “*distinctive and controversial brand of pragmatism*” (Ramberg, 2002). Rorty tracks his neo-pragmatism back to his intellectual hero, John Dewey, whose philosophy centered around questions of how life should be lived and addressed the social issues of his day (Hanson, 1995; Rescher, 1995). Reading Rorty we can find many echoes of the project which is action research.

In response to these concerns about reality, truth and justice, Richard Rorty has taken on the task of ‘re-describing’ philosophy. Redescribing is an important term for Rorty: if we want to argue persuasively for a new view of phenomena, and we can no longer lay claim that our view is a better representation of reality, we are caught in a ‘*contest between an entrenched vocabulary which has become a nuisance and a half-formed vocabulary which vaguely promises great things*’ (Rorty, 1989:9). So *redescription* refers to ‘*a talent for speaking differently, rather than for arguing well*’; it is ‘*the chief instrument for cultural change*’ (Rorty, 1989:7).

Rorty’s view is that human inquiry, as it ceases to be an attempt to correspond with an intrinsic nature of reality, becomes an exercise in human problem solving:

Pragmatists hope to break with the picture which, in Wittgenstein’s words, ‘holds us captive’—the Cartesian-Lockean picture of a mind seeking to get in touch with a reality outside itself. So they start with a Darwinian account of human beings as animals doing their best to cope with the environment—doing their best to

develop tools which will enable them to enjoy more pleasure and less pain. Words are among the tools which these clever animals have developed. (Rorty, 1999: xxii- xxiii).

Neo-Pragmatism: Knowledge as a Tool for Action

Neo-pragmatism strongly rejects the correspondence theory of truth. Here, knowledge is not a representation of reality or a '*mirror of nature*' (Rorty, 1979). Rather, it is a tool for action. Rather than *mirroring* reality, knowledge *mediates* our relation to the physical and social world. Neo-pragmatists argue that there is nothing extra to be gained by positing a reality 'behind' appearances and worrying about whether one's statements represent that reality (Rorty, 1999). Scientists construct knowledge in the context of action: knowledge guides action and action feeds back into knowledge construction. Thus, for the neo-pragmatists, the only sensible yardstick by which to judge a piece of knowledge is whether that knowledge is useful for a given interest. A hammer is useful for striking nails just as knowledge of antibiotics is useful for dealing with bacterial infections, and knowledge about complementary medicine is useful in cultivating a feeling of wellbeing. None of these tools can be said to better reflect an underlying reality, rather, each tool serves its particular purpose. Rorty captures the radical novelty of the pragmatist approach when he states that our vocabularies and concepts '*have no more of a representational relation to an intrinsic nature of things than does the anteater's snout*' (Rorty, 1998: 48). The anteater's snout is an adaptation to its environment, which mediates between the anteater's desire for ants and the existence of ants in hard to reach places. The 'goodness' of the snout can be judged accordingly. Just as the anteater's snout is not a mirror of ants in hard-to-reach places, human knowledge of horticulture and animal husbandry is not a mirror of plants and animals. It is a purpose-driven mediator between the human desire for food and the world as we find it. Its usefulness is judged, not by whether it 'mirrors' reality, but by whether it successfully enables humans to achieve their various individual and collective interests. Hence, neo-pragmatism is *action-oriented*, in that everyday problems and actions are the primary reality, and the test of our knowledge.

Psychotropic Medications: Theoretical Considerations

Psychotropic drugs are drugs capable of affecting the mind, emotions, and behavior. They affect the central nervous system, altering psychological processes. Anderson et. al. (2002) defines psychotropic medications as drugs that affect the psychic function, behavior and experience of a person using them.

Psychotropic drugs range from stimulant medications, antipsychotic medications, mood stabilizing medications to antidepressant and antianxiety medications. Stimulant medications include drugs such as Ritalin (Methylphenidate) and Adderall (Amphetamine) used to treat attention deficit hyperactivity disorder (ADHD).

Antidepressant and antianxiety medications include drugs such as Zoloft (Sertraline), Anafranil (Clomipramine) and Prozac (Fluoxetine) that are used to treat depression, obsessive-compulsive disorder and related disorders.

Antipsychotic medications embrace drugs such as Haldol (Haloperidol), Seroquel (Quetiapine) and Risperdal (Risperidone) used to treat bipolar disorder, schizophrenia, autism, tourette's syndrome and severe conduct disorders and aggression.

Mood stabilizing medications consist of Depakote (Divalproex sodium) and Lithobid (Lithium Carbonate) used to treat bipolar disorder.

The use of psychotropic medications is reaching epidemic proportions as the result of spurious diagnoses, the medicalization of what are often normal aspects of behavior, the rapaciousness of an out-of-control drug industry, a quick-fix culture, and the need for immediate social therapy and control in the absence of family and community-based involvement in the lives of individuals. The risks of using these medications are not known, especially over the long term, and there is growing evidence of their danger. Several studies (Ruschena et al., 1998; Corten et al., 1991; Mehtonen et al., 1991) conducted in American and European populations suggest a link between unexpected deaths and the use of psychotropic medications. A research carried out in Nigeria by P.M. Kolo, P.O. Ajiboye, A.D. Yusuf, A.B. Omotoso and E.O. Okoro (2012) concluded that psychotropic drug use is associated with increased risk of cardiac problems.

Rorty's Neo-Pragmatism and Psychotropic Medication

The epistemological paradigm of Rorty's Neo-Pragmatism has shown that medicine is to be defined as a science of action, indicating the interaction between subject and object as well as the unity of knowledge and action. This has quite a number of implications for psychotropic medication. For one, it shows that the current administration of psychotropic drugs does not take into consideration the liberty and self-expression of the individual patient. Instead, it fosters coercion, cruelty, humiliation, and forced redescription. In other words, psychiatric health care practitioners, through the administration of these drugs, forcibly redescribe the identities of their patients. This is what Rorty's neo-pragmatism proscribes.

This proscription, without doubt, encompasses the practice within contemporary psychiatry of labeling their patients as being mentally ill leading to the forceful administration of psychotropic drugs, despite the side effects these drugs may have on these patients. Rorty's proscription of forcible redescription has been eloquently and comprehensively articulated for the world of medicine by Arthur Frank in his book, *The Wounded Storyteller* (1995). Here, Frank attempts to articulate an avowedly postmodern "ethic of voice," according to which everyone should be allowed to "tell their own story." Patients facing illnesses should be assisted in reclaiming and asserting their own voice and personal experiences in the face of depersonalizing effect of psychotropic medications.

Knowledge of a patient's prior worldview should be obtained in the context of a careful and enduring professional-patient relationship. More often, physicians and patients are virtual strangers, and often physicians, nurses, and other healthcare professionals deal with patients about whom they know little or nothing beyond the immediate medical situation. Most medical practitioners garner pieces of information from many inevitably biased sources, which may or may not have the patient's "best interests" in mind: interests which ought to be defined, within the limits of reason, on the patient's and not on the source's own terms. An equally biased professional must then distill such impressions. Often, without conscious intent, medical consultants manipulate the situation to serve their own (and not their patients') values and worldviews.

Psychiatrists may object to the above viewpoint, claiming that the privilege of professionalism predisposes them to know what is best for the patient. Rorty's brand of neo-pragmatism will reject the notion often voiced by psychiatric practitioners, as it does not give any room for the autonomy sort of the patient. The psychiatrist can only have unprivileged access to the patient's

consciousness. It is only the patient that has privileged access to his/her consciousness: he or she is actually experiencing the pains, the thoughts, and the problems. This difference between the medical practitioners' vague, uncertain, and incomplete unprivileged access, and the patient's privileged access should be taken into serious consideration in a doctor-patient relationship. In order to tackle this problem, the psychiatrist construes principles which are meant to aid him reach the subjective experience of the patient: "*in reality, he reaches every time for nothingness...*" (Nietzsche, 1967: 253). In this professional frustration, his only means of remaining relevant, not necessarily useful to the human community, is the forceful administration of psychotropic drugs.

This only adds to the problems of the patient, enlarging the troubled patient's psychosocial and imaginative tribulations. Beyond this, there is no special contribution of psychiatrists to the emotional problems confronting our world today; no special contribution, except "*making the chosen cause appear the better*" (Rorty, 1982: 223).

On the whole, Rorty's neo-pragmatism is in opposition to psychiatrists' coercive administration of psychotropic drugs in the name of medical development. This can only continue to further the course of cruelty, sadism, and humiliation practiced against the poor and vulnerable. Conversation, persuasion, and unforced redescription have always been the preferred routes to any meaningful development.

CONCLUSION

Our aim, in this work, is to offer a neo-pragmatist way of conceptualizing and evaluating the ethics of psychotropic medication via the philosophy of Richard Rorty. Neo-Pragmatism, as we have seen, gives priority to an individual's everyday experience. As Rorty (1999, p. xxii) writes, for neo-pragmatists, human inquiry is '*an attempt to serve transitory purposes and solve transitory problems.*' If somebody experiences a problem, we need have no doubt that this is a real problem. We do not necessarily need forceful administration of psychotropic drugs in attempting to solve the problem; we just need to listen to people's problems of living, and valid lines of inquiry will open up (Glaser & Strauss, 1967). This approach is well established in approaches such as Participatory Action Research and Community Psychology, which pay careful attention to the perspectives and priorities of local people, and seek to address them. For example, Fryer and Fagan (2003), in their work with members of a community with high levels of unemployment, poverty and psychological distress, were guided by unemployed people's reports that their core problems were financial, rather than being guided by abstract academic hypotheses about psychological impacts of unemployment that will warrant the use of psychotropic medication. Consequently, their research and action worked to address the community's financial problems and access to benefits.

Conclusively, neo-pragmatism as a thoroughly action-focused philosophical system encourages the practical value of propositions and presuppositions. If Psychotropic medication is worth having and worth administering, it must make a concrete difference for action. But our discussion shows that it lacks this value as it causes more harm to the individual, and society at large.

RECOMMENDATIONS

- Psychiatric practitioners should reach out to their depressed patients through increasing solidarity and sensitivity rather than through the coercive administration of psychotropic medication.
- Our medical practitioners should place moral progress over and above scientific progress.
- There is need for governmental funding gearing towards greater sensitivity to the ethical issues concerning the administration of psychotropic drugs.
- Corporate bodies and professional associations need to lead the way in a highly visible and carefully orchestrated campaign against psychotropic medication.
- Psychiatrists need to get out in front of this issue and become more proactive in establishing algorithms of care that can be extended, coordinated and monitored across a wider network of providers.

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KNOWLEDGE AND ATTITUDINAL INFLUENCE OF HEPATITIS B VIRUS (HBV) THROUGH THEATRE FOR DEVELOPMENT (TFD)

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ABSTRACT

Hepatitis B virus (HBV) is a public health issue across the globe. This study considers the problem of Hepatitis B within a university community in Nigeria. One of the techniques being used to control the scourge of HBV is Theatre for Development (TfD). Studies on HBV have been sporadic, and there is a dearth of such in the aforementioned locale.

A cross-sectional survey research design was used for the study. For the selection of respondents, short message service (SMS) was sent to 5,000 students and staff informing them about the programme. The first two phases of the study were aired on the Federal Radio Corporation of Nigeria (FRCN). For the third phase, a public health lecture was organized alongside a drama skit of which 200 respondents were involved. Self-developed questionnaire was administered after the third face. Data were analyzed using descriptive statistics of frequency counts for demographic profiling of the respondents, while simple percentages were adopted to test the hypotheses at 0.05 level of significance.

Findings showed that TfD significantly improved respondents' knowledge of HBV in relation to at-risk behaviour and behavioural intention. The study therefore concluded that TfD intervention may be used to combat the scourge of HBV among the general populace. The study recommends among other things; government should make available necessary health information to the public, theatre practitioners should intensify their efforts in the dissemination of knowledge about HBV via organized media campaign, and healthcare providers should also make concerted efforts to reduce the risk of contracting HBV.

Keywords: HBV, Knowledge, Attitude, Theatre for Development.

INTRODUCTION

Country and the world at large are faced with complex social problems, especially in the area of healthcare, and these have taken dimensions that render many of the tools used for the purpose of creating awareness on diseases and other health issues redundant or simply ineffective. However, theatre practitioners over three decades evolved an approach for tackling, fighting and advocating for social change in the society through the concept known as Theatre for Development or Community Theatre (TfD or CT). It has since become a communicative tool in reaching people from all walks of life, and has helped to reduce the level of ignorance among people who are identified as a target audience, to be aware and more informed, as well as to become ambassadors to lives.

Hepatitis is a disease which results in the inflammation of the liver regardless of how it is contracted. Hepatitis is transmitted in the same way as HIV/AIDS. Every day we hear of people dying from one disease or another, yet we do not make effort to gain information about these

deaths. The question is how can we use theatre effectively to inform a community or create awareness about the spread, symptoms and behavioural patterns of Hepatitis B?

In Nigeria and in the global scene, theatre arts as a discipline, has raised stringent criticism, it is regarded basically and essentially as being for entertainment and cannot easily decamp from that context. For the reason of the short-mindedness of this school of thought, using the theatre as a form of educational tool on health issues both to literate, illiterate and semi-illiterate might bring about worse criticism for the discipline. If theatre is seen as a mirror of the society, of what use is theatre if it cannot be used to tackle the problems bedeviling society? The truth of the situation is that over the years theatre artists as Theatre for Development (TfD) practitioners have yearned for a place for the theatre in community development or social change. This has means making the theatre become a good tool for aiding education. (Clifford, 1973:8-9) explains that, 'theatre contributes not only to the aesthetics needs of man but also to his intellectual, social and moral needs...It has appeared as a teacher, communicator, philosopher, historian, social worker, literary critic and moralist'.

What this implies is that theatre is an educational tool to a people and the world at large. (Lakoju, 1992: 16) asserted that:

Boal's classic, the *Theatre of the Oppressed*, greatly influenced the theoretical discourse that produced the Popular Theatre model of Ahmadu Bello University, Zaria. The current vibrant Community Theatre practice gaining ground throughout Nigeria owes its origin and development to the products of the Zaria experiments.

With this view in mind, theatre has been a medium for enlightenment or creating awareness for possible social change in Nigeria or to streamline the discourse to a community. The main goal of this study is to establish collaboration between theatre as an art form to communicate and provoke the consciousness with health issues over living in good health and wellness in our body.

In Nigeria, there is a paucity of literature and researchers on the situation of HBV. Government interventions, campaigns, seminars, etc., are not sufficient to reduce the risk of contracting the disease because of the target audience. This study through TfD, hopes to resolve or reduce the risk of spreading the virus, while sensitizing the community to get immunized. Over the years, the power and potency of the theatre as a tool for effective communication cannot be over emphasized. According to (Gichingiri, 1988:1) 'Ngugi wa Thiongo used the Kamiriithu Popular theatre experiment as an effort to evolve an authentic Africa language as the first meaningful challenge to imperialist cultural domination in Kenya'.

This expounds that theatre is a medium and model of development and needs not be confined to a building or certain models. It should be a free, flexible and accommodative technique of the theatre to participate in matters arising in a society. TfD is responsible for enlightening, instructing, informing, improving etc., the lives of a people be it urban or rural. It plays along with the individuals or audience as performers in whichever calibre it so finds them. (Hagher, 1990:3) defines TfD as 'a theatrical style which stresses participation, dialogue, critical consciousness etc., and the practitioner of this theatre are committed to socio-transformation through cultural action using the theatre'. This indicates that TfD is a theatre for a people of any

class; in whichever vessel it is carried. In other words, theatre has become a potential medium through which people solve problems, change and reshape the society as it exists. Another view by (Boal, 1979:126) states that:

All revolutionary theatrical groups should transfer to the people the means of production in the theatre so that the people themselves may utilize them. The theatre is a weapon, and it is the people that should wield it.

It is on this premise that the study engaged with students of the community to organize drama skit and other modes of awareness in a way toward solving developmental problem on health related issues. (Byam, 1999:67) observes that:

...the students inadvertently addressed their (the students') own issues when they were unable to develop a play on the problem of water shortage.... But as the drama aimed to present the issues of the community, it more effectively highlighted the alienation between the students and the communities in which the plays were performed.

This study bears in mind the position of the country in Africa yet little wealth or funds have filtered through into the health sector. Nigerian hospitals are poorly equipped and infrastructures for interventional procedures are most lacking. Liver disease is common, owing to the high prevalence of HBV and HCV, which often coexist with HIV/AIDS infection. Antiretroviral treatments are expensive and sometimes subsidized, yet commonly unavailable.

THE SITUATION OF HEPATITIS B VIRUS IN NIGERIA

There is no precise date as to the first recorded case of Hepatitis B Virus in Nigeria but it has as noted by (Tong, et al. 2005:2-7) been a serious public health problem causing billion infections worldwide. Historically, HB was first discovered in 1963 by Dr. Baruch Blumberg and colleagues (Blumberg, 1965:541-546)

...who identified a protein (the "Australia antigen" that reacted to antibodies from patients with hemophilia and leukemia. The association of this protein with infectious hepatitis was discovered 3 years later by several investigators, and the virus was specifically seen by electron microscopy in 1970.

HBV may have been around for longer than one can detect in Nigeria or Africa (Howard & Wortan, 2002: 249-250) informs that, most countries in Africa have a high HBV endemic, with the exception of Morocco and Tunisia, which has intermediate endemic. Nigeria is classified among the group of countries endemic for HBV infection. According to (Yakasai, et al, 2012:1:49-55) currently 18 million Nigerians are infected. According to (Cobelens, et al, 2004:370-3676) HBV was later as he observes:

Discovered in expatriates from countries where HBV is highly endemic and have an increased risk of HBV infection, but little is known about risks to their children or about patterns of spread. The epidemiology of HBV infection was studied among 124 unvaccinated Dutch missionaries and family members who lived in a rural area of Nigeria.

In addition to this, in the year 2003 over 90-95% deaths were attributed to HBV, while in the same year 3million died of AIDS worldwide, the highest annual total since the epidemic started. This is the situation, despite the institution of vaccine of the former and use of antiretroviral drug therapy, particularly in the developing countries. An analysis of the impact of HBV reveals that,

in this age of globalization, HBV is moving among the ignorant and exploiting weakness, hurting people from all walks of lives and economies. Just like HIV/AIDS, it is becoming a great weapon of destruction. According to (Goldstein, 2005:1329-1339), Hepatitis B infections have increased by nearly 64% in Taiwan and 7% in USA. Mbaaguawa et al. (2008) quoting Sirisena and Jombo affirmed that, Nigeria is classified among the group of countries where HBV infection is endemic. He continued that currently, about 18 million Nigerians are infected, whose lives have been metamorphosed by Hepatitis B Virus, safe and effective vaccines have been available to prevent HBV infection since 1981, and the cost-effectiveness of Hepatitis B vaccination has been well-documented.

METHODS

Respondents

Indications from the study revealed that out of the over 10,000 staff and students in the university community, only a total of 200 participated in the final part of the study which required filling of questionnaire for the final data analysis. Table 1 reports age, gender, and other demographics and knowledge of HBV information of the respondents. This was a convenience sample of the respondents with the sole inclusion criteria that they participated in all the awareness projects. There was no attempt to screen out respondents with HBV because the purpose of this study was to know the knowledge, attitude, risk behaviour and the effective of Tfd to the community.

The respondents were majorly students in their early 20s to 40s and staff between the ages of late 20s to early 60s. In terms of gender, the respondents did not differ significantly; it was nearly evenly split between the female and males. The respondents did differ significantly in terms of academic status distribution as reflected in Table 1. The analysis that follows here did attempt to evaluate age, gender, marital or academic status variables relative to knowledge of HBV, risk behaviour and behavioural intentions that were gathered.

As expected, the marital status differed in terms of single, married and others. 84% of the respondents were single as 50% of the respondents were male. The respondents were also asked to indicate their academic status. The Table 1 details that 28.5% of the respondents did not respond and the study assumes they were either unemployed or staff members of the other organizations who had indicated interest in the study.

Procedures

Respondents-to-be were sent Short Message Service (SMS) to listen to and be a part of the study which comprised of a radio health talk, Radio drama (in two episodes) before being respondents at the finally programme that was a public health lecture which was presided by drama skit. After a month sensitization and awareness, the respondents at the public health lecture were requested to only complete section A of the questionnaire that detailed their socio-demographic information.

At the end of the public health lecture, after the question and answer session, they were asked to be consistent as possible in filling out the other sections of the questionnaire which comprised of: knowledge of HBV, risk behaviour, behavioural intentions and Tfd intervention on HBV. A final step required step required the participant to qualitatively describe their thoughts and impressions of Tfd intervention and their attitude towards HBV. Each participant was presented with nine open-ended questions to which they could respond in writing however they wished.

Data analysis and presentation

Each of the five (5) items on the questionnaire had to be summarized in some manner for the respondents. For an item on behavioural intentions which comprised of six questions required ratings on a 4-point scale, an average for the respondents was calculated on percentage. For other items that required categorization, a frequency count was done for each of the possible categories. For example, for items requiring knowledge of HBV, the total number of medium of knowledge through the awareness project was tabulated, as was the total number of others. For Yes/No items, the total number of questions in which Yes was selected was added up, as was the total number in which No was the case. Ultimately, each of the five (5) items on the questionnaire for a participant had a summary statistic that was a frequency count, depending on the type of item.

The first purpose of this project was to describe HBV and the need to create awareness on it through TFD. To accomplish this, descriptive statistics that included calculating average ratings or frequency counts for each question were calculated.

The second purpose was to compare responses of respondents' knowledge of HBV before the awareness and after the awareness. This was utilized through a statistic called a chi-squared test for a 2x2 contingency table. This statistics basically allows one to determine whether the frequency of responses within categories that showed up in the data is what would be expected to occur by chance alone. If statistic indicates that the results being reported do not differ from what is expected by chance, then there is no difference between the respondents' knowledge before and after.

The third purpose of this research was to gather some initial insight into how TFD influenced the knowledge of HBV among students, staff and community-based in University of Ibadan. To achieve this, a frequency count was calculated. The result showed that the independent variable was effective for the dependent variable being evaluated. As the number increased on the positive side, it indicates a stronger relationship between the variables. (i.e. the number of respondents who were informed about HBV through TFD increased) For the correlations as well as for the other statistical tests, a probability value had to be smaller than 0.05 in order for it to be considered statistically significantly different.

The presentation of the results, as well as the discussion of those results, is novel and based directly in the researcher's intention to have artists, media, government and health care providers utilizing their unique training and perspectives while focusing on a common goal, that is combating HBV and other deadly diseases through TFD. The idea in this paper is to present data and results in frequency counts through simple percentages of results that are of most interest and relevance to concerned sectors.

RESULTS

Information from the knowledge of HBV section of the questionnaire may interest Tfd specialists is presented in Table 2. This includes items reflecting knowledge as well as other issues. Additionally, the respondents provided information about medium of information as well as their perception to HBV and at risk behaviour. The number listed for each item reflects the total number of respondents who provided information. The chi-squared test for a 1 x 2 contingency table (one respondent x two choices for each item [i.e. either yes or no]) is reported for each parameter. As can be seen in Table 2, there is statistical difference between (1) Those with knowledge of HBV, (2) this statistic came about as a result of those who have been

informed through TfD project, (3) do not know the modes and transmission of HBV. From a descriptive standpoint, these data give information that help describe the respondents in more detail and a few other items may be of interest for researchers to consider.

The respondents also were asked a few additional questions about how deadly HBV was, if they had been tested, were aware of the vaccine and had been vaccinated. According to Table 2, the only three items that was statistically significantly different was respondents' testing, knowledge of the vaccine, respondents' at risk and respondents that have been vaccinated.

The results of Table 3, details the strength of the study which include the description of HBV related attitudes and behavioural intentions among young adults that can inform future research and interventions. The age group studied is well represented in population surveys as many are staff and students of a university community, yet are at high risk for many health issues. Finally, this effort involved an innovative means (using Radio Drama, Public Health Lecture and SMS) to reach a high-risk group. As in many health-promotion efforts, this approach has potentials, but the strength of the intervention may not have been sufficient. Further research is needed to confirm this assumption.

Data are based on self-reports which may be subject to over or underreporting, potentially distorting results. As the effects of only certain demographic variables were assessed, other unmeasured factors may also be influencing risk perceptions and intentions. Because of time and space constraints in data collection, the number of questionnaire items was limited, which resulted in lowered reliability for some of the measures. The study also assessed the vaccination status for Hepatitis B among respondents. As Table 2, indicates only 10% had been screened without a concrete response to the outcome of the screening. On the other hand, 8.5% were screened to be negative, while 12.5% of this population are fully immunized. However, this has no marginal impact on outcomes. Finally, qualitative data could enrich the further findings.

OBSERVATIONS, RECOMMENDATIONS AND CONCLUSION

Theatre for Development has always been seen by anti-TfD practitioners as under-sizing or under-developing theatre. This however, was the goal for this study, by expressing to the highest level the usefulness of theatre (without extractions from its context, except that there was no need for stage construction). Its use in this project was not only to entertain but to disseminate information and sensitize the university community on the prevailing health issue. The skill to teach and train actors who had no idea about HBV and the style of TfD was an enormous challenge. TfD communicates actual fact and does not satirize or ignore facts, and the audience must be educated. During the communal research, it was difficult assessing consultants, while some NGOs that claimed to have expertise in the field had little or no knowledge; rather they moved from schools to establishments exploiting citizens while claiming to disseminate knowledge. The drama skit went a long way to shed light on the issue and the facilitator illuminated the skit with his expertise in GIT and HBV issues over the situation in Nigeria and many who were ignorant were more enlightened.

The aim of the project was to determine the percentage of the community knowledgeable about HBV, immunized against it, on management therapy and screening of the community. The latter was not achieved owing to limited time and the sponsor demanded a token for screening and immunization interventions. However, a follow-up observed that respondents were (1) eager to know their status and had visited the UCH, (2) had commenced immunization which is at three stages and (3) positive respondents had commenced management treatment. HBV is a silent

killer and costs associated with its treatment are high. Current there are no policies mandating universal immunization coverage among youths and adults. Campaigns and mobilization effects are suggested.

Finally, there are a number of directions that this project can and will take moving forward. First, it will be important to look at larger communities with a collaborative effort of the government and public health sector. With a larger community, one cannot confirm or refute the initial data here, but one can also open the possibility for more refined analysis that could look at differences in attitude, perception and denial syndrome for positive individuals and use as a function of gender, age or other variables. The project has also initiated data collection for another group of people with marital status, academic status and spiritual dimensions to HBV as moderating and independent variables. The University College Hospital in collaboration with Tfd experts can give more concerted attention to designing targeted counselling and education that promotes a HBV-free community; this is necessary to ensure that the findings for this project are not specific to how an individual perceives health issues.

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TABLES

Table 1 Demographics and knowledge of HBV (relative frequency)

		Frequency	Relative Frequency
Age (years)	20-40	148	(74%)
	40-above	32	(16%)
	No response	20	(10%)
Gender	Female	93	(46.5%)
	Male	100	(50%)
	No response	7	(3.5%)
Marital Status	Single	169	(84.5%)
	Married	19	(9.5%)
	No response	12	(6.0%)
Academic Status	Secondary School	6	(3%)
	OND Level	5	(2.5%)
	B.Ed/B.Eng	22	(11%)
	B.A	78	(39%)
	MBBS	3	(1.5%)
	M.A, M.Sc, PGD	29	(14.5%)
	Staff	6	(3%)
	No Response	57	(28.5%)

Table 2 Knowledge, perception, and at-risk behaviour of HBV

		Frequency	Relative Frequency
Knowledge of HBV	Yes	178	89%
	No	11	5.5%
	No response	11	5.5%
Medium of Information	Media	18	9%
	Internet	7	3.5%
	Health Care Provider	16	8%
	TfD project	159	79.5
Causes of HBV	Yes	83	41.5
	No	92	46%
	No response	25	12.5%
Modes of transmission	Yes	84	42%
	No	103	51.5%
	Others	13	6.5%
Is hepatitis B deadly	Yes	163	81.5%
	No	22	11.0%
	No response	15	7.5%
Tested for HBV	Yes	20	10.0%
	No	167	83.5%
	No response	13	6.5%
Knowledge of HBV vaccine	Yes	21	10.5%
	No	179	89.5%
Vaccinated against it	Yes	25	12.5%
	No	156	78%
	No response	19	9.5%
At risk of HBV	Yes	35	17.5%
	No	157	78%
	No response	8	4.0%

Table 3. Behavioural Intentions

Is Knowledge of HBV adequate?	Yes	106	53%
	No	80	40%
	No response	14	7%
Likely to seek more information in clinic	Very likely	108	54%
	S/Likely	45	22.5%
	Not likely	34	17%
Likely to seek more information from other mediums	Very likely	128	64%
	S/likely	41	20.5%
	Not likely	17	8.5%

DEVELOPING AN INCREASING-LEAST- COST AND DECREASING-MAXIMUM-PROFIT ASSIGNMENT TECHNIQUE

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ABSTRACT:

In manufacturing there are times of deciding which materials to be used to make which products. The existing methods of doing the assignment include the Hungarian method, the branch-and-bound method and the Nigerian assignment approximation method which generally involve long calculative processes. Consequently, in this study, "Developing an Increasing-Least- Cost and Decreasing-Maximum-Profit Assignment Technique" came into being as an approximation to the three existing methods. Numerical examples were solved to illustrate the method. The results showed that the proposed method entailed little or no calculation, yet it is accurate. The proposed method has the number of iterations equal to the number of assignments to be made. This fact does not characterize the existing methods. Thus, this study has contributed to knowledge in assignment models.

Keywords: Profit Assignment Techniques; Linear Programming; Micro-economic;

INTRODUCTION

Chen and Wang (1997) developed a linear programming model for integrated production planning based on the practice of a major Canadian steel making company. The mathematical programming model takes into account production costs, product throughput rates, customer demands, sales prices and facility capacities for optimal production planning.

Briend, Darmon, Ferguson, and Erhardt (2003) considered the basic principles of linear programming and explained some practical applications for formulating sound food-based nutritional recommendations in different contexts.

It has been found out that among the types of problems that could be solved using assignment matrices and linear programming are matching and travelling salesman.

Yahya, Garba, Ige, and Adeyosoye (2012) demonstrated the use of linear programming methods as applicable in the manufacturing industry a case of the KASMO Industry Limited in Osogbo, Nigeria. The results showed that the company would attain optimal monthly profit level of about N271296 if it concentrated mainly on the unit sales (one tablet per pack) of its medicated soap product.

The success of multiskilling greatly relies on the foreman's ability to assign workers to appropriate tasks and to compose crews effectively (Gomar, Haas and Morton, 2002).

Operations research is about achieving the best possible results in a given circumstance through scientific study and analysis of operations (Akingbade, 2006).

Linear programming is an aspect of operational research. Transportation is a special linear programme.

An assignment model is a special type of transportation model in which

- (a) There are as many sources as there are destinations (i.e., $m=n$), where $m \neq n$; create a dummy source or destination.
- (b) There is one unit available at each source (i.e., $a_i = 1, i=1, 2, \dots, m$).
- (c) There is one unit at each destination (i.e., $r_j = 1, j=1, 2, \dots, m$)
- (d) $X_{ij} = 0$ or 1, $X_{ij} = 0$ means i is not assigned to j , $X_{ij} = 1$ means i is assigned to j .

The mathematical structure for an assignment model with 4 sources and 4 destinations is:

					Source, a
1	C_{11} X_{11}	C_{12} X_{12}	C_{13} X_{13}	C_{14} X_{14}	1
2	C_{21} X_{21}	C_{22} X_{22}	C_{23} X_{23}	C_{24} X_{24}	1
3	C_{31} X_{31}	C_{32} X_{32}	C_{33} X_{33}	C_{34} X_{34}	1
4	C_{41} X_{41}	C_{42} X_{42}	C_{43} X_{43}	C_{44} X_{44}	1
Demand, r	1	1	1	1	4

We minimize $= C_{11} X_{11} + C_{12} X_{12} + C_{13} X_{13} + C_{14} X_{14} + C_{21} X_{21} + C_{22} X_{22} + C_{23} X_{23} + C_{24} X_{24} + C_{34} X_{34} + C_{44} X_{44}$

Subject to $X_{11} + X_{12} + X_{13} + X_{14} = 1$

$$X_{21} + X_{22} + X_{23} + X_{24} = 1$$

$$X_{31} + X_{32} + X_{33} + X_{34} = 1$$

$$X_{41} + X_{42} + X_{43} + X_{44} = 1$$

as availability constraints and

$$X_{11} + X_{21} + X_{31} + X_{41} = 1$$

$$X_{12} + X_{22} + X_{32} + X_{42} = 1$$

$$X_{13} + X_{23} + X_{33} + X_{43} = 1$$

$$X_{14} + X_{24} + X_{34} + X_{44} = 1$$

as requirement constraints

and $X_{ij} = 0$ or 1

The special transportation condition satisfied by $\sum r_j = \sum \alpha_i = 4$. Hence, an assignment model is an integer transportation programming. Assignment models are useful for determining which job is to be assigned to what machine, which person is to be assigned to what task, etc.

In a more compact form an assignment model

$$\text{Minimize } Z = \sum C_{ij} X_{ij}$$

Subject to $X_{ij} = 1, i=1, 2, \dots, m$

$$X_{ij} = 0 \text{ or } 1$$

If $n \neq m$ then create a dummy or fictitious source or destination that will make $n = m$.

There are several methods of solving an assignment problem, namely, the classical linear programming approach using the transportation (or distribution) method, the Hungarian solution method (proved by Konig, a Hungarian mathematician, in 1916) and the branch-and-bound method (Churchman, Ackoff and Arnoff, 1957; Bronson, 1983; Ackoff and Sassieni, 1986;

Kothari, 1994; Akingbade, 1996; Taha, 2001; Banjoko, 2012; Vazsonyi and Spirer, 1987) and the Nigerian Assignment Approximation Method (Labaika,2000).

The problem to be solved

The Hungarian method is long, the branch-and-bound method is very long and the Nigerian assignment approximation method (NAAM), as the name implies, is only an approximation that may not give the exact answer. Further, Labaika (2000) recommended the reduction of the error of approximation in NAAM for further research. Consequently, “Developing an Increasing-Least- Cost and Decreasing-Maximum-Profit Assignment Technique” has hereby been developed as a simplified approximation to the existing methods, even NAAM.

The increasing least- cost method

A heuristic method of increasing least- cost method is a very fast approximation of the branch-and-bound, the Hungarian methods. It is not the same as the initialization of the solution to a transportation method because the increasing least cost starts with only one least cost or a tie of least costs in the whole cost matrix (or table). Assignments are made to least-cost cells and the opportunity costs are deleted leading to a reduced matrix. In the reduced matrix a higher least cost emerges. Assignments are made to the appropriate cells and the opportunity costs are deleted leading to a further-reduced matrix. The process continues until all the required assignments are carried out. Note the definition of opportunity cost: The opportunity-cost rule is: if c_{ij} is the selected cost of assigning or allocating the i^{th} employee to the j^{th} job, then, **the opportunity cost is the sum of the elements or entries deleted in the pivotal i^{th} row and the pivotal j^{th} column.** The sum of the deleted entries in row i plus the sum of the deleted entries in column j constitutes the opportunity cost because choosing c_{ij} has prevented the investigator from choosing any of the other pivotal entries. The opportunity cost is used to settle ties: a pivotal entry, c_{ij} , having the maximum opportunity cost is chosen for a minimization problem; c_{ij} having the minimum opportunity cost is chosen for a maximization problem.

Studies have shown have shown that in microeconomic theory the opportunity cost is the value of the best alternative forgone, in a situation in which a choice need to be made between severally exclusive alternatives given limited resources. Assuming the best choice is made, it is the cost incurred by not enjoying the benefit or satisfaction that would be had by taking the second best choice available. Opportunity cost is a key concept in economics, and has been described as expressing the basic relationship between scarcity and choice. The notion of opportunity cost plays a crucial part in ensuring that scarce resources are used efficiently. Thus opportunity costs are not restricted to monetary or financial costs: the real cost of output forgone, lost time, pleasure or any other benefit that provides utility should also be considered as opportunity costs. The term was coined by an Australian economist, Fredrich von Wieser in 1914 in his book, *Theorie der gesellschaftlichen Wirtschaft*. It was first described in 1848 by a French classical economist, Frederic Batsiat, in his essay, “What is seen and what is not seen” (Buchanan, 2008; Gittins ,2014; Wieser , 1927 ; Frank, n. d.).

A numerical Example Fabrycky, Ghare and Torgersen (1987 p. 86) on distance travelled

From city	To city					
	A	B	C	D	E	F
A	-	20	23	27	29	34
B	21		19	26	31	24
C	26	28	-	15	36	26
D	25	16	25	-	23	18
E	23	40	23	31	-	(10)
F	27	18	12	35	16	-

Find the minimum distance connecting all the six cities using the increasing least-cost method.

Solution:

From city	To city					
	A	B	C	D	E	F
A	-	20	23	27	29	34
B	21		19	26	31	24
C	26	28	-	15	36	26
D	25	16	25	-	23	18
E	23	40	23	31	-	(10)
F	27	18	12	35	16	-
Col min	21	16	12	15	16	10

The minimum distance in the whole distance matrix is 10km in row E column F. Hence, assign E to F for 10km.

Delete row E and column F leading to a reduced matrix given as

From city	To A	B	C	D	E
A	-	20	23	27	29
B	21		19	26	31
C	26	28	-	15	36
D	25	16	25	-	23
F	27	18	(12)	35	16
Col min	21	16	12	15	16

The next least distance is 12 which is greater than 10. Assign F to C for 12km. Delete row F and column C and have a further reduced matrix as

From city	To A	B	D	E
A	-	20	27	29
B	21		26	31
C	26	28	(15)	36
D	25	16	-	23
Col min	21	16	15	16

The next minimum distance is 15km. Hence, assign C to D for 15km. Delete row C and column D and have a reduced matrix as

From city	To A	B	E
A	-	20	29
B	21		31
D	25	(16)	23
Col min	21	16	29

The next minimum distance is 16. Assign D to B for 16km. Delete row D and column B to get a reduced matrix as

From city	To A	E
A	-	29
B	21	31
Col min	21	29

The next minimum distance is 21km. Assign B to A for 21km. Delete row B and column A.

The last matrix is

From city	E
A	29
Col min	29

Assign A to E for 29km.

Summary:

Assignment	EF	FC	CD	DB	BA	AE	Total
Least distance	10	12	15	16	21	29	103 km

This result agrees with the results of the branch-and-bound method applied in Fabrycky, et al. (1987 p. 86).

In the summary the least distance increases from 10km to 29km.

Example 2: Assign minimally using the increasing least-cost method.

	A	B	C	D
W	7	9	8	13
X	16	16	15	11
Y	16	19	10	15
Z	16	17	14	16
Col. Min.	7min	9	8	11

Assign W to A for N7. The reduced matrix is

	B	C	D
X	16	15	11
Y	19	(10)	15
Z	17	14	16
Col. Min.	16	(10) min.	11

Assign Y to C for N10. The reduced matrix is

	B	D
X	16	(11)
Z	17	16
Col. Min.	16	11min

Assign B to D for N11. The reduced matrix is

	B
D	17
Col. Min.	17

Assign D to B for N17.

summary

Assignment AA CC BD DB Total

Least Cost 7 10 11 17 N45 the same as the answer obtained in Gallapher and Watson (n. d.).

In the summary the least cost increases from N7 to N17.

3.0 The decreasing maximum-profit method of assignment

In the increasing least-cost method, column minimum values are used as assigned values. In this decreasing maximum-profit method the column maximum values are used as assigned values followed by deletion of rows and columns. The process continues until all the required assignments have been made. Note that the opportunity-cost rule is: if c_{ij} is the selected cost of assigning or allocating the i^{th} employee to the j^{th} job, then, **the opportunity cost is the sum of the elements or entries deleted in the pivotal i^{th} row and the pivotal j^{th} column.** Consider two examples:

Example 1: Profit in naira matrix is given for assigning as:

	Job			
Employee	A	B	C	D
1	80	70	85	66
2	38	58	50	48
3	66	55	70	69
4	68	78	85	59

Allocate maximally using the decreasing maximum-profit method.

Solution

I	A	B	C	D
1	80	70	85	66
2	38	58	50	48
3	66	55	70	69
4	68	78	85	59
Col	80	78	85	69

max

Using the opportunity-cost method to decide which 85 out of the two available we have

Column	Max	Opportunity Cost
1C	85	$80+70+50+85=285$
4C	85	$68+78+50+85=281$ min for N85, accept.

Assign
4 to C for N85.

Assign 4 to C for N85. The reduced matrix is

I	A	B	D
1	80	70	66
2	38	58	48
3	66	55	69
Col	80max	78	69

max

Assign 1 to A for N80. The new matrix is

I	B	D
2	58	48
3	55	69
Col	58	69max

Assign 3 to D for N69. The new matrix is

I	B
2	58
Col	58

max

Assign 2 to B for N58

Summary:

Assign 4-C 1-A 3-D 2-B Total
Maximum profit 85 80 69 58 N292 this answer, N292, equals the answer obtained by applying the Hungarian method in Banjoko (2012). In the summary the maximum profit decreases from N85 to N58

Example 2: Sales made by salesmen in sales areas:

Salesman	Sales Area			
	W	X	Y	Z
A	12	10	15	20
B	25	21	18	8
C	15	13	14	16
D	7	8	10	24
Column maximum	25	21	18	24

Find the maximum assignment using the decreasing-maximum-profit method

Solution: Assign B to W for 25 (maximum of the maxima)

Iteration 2

	X	Y	Z
A	10	15	20
C	13	14	16
D	8	10	24
Column maximum	13	15	24
			maximax Assign D to Z

Iteration 3

	X	Y
A	10	15
C	13	14
Column maximum	13	15
		maximax Assign A to Y

Iteration 4

	X
C	13
Column maximum	13
	Assign C to X

Summary:

Assignment	B-W	D-Z	A-Y	C-X	Total
Maximum profit (N)	25	24	15	13	77

This result, N77, tallies with Akingbade (1996 , page 140) where the Hungarian method was applied.

General Summary:

Example 1 Increasing least cost or distance

Assignment EF FC CD DB BA AE Total
 Least distance 10 12 15 16 21 29 103 km

Example 2 Increasing least cost or distance

Assignment AA CC BD DB Total
 Least cost 7 10 11 17 N45

Example 1 Decreasing maximum profit or sales

Assignment	B-W	D-Z	A-Y	C-X	Total
Maximum profit (N)	25	24	15	13	N77

Example 2 Decreasing maximum profit or sales

Assignment 4-C 1-A 3-D 2-B Total
 Maximum profit 85 80 69 58 N292

As shown in the general summary, in this study, two methods in one have been developed and called “Developing an Increasing Least- Cost and Decreasing-Maximum-Profit Assignment Technique”. Two examples have been given in each case. The results of the examples tallied with the results of the applications of the Hungarian and the branch-and-bound methods which are already existing.

CONCLUSION

“Developing an Increasing-Least- Cost and Decreasing-Maximum-Profit Assignment Technique” developed in this study is heuristic giving exact answers most of the time as demonstrated in the solved examples. It is meant to be an alternative to both the Hungarian and the branch-and-bound methods of assignment in linear programming. It is by far simpler when there is no tie. The number of iterations equals the number of rows=number of columns. This certainty of the number of iterations is not found in the existing methods. This, in its own right, is a contribution to knowledge in assignment in linear programming.

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ENVIRONMENTAL MANAGEMENT PERFORMANCE AND PROFITABILITY IN THE INDUSTRY RISK PROFILE CONTEXT: THE NIGERIAN PETROLEUM UPSTREAM OPERATIONS EXPERIENCE

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ABSTRACT

The quest for industrialisation has taken its toll on the environment. In Nigeria, there are signs of growing disaffection between the oil producing communities and the oil producing companies, due to environmental degradation. Thus, in the context of the petroleum industry risk profile, the current study investigates whether the Nigerian oil producing firms engage in environmental initiatives; the quality of information disclosed by the oil companies about their environmental engagements; and the relationship between environmental performance and profitability. The study adopts a survey method, and analyses the data collected using both Pearson product-moment correlation and ANOVA (at $\alpha = 0.05$). Results show that the Nigerian oil companies mostly engage in environmental activities in the following order: Pressures from host communities. Industry risk profile context. Government regulatory agencies and good corporate image, while pressures from rights groups and stock market reactions play less significant roles. The oil industry's reports on its environmental issues are relatively scanty. Such information is not statutory required to be disclosed in their audited financial accounts. There is a positive relationship between environmental performance and profitability. The study concludes that a business' relationship with the environment within which it operates is a critical factor in its bid for continued effective operations. Environmental performance is not a philanthropic activity where a company gives without expecting a return. A firm that measures, manages, and communicates its environmental initiatives is inherently at a vantage position. Management should, therefore, strike a balance between organisational goals and environmental sustainability.

Keywords: Environment, Degradation, Sustainability, Risk profile, Critical factors, Oil firms.

INTRODUCTION

The quest for industrialisation and sustained development, and the resultant improvement in the quality of life of the populace has taken its toll on the environment. People must have clean air, water, and soil to survive. Business firms that do their part in protecting the environment benefit themselves and all of society. As a result, companies are now being held more responsible and accountable to be good environmental citizens. Investors are now becoming concerned about environmental responsibility. They want to know about potential hazards and future environmental liabilities of companies before investment decisions are made. Thus, investment risk analysts are now increasingly required to assess contingent liabilities; identify environmental risks and check for compliance with related standards and agency regulations.

The term "environment" is inherently technical in scope and application. Naturally, this accounts for difficulties in finding a uniform and generally acceptable explanation of the terminology. These difficulties are further compounded by lack of definition in major treaties, declarations,

code of conducts, legal instruments and statutes (The Green Business Practices, 2012). To Hornby (2006), “environment is conditions which affect the behaviour and development of somebody or something”. Environment, in ordinary usage, is our surroundings, especially material and spiritual influences which affect the growth, development and existence of a living being (Amokaye, 2004). Amokaye’s view is in consonance with that offers by Bell (2007). Bell describes environment as all the interacting factors and circumstances that surround, influence and direct the growth and behaviour of individual beings, groups, species and communities. However, Lodhia (2010) argues that the explanation given by Bell is too general, sweeping and subjective because it encompasses any relative object within any given surroundings. So, Lodhia aligns with the scientific explanation offers by Miley (2007) that “environment is the product of a complex ecological system in which human beings and other living and non-living organisms co-exist”.

In a related manner, the term ‘environmental management performance (EMP)’ refers to a business process that ensures an environmentally friendly manufacturing process (The International Standards Organisation (ISO) 14000, 2013). EMP is about systematic interaction between any business operation and its surroundings. It includes all emissions to the air, land, and water; legal constraints; the effects on the neighboring community, landscape and ecology; and the public's perception of the operating company in the local area (The Seventh Generation, 2010). Furthermore, business performance relates to firm’s profitability, international trade, “green” (environmentally friendly) corporate image and competitive advantage (Onwuka, 2014). By implication, business operations could be a risk for its environment (Rowe, 2008).

In Nigeria, in the last couple of years, there has been growing disaffection between the oil producing communities and the oil producing companies due to neglect and absence of basic social infrastructures in the oil producing areas (Uranta, 2003). Added to this strained relationship is the unabated degradation of the environment through oil spillage, gas flaring, drilling mud and cuttings, and water effluents. In some cases, the aquatic life of the coaster oil producing areas has been damaged through environmental pollutants released by the oil producing companies in their operations (Oyibo, 2003).

Consequently, there remains a debate about the legitimacy and value of corporate responses to EMP concerns. There are different views of the role of the firm in society, and disagreement as to whether wealth maximisation should be the sole goal of a corporation (The Global Reporting Initiative, 2008). Therefore, prior theoretical research on EMP attempt to answer the question “do firms do well by doing good?”, but their results vary widely (The Green Business Practices, 2009). The reported results have ranged from showing: a) a positive relation (Stafford, 2006); b) a negative relation between EMP and firm performance (Stanwick & Stanwick, 2013); and c) no relation (Mayya, 2009). This may be a result of inconsistencies in defining: ‘environment’, ‘firm performance’, inconsistency in samples, imprecision and inconsistency in research design, misspecification of models, and changes over time, or some more fundamental variances in the samples. For instance, Lodhia, 2010) finds that the corporate social responsibility (CSR) - profit relationship is not linear and vary by industry as well as by different company performance indicators.

Against this background, the current study presents a reflective evaluation of whether or not good environmental performance makes good business sense by investigating the link (if any) between EMP and profitability in the context of the Nigerian Petroleum Upstream operations.

THEORETICAL FRAMEWORK OF EMP

There had been little empirical evidence or analysis on the overall impact of corporate environmental activities on a company's business success. Besides, there are virtually no meaningful theories or evidence linking broad-based environmental improvement initiatives to either expected or actual enhancements in a company's sales, earnings, competitive positions, investment risk profile or market value. However, the poser remains: does investment in EMP systems improve a company's financial performance? In response, this study reviews two competing views:

Argument against EMP: Environmental improvements do not generally benefit company's financial performance. The traditional view is that expenditures on environmental improvements are costs that generally confer no corresponding benefits to the company (Stanwick & Stanwick, 2013). In essence, these expenditures are a necessary evil. This view is common in many companies. Thus, when senior managers hold this view, they tend to minimise and delay environmental costs as long as possible to reduce the perceived negative impact of these costs on the company's bottom line. Naturally, the first kinds of environmental costs that the management seek to cut are discretionary costs, including environmental investments not specifically required by law.

Argument for EMP: Environmental performance is compatible with superior financial performance. This opposing view holds that environmental investments not only are not harmful but are actually beneficial to financial performance. Adherents of this view argue that improved environmental performance can provide a stimulus for process enhancements, product reformulations and other cost-effective improvements in the manufacture and delivery of the company's products and services (ISO 14000, 2013; Uranta, 2003). In addition, they argue that environmental improvements spur innovation and thus competitiveness. A number of case studies support this phenomenon.

The Nature Petroleum Industry

Petroleum crude oil is a naturally occurring, flammable liquid found in rock formations in the earth consisting of a complex mixture of hydrocarbons of various molecular weights, plus other organic compounds. The petroleum industry, commonly referred to as the oil and gas industry or simply oil industry, has four major components: i). Exploration and Production (E&P) segment. ii). Hydrocarbon Processing Segment. iii). Transportation, Distribution, and Storage Segment. iv). Retail or Marketing Segment (Jennings, Feiten & Brock, 2012).

The E&P segment is sometimes called upstream operations, and the other three segments are downstream operations (Oyibo, 2003). E&P, by which petroleum companies explore for underground reservoirs of oil and gas, and produce the discovered oil and gas using drilled wells through which the reservoir's oil, gas, and water are brought to the surface and separated (Jennings et al. 2012). The upstream segment is faced with safety and pollution hazards such as well blowouts, gas flaring, fire and explosion, vapour cloud explosion (Uranta, 2003). Presently,

in Nigeria, the capital intensive nature of the oil business explains why only multi-national such as Shell, Exxon-Mobil, Chevron, Agip, TotalFinaElf, and recently Conoil and Amoco are able to make up the challenges and risks attendant to exploration, production and development of crude oil reserves that have enlisted Nigeria in the league off wealthy nations.

Nigerian Petroleum Upstream Operations And Environment

Oil has been an important part of the Nigerian economy since vast reserves of petroleum were discovered in Nigeria in the 1950s. Presently it accounts for about 94.67 of the nation's earnings (Onwuka, 2014). However, oil production in Nigeria has severe environmental and human consequences for the indigenous peoples who inhabit the areas surrounding oil extraction (The Green Business Practices, 2012). Nigeria's export about 12 million barrels of oil a day comes from 12% of the country's land, and indigenous minority communities in these areas receive meager economic benefits (Onwuka, 2014). Indigenous groups are further impoverished due to environmental degradation from oil production and the lack of adequate regulations on multinational companies, as they become more vulnerable to food shortages, health hazards, loss of land, pollution, forced migration and unemployment.

The social and environmental costs of oil production have been extensive. They include destruction of wildlife and biodiversity, loss of fertile soil, pollution of air and drinking water, degradation of farmland and damage to aquatic ecosystems, all of which have caused serious health problems for the inhabitants of areas surrounding oil production. Pollution is caused by gas flaring, above ground pipeline leakage, oil waste dumping and oil spills. Approximately 75% of gas produced is flared annually causing considerable ecological and physical damage to other resources such as land/soil, water and vegetation. Gas flares, which are often times situated close to villages, produce soot which is deposited on building roofs of neighboring villages. Whenever it rains, the soot is washed off and the black ink-like water running from the roofs is believed to contain chemicals which adversely effect the fertility of the soil. Gas pipelines have also caused irreparable damage to lands once used for agricultural purposes.

METHODS

Research Design: This study, being a survey, adopts both judgmental and simple random sampling techniques.

3.2 Research Population and Sample Selection: Presently there are fifty four (54) Nigerian Petroleum Upstream Companies. However, only thirteen (13) of the companies consistently report on their environmental initiatives for three (3) consecutive years (2010, 2011 and 2012) in their annual audited financial statements and reports, and make same available on the internet. This category (thirteen companies) is the population of this study. The study randomly selects six companies, representing forty six percent (46%) of the population.

Procedure for Data Collection: A combination of both secondary and primary methods of data gathering is used in this study (Arsham, 2010). The secondary source is the annual financial statements and reports of the oil companies, while the primary source is semi-structured interviews to elicit opinions of the stakeholders.

Research Instrument: A theoretical model is proposed that linked strong environmental management to improved perceived future financial performance, as measured by stock market performance. The linkage to firm performance is tested empirically using financial event methodology and archival data of firm-level environmental and financial performance. Significant positive returns are measured for strong environmental management as indicated by environmental performance awards, and significant negative returns are measured for weak environmental management as indicated by environmental crises.

Statistical Methods: SPSS version 17 is used to compute all statistics for this study. The study uses two commands, manova and mvreg. The manova command indicates if all of the equations, taken together, are statistically significant. The F-ratios and p-values for four multivariate criteria are given. Next, mvreg command is used to obtain the coefficients and standard errors for each of the predictors in each part of the model (Arsham, 2010). Data are checked and edited for completeness and accuracy. Pearson's correlation matrix is used to seek relationships among study variables, Multiple Regression is used to find out the variable with most influence on the dependent variables and ANOVA at ($\alpha = 0.5$) is used.

The Research Variables: Data collected are presented in tabular form and in percentages. The tables and figures are not reported in this study for lack of space. The variables required to measure environmental management performance and profitability are: i) a single dependent variable represented by return on total asset (ROTA); and ii) three independent variables: cost of environmental remediation and pollution control (ERPC), cost of environmental laws compliance and penalty (ELCP), donations and charitable contributions (DCC).

Data Analytical Procedure: The study uses ordinary least squares regression on the study sample, to analyse the characteristics of a company's performance that impacted on its market value. Formulated linear regression model is used for hypothesis testing.

Data Results and Discussions: The results are presented in three sections. Section one presents some basic statistics from the sample of the oil producing firms use in this study. Section two presents the regression results. The sample descriptive statistic is first presented in unreported table 4.0, the correlation matrix is presented in table 4.7, while the tolerance and variable inflation factor are presented in table 4.6.

Test of Hypothesis One: There is a negative relationship between profitability and environmental management cost of the Nigerian oil producing industry.

The results shows that, on average, during the period under study, ERPC, ELCP, and DCC have a mean of 24.02, 33.07 and 24.03 respectively. DCC has the highest standard deviation of 19.76590, signifying its high contribution to the oil producing firms' profitability performance model. ERPC has the lowest standard deviation of 7.63359 which indicated its lower significant to the model of the study.

Correlation Matrix: The correlation matrix is used to determine the relationship between the dependent and independent variables of this study. The report indicates that there is a positive relationship between ROTA and ERPC, ELCP and DCC. This implies that environmental costs proxies are contributing positively to the profitability of Nigerian oil producing firms. The

correlations among the independent variables are all not significant. This implies that there is non-linearity between the independent variables, which signifies the fitness of the model.

Test of Hypothesis Two: Environmental management cost has no significant effect on performance of the Nigerian oil producing industry.

The study uses the three environmental costs proxies; ERPC, ELCP, DCC. The study also utilises ROTA, measured by net profit as a percentage of net assets value as proxy of performance.

RESULTS

The model indicates that all the three proxies of environmental costs have significant effect on the profitability of the oil producing firms as measure by ROTA. Thus, ERPC and DCC are all significant at 1% level of significance on performance, while ELCP is significant at 5% level of significance. The implication of these results is that, the higher the Nigerian oil firms spent money on environmental sustainability, the higher their performance will be. The results therefore, provide the basis for rejecting the hypothesis that environmental management cost has no significant effect on performance of the Nigerian oil producing industry.

Finally, the combined effect of the proxies of environmental management performance on the profitability of Nigerian oil producing firms is indicated in the model summary of the regression result. The combined relationship between the dependent and independent variables of the study is 90% which implies strong positive relationship and statistically significant at 5% level. The coefficient of determination R² of 0.965 shows that environmental costs in Nigerian oil companies occupy 81% of their performance and the remaining 19% is covered by other factors.

FINDINGS

The study investigates the quality of the information disclosed by companies about their environmental activities. It is found that companies that provide relevant, detailed and reliable information about their environmental programmes and performance on an on-going basis are more likely to be rewarded in the form of a perception that they are a lower risk. By contrast, investors are likely to judge companies that provide only qualitative information on a few aspects of their programme as representing a higher investment risk.

Results show that the Nigerian oil companies mostly engage in environmental activities in the following order: Pressures from host communities. Industry risk profile context. Government regulatory agencies and good corporate image, while pressures from rights groups and stock market reactions play less significant roles. The oil industry's reports on its environmental issues are relatively scanty. However, such information is not statutory required to be disclosed in their audited financial accounts. There is a positive relationship between environmental performance and profitability.

The results support the hypothesis that companies that proactively manage environmental performance are generally deemed less risky investments than companies that do not. That is, if a company improves its environmental management and performance, and communicates these improvements to the financial community, investors will reassess the company's environmental risk profile. If that profile has improved, the company will be rewarded with a lower cost of

capital because it will now be seen as less risky overall. Besides, a lower cost of capital means that investors are willing to pay more for a share in the company's future earnings, its stock price will rise and shareholder wealth will increase. Environmental management performance has the potential to play a pivotal role in the financial performance of the firm.

REPORT OF THE INTERVIEWS CONDUCTED

Many individuals suggest that profitability is hurt by the higher production costs of environmental management initiatives, while others cite anecdotal evidence of increased profitability.

A prominent community leader in the oil producing region has this to say: We witness the slow poisoning of the waters of this region, and the destruction of vegetation and agricultural land by oil spills which occur during petroleum operations. Since the inception of the oil industry in Nigeria, there has been no concerned and effective effort on the part of the government, let alone the oil operators, to control environmental problems associated with the industry.

An Environmental Rights Activist: Being more environmentally proactive not only has direct environmental and cost reduction benefits, but also significantly and favourably reduces the company's perceived riskiness to investors. Nigeria has abundant deposits of oil and natural gas and their exploitation has improved the economy substantially, but with serious environmental costs. Severe ecological damage has occurred in the communities where the oil companies are based.

In response to the allegation of threats posed by the activities of producing companies, a senior manager in the oil industry argues that: Along with the global trend of green business and green living, more and more Nigerian oil producing companies are attaching great importance to protecting the environment. Let me tell you, responsible businesses are at the heart of society. Companies that understand their links with the communities they operate in, and their impact on the environment, are most likely to prosper in the long-term. At the same time, interest from stakeholders in firms' environmental performance is at an all-time high.

DISCUSSION

There is an increasing recognition that good environmental performance makes good business sense. Environmental risks and uncertainties impact to some extent on all companies, and affect investment decisions, consumer behaviour and government policy. Management of energy, natural resources or waste will affect current performance; failure to plan for a future in which environmental factors are likely to be increasingly significant may risk the long-term future of a business.

Companies that measure, manage and communicate their environmental performance are inherently well placed. They understand how to improve their processes, reduce their costs, comply with regulatory requirements and stakeholder expectations and take advantage of new market opportunities.

EMP is not a philanthropic activity where a company gives without expecting a return or a benefit. It is about ethical investing to limit the negative impact of business on society, while

optimising its social performance. Management must strive to achieve both the organisational and societal goals. Strategic environmental management (SEM) emerged as an important business practice worldwide. Its premise is that firms can uncover profit opportunities by cutting costs and/or boosting revenues, in the course of reducing their environmental impacts.

Business organisations do not operate in a vacuum. Their relationship to the society and environment in which they operate is a critical factor in their ability to continue to operate effectively. It is also increasingly being used as a measure of their overall performance. Therefore, the essence of EMP is to minimise the damage caused by an organisation to the environment in which it operates. Companies that are, and are perceived to be, environmentally sound attract investment by fostering the perception that they are less risky business entities. Such companies also reward investors by lowering their cost of capital. Hence, it hardly needs saying that improving corporate environmental performance pays. All the companies use for this study face unique environmental and business challenges.

Management's commitment to environmental issues and performance could assist in: Developing an effective environmental policy by pinpointing the most significant impacts and their causes. Revealing cost savings opportunities; improving companies' efficiency. Promoting good environmental citizenship. Improving the companies' image and community relationships. Comply with environmental laws and regulations. The benefits of acquiring ISO certification go beyond the satisfaction of doing a good deed. Adhering to the standard may result in better conformance to environmental regulations, greater marketability, better use of resources, higher quality goods and services, increased levels of safety, improved image and increased profits.

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EXTRACTIVE INDUSTRY TRANSPARENCY INITIATIVE: A UTOPIA IN OIL AND MINING INDUSTRY IN DEVELOPING COUNTRIES

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ABSTRACT

Transparency has emerged as a key principle in the global business regulation and revenue governance in the contemporary global economy. Although proponents of transparency claim that it opens the channel of communication and allows scrutiny, this study argues that extractive industry transparency initiative (EITI) has been rather used to legitimise the actions of large transnational corporations. This study, therefore, seeks to explore the contradiction inherent within the neo-liberalism global regulatory framework and crony capitalism on transparency initiatives in developing countries social and economic development. The study uses publicly available data to describe the role of extractive Multinational Companies (MNCs) in revenue governance in extractive countries. Despite extractive companies commitment to EITI, evidence is provided to show that MNCs are deeply involved in depriving governments of scarce resources which could be used to develop social infrastructure and improve the quality of life of people by providing education, healthcare, security and pension. The paper therefore advocates a radical reform to tame the power of corporations and that of the benefiting elite by strengthening the enabling structures.

Keyword: *Accountability, Transparency, Extractive Industry, Multinational Companies, Government Agencies.*

INTRODUCTION

Recent years have seen a considerable increase in the variety and volume of literature on transparency (Holzner and Holzner, 2006; Fung, Graham and Well, 2007; Garsten and De Montoya, 2008; Lessig, 2009; Neilsen and Madsen, 2009; Phillips, 2011; Birchall, 2011; Gallhofer, Haslam and Walt, 2011). This literature is informed by a variety of theoretical perspectives that arguably seek to address issues about openness, right to know, accountability, good governance and participatory democracy. Within the accounting literature, transparency has been considered an aspect of accountability which informs, empowers and improves resource governance and, more broadly, societal change (Welch and Rotberg, 2006; Drucker and Gumpert, 2006; Belal, Cooper and Roberts, 2013).

Yet, it has been argued that, through inclusion by measurement and disclosure, importance and relevance are assigned to some matters of business, but, through exclusion, some issues have repeatedly been excluded (Young, 2003, p. 621). Rather than exposing the inherent contradictions within the capitalist production system, arguably contemporary accounting based modes of communication (intended to enhance transparency), seems to be deployed in order to obfuscate these conflicts and other class struggles embedded in the capitalist society (Arrington and Puxty, 1991; Puxty, 1986; Sikka, 2010, 2011; Tinker *et al.*, 1991).

Over the last two decades, the neoliberal transformation in domestic governance, combined with globalisation of production, and crony capitalism have significantly shaped the nature of regulatory requirements and the size of disclosure practices in a number of countries. Neoliberalism has become a key feature of the contemporary world that shapes the social relations in revenue governance. The role of the state is to create and preserve those institutional structures appropriate to guarantee, for example, the quality and integrity of the industry to enhance corporate profits and return to capital (Harvey, 2005).

Theoretically, crony capitalism offers some guidance in understanding the inefficiency in economic systems of much of developing world (see Kang, 2002; Haber, 2002). During the process of colonisation, political and economic arrangements are based on negotiation which has the tendency to favour the powerful actors within the scheme. This structure not only empowers the powerful elite, it also facilitates the rent-seeking activities of the elite. The institutional structures shaped by politics, power and light regulation were the core plank of crony capitalism, which made them more amenable to clientelistic relationships and the capture of the state (Mkandawire and Soludo, 1999). Thus, the implementation of transparency initiative with government that has tied their hands to such commitment becomes problematic and enmeshed in an unending variety of contradictory policies.

Although proponents of transparency claim that it opens the channel of communication and allows scrutiny and increases accountability, this paper argues that the ‘metaphor of transparency’ continues to be developed within the shadow of the existing systems of corporate governance, centred upon greater disclosure – giving more information to shareholders. This shareholder primacy model of corporate governance may, in practice, repeatedly neglect or downplay the attention attached to other social issues affecting the wider society. However, there been little or nothing to show for all these efforts, in terms of improvement in the quality of life and economic growth, as the educational and health systems in the emerging economies still remain in a state of decay, and social services and access to fresh water supplies remain poor, while revenue from these resources remain unaccounted for (Nwete, 2007; Shaxson, 2009; Mol, 2010; Africa Progress Panel Report, 2013). This paper therefore calls for more critical research, focusing on the dilemma of accountability and transparency initiatives in developing countries. It therefore, critically examines the capacities of transparency to counter opaqueness and to illustrate its complexities, considering the embedded nature of corporation, power and politics of the time.

To advance its arguments, this study is organised into three further sections. The first section provides the methods adopted in obtaining the data for the study. The second section presents the results and analyses the extractive industry reports of some selected extractive countries in developing economies to establish if the figures and estimates in those reports can demonstrate how each form of invisibility has political and economic implications for rendering the corporation more democratically accountable. It also illuminates its social impact on government investment in education, health and security in developing countries. The last section summaries the paper by providing the discussion and suggestion for future reforms.

METHODS

This paper does not rely on a statistical sample in any positivistic sense because companies and individuals rarely provide information about their underground practices. Opaque practices are generally pursued away from the glare of public scrutiny and company financial reports are mostly silent on the issues. This paper recognises that it is only possible to discuss evidence which is available in the public domain. It uses cases to illustrate the gap between the extractive industries transparency initiative rhetoric's and the reality to problematise the claim of corporate accountability and openness of extractive countries governments towards global revenue governance and its implications for development in developing countries.

The paper focuses on three out of 10 extractive countries in developing countries that are compliant countries from Sub-Saharan Africa with one each from West Africa, East Africa and the South African regions. In all the three countries, oil and mining has a long history and contributing more than 90 per cent of this country's export. In Nigeria it is oil, in Tanzania it is gold and copper in Zambia.

Characteristics of Case Studies

Nigeria

The petroleum sector has long become the most important aspect of the national economy, accounting for about 80-85 per cent of government revenues, 90-95 per cent of export revenues and more than half of the GDP (see Shaxson, 2009; Gboyega *et al.*, 2011). Nigeria was one of the first countries to sign the global EITI in 2003, it subsequently launched NEITI in 2004 and it is now EITI compliant. Nigeria has since produced four reports – the 1999-2004, 2005, 2006-2008 and 2009-2011 NEITI reconciliation reports.

Tanzania

Tanzania is endowed with abundant valuable mineral resources, which have the potential to provide for social-economic development, improve the standard of living and reduce poverty in the country. By 2008, Tanzania became Africa's third-largest exporter of gold, accounting for as much as 44% of the country's value of exports (Kaiza, 2010). Tanzania declared its commitment to join the EITI process in February 2009. Government joins the EITI to lift transparency around mining contracts to international standards. Tanzania has since produced three reports – the 2008/2009, 2009/2010 and 2010/2011 TEITI reconciliation reports.

Zambia

Zambia has a mining history which spans over ninety years, including the late 1960's, when Zambia was the world's third largest copper producer, after the US and the former Soviet Union. The sector accounts for over 80 per cent of export earnings and contributes 11 per cent to the Gross Domestic Product (GDP) (Namutowe, 2013). Zambia declared its intent to undertake the EITI implementation in July 2008 and it became a candidate in May 2009. Zambia has since produced three reports – the 2008, 2009 and 2010 ZEITI reconciliation reports.

RESULTS

This section examines the implementation of the EITI in three compliant extractive countries in Sub-Saharan Africa in order to understand how it has impacted on their revenue governance and on the lives of people.

Ownership Structure

The deregulation and privatisation process in many extractive countries in Sub-Saharan Africa, brought about a broad change to the ownership structure. Arguably, lack of local ownership across the entire extractive industries is scarcely visible and daunting. The TEITI reports show that six major producing mines dominated the large-scale mining sector, all predominantly in gold; these accounted for 85-90 per cent of the audited export of gold from Tanzania (TEITI Reconciliation Report, 2008/2009, 2009/2010). Similar to Tanzania, there are seven largest mines in Zambia four of which dominate copper mining: two brownfield operations (Konkola and Mopani) and two greenfield operations (Kansanshi and Lumwana). The Nigerian National Petroleum Corporation (NNPC) has production-sharing contracts with over 30 oil companies, manages production-sharing agreements with the country's main sources of investment (Africa Progress Panel Report, 2013). Despite the country's share in the JVC contracts, the oil MNCs, that have the technical capacity to extract oil, essentially control the operation (including the running cost) of the JVC.

Multinational Companies and Taxation Regimes

In developing countries, many fiscal regimes and the inherent benefit-sharing formulas established in the oil and mining agreements were tailored towards securing investment and protecting the interest of capital (Sikka, 2011; Lundstøl, Raballand and Nyirongo, 2013). Often, developing countries do not have the means to conduct the necessary tests and establish the level of oil and mining done. Evidence shows that Shell Petroleum Development Company (SPDC) and Chevron was reported to have a working system in place at its terminals, but this system does not meet the international industry standard (NEITI Report 2009-2011). For example, the physical and process audit report 2009 to 2011 reaffirms that the terminal has metering skids, all fitted with ultrasonic and master meter but their effectiveness was questioned. This may therefore have implications for the implementation of the transparency initiative.

The ability of the governments in developing countries to achieve these obligations and to bring about transparency and accountability is further hampered by the various oil and mining agreements and the clauses. Evidence shows that the development and attraction of investment in the extractive industry is driven by the neo-liberal ideology adopted by extractive countries. The company ownership structures linking major multinational companies to assets in Africa often involve complex partnerships and linkages. For example, the Mopani Copper mine in Zambia's Copperbelt illustrates a typical case:

'Mopani is 90 per cent owned by a company called Carlisa Investments, which is jointly owned by Glencore Finance – a wholly owned Bermuda-registered subsidiary of Glencore – and a British Virgin Islands-listed subsidiary of First Quantum (a Canada-listed company). The other 10 per cent of Mopani is owned by ZCCM Investment Holdings, listed in Lusaka and London, in which the Zambian government holds an 87 per cent stake' (p. 49).

This kind of maneuvering is, without doubt, one of the greatest sources of oil and mining industry profits worldwide - causing a massive ongoing transfer of wealth from extractive countries to owners of capital in the West. As Global Financial Integrity puts it:

'The average annual loss to Africa between 2008 and 2010 stood at \$38 billion. To place this figure in context, it was slightly higher than the flow of development assistance to the

region over the same period. Another \$25 billion is lost through other illicit outflows (Africa Progress Panel Report, 2013).

EITI hardly looks into these kinds of issue. Foreign investors in Africa's extractive industries operate across jurisdictions and through enormously complex company structures – a practice that drains some of Africa's poorest nations of desperately needed revenues (Africa Progress Panel Report, 2013).

Contract Agreements and Confidentiality Clauses

The process of licensing is an important factor in extractive sector governance. The review of various EITI countries' reports shows that most oil and mining countries have multiple exemption regimes. It has been argued that in a number of cases in extractive countries, agreements and concessions were negotiated by parties of unequal economic strengths. In Nigeria and in common with other extractive countries, concessions and incentives are provided, depending on the nature of the contract and the stage of production. Gboyega *et al.* (2011) state that:

'To complicate matters, most oil companies have entered into stabilisation agreement with the government lasting for 15 to 30 years, thus making them immune from any subsequent changes in the tax law. As a result of these special provisions, the fiscal regime has become quite intricate' (p. 29).

The Tanzanian government's effort to re-negotiate existing contracts was weakened because fiscal terms in old contracts were fixed for the entire life of the mine of large-scale operations (Tanzania Extractive Industries Transparency Initiative Report (TEITI), 2011). In the case of Zambia, the tax regime was designed to support extractive companies. The prevalent opacity and impunity of government officials, regulating mineral and gas, made the public believe that corruption and rent-seeking had significantly influenced the contract agreements with extractive companies (Kaiza, 2013). For example, thin capitalisation, as noted above, would allow for one subsidiary of the same parent company to grant high interest loans to the host country subsidiary, diminishing taxable profits. These possibilities are endless and are often utilised in the extractive industry.

Technical and Regulatory Capacity

The government revenue receipt structure, as implied in the report, indicates an overly haphazard management of extractive industries revenue. There were too many unco-ordinated government points at which extractive companies make payments. 'the current extractive industries revenue management is inefficient and prone to corruption due to inherent lack of transparency and accountability' (p. 10). For example the report states that:

'Some studies also indicate the lack of audit technical capacity on the part of the government to assess what should have been received by the government' (TEITI, 2011, p. 6).

Poorly managed state-owned companies are part of the problem in many countries. For example, the 1999-2004 NEITI report highlighted the weak capacity of the Federal Inland Revenue Service (FIRS) to assess and collect Petroleum Profits Tax and other direct taxes from the joint ventures, production-sharing contractors and sole risk operators. In addition, the NEITI

reconciliation report, 2009 – 2011, cited a number of extractive companies’ refusal to co-operate with the audit process (NEITI Reconciliation Report 2009 -2011, p. 22).The Zambian reconciliation report also documents the resistance experience by the audit team from the reporting entities (ZEITI Reconciliation Report, 2010, p. 12).Yet, there were no records of sanctions imposed on these companies and government agencies for refusal to co-operate. An effective implementation of the EITI is only possible in countries where the state has minimum capacity to enforce regulation and where the political will exists.

Audit Model

Audits may find serious financial irregularities, but that does not necessarily mean that governments will take the steps necessary to correct all of the problems. EITI auditors, companies and government agencies sit at a forum to reconcile the differences in the data collected. This approach does not consider the influence and the unequal economic strength and power each party brings to the reconciliation table. In a number of cases, the auditors were only given authority to identify the discrepancies, not to find out what actually happened to the oil and the money. The EITI reports have so far identified and published discrepancy between government accounts of oil and mining revenue earning and extractive MNCs’ record of payment. However, the monitoring of actual governmental expenditure of oil and mining revenues has so far been absent, while the initial Nigeria EITI report (1999-2004) suggested that:

‘The discrepancies between revenues paid by oil companies and those received by government agencies amount to \$300 million, subsequent auditing suggests that only about \$6 million is unaccounted for’ (NEITI 1999-2004 Report).

In the case of Tanzania, the government reported receiving a total of \$99.5 million while the extractive companies reported to have paid a total of \$135.5 million, resulting in a discrepancy of \$36 million. In a similar vein, differences were also recorded in the Zambian reconciliation and the Zambia EITI Council (ZEC) reported that:

‘The ZEC has recommended that this difference is not material in the context of 2010 ZEITI reconciliation, but is considering further action to be undertaken to examine and understand the cause of the residual difference’ (ZEITI Reconciliation Report, 2010, p. 10)

Extractive companies operate in societies marked by endemic corruption. The mere reconciliation of revenue paid and collected cannot be dissolved by traditional audit verification. Transparency without accountability will mean there are no substantive consequences for those who have engaged in corruption, and, therefore, will undermine the entire intention of the EITI. Conducting reconciliation to produce EITI reports should not be considered sufficient; not even an end, but the means to achieve the big picture of extractive industries transparency and accountability – underpinning social and economic development.

DISCUSSION

Over the last ten years, the significance of revenue governance in a sector, traditionally cloaked in secrecy, has risen to prominence, culminating in organised extractive industry transparency initiative to deal with ‘resource curse’ and translate natural resource wealth into genuine development for producing countries (Shaxson, 2009; Ölcer, 2009; Kaiza, 2010, 2013; Kabemba, 2010; Idemudia, 2010). The paper has examined the extractive industry’s transparency initiative

(EITI) practice in three extractive countries in Sub-Saharan Africa (Nigeria, Tanzania and Zambia) to draw attention to some of the challenges that it poses for revenue governance and equitable exchange between extractive countries and extractive companies (see Sikka, 2011). It illuminates how the various agreements, concessions and stabilisation clauses embedded in the extractive industry have acted as a constraints in the realisation of the acclaimed transparency and accountability in the extractive sector.

Numerous shortcomings in revenue administration have been identified in countries' extractive industries transparency initiative financial audit reports. The quantity of oil and mining extractions that constitute the basis of all royalty and profits tax assessment are uncertain, as discussed above. Countries' EITI reports show that government regulatory agencies production data often differ from the data provided by extractive companies and, hence, measurement of oil, gold and copper become problematic (Ocheje, 2006; Kaiza, 2010; Africa Progress Panel Report, 2013). In sum, the evidence from the cases examined above has implicated MNCs in adopting a variety of schemes, such as transfer pricing, offshore tax havens, royalty programme, stabilisation clauses and complex carefully structured transactions are some of the techniques used by extractive companies to avoid taxes and social obligations, hide corporate returns to enhance corporate profits (see Kaiza, 2010; Africa Progress Panel Report, 2013).

One might look to government to control and regulate MNCs, but such prospects remain low, especially where oil and mining contracts and agreements contain a number of stabilisation clauses. In pursuit of profits, some corporations have knowingly colluded with murderous and corrupt regimes and have actively assisted by accounting technologies. The illegal practice continues, not because it is difficult to stop it, but because the officials and the elite in government are themselves involved in the illegal contracts and practices (Kabemba, 2010; Idemudia, 2010; Kaiza, 2013). Further evidence shows that the extractive industry has been linked to the existence of powerful network of government officials involved in illegal and secret contracts and mining and oil agreements (Africa Progress Panel Report, 2013).

Greater transparency and less corruption could increase government revenue, the crucial question with regards to sustainable development in Africa, particularly in Sub-Saharan Africa, is how governments spend revenue from the extractive industries. Idemudia (2010), therefore, suggests that any effort to connect accountability to sustainable development in Africa requires a more critical and holistic diagnosis of the 'governance failure complex' in Africa. Such an approach will reveal that the problem of inefficient utilisation of natural resources revenue is not rooted in the lack of accountability per se but rather, in the mismanagement of resource, shaped by crony capitalism. In spite of several hundred billion dollars in revenues from the oil and mining sector over the past decades, the existing system of governance and resource management in Sub-Saharan Africa has failed to ensure and advance the basic living standards for the broader society. The paper therefore advocates a reform of the tax and legal structures in the extractive sector in Sub-Saharan Africa, and internationally, to control the predatory behaviour of MNCs and their facilitators, currently undermining the needed transparency in developing countries.

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NON-STANDARD WORK ARRANGEMENTS IN NIGERIA: PROBLEMS ASSOCIATED WITH UNREGULATED CONTRACT LABOUR IN THE OIL AND GAS INDUSTRY

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ABSTRACT

To remain competitive in the ever growing market economy in developed and developing countries employers have devised various means of keeping cost low including labour cost. Non-standard work arrangements have met this need. Clear legal framework to regulate non-standard work arrangements however exists in countries such as South Africa, Ghana and the European Union countries.

In Nigeria non-standard work arrangements has been growing steadily in the past 10 years although there is no legislation to regulate it. In the oil and gas industries, contract labour through outsourcing using labour contractors, a form of non-standard work arrangements, now comprise 60% of the workforce. In the absence of regulation, this form of non-standard work arrangements was a source of conflict between workers union and employers in the industry, since it was associated with denial of certain rights such as right to freedom of association, equal pay for equal work and claims for wrongful dismissal. To resolve this conflict, the Nigerian government recently came up with some guidelines regulating contract labour in the oil industry. Although this is a right first step, it falls short of comprehensive legal framework which will be the long term solution.

This paper bring to fore the legal framework on non-standard work arrangements in other jurisdictions earlier mentioned. These examples will help in making a proposal for reform of Nigerian Labour Law in order to provide a legal framework for non-standard work arrangements. This work therefore, aims at preparing the ground for possible policy decisions and legislation for regulating non-standard work arrangements in Nigeria.

Keywords: Non-standard Work Arrangements, Labour Contractor, Freedom of Association, Outsourcing, Casualisation.

INTRODUCTION

The problems associated with non-standard work arrangements in Nigeria have become a topical issue because they are fast replacing the standard traditional employment system, especially in the private and informal sectors of the economy.¹ For example, Chevron Nigeria Limited has 562 permanent employees and 2,820 casual/contract employees; Shell Petroleum Development Company has 3,625 permanent employees and 17,000 contract/casual employees.²

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¹ Adewumi, F. and Adenugba, A., *The State of Workers' Rights in Nigeria: An examination of the Banking, Oil and Gas and Telecommunication Sectors* (Friedrich-Ebert-Stiftung, Nigeria 2010) p. 67.

² *Ibid.*, p. 67.

Non-standard work arrangements, referred to as casualisation in Nigeria, are seen by critics³ as a means of exploiting workers, who are referred to as contract or casual workers. The term ‘contract worker’ in Nigeria is used to describe workers who are employed by agencies known as labour contractors⁴ for a user company. The increase in the growth and the spread of casualisation in Nigeria has become an issue of great concern to labour organisations, researchers, employees, and the government. Employment insecurity, low wages, intermittent employment, absence of standard employment benefits, and the denial of the right to form or belong to trade unions are characteristics of casualisation in Nigeria.⁵ In the absence of regulation, contract labour has been a source of conflict between workers union and employers in the industry, since it is associated with denial of certain rights such as right to freedom of association, equal pay for equal work and claims for wrongful dismissal. To resolve this conflict, the Nigerian government recently came up with some guidelines regulating contract labour in the oil industry. Although this is a right first step, it falls short of comprehensive legal framework which will be the long term solution.

This paper bring to fore the legal framework on non-standard work arrangements in other jurisdictions like Ghana, South Africa and the European Union countries. The examination of the legal solutions adopted by these different jurisdictions brought to the fore the inadequacy and in some instances, total lack of statutory protections for workers in non-standard work arrangement in Nigeria. These examples will help in making a proposal for reform of Nigerian Labour Law in order to provide a legal framework for non-standard work arrangements. This work therefore, aims at preparing the ground for possible policy decisions and legislation for regulating non-standard work arrangements in Nigeria.

Non-standard Work Arrangements

There have been various definitions of non-standard work arrangements used by scholars, but they all converge on a core phenomenon. Non-standard work arrangements is employment which deviates from the traditional standard employment arrangement or relationship, where employment is usually full-time and expected to continue until the normal retirement age, or until either party gives notice of termination. Non-standard employment refers to regular part-time, temporary full-time, fixed-term, and temporary part-time employment. Contract work in Nigeria fits into the model on non-standard work arrangement. Non-standard work arrangements are usually characterised by low or poor pay, lack of benefits enjoyed by standard workers, including pension benefits, denial of the right to organise, and protection offered by labour legislation in Nigeria.⁶ Belman *et al.* in their research on the nature of non-standard work arrangements concluded that workers in these work arrangements have significantly less access

³ Critics such as Orifowomo, O.A., ‘Perspectives on the Casualisation of Workers’ Under Nigerian Labour Laws’ (2007) *East African Journal of Peace and Human Rights*, Vol. 13, No. 1., and Okpara, E.E. ‘Globalisation, Casualisation and Capitalist Business Ethics: A Critical Overview of the Situation in the Oil and Gas Sector in Nigeria’ (2007) *Journal of Social Science*, Vol. 15, No. 2. 169.

⁴ Section 48(2) of the Labour Act defines Labour Contractors as ‘persons who undertake to provide another party with the services of workers while themselves remaining the employers of the workers in question’.

⁵ May, R., Campbell, I., and Burgess, J., ‘The Rise and Rise of Casual Work in Australia: Who benefits, Who Loses?’ (A Paper for a Seminar Sydney University 20 June 2004)

<<http://www.econ.usyd.edu.au/download.php?id=4306>> accessed 16 June 2008.

⁶ Stone, K.V.W. ‘Legal Protections for Atypical Employees: Employment Law for Workers without Workplaces and Employees without Employers’ (2006) *Berkeley Journal of Employment and Labour Law*, Vol. 27, No. 2, p. 254.

to employee benefit coverage, as well as greater job insecurity.⁷ They also receive lower wages than workers in standard employment in the same industry and occupation.⁸ For these reasons they are regarded as vulnerable workers.

Casualisation and Fixed-Term Work

Casualisation, as used to describe non-standard work arrangements in Nigeria, is a significant part of that group of employment arrangements which, in international labour law, are collectively known as non-standard, contingent, atypical, precarious, and alternative work arrangements.⁹ In the advanced and developed market economies of the world, non-standard or contingent work is used to refer to fixed-term contract, contract work, on-call work, part-time and temporary work.¹⁰

A fixed-term contract is one which expires on a certain predetermined date without the need for notice to be given by either the employee or employer concerned. A third party known as labour contractor supplies contract workers to companies in the Nigerian oil and gas industry for a fixed-term contract of three years.¹¹ It is estimated that as much as 60% of total work force in the industry are contract workers employed on fixed-term contract.

According to Mather, contract and agency labour has become a global phenomenon and represents one of the greatest challenges facing workers and unions alike.¹² He states that it was a problem for unions in developed countries in the early 1980s when companies began exploring the flexibility¹³ that globalisation and trade liberalisation brought, but that it has now become a problem for the developing regions of Asia, Africa, Latin America, and Central and Eastern Europe.¹⁴ Mather notes that corporations today concentrate on their 'core' areas of production or service due to increasing worldwide competition in the global market. At the same time, they seek to operate with as few employees as possible, thus cutting costs.¹⁵ Therefore, 'peripheral' activities are increasingly done through the cheapest possible option, which means corporations avoid their responsibility as employers.¹⁶ This gives employers both the working and financial flexibility they require, while also providing them the leverage to use contract labour through contracting out to outside agencies and suppliers.¹⁷

⁷ Belman, D, and Golden, L., Ferber, M.A., Golden, L., and Herzenberg, S.A. (eds) *Nonstandard Work: The Nature and Challenges of Changing Employment Arrangements* (1st edn. Industrial Relations Research Association, University of Illinois at Urbana-Champaign 2000) p.8.

⁸ *Ibid.*

⁹ Kalleberg, A.L., 'Nonstandard employment relations: Part-time, temporary and contract Work'. (2000)*Annual Review of Sociology*, Vol. 26, p. 341.

¹⁰ Francoise, J. Carre., 'Temporary and Contracted Work in the United States: Policy Issues and Innovative Responses'. (Organisation for Economic Co-operation and Development (OECD) Working Paper, 13 October 1998) 3.

¹¹ Nigerian Union of Petroleum and Natural Gas Workers (NUPENG) Press Release in Lagos, Nigeria on 22nd June 2011. p. 19-20. <<http://nupeng.org/id20.html>> 4 August 2011.

¹² Mather, C., *Contract/Agency Labour: A Threat to our Social Standards* (A Publication by International Federation of Chemical, Energy, Mine and General Workers' Union (ICEM) October 2004) p. 8 and 21 <http://www.icem.org> accessed 16 May 2008.

¹³ *Ibid.*, p. 8.

¹⁴ *Ibid.*, p. 9.

¹⁵ *Ibid.*, at p. 8.

¹⁶ *Ibid.*, p. 8.

¹⁷ *Ibid.*, p. 12.

In many parts of the developed world, employment legislation has been, and is being, reformed in order to protect non-standard workers, while at the same time ensuring flexibility in hiring for employers, due to pressures from both unions and employers. In the UK, for instance, employees on fixed-term contracts are entitled to the same rights and treatment as permanent employees,¹⁸ such as the right to paid holidays, *pro rata* to the length of their contract.¹⁹ The Fixed-Term Employees (Prevention of Less Favourable Treatment) Regulation guarantees equal treatment of fixed-term employees and permanent employees, and prevents employers from abusing successive fixed-term contract²⁰ in order to escape obligations inherent in keeping workers on permanent positions.

In Nigeria there are no such legislations that protect fixed-term contract workers. They are therefore abused by employers where the workers are employed on successive fixed-term contracts and the contract workers are not entitled to the same rights as permanent employees.

Outsourcing and its Impact on Labour

The globalisation of the world economy has led to the concept of outsourcing. Outsourcing occurs when an organisation transfers some of its tasks to an outside supplier.²¹ Investors want higher profits for their investments, which forces management of corporations to maximise value while cutting costs. As Blanpain noted, there has been increased use of outsourcing by businesses.

Outsourcing is prevalent in much of the private sector, including the oil and gas industry in Nigeria and it is the common mode of business. For instance, companies in the oil and gas industry have decided for business reasons that certain jobs (both core and non-core to their operations) are better outsourced, because doing so provides for better administration and leads to lower costs for the company.²²

Outsourcing has long been, and will remain, an integral part of the oil and gas business in Nigeria. Casual workers were used in the past to meet short-term or part-time staffing needs, as well as to accomplish various tasks that the companies in the industry decided were better outsourced.²³ However, the strategy has changed, as outsourcing through labour and service contractors is now used to ensure that contract workers are employed for a long duration, sometimes for as long as five or more years, without benefits, low pay and the denial of the right to freedom of association.²⁴

Some employers in the oil and gas industry consider certain jobs, by their very nature, to be less suited for permanent or direct employment. This leaves the oil company with what it considers

¹⁸ See the Fixed-term Employees (Prevention of Less Favourable Treatment) Regulations 2002 which implements the EU Fixed-term Work Directive 99/70/EC Concerning the Framework Agreement on Fixed-Term Work, (FTER 2002, SI 2002/2034. Regulation 1(2) defines 'a fixed-term contract as including not only one which terminates on expiry of task or on the happening of a specific event (other than the employee reaching retirement age).'

¹⁹ Peck, S., *Law at Work* (Labour Research Department (LRD) Booklets Publications Ltd. June 2006) p. 33.

²⁰ Deakin, s. and Morris, G.S., *Labour Law* (4th edn Hart Publishing, Oxford 2005) p. 192.

²¹ Siems, T.F. and Ratner, A.S., 'Beyond the border: Do what you do best, outsource the Rest?' Federal Reserve Bank of Dallas. Southwest Economy, November/December 2003. p.13. <www.ssrn.com> accessed 24 June 2008.

²² Okafor, E.E., 'Globalisation, Casualisation and Capitalist Business Ethics: A Critical Overview of Situation in the Oil and Gas Sector in Nigeria' (2007) *J. Soc. Sci.*, Vol. 15, No. 2, pp. 173-175.

²³ *Ibid.*

²⁴ *Ibid.*

its basic core business of oil exploration and marketing.²⁵ However, it is pertinent to note that, even in the core area of exploration, which involves the use of engineers and geologists, jobs are often also outsourced to labour and service contractors.²⁶ Thus, what is ‘core’ and ‘non-core’ work in the oil and gas industry is open to question, and the nomenclature is uncertain. As Gilleland said, defining what is core and non-core, and also what a company wishes to outsource, depends on the company and its management’s philosophy.²⁷

The impact of outsourcing through the use of labour contractors to supply workers has increased in the number of contract workers in many sectors of the Nigerian economy, including the oil and gas industry. Thus, there are now more contract workers than permanent employees in the industry.²⁸ For instance, in 2007 there were 2,400 contract workers and 2,000 permanent employees at Chevron Nigeria Limited.²⁹ That means Chevron has more contract workers recruited by labour contractors (54.5%) than regular/permanent employees (45.5%).³⁰ industry.³¹

Legal Framework of Non-standard Work Arrangements in other Jurisdictions

The European Union

The European Union (EU) adopted an important directive concerning fixed-term work, based on negotiated agreements signed by the social partners, in order to stop discrimination against non-standard workers.³² This EU Directive, which ensures that non-standard workers are not discriminated against and are treated equally with full time permanent employees, is the Fixed-term Work Directive 1999,³³ which provides minimum requirements relating to fixed-term work.³⁴ The Fixed-Term Employees Regulation (FTER), which came into effect in October 2002,³⁵ provides that a fixed-term employee must not be treated less favourably than a permanent employee,³⁶ unless the treatment can be justified objectively.³⁷

This Directive³⁸ was set up for the purpose of improving the quality of fixed-term work by ensuring the application of the principle of non-discrimination, and to establish a framework to prevent abuse arising from the use of successive fixed-term employment contracts or relationships.³⁹

²⁵ Owei, D., *Casualization and Contract Employment in the Nigerian Oil Industry: A Contribution by the OPTS Human Resources Group*. A paper presented at the seminar on casualisation and contract employment at the Nicon Hilton Hotel, Abuja, Nigeria, 5 November 2011. p. 2.

²⁶ Okafor, E.E., ‘Globalisation, Casualisation and Capitalist Business Ethics: A Critical Overview of Situation in the Oil and Gas Sector in Nigeria’ (2007) *J. Soc. Sci.*, Vol. 15, No. 2, p. 176. See chapter 2 for the definition of labour and service contractors.

²⁷ Gilleland, K., ‘Outsourcing Buffet’ (April 2001) *Oil & Gas Investor*, p. 2.

²⁸ Chevron Nigeria Limited Contract Manager figures provided on questionnaire in 2008.

²⁹ *Ibid.*

³⁰ *Ibid.*

³¹ This is not a matter of law but a matter of practice in the oil and gas industry in Nigeria.

³² Council Directive 97/81/EC of 15 December 1997 – Concerning Part-Time Work.

³³ Council Directive 1999/70/EC of 28 June 1999 Concerning the Framework Agreement on Fixed-term Work concluded by ETUC, UNICE and CEEP.

³⁵ Fixed-Term Employees (Prevention of Less Favourable Treatment) Regulations 2002.

³⁶ Section 3 of the Fixed-Term Employees (Protection of Less Favourable Treatment) Regulations 2002 SI 2002/2034.

³⁷ *Ibid.*, Section 3(3)(b).

³⁸ Council Directive 1999/70/EC of 28 June 1999 Concerning the Framework Agreement on Fixed-term Work concluded by ETUC, UNICE and CEEP.

³⁹ *Ibid.*, Clause 1.

Another category of non-standard workers discriminated against in the past in the UK and other EU Member States were temporary agency workers. However, this problem was addressed by Directive 2008/104/EC.⁴⁰ The UK Agency Workers Regulation 2010,⁴¹ Regulation 5,⁴² which implements Directive 2008 /104/EC, provides that there must be equal rights concerning basic working and employment conditions for agency workers after 12 weeks in continuous employment.⁴³

South Africa

Discrimination in any form is expressly prohibited by the South African Constitution. Section 9 of the Constitution provides for equality before the law, hence offering the right to equal protection and benefit under the law.⁴⁴ The Constitution has, therefore, served as the basis for the enactment of statutes like the Employment Equity Act (EEA) 1998, which prohibits unfair discrimination in employment and creates equality in employment. The EEA prohibition of unfair discrimination, which applies to all employees,⁴⁵ provides that every employer must ‘take steps to promote equal opportunity in the workplace by eliminating unfair discrimination in any employment policy or practice.’⁴⁶

The interpretation of the LRA in conjunction with the South African Constitution 1996⁴⁷ is understood to mean that the protection, promotion, and fulfillment of the labour rights in the Constitution are extended to everyone including non-standard workers,⁴⁸ especially those not covered by the LRA’s definition of employee.⁴⁹ Since the South African Constitution uses the word ‘everyone’ in Sections 9 and 23(1), it is clear that it refers to all work statuses, including contract work.⁵⁰ According to Fourie, these Constitutional rights are guaranteed in wide terms as every person has the right to fair labour practices.⁵¹

⁴⁰ Of the European Parliament and of the Council of 19 November 2008 on Temporary Agency Work which came into effect in December 2011. Following the European Parliament’s approval of the Temporary Agency Workers Directive 2008, the EU countries were required to incorporate the provisions of the Directive in their national law by December 2011 and this has already occurred as it took effect in October 2011.

⁴¹ SI 2010/93 which came into force in October 2011 implements the EU’s Agency Work Directive 2008.

⁴² UK Agency Workers Regulation 2010.

⁴³ The Agency Workers Regulations 2010, part II, Regulation 7 (1&2).

⁴⁴ The Nigerian Constitution 2011 (as amended) also provides in section 17(3)(e) that there must be equal pay for equal work without discrimination ‘on account of sex, or any other ground whatsoever’.

⁴⁵ Except members of the National Defence Force, the South African Secret Service and the National Intelligence Agency. Section 4 of the Employment Equity Act (EEA) 1998.

⁴⁶ Employment Equity Act (EEA) 1998, Section 5.

⁴⁷ Constitution of the Republic of South Africa No. 108 1996.

⁴⁸ Section 9 of the South African Constitution provides that ‘everyone is equal before the law and has the right to equal protection and benefit of the law.’ Section 23(1) of the Constitution also provides that everyone has the right to fair labour practices.’

⁴⁹ Fourie, E.S., ‘Non-Standard Workers, The South African Context, International Law and Regulation in the European Union’ (2008) P.E.R. Vol. 4, p.119/184

⁵⁰ Section 9 of the South African Constitution 1996 provides that ‘everyone is equal before the law and has the right to equal protection and benefit of the law.’ Section 23(1) of the Constitution also provides that everyone has the right to fair labour practices’.

⁵¹ Fourie, E.S., ‘Non-Standard Workers, The South African Context, International Law and Regulation in the European Union’ (2008) P.E.R. Vol. 4, p.119/184

Ghana

In 2003, Ghana's labour laws were consolidated into one Act, the Labour Act.⁵² Ghana, as a signatory to ILO Conventions, incorporated the Conventions in the new Act.⁵³ Part X⁵⁴ of the Labour Act 2003 provides a legal framework for the regulation and protection of casual and temporary workers in Ghana. Even though there is a general definition of a 'worker' under Section 75, it also defines the concepts of casual worker, and prescribes the remuneration that should accrue to them, as well as the procedure to follow in the event of a breach by the employer.

A casual worker is defined as 'a worker engaged on a work which is seasonal or intermittent and not for a continuous period of more than six months and whose remuneration is calculated on a daily basis.'⁵⁵ The Act provides that the contract of a casual worker need not be in writing,⁵⁶ and that the worker must be employed continuously or intermittently for less than 6 months per year.⁵⁷ A casual worker must be given equal pay for work of equal value.⁵⁸

The Constitution of 1992 sets out the basis for the framework of work and labour relations for Ghanaian workers. For instance, the right to equal pay for equal work is set out in Section 24(1) under the section on fundamental rights and freedoms. This provision states that 'every person has the right to work under satisfactory, safe and healthy conditions, and shall receive *equal pay for equal work* without distinction of any kind.'⁵⁹ Since the Constitution uses the phrase 'every person', it is applicable to every person, irrespective of employment status.

The Labour Act 2003, drawing from the Constitution, expressly provides that 'every worker' shall receive equal pay for equal work without distinction of any kind.⁶⁰ As noted above, the Act expressly defines a casual worker, and grants him most of the rights and privileges enjoyed by a permanent employee, such as medical care and equal pay for equal work.⁶¹ This further emphasis on equal pay for equal work for the casual worker demonstrates how important the issue of equality for all workers is to Ghana legislators.

⁵² 2003 No. 651.

⁵³ The Ghana Labour Act No. 651 2003: 'It covers all employers and employees except those in strategic positions such as the Armed Forces, Police Service, Prisons Service and Security Intelligence Agencies. Major provisions of the Act include establishment of public and private employment centres, protection of the employment relationship, general conditions of employment, employment of persons with disabilities, employment of young persons, employment of women, fair and unfair termination of employment, protection of remuneration, temporary and casual employees, unions, employers' organisations and collective agreements, strikes, establishment of a National Tripartite Committee, forced labour, occupational health and safety, labour inspection and the establishment of the National Labour Commission'.

Ghana National Labour Law Profiles – Information Resources. International Labour Organisation. P.1. <<http://www.ilo.org/public/english/dialogue/ifpdial/info/national/gha>> accessed: 12 October 2010.

⁵⁴ Special Provisions Relating to Temporary Workers and Casual Workers of the Ghana Labour Act 651 2003.

⁵⁵ Ghana Labour Act 2003, Section 78.

⁵⁶ *Ibid.*, Section 74(1).

⁵⁷ Barrientos, J., Anarfi, N., Lamhaug, A., Castaldo, N. & Anyidoho, N.A., Social Protection for Migrant Labour in the Ghanaian Pineapple Sector. Working Paper T-30, September 2009.

⁵⁸ Ghana Labour Act 2003 No. 651, Section 74(2)(a).

⁵⁹ Emphasis added.

⁶⁰ Ghana Labour Act 2003, Section 68. Emphasis added.

⁶¹ *Ibid.*, Section 74(2).

Legal framework of Non-standard Work Arrangements in Nigeria

There are several statutes which regulate labour law in Nigeria. However, they have failed to define non-standard work arrangements and its various forms shown above. This is because the laws have not been reviewed to accommodate these new forms of employment. Therefore we can assume that this form of work arrangements is unknown to Nigerian labour law until an amendment is made to the existing labour law.

There is a general definition of the term ‘worker’ under the Labour Act,⁶² and this has been interpreted by some scholars like Orifowomo⁶³ to be comprehensive enough to accommodate every type of work relationship with an employer, including contract employment. Therefore, it is submitted here that it is expedient for Nigerian legislators to consider giving more specific legal definitions to the different forms of work arrangements in order to categorise the various employment statuses in Nigeria. This will also help curb the current exploitation of non-standard workers.

In the absence of a specific definition of non-standard work in Nigerian Labour Act, such inclusion in a broad definition remains a mere ‘scholarly’ assumption.

The New Government’s Policy on Outsourcing and Contract Labour in the Oil and Gas Industry in Nigeria

A new document entitled Government’s *Guidelines on Labour Administration: Issues in Contract Staffing/Outsourcing in the Oil and Gas Industry* (hereinafter, the *Guidelines*) spells out the much awaited government policy on casualisation in the Nigerian oil and gas industry. The guidelines⁶⁴ were brokered between employers, unions, and the Nigerian government after years of negotiation. The last strike by the unions to compel the government to introduce a policy to check ‘unfair labour practices associated with contract and agency labour in the oil and gas industry’,⁶⁵ culminated in the stoppage of fuel supplies to Abuja (the capital and seat of power of the Federal Government of Nigeria) and its environs. The impact of this strike must have been the catalyst for the Minister of Labour setting up a 16 member strong Technical Working Group (TWG) to look into the issue of casualisation of labour in the oil and gas industry.⁶⁶ The TWG was comprised of representatives of all stakeholders in the industry, including NUPENG and PENGASSAN.

Six issues are addressed in the *Guidelines* under the following headings:

1. Differences between permanent and fixed contract jobs.
2. Migration from contract to permanent employment.

⁶² Section 91 of the Labour Act Cap T14 Laws of the Federation of Nigeria 2004 defines a ‘worker’ as ‘any employee, that is to say any member of the public service of the Federation or of a state or any individual (other than a member of any such public service) who has entered into or works under a contract with an employer, whether the contract is for manual labour, clerical work or otherwise, expressed or implied, oral or in writing, and whether it is a contract personally to execute any work or labour or a contract of apprenticeship’.

⁶³ Orifowomo, A., ‘Legal Perspectives on the Casualisation of Workers’ under Nigerian labour Laws’ (2007) East African Journal of Peace and Human Rights, Vol. 13, No. 1, p. 117.

⁶⁴ Issued on 25 May 2011 at Abuja, Nigeria.

⁶⁵ On 2 August 2010 the two unions PENGASSAN and NUPENG in the oil and gas workers embarked on a strike action to compel the government to create a legal framework for the regulation and protection of nonstandard work arrangements.

⁶⁶ On 13 August 2010 the Minister of Labour and Productivity set up a Committee to look into the issue of casualisation of labour in the oil and gas industry and come up with ways to stop the exploitation of casual and contract staff and ensure their rights in the workplace.

3. Unionisation.
4. Collective bargaining
5. Job security and capacity building for contract staff.
6. Dispute Resolution

However we shall be looking at some of these issues such as unionisation, collective bargaining and differences between permanent and fixed term employment.

1. Difference between Permanent and Fixed-term Contract Jobs

All jobs on the company organogram, also known as organisational chart,⁶⁷ are deemed regular jobs, and must be occupied by permanent employees.⁶⁸ Where jobs considered regular on the organogram are found to be occupied by non-permanent staff, such jobs must be resourced to permanent employment using the company's recruitment standards.⁶⁹ Outsourcing must be restricted to non-core business of the company except for proven short-term projects.⁷⁰

Only jobs considered not core to the business of the oil industry must be outsourced to contractors, and all jobs as shown in the company's organogram are deemed to be permanent jobs.⁷¹

2. Migration from Contract to Permanent Employment

Contract workers who meet company recruitment standards must be given the opportunity for regular employment when vacancies exist. Qualified contract workers must be given opportunities in line with the principal company's recruitment standards before such vacancies are advertised.⁷²

3. Unionisation

Every worker has a right to join a trade union and to bargain collectively. No employer, third party contractor or principal company, must hinder overtly or covertly the unionisation of workers.⁷³ All contract workers under a labour contract must belong either to NUPENG⁷⁴ or PENGASSAN⁷⁵ as appropriate.⁷⁶ The principal oil companies must endeavour to facilitate unionisation and collective bargaining by streamlining labour contractors especially where there are large numbers of such contractors.⁷⁷

Where a contractor supplies only personnel, it is deemed to be a labour contract.⁷⁸ Where the contractor supplies personnel with equipment, it is deemed to be a service contract.⁷⁹ All contract bid documents must clearly indicate whether a contract is a service or a labour contract.⁸⁰

⁶⁷ An organisational chart is a diagram showing the structure of an organisation and the relationships and relative ranks of its parts and positions/jobs.

⁶⁸ Part 1.1, *Guidelines on Labour Administration: Issues in Contract Staffing/Outsourcing in the Oil and Gas Sector*, (A Document of the Federal Ministry of Labour and Productivity), p.2, 25 May 2011.

⁶⁹ *Ibid.*, Part 1.3, p.2.

⁷⁰ *Ibid.*, Part 1:4, p.2.

⁷¹ *Ibid.*, Parts 1:1 and 1.2, p. 2.

⁷² Part 2.1, *Guidelines on Labour Administration: Issues in Contract Staffing/Outsourcing in the Oil and Gas Sector*, (A Document of the Federal Ministry of Labour and Productivity), p.3, 25 May 2011.

⁷³ *Ibid.*, Part 3.1 at p.5.

⁷⁴ National Union of Petroleum Gas Workers of Nigeria.

⁷⁵ Petroleum and Natural Gas Senior Staff Association of Nigeria.

⁷⁶ *Ibid.*, Part 3.2.

⁷⁷ *Ibid.*, Part 3.3.

⁷⁸ *Ibid.*, Part 3.6

⁷⁹ *Ibid.*, Part 3.7

⁸⁰ *Ibid.*, Part 3.8

4. Collective Bargaining

Collective bargaining must be between the relevant trade union and the workers' direct employers or the contractors' forum, and not the principal company.⁸¹ Contract agreements between the principal company and contractor companies must include a clause which empowers the principal company to deduct from the contract sum whatever is owed to the contract workers by the contractor in cases of default in the payment of wages and/or other agreed entitlements of the worker.⁸² Employers and employees alike must respect and uphold the sanctity of collectively bargained agreements.⁸³ Contract agreements between the principal/end user company and the contractor must make collective bargaining between contractors and their employees mandatory. This provision must be included in the scope of the contract.⁸⁴

Thoughts on the Way Forward

The issue of freedom of association has been the biggest issue so far for contract workers in the oil and gas industry. These *Guidelines* have made it mandatory for all contract workers to exercise the freedom to join a trade union. No employer must violate this right, and in addition, the user company must ensure that contractors comply. This is consonant with Ruggie's principles, which state that an organisation is responsible for the actions of its subsidiaries and contractors, and that it should take diligent care to ensure that its subsidiaries and contractors comply with the standards set by it and by municipal laws and international labour standards.⁸⁵

Prior to the *Guidelines*, contract workers could not negotiate their terms and conditions of service with their employers. In other words, it was a 'take it or leave it' situation. This guideline makes it mandatory for contract employees to bargain only with the contractor who is their employer, and not with the user company.⁸⁶ Furthermore, the user company must ensure that the contractor bargains with its staff by inserting this condition in their contract agreement. Other issues that have long been in contention include the withholding of contract workers' pay for as long as six months, and the refusal to make redundancy payments. However, this matter has now been addressed, and the user company is required to deduct this amount from the payment to the contractor in the case of default.⁸⁷

The *Guidelines* also provide that the contractors' relationship with their workers must be monitored by all relevant government agencies to ensure that Nigerian labour laws, as well as international labour standards, are strictly adhered to. It is hoped that this new development will ensure compliance on the part of the contractors, and strict monitoring on the part of NAPIMS⁸⁸ and other monitoring agencies.

On the other hand, the issue of equal pay for equal work has not been fully tackled. Although the *Guidelines* state that contractors should submit remuneration, training, and development plans

⁸¹ *Ibid.*, Part 4:1, at p.7.

⁸² *Guidelines on Labour Administration: Issues in Contract Staffing/Outsourcing in the Oil and Gas Sector*, (A Document of the Federal Ministry of Labour and Productivity), p.3, 25 May 2011, Part 4.2, p. 7.

⁸³ *Ibid.*, Part 4.3, p. 7.

⁸⁴ *Ibid.*, Part 4.4, p.7.

⁸⁵ ISO/FDIS 26000, *Guidance on Social Responsibility. Related Actions and Expectations*, p.35.

⁸⁶ This is in line with section 48(2) of the Labour Act 1974 which provides that the labour contractor is the employer of the contract worker.

⁸⁷ Part 4.2 *Guidelines on Labour Administration: Issues in Contract Staffing/Outsourcing in the Oil and Gas Sector*, (A Document of the Federal Ministry of Labour and Productivity), p.7, 25 May 2011.

⁸⁸ National Petroleum Investment Management Services

for their employees in accordance with extant national and labour laws,⁸⁹ there is nothing which specifically ensures equal pay for equal work for both permanent and contract employees working the same hours, having the same skills, and doing the same job. The issue of dismissal rights is another problem not addressed in the *Guidelines*, meaning situations in which casual workers are dismissed before the expiration of their contract and without severance benefits may continue.

Despite these inadequacies, the new *Guidelines* are a step in the right direction, but as they are ‘soft’ law⁹⁰ it is questionable whether they will be sufficiently effective to protect non-standard workers in the oil and gas industry. The *Guidelines* are likely to be ineffective because they are not enforceable in any court of law. What is needed is ‘hard’ law in the form of legislation, which will ensure that an employee whose rights have been violated can seek redress in the courts of law, and that where there is a breach, an appropriate sanction can be meted out.

As soft law is not legally binding, its norms are relatively easy to adjust to allow for a period of trial and error.⁹¹ In addition, although soft law may not be legally binding,⁹² it can serve as a basis for the creation or making of a new international treaty or domestic law. Soft law could also help provide a means for States to build consensus on a new regime prior to formalising a treaty or domestic law.⁹³ For instance, the *Guidelines* may serve as a platform for new legislation regulating and protecting non-standard work arrangements in Nigeria. Thus, as Timothy Meyer put it ‘soft legal agreements are those agreements that are not themselves legally binding but are created with the expectation that they will be given the force of law through either domestic law or binding international agreements (such as the Vienna Convention).’⁹⁴

CONCLUSION

This paper critically analysed the problems associated with non-standard work arrangements in the oil and gas industry in Nigeria vis a vis the solutions proffered by other jurisdictions such as the European Union, South Africa and Ghana through legislation. However, in Nigeria, where the situation has not been dealt with by legislation, employers have taken advantage, and exploited non-standard workers, maintaining non-standard work arrangements for their own best interests, but not necessarily for the best interests of their workers.

The EU Directive 2008/104/EC is a welcome development, and it is submitted that Nigerian policymakers and legislators should take a cue from the EU, and use Directive 2008/104/EC as a guide when drafting a bill to provide legal protection for those persons engaged in non-standard work arrangements. This will compel employers to stop the current exploitation of contract workers in Nigeria.

It is clear that the South African government has taken bold steps to protect workers from exploitation by actively amending labour law to cover all workers, including non-standard workers from exploitation. The issue now is to ensure that the governments, and its legislature, enact such laws to protect non-standard workers in Nigeria.

⁸⁹ *Ibid.*, Part 6.4 at p. 9.

⁹⁰ See further below.

⁹¹ Borgen, C., ‘Resolving Treaty Conflicts’ (2005) *George Washington International Law Review*, Vol. 37, p. 643.

⁹² *Ibid.*

⁹³ *Ibid.*

⁹⁴ Meyer, T., ‘Soft Law as Delegation’, (2009) *Fordham International Law Journal*, Vol. 32, No. 3, p. 906.

<<http://ssrn.com/abstract=1214422>> accessed 25 February 2013.

The new *guidelines* on outsourcing and contract labour by the Ministry of Labour even though it is a right step in the regulation and protection of non-standard work arrangements; it is still pertinent to address their obvious inadequacies using laws of other jurisdictions as a guide and then use them as a framework to enact a hard law in the form of a legislation to resolve the problems associated with contract labour in Nigeria.

THE IMPACT OF TEAM SPORTS ON ACADEMIC PERFORMANCE OF SECONDARY SCHOOL STUDENTS IN LAGOS STATE. A CASE STUDY OF ISL BASKETBALL TEAM

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ABSTRACT

Although several researches on sports and academic performance have mostly been carried out at the university level, there is no consensus on the impact of sports on academic performance. The purpose of this paper is to contribute to the body of knowledge by focusing on the impact of sports on academic performance of secondary school students with emphasis on team sports, specifically basketball. In order to do this the exploratory research method was adopted using both the quantitative and qualitative approach. The judgemental and snowball sampling techniques were used to select sample of students from Junior and Senior Secondary Schools in Lagos, Nigeria while descriptive statistics and t-tests, Median Test, Mann-Whitney U Test and Spearman's Rank Correlation were used for data analysis. It was discovered that there is no relationship between participation in basketball and academic performance of students in International Secondary School, Lagos (ISL). Also, that participation in basketball has no impact on the academic performance of students in International Secondary School, Lagos. Given these, we recommend that participation in sports should be incorporated in the school curricula of secondary schools as a major subject.

Keywords: Team Sports, Academic Performance, Secondary School Students, ISL

INTRODUCTION

Children are the future of any nation thus their mental and physical growth should be of great importance. Researches by scholars have shown that sport can help with the growth of children with reference to physical strength, skills, agility and alertness (Coleman, 1965). Participation in sports is an essential part of youth growth and is beneficial for societal development because sports contributes tremendously to youth development in the areas of improvement in health, peer relationships, building of trust, physical and mental skills (Sport Canada, 2003; Harvey, 2002; Abdul Sitra and Sasidhar, 2005) as well as leadership skills (Eppright, Sanfacon, Beck and Bradley, 1997). The concept, sport can be viewed as all forms of usually competitive physical activities which through casual or organized participation, are aimed at using, maintaining or improving physical ability and skills while providing entertainment to participants and in some cases spectators (Wikipedia, 2013a). We view team sports as any sporting activity which is engaged in as a group. Several authors have written papers on the correlations between sports and academic performance. And For over five decades they have debated on the effects of participation in sports on academic performance (Schley, 2002). However, there had not been a consensus on their findings (Din, 2006). For instance, while some scholars such as Jordan (1999); Yiannakis and Melnick (2001), Broh (2002), Sitkowski (2008) opined that sports is beneficial to achievement of academic objectives, others such as Marsh (1988) contended that

diminishing returns arises from the participation in too many sporting activities. Yet, others like Din (2006) believe that the consequences of participation in school sponsored sports activities are still not fully understood. Nevertheless, Din (2006) posited that involvement in sport was not necessarily detrimental to academic pursuits. Research by scholars such as Braddock (1981), well and Picou (1980) revealed that participation in sports had mixed effects on the grades of student. These notwithstanding, some scholars such as Griffith (2004) are of the opinion that "there is remarkably little research on the interplay of sports and academic achievement". This study sought to contribute to the body of knowledge by investigating the impact of team sports, specifically basketball, on academic performance of secondary school students, with a view of helping in the development of appropriate school curricula.

Statement of Problem

Scholars are not agreed on whether participation in sports is beneficial to achievement of academic goals. For instance, scholars such as Davis and Cooper (1934), Spreitzer (1977), Hanks (1979), Marsh (1992), Schley (2002), Schlessner (2004), Moriana, Alos, Alcalá, Pino, Herruzo and Ruiz (2006) opined that the relationship is positive, others such as Coleman (1965), Ogundari (1990), and Mohammad, Asif, Umar and Uzma (2012) viewed it as negative and still others such as Melnick, Sabo and Vanfossen (1992), Din (2006), Din, Ernst and Olczyk (2003), and Trudeau and Shephard (2009) believe that there is no relationship between these two variables. Given this background and the fact that in Nigeria there is presently dearth of research investigating the effects of sports on the academic performance of students, this study is embarked upon with a view to contributing to the available literature on sports and academic performance.

Purpose of Study

The purpose of this paper is to contribute to the body of knowledge by focusing on the impact of sports on academic performance of secondary school students with emphasis on team sports, specifically basketball. To this effect, this study sought to determine the relationship that exists between participation in team sports (basketball) and academic performance. The choice of Basketball as the focus of our study is premised on the fact that its profile is rising and fast becoming the second most played and followed sport in Nigeria after football. Other popular sports in Nigeria are boxing, running and dancing, (Africa Star News, 2013). Wikipedia (2013b) reported that Nigeria made history at the last Olympics in London (2012) by becoming the first men's basketball team in Africa to win a basketball game at the Olympics! Apart from these, basketball in Nigeria is one of the sports that corporate organizations have adopted for youth development as part of their Corporate Social Responsibility. And International Secondary School Lagos (ISL) UNILAG emerged as the national champions of the Milo Basketball Championship 2013.

Hypotheses:

- H₁: There will be no significant difference in grade point average (G.P.A.) of International Secondary School students who participate in basketball and those of students who do not participate in basketball.
- H₂: Participation in team sports (basketball) has no impact on academic performance of students in International Secondary School, Lagos.

LITERATURE REVIEW

Consequences of Participation in Sports on Academic Performance

Various scholars have carried out research on sports and academic performance, for instance Holland and Andre (1987) reviewed literature on extracurricular participation and adolescent development and found that there was a correlation between participation in extracurricular activities and academic abilities and grades, amongst others. Other researchers such as Castelli, Hillman, Buck, and Erwin (2007) concluded that there is a direct correlation between physical fitness and academic performance in third and fifth grade students, Paul and White (1990) In Umar, Shaib, Aituisi, Yakubu and Bada (2010) found that extracurricular activities and academic performance were highly correlated. Juan Antonio, Alos, Alcala, Jose Pino, Herruzo and Ruiz (2006) defined extra-curricular activities as complementary activities carried on within the school setting and generally under school auspices. According to them these could be academic like school lessons, music etc.; sports related; or cultural. However, and in this study, we view extra-curricular activities strictly as sports related since we are interested in investigating the relationship between sports and academic performance.

Negative Relationship Schools of Thought

Sports is regarded as an extra-curricular activity that requires time for training, practice and competition and by virtue of this may be perceived as a form of distraction from academic class work and as such participation in sports is counterproductive in the educational enterprise (Coleman,1965). This position was supported by Mohammad et al. (2012) who submitted that critics are of the opinion that it is not possible for students to achieve excellence and satisfaction in sports as well as in education given that participation in sports takes time away from the classroom and divert students' attention from study. In the same context, Sage (1967) opined that non-athletes achieved better grades and were more occupationally oriented at college than athletes. This is in consonance with Schlessor (2004)'s findings that studies by scholars in the 1960's revealed that athletic participation had a negative impact on academics. In a nutshell, these scholars are of the view that participation in school sports takes much of the study time of students, thereby affecting the quality of their educational attainment and eventually delaying their graduation (Ogundari, 1990).

No Effects/Relationship Schools of Thought

Melnick, Sabo and Vanfossen (1992), Din (2006), Din, Ernst and Olczyk (2003), and Trudeau and Shephard (2009) after reviewing several studies all arrived at the conclusion that the introduction of sport or physical education into the school curriculum has no striking effect on GPA. The study by Fisher, Juszczak, and Friedman (1996) found no relationship between participation in sports and academic performance. A study by Din (2006) also revealed that participation in school-sponsored sports activities did not affect the academic achievement for the participating rural high school students. In the same vein, the study of Melnick et al., (1992) also revealed that there was no relationship between participation in sports and academic performance as measured by grades and standardized test scores. Also, Lewis (2004), in her Meta-Analysis of the Relation between Extracurricular Activities with Academic and Social Competencies in School Age Children, discovered that Sports was not as strongly linked to academic achievement indicators as she anticipated. These clearly are in support of Din (2006)'s conclusion that participation in team sports either has a small positive impact or does not have impact on academic achievement and that since there is no sufficient evidence to make a

definitive conclusion on the consequence of sports on academic achievement there is a need to conduct further study for a better understanding of this impact issue. This concurs with the views of Taras (2005).

Positive Relationship Schools of Thought

Although several scholars have investigated the relationship between sports and academic performance, the first to report a positive relationship between these two variables, according to Trudeau and Shephard (2008), were Davis and Cooper (1934). Juan Antonio et al. (2006) discovered that first- and second-year pupils in secondary schools involved in extra-curricular activities had better performance than those who were not. Schlessler (2004) also learnt that participation in sports had a positive relationship with academic standing of Middle School Students and that the additional time spent on sports is positively associated with the students' grades. In the same vein, after reviewing literature Schley (2002) arrived at the same conclusion with Silliker and Quirk (1997) and the National Federation of State High School Associations (NFHS, 2002) that participation in sports enhances academic performance. Marsh (1992) also found that participation in extracurricular activity can increase academic achievement. Furthermore, the study by Broh (2002) revealed that participation in sport has a positive effect on academic achievement while the study by Jordan (1999) showed that there was a positive intervening relationship between participation in sports and academic achievement. Abdul Sitra and Sasidhar (2005) found that students who actively participate in co-curricular activities are found to be more competent. Furthermore, Field, Diego, and Sanders (2001) found out that grade point average was higher in students that exercised more frequently. This is supported by Mynell (2004) who opined that more involvement in school activities means a better grade point average. Studies by Spreitzer (1977) and Hanks (1979) showed that there was a positive relationship between participation in extracurricular activities and educational expectations and aspirations. The study by Yiannakis and Melnick (2001) revealed that participation in high school sports has positive effects on grades. Studies have also revealed that participation in sports has a positive relationship with academic performance as measured by overall Grade point average (GPA) (American Sports Institute, 1996). Trudeau and Shephard (2008) also supported the view that sports has a positive effect on academic performance, concentration, memory, classroom behaviour and intellectual performance and enhances efficiency of learning. They also used GPA as a measure of performance. Sitkowski (2008) carried out an extensive literature review while studying the academic performance of athletes in season and out of season and concluded that participation in sports has a positive impact on academics. In the same vein, Jeroh (2012) in his study discovered that there was a significant positive impact of intercollegiate sports on the overall academic achievements of undergraduates in selected Nigerian universities. On their own part, Abdul Sitra and Sasidhar (2005) discovered that participation in co-curricular activities has a significant positive effect on academic competency. While the CDC (2010) examined 50 studies in order to investigate the association between school-based physical activity, including physical education, and academic performance and discovered that out of all the associations examined, slightly more than half (50.5%) were positive, 48% were not significant, and only 1.5% were negative. It was also discovered that out of these 50 studies 19 specifically examined the relationships between participation in extracurricular physical activities and academic performance and all of them found one or more positive associations. From the above review of literature we can infer that though there is no consensus on the impact of sports on academic performance, most of the works reviewed reveal that most scholars believe

that there is a positive relationship between sports and academic performance we want to see if this is so in the Nigerian context especially with regards to team sports, specifically basketball which is the second most popular team sports in Nigeria.

METHODS

Research Design and Procedure

This study adopted the exploratory research method using both the quantitative and qualitative approach. In actualizing this, we adopted an almost similar research approach as that used by Din (2006) in his study. However, while Din (2006) used convenience sampling procedure, we used judgemental and snowball sampling procedures. Also, while he studied seven team sports (namely: basketball, football, baseball, track, volleyball, cheerleading and softball) we used basketball as our case study given that basketball is the second most popular sport in Lagos and it is an emerging team sports in secondary schools in Nigeria. Furthermore, while Din (2006) focused on four school subject areas we used the whole subject areas offered by the students in Nigerian junior and senior secondary schools. And like Din (2006) we made use of existing grades from the school records and we did not in any way influence the grades since they were all obtained from the available computerized school records nor did we have any influence on the students and the team composition. However, in addition we also obtained data directly from the students through the use of questionnaires.

Sample Elements

A sample of 100 JSS and SSS students were selected using the judgemental and snowball sampling techniques from a population of 2016 Junior and Senior secondary school students in the University of Lagos International Secondary School. The judgemental sampling method was used to obtain the list of students who participate in basketball from the coach while snowball sampling method was used to obtain the list of the other students who do not participate in basketball.

Operationalization and Measurement of Variables

Different scholars have given various definitions of academic performance; for instance Bell (2013) defined Academic Performance as how well a student meets standards set out by government and the learning institution itself. For the purpose of this study we adopted the CDC (2010) definition of academic performance as Academic Achievement which is measured by the GPA (Grade Point Average) of the students. Thus, the dependent variable of the study is Academic Performance and it was measured using the Grade Point Average (GPA) while the Independent variable is participation in team sport, this was measured by participation in basketball.

Data Collection

Data was gathered over a period of nine months from the school records and self-completion questionnaires. The instrument was validated through content analysis while reliability was determined using Cronbach Alpha. The Cronbach Alpha (α) for this study was 0.8 which complies with the acceptable range $\alpha \geq 0.7$ (Girden, 2001). The data obtained from the school records were the grade point average scores of the respondents covering second term 2012/13 to first term 2013/14. The point grading scale of the school was based on the grade system of A= 80+; B= 70-79; C= 60-69; P= 50-59 and F = 49 and below.

Data analytical Procedure

The data collected were analyzed using IBM Statistical Package for Social Sciences (SPSS- Version 20). The analysis of the data gathered from the respondents was analysed separately according to the groups (Those that participate in basketball {participants} and those that do not participate in basketball {non-participants}). Descriptive statistics, specifically frequency distributions, percentages and means, were used to analyse the data gathered while the Student's t-test, Median Test, Mann-Whitney U and Correlation analysis were used to test the hypotheses contrary to that used by Juan Antonio et. al. (2006) given that our study focused on two groups of respondents and the type of data gathered (subjective data based on respondents' perceptions and objective data based on grade point averages (GPA) from computerized school records).

RESULTS AND DISCUSSION

Response Rate and Respondents' Profile

A total of one hundred (100) copies of questionnaires were administered and seventy eight (78), that is, 78% were retrieved and used for the analysis. Most of the respondents are male, between the 12-19 years of age, and are in Senior Secondary School.

Hypotheses Testing

The Student's t-test for two-Sample Assuming Unequal Variances was used to test H_1 at the 0.05 level of significance using the objective data while the Median and Mann-Whitney tests were used to test H_1 based on the subjective data. Results of all tests {t-Test: ($\rho^{2nd}=.211$; $\rho^{3rd}=.225$; $\rho^{1st}=.247$); Median Test: ($\rho^{2nd}=.729$; $\rho^{3rd}=.574$; $\rho^{1st}=.909$) and Mann-Whitney U Test ($\rho^{2nd}=.635$; $\rho^{3rd}=.529$; $\rho^{1st}=.962$) show that all the p values were greater than 0.05 therefore H_1 is accepted. Hence, there will be no significant difference in grade point average (G.P.A.) of International Secondary School (ISL) students who participate in basketball and those of ISL students who do not participate in basketball.

The Spearman's Rank Correlation was used to test H_2 at the 0.05 level of significance. The results of the Spearman's rho correlation coefficients reveal that all the computed significant values ($\rho^1=.806$; $\rho^2=.903$ $\rho^3=.315$; $\rho^4=.121$) were greater than 0.05, therefore H_2 is accepted. Hence, Participation in team sports (basketball) has no impact on academic performance of students in International Secondary School, Lagos.

CONCLUSION

The results of the Student's t-test, the Median and Mann-Whitney U Tests reveal that H_1 is accepted hence there is no significant difference in grade point average (G.P.A.) of International Secondary School students who participate in basketball and those of students who do not participate in basketball. Also, the fact that H_2 was also accepted signifies that Participation in team sports (basketball) has no impact on the academic performance of students in International Secondary School, Lagos. Therefore, it can be concluded that there is no relationship between participation in basketball and academic performance of students in International Secondary School, Lagos. Also, that participation in basketball has no impact on the academic performance of students in International Secondary School, Lagos.

The outcome of our study is in support of the no effects/relationship school of thought; thereby supporting Trudeau and Shephard (2008)'s view that physical activity can be added to the school curriculum by taking time from other subjects without risk of hindering student academic

achievement. And clearly contradicts Coleman (1965)'s assertion that athletes detract from scholastics.

Implications

The outcome of this study will help in policy formulation in the academic environment. This is because the results of our study further supports previous research that has shown that secondary school administrators can develop or continue school-based sports programs without concern that these activities have a detrimental impact on students' academic performance (CDC, 2010). Thus, sports can be included in the curricula of Secondary Schools in Lagos thereby impacting on human development.

RECOMMENDATIONS

Based our findings, we recommend that students in secondary schools should be encouraged to participate in basketball and other sporting activities. This is because research has shown that physical activity has positive influences not only on intellectual performance but also on concentration, memory and classroom behaviour (Trudeau and Shephard, 2008). Therefore, participation in sports should be incorporated in the school curricula of secondary schools as a major subject since, as posited by Din (2006), involvement in sport is not necessarily detrimental to academic pursuits.

FURTHER STUDIES

Our study is a preliminary study into the impact of team sports on academic performance. To have more insight into this phenomenon we suggest that a longitudinal study of a period of three to four years could be conducted on this same topic in order to isolate team sports and performance with a view of determining the causal influence of team sports on academic performance. To this effect, we suggest that secondary school students who do not take part in any sports should be encouraged to take part in basketball and their performance should be measured over the years.

ACKNOWLEDGEMENTS

We acknowledge the contribution of Dr Adeleke Ismaila A., who helped with brainstorming, selection and application of some of the data analytical tools for our study. We also, appreciate the management of ISL and all the respondents for their support and cooperation.

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NATIONAL HEALTH INSURANCE SCHEME: HOW EFFECTIVE SO FAR? (A CASE STUDY OF LUTH)

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ABSTRACT

The effect of National Health Insurance Scheme (NHIS) on health care delivery of Nigerians remained largely untested till date especially in the area of level of awareness of health takers of the scheme, quality of health care delivered, cost implication, benefits and effectiveness of the entire scheme. This necessitated the reason why this research was carried out in order to find out the effect of National Health Insurance Scheme (NHIS) on Health care delivery of Nigerians using a Teaching Hospital in Lagos as a case study. A survey research was carried out involving 200 questionnaire, equally distributed randomly between the healthcare-giver and the patients—(100 each for both population of interest). Data obtained were subjected to correlational analysis.

The result indicated that there is significant relationship between National Health Insurance Scheme (NHIS) and the quality of health care delivered to the Nigerian citizenry. Furthermore, benefit derived and programme effectiveness had negative correlation on health care delivery of both patients and health givers. Meanwhile, the quality of health care delivered and cost implication of receiving treatment had a positive correlation with health care delivery. It was recommended that there is a need to create more awareness and education on the total package of the scheme. In addition, managers should improve the effectiveness of the programme through increase coverage for hitherto-exclusion in the scheme in a timely manner.

Keywords: Healthcare, Insurance, Nigeria, Effectiveness, LUTH.

INTRODUCTION

The start of the 21st century witnessed a renewed effort at health sector and health financing policy reforms in Nigeria. The National Health Insurance Scheme (NHIS), which commenced in 2005, is the most notable of these reforms. Despite these efforts, many Nigerians are yet to feel the impact and Nigeria is faced with the challenge of expanding the NHIS to cover the large and mainly poor informal sector

Healthy population and indeed work force are indispensable tools for rapid socio-economic and sustainable development the world over. Despite this indisputable fact, in Nigeria like most African countries, the provision of quality, accessible and affordable healthcare remains a serious problem (WHO, 2007a; Oba, 2008; Omoruan, Bamidele & Philips, 2009). This is because the health sector is perennially faced with gross shortage of personnel (WHO, 2007a), inadequate and outdated medical equipment (Yoheor, 2004; Johnson & Stoskopf, 2009), poor funding (WHO, 2007a&b), policies inconsistency (Omoruan, Bamidele & Philips, 2009) and corruption (Oba, 2008). Evidence shows that, only 4.6 percent of both public and private Gross Domestic Product (GDP) in 2004 was committed to the sector (WHO, 2007a,b&c). Other factors that

impede quality health care delivery in Nigeria include inability of the consumer to pay for healthcare services (Sanusi & Awe, 2009). There was gender bias due to religious or culture beliefs (NCBI, 2009) and inequality in the distribution of healthcare facilities between urban and rural areas (Omoruan, Bamidele & Philips, 2009). Sequel to the aforementioned, the country is continually ranked low in healthcare delivery by international organizations.

In 2000 for instance, WHO report on healthcare delivery ranked Nigeria 187 out of 191 countries (Wikipedia, 2009); eight years later, Human Development Report 2007/2008, ranked the country 158 out of 177. In 2005 only 48 and 35 percents of the children within the ages of zero-to-one year old were fully immunized against tuberculosis and measles respectively. Between 1998 and 2005, 28 percent of the children within the ages of 5 years who suffered from diarrhea received adequate treatment. Between 1997 and 2005 only 35 percent of births in Nigeria were attended by skilled health personnel. Furthermore, between 2000 and 2004, only 28 percent of Nigerians in every 100,000 persons had access to physicians (UNICEF, 2006; World Bank, 2007; UNDP, 2008). While the situation in the health sector persists, Nigeria continually loses her professional to other countries. It was reported in 1986 that more than 1,500 health professionals left Nigeria to other countries. In 1996, UNDP report revealed that 21,000 medical personnel were practicing in the United States of America and UK, while there was gross shortage of these personnel in the Nigerian health sector (Akingbade, 2006).

The health situation in the country shows that only 39 percent in 1990 and 44 percent of Nigerians in 2004 have access to improved sanitation. In 1990/92 and 2002/04, 13 percent and 9 percent of Nigerians were undernourished respectively (UNDP, 2008). HIV prevalence in Nigeria within the ages of 15 to 49 years was 3.9 percent in 2005 (UNAIDS, 2006). In an attempt to address the precarious and dismal situation in the health sector, and to provide universal access to quality health care service in the country, various health policies by successive administration were made including the establishment of primary health care centres, general and tertiary hospitals.

The perennial health problem informed the decision of Gen. Abdulsalami Abubakar on May 10, 1999, to sign into law the National Health Insurance Scheme (NHIS) Decree Number 35 (NHIS Decree No. 35 of 1999); with the aim of providing universal access to quality healthcare to all Nigerians. NHIS became operational after it was officially launched by the Federal Government in 2005 (Kannegiesser, 2009). More than four years of NHIS existence in Nigeria, opinion is polarized among Nigerians on the efficacy of the scheme in addressing the health problem in the country, because of disheartening reports in the continual health situation.

Meanwhile, the global perspective of health insurance scheme, according to the (WHO 2000) health is a state of complete physical, mental and social well being and not just the absence of disease or infirmity. This definition looks like an aberration in Nigeria and if we go strictly by it, no Nigerian can be said to be a healthy client for the insurance industry. Every country strives to provide for its citizens affordable and accessible healthcare. In South Africa for instance, there is no nationally operated public health insurance scheme. Yet, they can boast of better health indices than Nigeria. They have private health insurance schemes that are affordable, well developed and functioning effectively and efficiently (Gana, 2010).

Statement of the Problem

The health system, like the rest of Nigerian public systems is plagued by inadequate budgetary allocations, inefficiency and inequity in distributing available resources, rapid population growth, emergence of new diseases especially HIV/AIDS pandemic, and persistence of old diseases (Abdulraheem et al, 2012).

Data from the NHIS in 2011 shows 5% of the population are registered on the scheme (NHIS 2012b).

Majority of those covered are in the employment of the federal and state governments and live in the urban areas (Lawan et al, 2012). More than 60% of Nigerians belong to the informal sector and live in rural areas on less than \$1 a day (as cited by UPI, 2012). They cannot afford good quality health care, yet have limited financial access when faced with health challenges. Out-Of-Pocket (OOP) financing of health, remains high at about 95.3% of the private expenditure on health (PvtHE) in 2010 (PvtHE as a percentage of Total Health Expenditure{THE} was 62.1% in 2010), and usually has a catastrophic effect on the poor. Many Nigerians have lost their lives due to their inability to meet this need (Lawan et al, 2012). NHIS are usually designed to significantly cater for the welfare of the citizens and especially the less privileged in the society (Kutzin, 2001). The scheme has been in operation since 2005 and the target date for achieving universal health coverage is 2015. The World Health Report (WHR) of 2010 has noted that countries that depend on OOP payments for health will be unable to achieve universal health coverage (WHO, 2010).

The question at this point is that, has the NHIS scheme truly achieved the purpose of effective health care delivery among Nigerians? To proffer answers to this interesting question, there are certain objectives this research will try to achieve.

The main objective of this research is to find out the impact of national health insurance scheme on effective health care delivery among Nigerians. Other specific objectives include:

- I. To look at the level of awareness of the NHIS among citizens;
- II. To determine the quality of health care delivered to Nigerians under the Platform of NHIS scheme.
- III. To ascertain the cost implication of the health care delivered to Nigerians under the coverage of this NHIS scheme.
- IV. To determine the benefits of NHIS to stake holders under the NHIS cover in Nigeria.
- V. To make recommendations to the government and key stakeholders for achieving universal health coverage using the NHIS as a tool

In order to further consolidate our findings on impact of national health insurance scheme on effective health care delivery among Nigerians, there is a need for us to proffer solutions to the following research questions:

- I. What is the level of awareness of Nigerians about the NHIS?
- II. Does the national health insurance scheme have any effect on health care delivered to Nigerians?
- III. What is the quality of health care delivered to Nigerians under the Platform of NHIS scheme?
- IV. What is the cost implication of the health care delivered to Nigerians under the coverage of this NHIS scheme?

- V. What is/are the benefits of NHIS to stakeholders under the NHIS cover in Nigeria?
- VI. What are the recommendations to be given to the government and key stakeholders for achieving universal health coverage using the NHIS as a tool?

Research Hypotheses

In order to keep this research focus (impact of national health insurance scheme on effective health care delivery among Nigerians), the following research hypotheses will be verified:

- a) There is no significant relationship between the national health insurance scheme and effective health care delivery among Nigerians.
- b) There is no significant difference in the quality of health care delivered to Nigerians under the Platform of NHIS scheme and those who are not.
- c) There is no significant relationship between the cost implication and quality of the health care delivered to Nigerians under the coverage of this NHIS scheme.

The NHIS in Nigeria like in other middle income countries has the potential to be a successful health financing model. In a nation of roughly 168 million people, available data shows that the scheme only provides cover for about 7 million people (NHIS, 2012b).

In Nigeria, there is a past trend of ineffective implementation of government schemes. This has informed a general negative perception and attitude among the people towards such schemes regarding their success, effectiveness, and sustainability. The African Union (AU) Abuja declaration of 2001 recommended a budgetary allocation of at least 15% of the General Government Expenditure (GGE) to improve the health sector. This agreement has not been met by the Nigerian government and the proposed General Government Expenditure on Health (GGHE) for 2012 is 6 % (Presidency Nig, 2012). Good governance has been lacking in implementing health sector and other social schemes, and funding the health system.

Research carried out in other developing countries shows that four out of five cases of bankruptcy are due to mounting or catastrophic health care bills (Gottret et al, 2008). High costs of medical care, especially when hospitalization is needed, are a burden that can tip individuals and their families into financial catastrophe (Xu et al, 2005). This is a situation that many similar socially and economically constructed countries like China, Taiwan, Chile, Brazil, South-Africa and near-by Ghana are taking concrete steps to eliminate through a well-structured healthcare financing system (Gottret et al, 2008 & Okma et al, 2010).

To place the present study in proper perspective, the rest of the paper is structured as follows: Section 2 focuses on review of relevant literature. Section 3 dwells on the methods. Section 4 deals with results while section 5 discusses the findings. Section 6 concludes with recommendations.

LITERATURE REVIEW

Overview of the Nigerian Health System

The Minister of health heads the National Council on Health (NCH), which coordinates the activities of the federal and state ministries (FMOH/SMOH), and health agencies including the NHIS. Public and private sector providers who are regulated by the ministries and local

government departments of health (LGDH) deliver health care. Broadly, the providers use modern and traditional (including faith healing) methods of health care delivery (FMOH, 2004).

Public hospitals include federal government administered tertiary hospitals which are mainly university teaching hospitals, federal medical centres and other specialist hospitals (e.g. orthopaedics hospitals, neuropsychiatry hospitals and national hospital). Others are state-owned general hospitals, government owned staff hospitals and clinics, LGA health centres and village health posts (FMOH, 2007). International non-governmental organizations also partner with the public sector in delivering some vertical health services like TB control, malaria control and HIV/AIDS programmes (JCIE, 2009).

The private health sector has evolved into a serious player in healthcare services delivery, especially in urban areas. They are generally split into for-profit and not-for-profit organizations and can be found in all major cities and towns nationwide. They vary widely in structure and include traditional healers, patent medicine vendors, retail pharmacies, maternity homes, company clinics, sole or group owned private general and specialist hospitals, local non-governmental hospitals, and faith-based organization general and specialist hospitals (Ogunbekun et al, 1999). About two thirds (2/3) of the population are rural dwellers and there is a wide disparity in access to basic amenities and priority health services between rural and urban populations.

Historical Background of NHIS in Nigeria

NHIS was first introduced in Nigeria in 1962, during the First Republic (Johnson & Stoskopt, 2009). The scheme then was compulsory for public service workers. The operation of NHIS was obstructed following the Nigerian civil war. In 1984, the Nigerian Health Council resuscitated the scheme and a committee was set up to look at the National Health Insurance. And in 1988, the then Minister of Health Professor Olikoye Ransome Kuti commissioned Emma-Eronmi led committee that submitted her report which was approved by the Federal Executive Council in 1989. Consultants from International Labour Organization (ILO), and United Nations Development Programme (UNDP) carried out feasibility studies and come up with the cost implication, draft legislature and guide lines for the scheme.

In 1993, the Federal Government directed the Federal Ministry of Health to start the scheme in the country (Adesina, 2009). In 1999, the scheme was modified to cover more people via Decree No.35 of May 10, 1999 which was promulgated by the then head of state, Gen. Abdulsalami Abubakar (Adesina, 2009; NHIS Decree No. 35 of 1999).

The decree became operational in 2004 following several flagged off; first by the wife of the then president, Mrs Stella Obasanjo on the 18th of February 2003 in Ijah a rural community in Niger State, North Central Nigeria. Since the Rural Community Social Health Insurance and the Under-5 children Health Programmes of the NHIS scheme were flagged up by the First Lady, other flagged offs were carried out in Aba, Abia State South East Zone among others (Office of Public Communications, 2006). As of September 2009, 25 states of the Federation agreed to partner with NHIS. These include- Akwa Ibom, Rivers, Edo, Taraba, Adamawa, Kaduna, Zamfara, Kebbi, Sokoto, Katsina, Nassarawa, Anambra, Jigawa, Imo and Kogi States. Others include Bauchi, Ogun and Cross River States; these states

are at various stages of implementation of the scheme (NHIS, 2009). Hence, the events that gave rise to NHIS in Nigeria can be summarized as follows:

- The Bill on the introduction of a NHIS was first introduced to parliament in 1962 but this was not approved
- The idea of NHIS re-emerged in the 1980s
- The National Council on Health commissioned a study on NHIS in 1984
- Report of the study was submitted in 1989 and directive was given to the Federal Ministry of Health to start the NHIS in 1992
- The formal launching of the scheme was performed in 1997 by Gen. Sanni Abacha, the then Military head of state
- An enabling law was promulgated in 1999
- Some sporadic activities were carried out from 1999 to 2004
- The scheme kicked off in earnest in May 2005 under the Government of Chief Olusegun Obasanjo.

The Concept of Health Insurance (HI)

Health insurance is insurance against the risk of incurring medical expenses among individuals. By estimating the overall risk of health care and health system expenses, among a targeted group, an insurer can develop a routine finance structure, such as a monthly premium or payroll tax, to ensure that money is available to pay for the health care benefits specified in the insurance agreement (). The benefit is administered by a central organization such as a government agency, private business, or not-for-profit entity. According to the Health Insurance Association of America (2014), health insurance is defined as "coverage that provides for the payments of benefits as a result of sickness or injury. It includes insurance for losses from accident, medical expense, disability, or accidental death and dismemberment" The term **health insurance** is commonly described as any program that helps pay for medical expenses, whether through privately purchased insurance, social insurance or a social welfare program funded by the government. Synonyms for this usage include "health coverage," "health care coverage" and "health benefits."

In a more technical sense, the term is used to describe any form of insurance that provides protection against the costs of medical services. This usage includes private insurance and social insurance programs such as Medicare, which pools resources and spreads the financial risk associated with major medical expenses across the entire population to protect everyone, as well as social welfare programs such as Medicaid and the State Children's Health Insurance Program, which provide assistance to people who cannot afford health coverage.

In addition to medical expense insurance, "health insurance" may also refer to insurance covering disability or long-term nursing or custodial care needs. Different health insurance provides different levels of financial protection and the scope of coverage can vary widely, with more than 40 percent of insured individuals reporting that their plans do not adequately meet their needs as of 2007.

On the other hand, Social Health Insurance (SHI) is a system of financing health care through government regulations. It is a form of mandatory insurance scheme (normally on a national scale). It provides a pool of funds to cover the cost of health care and it also has a social equity function which eliminates barriers to obtaining health care services contributions to an insurance

fund that operates within a tight framework of at the time of need especially for the vulnerable groups. In SHI, every citizen is required to contribute. Governments may contribute on behalf of the poorest and the unemployed; employers also usually contribute on behalf of their employees. The Nigerian government established the National Health Insurance Scheme (NHIS) a form of SHI, under Act 35 of 1999 with the aim of improving access to health care and reducing the financial burden of out-of-pocket payment for health care services. The NHIS became operational in 2005.

National Health Insurance (NHIS) In Nigeria

The Nigerian NHIS is a Social Health Insurance Programme (SHIP) which combines the principles of Socialism (being one's brother's keeper, common good of all) with that of Insurance (pooling of Risks and resources). It is a body corporate with perpetual succession established under Act 35 of 1999 to provide Social health Insurance (SHI) in Nigeria whereby the Health care services of the contributors are paid for from the pool of fund contributed by participants in the Scheme. The goal of NHIS- is to improve the health status of Nigerians as a significant co-factor in the national poverty eradication efforts.

The mission of NHIS is to undertake a government led comprehensive Health sector Reform aimed at strengthening the National public and private Health System to enable it deliver effective, Efficient, qualitative and affordable Health Services. The objectives of the scheme thus include:

- i) ensure that every Nigerian has access to good health care services
- ii) protect Families from the financial hardship of huge medical bills
- iii) limit the rise in the cost of healthcare services
- iv) ensure equitable distribution of healthcare costs among different income groups
- v) ensure high standard of healthcare delivery to Nigerians
- vi) ensure efficiency in healthcare services
- vii) improve and harness private sector participation in the provision of healthcare services
- viii) ensure equitable distribution of health facilities within the federation
- ix) ensure appropriate patronage of levels of healthcare
- x) ensure the availability of funds to the health sector for improved services.

In order to ensure that every Nigerian has access to good health services the NHIS has developed various programmes to cover different segments of the society. These are stratified as follows:

Health Financing In Nigeria

In Nigeria, successive governments realized the need to structure the funding of health care services as one of the ways to improve health care provision (Gilbert et al 2009). By 1999, the NHIS was established under decree no. 35 by the government and the first phase rolled out in 2005 (NHIS Decree 1999 & NHIS 2012b). The mandate of the scheme is "to provide easy access to qualitative, equitable and affordable healthcare via various pre-payment mechanisms" (NHIS Decree 1999). Ultimately, universal health coverage should be achieved by 2015 (NHIS Decree 1999). Notably, seven years after its establishment, mainly the formal sector social health insurance scheme has commenced (Lawan et al, 2012). The large and mainly poor informal sector of the population remains largely excluded despite the existence of a roll-out operational guideline to achieve nation-wide enrolment (Lawan et al, 2012). There remains a challenge to extend the scheme to those who need it the most in Nigeria.

Insurance is a tool for healthcare financing that comes in different models. These different models are in use by many countries to fund healthcare. Evidence shows that insurance is a useful and sustainable means for financing the structure and delivery of healthcare world-wide. (Gottret et al, 2008 & Okma et al, 2010). This thesis is a literature review that aims to describe the evolution of health financing policies for funding basic health services across all social levels in Nigeria. In addition, Comparison of successfully implemented health insurance schemes in similar middle income countries will also be made and policy implementation analyzed. The analysis and discussion will be structured around the World Health Organization (WHO) Organizational Assessment for Improving and Strengthening (OASIS) health financing conceptual framework (Carrin et al, 2008; Mathauer & Carrin, 2010). Sufficient revenue collection for health financing is very important, but this is not enough to achieve universal coverage. The earmarked resources must be efficiently and effectively pooled and allocated to purchasing of services.

Pre-payment is critical in this wise, so also is the sustainability of the risk pooling. Pre-payment allows the establishment of health insurance whereby the beneficiaries pay a predetermined amount (or have the amount paid on their behalf) and are protected against future unpredicted health care expenses. This pre-payment also serves as a means to utilize more efficiently the high levels of OOP for health common in middle income countries like Nigeria (Gottret, 2008). Four means are available to ensure effective risk pooling for more efficient and equitable purchasing of health services and each has its merits and de-merits.

Governments have adopted one method or a mix of the four, and based on equity, efficiency, sustainability, cost and feasibility of administration. Where more than one method is adopted, equity and efficiency are improved by avoidance of duplication of efforts and unnecessary fragmentation (Gottret, 2008).

METHODS

The target population under study include health givers (registered doctors, nurses, nursing attendants etc) and health takers (patients that are registered under the scheme) using Lagos University Teaching hospital (LUTH) as a case study. According LUTH NHIS register for patients reads about 1000 candidates, the sum of licensed doctors, nurses and other health attendance was 1,825. For the purpose of this study, a sample size of 200 (made of patients (100) and health attendance (100) were randomly selected from a stratified population with the usage of questionnaire. In order to ensure a good representation of the entire population in the statistical sample, a stratified random sampling method was employed. By so doing a good representation of the different department in which employee work is gotten. Haber and Riechel (2005), describes a stratified sampling as a sampling technique that ensure good representation of a subgroups within a population based on their proportion in the particular population. The advantage of stratified sampling is that resulting sample will be distributed in the same way as the population in terms of the stratifying criterion. The major, reason for adapting this method of sampling is because it provides a good representation of the entire targeted statistical population.

RESULTS

Larger percentage of the respondent falls within the age category 30-39years for patients, 44% and health-givers 72%. In both instances, the percentage of males were more than females. Most of the respondents were married, 67% patients and health givers 66%. Most patients (51%) had HND/BSC/, while the health givers, 91% had MSC/MBBS/PHD. Analysis also reveals only

4% of the patients and health givers earn above N250, 000. In terms of working experience, 70% of the health givers had 6-15years working experience and none of them had 26-35 years' experience. For patients, 8% had 25-35years working experience and 20% of them have 16-25years experience.

There was low negative significant relationship between health care delivery and benefits derived from the NHIS scheme, $r = -.288$, $N=100$, $P>0.05$. NHIS Effectiveness had a negative correlation with other variables such as: health care delivery, benefits and exclusion of NHIS, level of awareness of NHIS at r values; $-.142$, $-.102$, $-.203$, $-.224$ and -0.52 respectively. In addition, correlation analysis shows that there was positive significant relationship between the level of awareness of NHIS and quality of health care delivered to patients underneath the coverage.

The relationship between the challenges of health care delivery and the quality of health care delivered from the view point of the health givers was also examined. Result shows a weak positive relationship between the variables at $r=.104$, $N=100$. Furthermore, the relationship between effectiveness of NHIS and quality of health care delivered to Nigerians and also shows there is a weak positive relationship between the variables.

DISCUSSION

The outcome of this research has a number of important implications for patients under the coverage of NHIS, health givers, government and other stakeholders. For instance, in this research correlation analysis shows that there was positive significant relationship between the level of awareness of NHIS and quality of health care delivered to patients underneath the coverage. This result correlates with the findings of Agba (2010), who carried out a research among Registered Staff in Federal Polytechnic, Idah, Kogi State Nigeria on Perceived Impact of the National Health Insurance Schemes (NHIS). He found out that there is enough awareness of the scheme among registered members and this was reflected in the 100 percent of the respondents who indicated that they are aware of the existence of the scheme.

Obembe (2009) stated that since inauguration of National Health Insurance Scheme (NHIS) in Nigeria in 2005, the scheme had only covered four percent of the citizenry, Also in his statement, "NHIS is not as elitist as people think because it is actually meant for the community, that is where 70% of the Nigeria population belongs". Based on the findings of this research, it is clear that most Nigerians are becoming much more aware of the programme compared to when it first started of which there were misconceptions about the scheme.

Despite the level of awareness of the respondent, this research shows that most, 70% of the respondents are not aware of the exclusions in the scheme such as: occupational or industrial injuries, radiologic investigations like computerized tomography (CT) scan, magnetic resonance imaging (MRI), epidemics, cosmetics surgeries, open heart surgeries, neurosurgeries.

Meanwhile, 55% of respondents that were aware of the exclusions in the scheme still desire for some of the items on the NHIS exclusion list to be included. The possibility of this craving is in doubt according to Johnson & Stoskopt (2009), they opined that NHIS is impeded by obsolete and inadequate medical equipment and that the entire country suffers from perennial shortage of modern medical equipment such as X-rays, computerized testing equipment and sophisticated scanners e.t.c. This observation, correlates with the perception of the health-givers as discovered in the study, where unavailability of required services ranked highest as a component of ineffectiveness of the scheme among others.

The World Bank (2008) survey on the scheme shows that only one million people in Nigeria or 0.8 percent of the population are covered by NHIS, while many persons have to pay for medical care out of their pockets or do without healthcare. The report further reveals that many low-income persons would not benefit from NHIS for at least another 10 years. This forecast by WHO correlates with the findings of this research. Result from this research shows that there was low negative significant relationship between health care delivery and benefits derived from the NHIS scheme. In other words, despite the supposed quality service offered to Nigerians underneath the coverage of the NHIS scheme, patients claim that they have not benefited much from the scheme even after 9 years of its establishment.

In a recent development, an Infant mobile National Health Insurance Scheme (NHIS) was formulated by NHIS management championed by MTN Nigeria. In which subscribers will have access to standard and convenient health insurance cover on a pre-paid basis and could choose their Health Management Organisations (HMOs) and retainer hospitals, using their mobile phones for a range of pre-defined medical treatments as little as N250 weekly premium (N1,000 monthly and N12,000 yearly).

While government officials at several fora, have bandied the mandate to cover 30 percent of Nigerians (about 48 million) by 2015, this research exposes the under-utilization of the mass media in the quest for effective healthcare delivery as reflected in the low percentage of awareness under media information.

In the hypothesis testing, NHIS effectiveness had a negative correlation with other variables such as: health care delivery, benefits and exclusion of NHIS, level of awareness of NHIS at r values; $-0.142, -0.102, -0.203, -0.224$ and -0.52 respectively. Significant proportion of doctors and patient indicated that out-of-pocket means of financing health remains effective with about 49% of both respondents in support of the Social Health insurance (NHIS), as an health financing scheme. This does not reflect ready acceptance of the scheme giving the less than 50% approval from both respondents. All the result of the findings shows that the scheme is ineffective even after 9 years of it establishment. Agba (2010), in his research on Perceived Impact of the National Health Insurance Schemes (NHIS) to confirm that services rendered by health service providers in the scheme (NHIS) are poor.

This reflects the deteriorating state of health institutions in the country culminating in foreign medical attention by the rich. This shows that policy cannot succeed or be effective without a good structure as proposed by observations from this study. This means that there is need for government to overhaul the entire health Structure in Nigeria before any other health policy is being made.

In addition to this, the health givers interviewed pointed out that challenges of health care delivery and the quality of health care delivered are negatively related. This implies that the scheme is presently hindered by some bottlenecks that inhibit the effectiveness of the scheme, with over 80% of them attesting to the fact that the programme is not achieving its set objectives and a significant proportion also pointed out that the entire policy is faulty. All these challenges put together, did not motivate the health givers neither did it improve their activities. This observation correlates with Agba's (2010) findings, that the NHIS scheme did not improve health givers status, hence has not affected the quality of service they rendered; the programme has no serious impact on the commitment and dedication to official duties.

From the on-going discussion, it means that, for a policy to be effective it must have a serious positive impact not only on the people at the receiving end but also change and influence the lives of the administrators.

RECOMMENDATIONS

Findings of this research exposed perceived weaknesses of the scheme as presented from both the standpoint of the health-giver and the patients. The following recommendations is been posited:

The depth of information on the scheme still leaves more to be desired, consequently, policy makers championing the scheme need optimize the mass media, which is a medium of information dissemination, to the fullest.

The perceived non-availability of branded drugs as observed by the patients need be put in proper perspective, as such proper education and enlightenment that expensive drugs does not as a matter of necessity mean that it is the best choice must be effectively communicated. This patients believe that they are given cheap drugs.

The scheme also needs to be deepened by expanding the scope of coverage to include hitherto excluded benefits.

The idea of using mobile means of accessing insurance by having a prepaid mechanism though beneficial could be made more flexible by rather having a seamless contribution by way of a percentage basis deductions from recharge card loaded. This might need legislative backing.

The time has come for health care financing to be seen by all stakeholders inclusive of governmental and nongovernmental agencies to see health insurance as an investment, which certainly requires an effective management and attendant political will for it to be successful. In addition, there is the need for all the various professional groups in the health discipline to overcome whatever differences they have and work in unison towards the enthronement of a truly efficient health care delivery system in the country.

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HEALTH FINANCING: THE NEW ROLE OF MICRO-FINANCE INSTITUTIONS IN NIGERIA

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ABSTRACT

This study set out to examine “*Health Financing: the new role of Micro-Finance Institutions in Nigeria*”. In line with trying to proffer solution to the research problem, the researcher made the few objective which are, to examine the effect of MFIs on health financing in Nigeria and to investigate the impact of MFIs on health loans. However, a qualitative data was adopted in the course of this study and obtained with the aid of questionnaire. Based on the analysis carried out with the aid of regression and correlation analysis, it was reviewed that NHIS makes provision for continuous access of health care service. Based on this finding, the researcher recommended that micro finance institutions in Nigeria should increase their health loan.

Keywords: Health, Micro-finance, Micro-Finance Institution

INTRODUCTION

MFIs offer advantages in developing Health-Financing options such as Health Financing, health loans and health micro-insurance: global reach, expertise in loans and financing, and their mission to facilitate household financial stability. Health-financing products hold considerable potential but require Careful design to optimize value and minimize risk to client.

According to recent World Health Organization estimates, every year 25 million households (more than 100 million people) are forced into poverty by illness and the struggle to pay for healthcare (world health organization; 2005) this coupled with the lack of basic health infrastructure in rural and remote areas aggravate the health conditions of the poor, leaving them in a perpetual state of poverty. Access to health services and health protection is a key component of the fight against poverty as good health is a major driver of economics development and necessity for the poorest nations’ climb out of poverty.

An efficient Healthcare System is critical I breaking the vicious cycle of poverty and poor health. Moreover, it is critical in meeting the millennium development goal (MDG) of “marked goal of providing affordable healthcare to all has been an arduous task. In an attempt to improve access to affordable healthcare, a number of sub-Saharan African countries adopted several models of healthcare financing, most of which have been wholly unsuccessful at reaching the poor. These healthcare financing models range from a “free health care for all” model to a fee collection at the point of service popularly referred to as cash-and- carry model. Funding for the “free health care for all” was unsustainable because governments were unable to generate sufficient tax revenues. Consequently, very limited public expenditure was dedicated to public health, particularly in the rural areas, (Weismann, 2000). Likewise, the “cash-and-carry” healthcare model made healthcare accessible only to those who could afford it, excluding the poor from health care utilization. To this end, this study will examine the role of microfinance institution on health financing in terms of health financing, health loans and health micro-insurance. Therefore, the major objective is to examine the effect of microfinance institution (MFIs) on health financing in Nigeria.

THEORETICAL FRAMEWORK OF MICROFINANCE AND HEALTH SECTOR

These theories considered differences in attitudes and abilities among individuals as critical issues in determining why some small firms grow and others do not. Two schools of thought, the Austrian school and the classical economist were the first to acknowledge the role of the entrepreneur in small business development; it recognize the entrepreneur as an individual with special characteristics. Knight (1921) described an entrepreneur as someone that has the willingness and superior ability to make decisions, raise capital and assume the risk of failure. In the same vein, Schumpeter (1939) added among other things, the fact that an entrepreneur has the superior ability to perceive new market opportunities. He sees the entrepreneur as an innovator.

According to the Austrian School,

People have certain characteristics that are associated with productivity for entrepreneurship. Individuals who have more of these characteristics are more likely to become entrepreneurs than those who have fewer. An individual chooses to create a new business so as to maximize his expected utility. This utility is a function of entrepreneurial activity or wage income, and of attitudes that affect the utility that the person derives from entrepreneurial activity, such as one's taste toward work efforts, risk, independence, working close to customer, etc. income, in turn, depends on the individual's ability to generate profit, such as managerial abilities to realized capital, and abilities to perceive new market opportunities and to innovate (Papadakis and Chami, 2002).

The classical school,

Extended analysis of the decision to start a business to that of the decision to grow the business, according to Davidson (1989, 1991), firm growth is an indication of continued entrepreneurship. Davidson notes that economic theories take the willingness to grow a business for granted, by assuming profit maximization. However, empirical evidence suggests that small business owners are reluctant to grow even if there is room for profitable expansion and that profitable firms of different sizes co-exist within industries.

According to Papadaki and Chami (2002), theories on small business growth and development view business growth from an organizational life cycle perspective, which sees growth as a natural phenomenon in the evolution of the firm, other perspective sees growth as a consequence of strategic choice. It is obvious that attributes of the business owner, organizational resources and environmental opportunities are crucial in expanding the firm and in overcoming the barriers to the evolution of the firm from one stage to the next. Sexton and Smilor (1997), and Carland et al., (1984) distinguished between a business owner and an entrepreneur. According to them, an entrepreneur is committed to the growth of the business. Growth is the very essence of entrepreneurship". And commitment to growth is what primarily distinguishes small business owners and entrepreneurs.

It is evident from literature that not all small businesses are growth oriented and for certain firms' growth is a voluntary choice (Masarel and Montfort, 2006). An empirical study of SMEs growth pattern Kolveried and Bullvag (1996) concluded that growth intentions may be used to predict actual growth, that past intentions are related to later intentions, and that change in growth intentions are associated with changes in growth patterns. Arbaugh and sexton (1996) provided empirical evidence that a most new firms do not grow into large ones and that there is

no relationship between the age of a firm and its size. Chasten and Mangles (1997) opined that there is no single strategy firm growth is increased by avoiding excessive emphasis on single-strategy transformation initiatives, and by giving different capabilities priority depending upon the development stage of the firm.

Empirical Literature on Impact Evaluation of Microfinance

Arguments' in favor of microfinance being a mechanism for reducing poverty has been made and there is strong opinion that the productive base of the poor will improve if given access to credit which will in turn enhance income growth (Montgomery and Weiss, 2005). In general, access to credit by the poor will improve their social networks, serve as cushion against unforeseen events (risk management) and enhance consumption smoothing. In other words, the availability of credit will help the poor to meet 'promotional' (income creating) and protection (consumption smoothing) purposes. The transformation and emerging trends in the micro finance industry have brought to bear the need to ascertain if the original poverty focus of MFIs is still being maintained. Thus, it has become imperative and of great policy interest to answer the question of the impact of MFIs on the poor (particularly the core poor). Hence, there is the need to assess both the depth and breadth of outreach of MFIs programmer, the impact of access to microfinance services on the welfare of clients and the costs of achieving the impact. Several tools are available to measure different forms of impact and several empirical studies have been undertaken in this direction using a mixture of qualitative and quantitative econometric tools.

In the Asian region, the impact studies have been carried out by Hulme and Mosley (1996); McNelly et al.(1996), Khandker (1998), Pitt and Coleman (1999), Chen and Snodgraes (2001), Coleman (2004); Park and Ren (2001), Duong and Izumida (2002), Amin et al. (2003); gertler et al. (2003), and khandker (2003). In the Latin America Region, the Logit, longitudinal model have been undertaken by Hulme and Mosley (1996). All through the empirical literature, the procedures adopted have been a mix of both qualitative and quantitative methods of analysis.

Skoifias et al. (2004) observe that despite a plethora of microfinance projects around the world and related impact studies, much debate remains as to the benefits for poor participants and the economy from further expansion of microcredit. Montgomery and Weiss (2005) stress that the pace of research does not match the enthusiasm for microfinance programmes. They argue that most of the existing researches focus on one aspect of the tripod objectives (critical triangle) of outreach, impact and cost-effectiveness and as the adopted of appropriate statistical methodology become difficult. Hulme (2000) states that "knowledge about the achievement of microfinance remains only partial and is contested". To swain (2004), proper and scientifically robust impact assessment and statistical evaluations have been limited due to the view that evaluations are a wasted of time and money and a diversion from running the programmes themselves.

As noted by Brau and Woler (2004), the specific impacts of micro finance are hard to pin down and even harder to still measure. These authors suggest that impact assessment require the adoption of research methodologies capable of isolation specific effects out of a complicated wed of causal and mediation factors and high decibels of random environmental noise, as well as attaching specific units of measurement to tangible and intangible impacts that may or may not lend themselves to precise definition or measurement. Coleman (1999), and Karlan (2001) advised researchers to guard against the drawbacks of past impact studies which include use off invalid control group (inappropriate counter factual), biased sampling, and mis-estimation of programme benefits and costs.

METHODS

The study was conducted by using survey research design. The proportionate stratified random sampling would be used to choose the sample from the available population. In order to achieve the purpose of data collection, the population will be initially stratified to health care and hospital in Lagos State environs. A number of respondents were achieved using random sampling technique to arrive at a sample size. Then a total number of questionnaire administered to respondents are 100. The data collected will be tested using regression and correlation.

RESULTS

Interpretation: The result in table 1 shows that the Pearson results in research hypothesis one, is 0.965 which established that there is a strong relationship between microfinance institution and health financing in Nigeria, also the p-value of Pearson correlation is (0.000) which is less than 0.01 using 1% level of confidence, we therefore reject the null hypothesis and accept the alternative hypothesis which states that there is a significant relationship between microfinance institution and health financing in Nigeria

Interpretation: The result in table 2 shows that the Pearson results in research hypothesis two, Is 0.767 which established that there is a strong relationship between microfinance institution and health loan in Nigeria, also the p-value of Pearson correlation is (0.000) which is less than 0.01 using 1% level of confidence, we therefore reject the null hypothesis and accept the alternative hypothesis which states that there is a significant relationship between microfinance institution and health loan in Nigeria.

Interpretation: the result in table 3 shows that the Pearson results in research Hypothesis three, is 0.690 which established that there is a strong relationship between microfinance institution and health micro-insurance in Nigeria, also the p-value of Pearson correlation is (0.000) which is less than 0.01 using 1% level of confidence, we therefore reject the null hypothesis and accept the alternative hypothesis which states there is a significant relationship between microfinance institution and health micro-finance in Nigeria.

Interpretation:

R – R is the square root of R-Squared and is the correlation between the observed and predicted values of dependent variable. The correlation coefficient (r) value of 0.912 indicates the existence of positive significant correlation between microfinance institution and health financing. R-square is the proportion of variance in the dependent variable (microfinance bank) which can be predicted from the independent variable (Health Financing). This value indicates that 91.2% of the variance in microfinance bank scores can be predicted from the variable health financing. The value of R- Square was 0.832, while the value of adjusted R- square was 0.830. Std. Error of the estimate is 0.182 indicates the existence of variable and factor that can significantly influence the microfinance bank. The regression coefficient constant value of - 0.005 indicates the level of microfinance bank that is autonomous to all influential variables while the beta value of 0.912 indicates the expected increase in health financing is due to a change in the level of microfinance bank in Nigeria.

To this end, since the p-value is 0.and, the p-value is less than the level of significance i.e 0.000> 0.05 therefore, there is a significant relationship between microfinance institution and health

financing in Nigeria is accepted and the result finally reveals that there is a significant relationship between microfinance institution and health financing in Nigeria.

Interpretation:

R-R is the square root of r-squared and is the correlation between the observed and predicted values of dependent variable. The correlation coefficient (r) value of 0.879 indicates the existence of positive significant correlation between microfinance institution and health loans. **R-square** is the proportion of variance in the dependent variable (microfinance bank) which can be predicted from the independent variable (health loans). This value indicated that 87.9% of the variance in microfinance bank scores can be predicted from the variable health loans. Note that this is an overall measure of the strength of association, and does not reflect the extent to which any particular independent variable is associated with the dependent variable.

The value of R-square was 0.772, while the value of the adjusted R-square was 0.770. **Std. Error of the Estimate**- The standard error of the estimate, also called the root mean square error, is the standard deviation of the error term, and is the square root of the mean square residual(or Error) was 0.247 indicate the existence of variable and factor that can significantly influence the microfinance bank. The regression coefficient constant value of 0.494 indicates the level of microfinance bank that is autonomous to all influential variables while the beta value of 0.879 indicates the expected increase in health financing is due to a change in the level of microfinance bank in Nigeria.

Thus, the P-value is 0. and the p-value is less than the level of significant i.e.0.000>0.05 which means that there is a significant relationship between microfinance institution and health loan in Nigeria is accepted and the result finally reveals that there is a significant relationship between microfinance institution and health financing in Nigeria.

Interpretation:

R-R is the square root of r-squared and is the correlation between the observed and predicted values of dependent variable. The Correlation Coefficient (r) value of 0.774 indicates the existence of positive significant correlation between microfinance institution and health micro-insurance. R-square is the proportion of variance in the dependent variable (microfinance bank) which can be predicted from the independent variable (health micro-insurance). This value indicates that 77.4% of the variance in microfinance bank scores can be predicted from the variable health mire-insurance. Note that this is an overall measure of the strength of association, and does not reflect the extent to which any particular independent variable is associated with the dependent variable.

The value of r-square was 0.599, while the value of adjusted r-square was 0.594. std. error of the estimate –the standard error of the estimate, also called the root mean square error, is the standard deviation of the error term, and is the square root of the mean square.

Residual (or error) was 0.435 indicates the existence of variable and factor that can significantly influence the microfinance bank. The regression coefficient constant value of 0.750 indicates the level of the expected increase in health micro-insurance that is due to a change in the level of microfinance bank in Nigeria.

Since the p-value is 0 and the p-value is less than the level of significance i.e 0.000>0.05 therefore, there is a significant relationship between microfinance institution and health Micro-Insurance in Nigeria is accepted and the result finally reveals that there is a significant relationship between microfinance institution and health micro- insurance in Nigeria.

CONCLUSION AND RECOMMENDATIONS

Conclusions

MFIs are rarely mentioned as potential actors in improving access to healthcare globally; however, evidence is emerging that they can play an important role in reducing financial barriers to medical treatment. Microfinance has been successful in providing opportunities to the poor where conventional financing has not been available and can potentially address an unmet need for health financing for the poor (Sinha & Batjiji, 2010). However, offering health-financing products is not restricted to MFIs; other types of development and commercial organizations may be motivated to offer health financing and can learn from the MFI community.

RECOMMENDATIONS

- Micro finance institutions in Nigeria should increase health loan
- Government should make health micro-insurance scheme more effective and extended to the private sections
- Health loan should be given freely without collateral
- How can the barbaric loan processes and terms be adjusted to allow for easy access to health loan?

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Table 1

Hypothesis One: To test this hypothesis which states that there is no significant relationship between microfinance institution and health financing in Nigeria

		Microfinance institution	Health loan
Pearson correlation		1	.965**
Microfinance institution	Sig. (2-tailed)	82	.000
	N	965 **	82
Pearson correlation		.000	1
Health loan	Sig. (2-tailed)	82	82
	N		

** . Correlation is significant at the 0.01 level (2-tailed).

*Correlation coefficient = 0.767** p-value = 0.000 df = n-1 (82-1) = 81*

Table 2

Hypothesis Two: To test the hypothesis which states that there is no significant relationship between microfinance institution and health loan in Nigerian.

		Microfinance institution	Health loan
Pearson correlation		1	.767**
Microfinance institution	Sig. (2-tailed)	82	.000
	N	767**	82
Pearson correlation		.000	1
Health loan	Sig. (2-tailed)	82	82
	N		

** . Correlation is significant at the 0.01 level (2-tailed).

*Correlation coefficient = 0.767** p-value = 0.000 df = n-1 (82-1) = 81*

Table 3

Hypothesis Three: To test the hypothesis which states that there is a significant relationship between microfinance institution and health micro-insurance in Nigeria.

Correlations

		Microfinance Institution	Health micro-insurance
Pearson correlation		1	.690**
Microfinance institution	Sig. (2-tailed)	82	.000
	N	690**	82
Pearson correlation		.000	1
Health loan	Sig. (2-tailed)	82	82
	N		

** . Correlation is Significant at the 0.01 level (2-tailed).

*Correlation coefficient = 0.690** P- value = 0.000 df = n-1 (82-1) = 81*

Table 4

Model	R	R square	Adjusted R Square	Std. error of the estimate
1	.919 ^a	.832	.830	.42677

a. Predictors: (Constant), Health Financing

Anova

Model	Sum of squares	Df	Mean square	F	Sig.
Regression	72.173	1	72.173	396.271	.000 ^b
1 residual	14.571	80	.182		
Total	86.744	81			

a. Dependent Variable: Microfinance Bank

b. Predictors: (Constant), Health Financing

c.

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(constant)	-.005	.128		-.041	.967
1 health Financing	1.057	.053	.912	19.907	.000

a. Dependent Variable: Microfinance Bank

Table 5

Hypothesis Two: To test the hypothesis which states that there is no significant relationship between microfinance institution and health loan in Nigeria

Regression**Variables Entered/Removed^a**

Model	Variable entered	Variables Removed	Method
1	Health loans	.	Enter

a. Dependent variable: microfinance bank

b. All requested variables entered.

Model Summary

Model	R	R square	Adjusted square	r	Std. error of the estimate
1	.879 ^a	.772	.770		.49676

a. Predictors: (Constant), Health loans

Anova^a

Model	Sum of squares	Df	Mean Square	F	Sig.
1 Regression	67.002	1	67.002	271.517	.000 ^b
Residual	19.742	80	.247		
Total	86.744	81			

a. Dependent Variable: Microfinance Bank

b. Predictors: (Constant), Health Loans

Coefficients^a

Model	Unstandardized Coefficients		Standardized coefficients	t	Sig.
	B	Std. Error	Beta		
(constant)	.494	.125		3.939	.000
1 health Financing	1.052	.064	.879	16.478	.000

a. Dependent Variable: Microfinance Bank

Table 6

Hypothesis Three: There is no significant relationship between microfinance institutions and health micro-insurance in Nigeria

Regression**Variables Entered/Removed^a**

Model	Variables entered	Variables Removed	Method
1	Health micro-insurance ^b	.	Enter

a. Dependent Variable: Microfinance Bank

b. All requested variables entered.

Model Summary

Model	R	R square	Adjusted R Square	Std. Error Of The Estimate
1	.774 ^a	.599	.594	.65964

b. Predictors: (Constant), Health micro-insurance

Anova^a

Model	Sum of square	df	Mean square	F	Sig.
1 Regression	51.934	1	51.934	119.357	.000 ^b
Residual	34.810	80	.435		
Total	86.744	81			

a. Dependent Variable: Microfinance Bank

b. Predictors: (constant), Health micro-insurance

DEVELOPMENTAL IMPLICATIONS OF OCCUPATIONAL HEALTH AND SAFETY INTELLIGENCE IN NIGERIAN ORGANISATIONS

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ABSTRACT

Health and safety risks abound in many organisations in developing countries, despite availability of various health and safety policies. This situation produces adverse consequences for employees, organisations, and society. Based on a survey within the framework of risk society and sense-making theories, this article examines the influence of occupational health and safety intelligence on organisational development in Nigeria. The secondary and primary data used for the article were derived from a systematic review of the literature and 15 in-depth interviews among managers and senior staff members of different organisations around the University of Lagos, Akoka, Lagos state. The methods of data analysis adopted include content analysis and ethnographic technique. Findings revealed a high level of awareness of the importance of occupational health, inadequate investment in safety intelligence programmes, and prevalence of occupational hazards in various organisations. The prevalence of hazards in some organisations reflects the inadequacy of occupational health and safety programmes in public health planning in Nigeria. Managers and employees are susceptible to occupational health hazards, with adverse implications on man-hours, productivity, and job security. The findings show the need to strengthen Nigerian organisations through renewal of interest in precautions and occupational medicine.

Keywords: Development, Occupational medicine, Organizations, Safety, Training

INTRODUCTION

Safety risks are numerous across organisations in developing countries; such risks may include Ebola virus disease (EVD), human immunodeficiency virus (HIV), acquired immune deficiency syndrome (AIDS), hepatitis B virus (HBV), tuberculosis, thrombosis, meningitis, outbreak of fire, flood, excess workload, fatigue, industrial accident, industrial disease, and other forms of occupational hazards. These risks require more attention than the available precautions in many organisations in Nigeria.

The first indication of a safety risk can be an incident, like the case of Patrick Sawyer, the first known carrier of Ebola virus in Nigeria. Ebola virus disease is so dangerous that it multiplies and kills its hosts in few weeks; the virus is a reminiscence of the 14th century bubonic plague – the Black Death – that killed over 50 million people in Asia and Europe. Unfortunately, some Nigerians, especially health care workers (HCWs) and persons in the aviation industry got Ebola virus from Patrick Sawyer due to negligence and ignorance. Unarguably, Ebola virus disease is among occupational health hazards for workers in the health care sector and other organisations.

Occupational health encompasses different aspects of workers' health, including the physical, mental and social wellbeing of workers in various organisations. Occupational health and safety (OHS) has become a major social policy in several countries, owing to its importance. The

British Government established Occupational Health and Safety Act (OHSA) in 1974 (Hutter, 1993). The United States of America reinvented its OHSA in 1995. Similarly, Australia, Norway and Sweden renewed their policies on occupational health and safety in the mid 1990s (Gunningham, 1999).

As reported by Westerholm (1999), most countries of the European Union have established occupational health and safety services. Also, most countries of sub-Sahara Africa have some legislative provisions for physical injuries and disabilities sustained in the course of work; examples include: the Compensation for Occupational Injuries and Diseases Act of South Africa, the Work Injury Benefits Act of Kenya, the Injuries Compensation Act of Gambia, and Employee Compensation Act (ECA) of 2010 in Nigeria (Atilola, 2012; Idoro, 2011). The common features of occupational health and safety appeared in Westerholm's (1999, p. 626) description of OHS:

The management of health and safety implies establishing and operating a system for (i) the prediction and identification of workplace risks and their avoidance, (ii) risk assessment, (iii) appropriate action for the removal or, alternatively, effective management of risks, (iv) activities to monitor and supervise health and safety at the workplace, and (v) the adequate training and competence development of all staff.

An important practical issue in occupational health and safety is an understanding of workers' behaviour regarding workplace hazards (Marchand, Simard, Carpentier-Roy, & Ouellet, 1998). Safety behavior has at least two dimensions, carefulness and initiatives. Carefulness refers to workers compliance with safety rules, while initiatives consist of workers' actions to improve the safety of the work environment. Expectedly, employees are increasingly aware of an occupation's effect on their health. Thus, the control of the industrial environment will give the employee a meaningful and easily visible working of the concepts of preventive medicine and preventive measures (Siegel, 1964).

Studies have shown that health care workers are at increased risks of contracting blood-borne diseases or occupational injuries (Amira & Awobusuyi, 2014; Ogoina, Pondei, Adetunji, Chima, Isichei, & Gidado, 2014). Besides, different categories of workers are prone to occupational hazards in many organisations with the availability of a multitude of health hazards, such as biological, chemical, physical, and psychological hazards, although the work environment is expected to be safe and healthy.

Unfortunately, some employers assume little responsibility for the protection of their workers' health and safety. This negates the provision of Convention 155 of the International Labour Organisation (ILO), which mandates occupational health and safety. The Convention requires governments and employers to ensure adequate precautions in the workplace. However, despite the need for protection of health and safety of workers, occupational hazards abound in developing countries, including Nigeria. This is due to the fact that many developing countries are yet to domesticate the International Labor Organisation (ILO) Convention on occupational health and safety, while the few that have done so lacked prerequisite infrastructure for its enforcement (Atilola, 2012).

The above-mentioned situation justifies the focus of the present article, i.e. developmental implications of occupational health and safety intelligence in Nigerian organisations. This article specifically addresses three research questions: How do Nigerian organisations manage occupational health and safety risks? What is the extent of investment in occupational health and safety programmes in Nigerian organisations? Why is safety intelligence necessary in Nigerian organisations? A survey research design, including secondary and primary data, provided a basis for suitable answers to the above mentioned questions.

Occupational health has received attention as a result of the inevitability of work and its influence on development of organisations and society (O'Donnell, Rosati, & Doorslaer, 2005). Yet, changes at the workplace have overshadowed the traditional approach to safety, thereby expanding the scope of occupational hazards. For instance, Africans have witnessed high rates of occupational hazards in different organisations. In his description of the prevalence of occupational hazards in African countries, Loewenson (2001, p. 864) noted that:

The expansion of chemical, electronic, and biotechnology industries and of the service and transport sectors has introduced new risks, widened the spread of work-related risks and increased their interaction with non-work factors in ill health, such as environmental pollution. [---] workers now also suffer new stresses, such as new asthmatic disorders, psychological stress, and ergonomic and visual effects of video display units.

Furthermore, estimates show that over 250 million occupational accidents occur annually worldwide and 335,000 of the accidents are deadly; the number of fatal accidents is much higher in Africa compared to situation in Europe and North America (Treiber, 2005). The difference is primarily due to better health and safety programmes, improved first-aid and medical facilities, and to active participation of workers in decision-making process on health and safety issues in Europe and North America. This underscores the need for more studies on occupational health and safety intelligence, with a focus on situation in developing countries.

LITERATURE REVIEW

The need for occupational health and safety has attracted attention since the early stage of industrialisation in Europe and North America from where developing countries derived their occupational health and safety management models. Unarguably, different categories of persons deserve a health system that improves their health status (Akinboro, Adejumo, Onibokun, & Olowokere, 2012, p. 2). This shows the importance of occupational health and safety devices and compliance with safety procedures. Amira and Awobusuyi (2014) noted that health care workers should be educated about occupational risks and safe practices, thereby showing the importance of safety intelligence (Fruhen, Mearns, Flin, & Kirwan (2014). Different components of safety intelligence are in Figure 1 developed by the European Organisation for the Safety of Air Navigation (Eurocontrol, 2013).

Safety intelligence deals with management of occupational health and safety through knowledge, decision-making and leadership in an organisation. It comprises safety knowledge, problem solving and social competence. Safety knowledge encompasses awareness of occupational health and safety risks, including an evaluation of occupational health and safety programmes in an

organisation. Sources of safety knowledge include incident investigation, teamwork, collaborations, and survey of safety culture. Problem solving entails specific decisions on occupational health and safety risks in an organisation. This implies decision-making for the maintenance of occupational health and safety. Social competence entails ability to recognise the occupational health and safety needs of employees in an organisation, including perception, persuasion, and leadership responsibility in an organisation.

Each component of safety intelligence has implications for the development of an organisation. Naderpour and Zhang (2014) noted that the hardware failure and human error in decision making could hinder the achievement of the goal of occupational health and safety, thereby increasing the likelihood of hazards. Organisational communication is relevant for an understanding of occupational health and safety intelligence. Through the use of the Johari Window (see Figure 2), team members can understand the value of self-disclosure with an offer and acceptance of constructive feedback concerning the safety situation at the work place.

Enlargement of the open area of communication is the ultimate goal of the Johari window. As people share information, the open area expands and the hidden area decreases. Persons with a large open area get along well with others and promote easily the development of social competence of safety intelligence in an organisation. A lack of expansion of the open area and failure to encourage information sharing will reinforce ignorance with adverse implications on safety intelligence and problem solving.

Occupational health and safety management system (OHSMS) has received attention as a result of increase in occupational safety and health risks (Haight, Yorio, Rost, & Willmer, 2014). OHSMS covers a traditional safety and health programme, including safety training, safety inspections, safety awareness campaigns, risk assessment and organisational culture activities. The success of OHSMS depends on effective leadership and management support, and active employee participation. The main objective of any safety and health strategy is to prevent occupational injuries. Therefore, “any effort to prevent people from being injured is worth it” (Haight, Yorio, Rost, & Willmer, 2014, p. 50). Ojedokun and Idemudia (2014, p. 106) posit that “organizations should be able to minimize burnout among their employees by increasing their adaptive capacities through appropriate training and development workshops.”

Following their empirical analysis of occupational health and safety (OHS) practices in Nigeria, Idubor and Oisamoje (2013) noted that all organizations have a duty of care to ensure that employees remain safe at all times. Idubor and Oisamoje (2013, p. 154) justified the need to reinforce health and safety management (HSM) with reference to the following issues:

Recurrent reports of plane crashes in the aviation industry, high rates of motor vehicle accidents, numerous cases of death due to poisoning in the solid mineral sector, frequent accounts of disasters in the petroleum sector arising from oil spills, pipeline vandalism, and accidents involving petroleum tankers.

In the words of Marchand, Simard, Carpentier-Roy, and Ouellet (1998), the most commonly found safety rules in almost all organisations are related to the wearing of individual protective devices, performing tasks according to safe work methods, use of appropriate tools and equipment, housekeeping of the work station, working at a safe work place, and complying with

specific safety procedures. However, the extent to which Nigerian organisations comply with safety rules is yet to be clearly understood.

METHODS

This article is based on secondary and primary data. The secondary data were derived from theoretical framework and a systematic review of the literature on occupational health and safety intelligence. The secondary data showed the existing knowledge on the subject matter of the present article. For instance, the two theories employed to analyse the issue of occupational health and safety intelligence are the Risk Society Theory by Beck (1992) and Sense-making Theory by Weick (1995).

The risk society theory reflects the driving force of occupational health and safety risks, while the sense-making theory provides a rationale for decision-making on occupational health and safety intelligence in modern organisations. Sense-making implies a higher level of engagement by the actor, as people and organizations are constantly in the business of trying to make sense of the flow of activities around them (O'Connell, 1998; Shiflett, 2000)).

Beck (1992) noted that modern society is "risk society". His concept of risk covers all areas of social life, "from the insecurities of the job market to the complexities of family life, to the validation of scientific activity, and to the hazards of the environment" (Allen & Henry, 1997, p. 183; Ekinsmyth, 1999; Moraru, 2001, p. 76;). A central feature of postindustrial modernization is the proliferation of technological and environmental risks and crises, which emanate from corporate industrial activities (Shrivastava, 1995). From Beck's perspective, risk society has produced unintended consequences, including new conflicts of interest and new communities of the endangered (Draper, 1993).

Moreover, with the use of in-depth interviews, the primary data were collected from the managers and senior staff members in various organisations around the University of Lagos, Akoka, Lagos state, Nigeria. The selected organisations include banks, pharmacies, medical centre, supermarkets, filling station, fire station, bakery, bookshop, and printing press. The choice of the above-mentioned organisations is considered appropriate given their similarities with related organisations outside the university. A total of 15 men and women including managers and senior staff members of various organizations participated in the in-depth interviews (nine in-depth interviews for men and six in-depth interviews for women). All participants received information about the study objectives, hence their consent and free responses to the in-depth interviews.

The participants were selected purposively based on location, availability, position in the organisation, and experience of the subject of occupational health and safety intelligence. One manager or senior staff member was selected from each organisation. The fieldwork was conducted between April and July 2014; the interview guide utilised for data collection comprised several questions on various aspects of occupational health and safety intelligence. Each interview lasted for an average of 70 minutes. The methods of data analysis adopted include content analysis and ethnographic technique.

RESULTS AND DISCUSSIONS

The analysis of socio-demographic characteristics of the participants comprised nine men and six women and their age ranged from 35 to 52 years. Ten senior staff members and five managers participated in the study. Their work experience ranged from five to thirty years. A close observation of the socio-demographic characteristics of the participants reveals evidence of maturity among men and women with adequate work experience. Their views on occupational health and safety intelligence in their organisations can be regarded as authoritative.

Management of Occupational Health and Safety Risks

All the participants identified some hazards in their organisations, showing that occupational hazards could affect everybody irrespective of designation or employment status in the organisation. Some participants specifically mentioned that all employees are vulnerable to occupational hazards but blue collar employees could be more vulnerable than the white collar employees or management staff.

The forms of hazards are not the same in every organisation depending on the work environment and type of operations in each organisation. For instance, electricity workers may be more susceptible to electrocution, while bankers could be more vulnerable to robbery of the bank during working hours. Similarly, health care workers are more vulnerable to infections from exposure to pathogens unlike aviation workers whose lives could be in danger during plane crash. One of the participants noted that:

There are hazards and we recently had to fight the authorities for acknowledgment that these hazards abound: Doctors could get tuberculosis through consultations and hepatitis B and HIV through cannulation. Nurses face hazard while giving injections. Those in the Laboratory deal with blood. They can get pricked by needles while emptying refuse and get infected.

The prevalence of hazards in organisations reflects the inadequacy of occupational health and safety programmes in public health planning in Nigeria. The Nigerian government has invested in the development of health care from the primary level to the secondary and tertiary level. But, occupational medicine remains an underdeveloped area of medical practice in Nigeria.

Concerning the management of occupational health and safety risks, awareness, training programmes, and seminars featured prominently in the narratives of the participants. This shows a high level of awareness of the importance of occupational health and safety among all the participants. Specifically, two-third of the participants noted that their organisations encouraged health and safety consciousness among the employees.

Some participants mentioned the availability of specific training programmes on health and safety issues in their organisations. In this case, the frequency of safety training varied from one organisation to another, although all the participants noted the importance of health and safety training programmes for all employees in their organisation. Some instances of organisational response to the issue of safety are presented as follows:

You have to make employees aware of the entire health and safety standard that exists. Also, medical tests are conducted on a quarterly basis to ensure that

hygiene and safety issues do not exist. This is a regulation that must be complied with in this organisation.

We conduct specific training to deal with specific issues on the jobs so we offer technical training on occupational health and safety issues. The primary purpose of the training is to create awareness. Once you make the employees aware of health and safety standard, the next you need is to ensure compliance.

There are a total of 15 employees who work in shifts at the fire station. We normally go out to give lecture to people. In Unilag we speak to departments, we do practical and theory training. Recent examples are library, education library, faculty of sciences, Unilag water.

Compliance with universal precautions is another way of managing occupational health and safety risks. More than half of the participants noted their observation of compliance with safety precautions in their organisation. Three participants from banks noted that the International Standard Organization comes to their organisations once yearly to inspect all aspects of the bank. However, some participants gave a conditional response on the issue of compliance, as they based it on availability of safety gadgets.

Investment in Occupational Health and Safety Programmes

Inadequate investment in and inadequate knowledge of the cost of investment in occupational health and safety programmes are two major themes that emerged among the participants. Only one-third of the participants disclosed useful information on the level of investment in occupational health and safety programmes in their organisations. One of the participants reported an instance of investment in occupational health and safety:

I just approved the sum of three hundred and fifty thousand naira (₦350,000.00) for the purchase of gloves, footwear, head gear, and uniforms for about 73 employees. These devices are more for hygiene than for safety as they are already certified.

The information provided on the cost of investment in occupational health and safety programmes is however limited to expenses on occupational health and safety training programmes and provision of basic safety equipment such as gloves, gowns, goggles, and, fire extinguishers. Two managers among the participants disclosed that they had had spent up to one hundred and fifty thousand naira (₦ 150,000.00) per employee on occupational health and safety training programme.

Another one-third of the participants did not specify the costs of occupational health and safety devices in their organisations but they mentioned the availability of various safety devices including fire extinguishers, footwear, gloves, headgear, and uniforms. Some participants noted that the cost of occupational health and safety training programmes varies across branches of their organisations, while some participants expressed the view that the head office is responsible for occupational health and safety training materials in their organisations.

I am not sure and I cannot give reliable information on the level of investment on health and safety programme in this organisation. As a matter of fact, in our organisation major decisions are made at the headquarters. Materials on health and safety programme including training materials, come directly from the head office.

There are other gears we should have that we don't have: for the high tension, there should be insulators that we don't have, it is beyond our reach" For the inhalation of gas/smoke we should have facial masks that we do not have. We do African style. We used to have BA (breathing apparatus) we still have but it is not up to date. There are new ones now. Concern is for all equipment to work so that we will be seen as doing our work. We need fire engines. Over two years now the one we have has packed up. We also need recreation materials e.g. televisions, air conditioners, games, and DVD to watch how to fight fires.

A few participants specified the cost of some aspects of the investment in occupational health and safety programmes, with some quotations to the tune of 12 million naira. One participant noted that occupational health and safety is very expensive. She disclosed that the sum of one hundred and fifty thousand naira (₦150,000.00) would be required to purchase personal protective equipment per one employee and the sum of thirty million naira (₦30,000,000.00) would be required to make provision for 200 employees in the organisation.

Regarding the budget item for occupational health and safety in their organisations, some participants disclosed that their organisations budgeted up to five hundred thousand (₦500,000.00) per annum for occupational health and safety items. However, two-third of the participants expressed ignorance of the actual amount budgeted for occupational health and safety devices in their organisations.

Reasons for Investment in Safety Intelligence

The narratives of most of the participants show that managers and employees are susceptible to occupational health hazards, with adverse implications on man-hours, productivity, and job security. This suggests that failure to ensure occupational health and safety intelligence would create adverse effects for the employees, organisations and society. Adequate investment in occupational health and safety intelligence is necessary to stimulate development of individuals and organisations in society. A study by Siegel (1964, p. 964) showed that:

Health, its maintenance, and payment for disease and illness of all types have become direct and rising costs of doing business. [---] Industry has a great and increasingly important role in community health needs and resources.

Some participants observed that adequate investment in occupational health and safety intelligence is directly associated with organisational commitment, adequate remuneration, and job security among employees. Adequate investment in safety intelligence would enhance productivity and profitability of organisations, while it will promote the overall development of society.

Efficiency of the organisation will be compromised in the absence of occupational health and safety intelligence. And if hazards occurred, say fire outbreak, the organisation will lose property and, money intended for other things will be used to refurbish burnt buildings/properties.

The benefits outweigh the cost of investment that would have been made in the procurement of occupational health and safety equipment. If the organisation does not take this serious and there is a major problem, the issues of litigations might arise and the organisation will have to deal with it.

Previous study by Loewenson (1999) showed the direct and indirect costs of occupational hazards. Some of the direct costs of occupational hazards for employers include the payment of salary, compensation, and repair or replacement of machine and equipment, while one of the most obvious indirect costs is the human suffering caused to workers' families.

CONCLUSION

The thrust of this article is analysis of developmental implications of occupational health and safety intelligence in Nigerian organisations. The issues addressed in this article reflect various dimensions of safety intelligence, such as safety knowledge, problem solving and social competence. The article reveals high level of awareness of the importance of occupational health and safety among managers and senior staff members of various organisations. However, the level of investment in occupational health and safety programmes was inadequate, as only a few organisations invested fairly in precautions.

Occupational health and safety risks are primarily due to several factors, such as negligence of the employers or employees, inadequate training on precautions and poor knowledge of occupational health and safety issues. These factors provide a basis for high rates of occupational health and safety risks in the Nigerian work environment. The high rate of occupational health and safety risks shows the need for adequate investment in occupational health and safety intelligence programmes, with a focus on precautions. Organisations can be strengthened through renewal of interest in safety precautions and occupational medicine.

It is important to promote the development of occupational health services in Nigerian organisations. Also, there is urgent need for the training of doctors to recognise work-related diseases in the early stages. A good policy on occupational health with adequate investment in precautions and safety intelligence will enhance organisational development in Nigeria.

The Nigerian government and employers' organisations must comply fully with the ILO's Convention 155 on occupational health and safety. Health and safety programmes will have positive effects on workers and organisations. Adequate investment in safety programmes will save employers a great deal of money. Thus, managers of organisations must make occupational health and safety a priority. The vicious cycle of poor investment in occupational health and safety intelligence systems should be broken.

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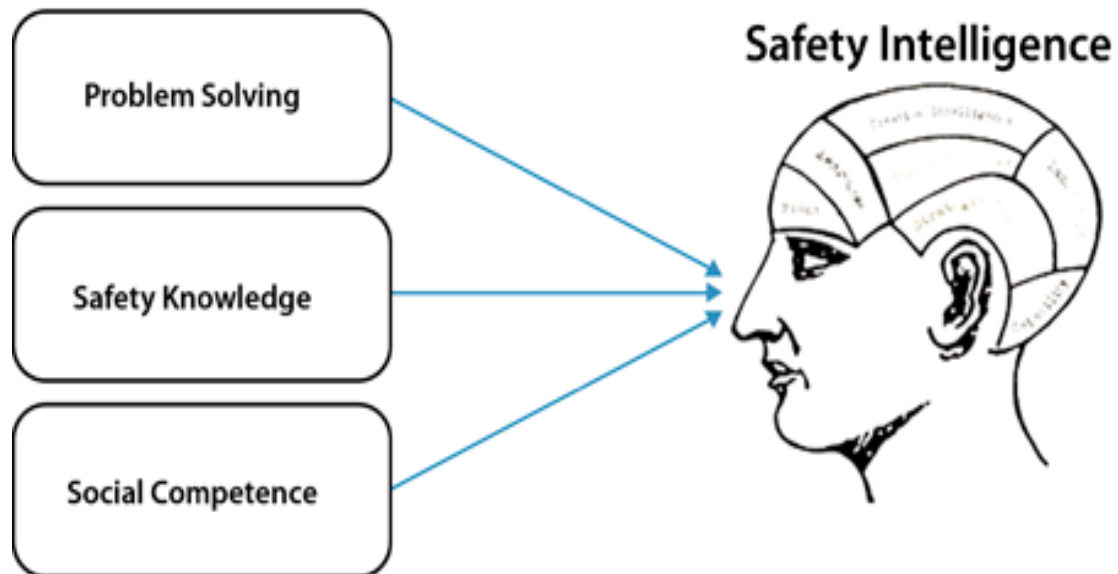


Figure 1: The Components of Safety Intelligence

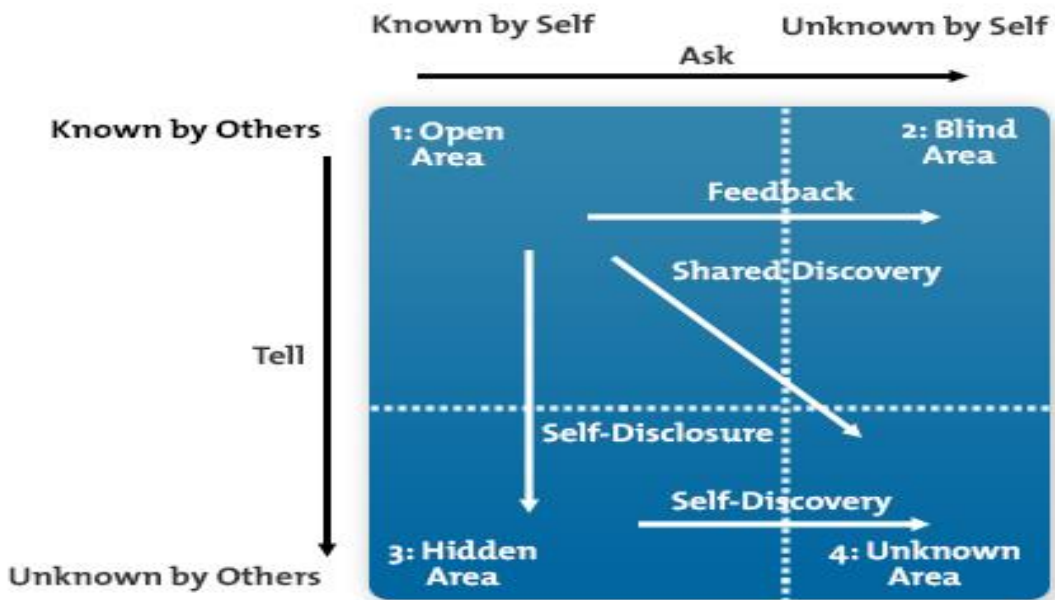


Figure 2: The Johari Window of Interpersonal Communication

FROM FLEXIBLE LABOUR MARKET TO PRECARIOUS LABOUR: UNHEALTHY FATE OF NIGERIAN WORKERS

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ABSTRACT

The structure of employment and labour markets has witnessed tremendous changes in the past few decades especially in the developing economies. One of such changes has been the emergence of flexible labour markets. At inception, the rationale behind the flexible labour market policy was to promote work-life balance. As it is, the flexible Nigerian labour market policy has inadvertently given rise to non-standard work arrangements which have been exploited by employers to the point of precarious labour. Thus the archetypical non-standard “worker” is vulnerable, insecure, inferior, lacking in voice, striped of collective representation, poorly paid, denied of the standard employment relationship and unfortunate victims of unhealthy and unsafe practices at the workplace. The purpose of this paper presented in qualitative method using information gathered from secondary sources is to evaluate the concept of precarious labour as a feature of Nigerian labour market. The paper states that considering the current plight of non-standard cum precarious workers in the workplace a number of measures need to be adopted to tackle the monster. For instance, the welfare of the citizenry is one of the cardinal principles of good governance and this should not be sacrificed in the guise of promoting Foreign Direct Investments (FDIs) and diverting scarce resources towards economic transformation. By the same token, management should realize that healthy labour force is sine qua non to optimal organizational performance while the organized labour need to be proactive and rise above the confines of rhetoric and innuendos. More importantly, employees under the non-standard working arrangement should give themselves voice by striving for collective representation in the workplace.

Keywords: Labour market, Labour market flexibility, Non standard work, Precarious Labour.

INTRODUCTION

These are indeed strange times! The recent economic upheaval that engulfed large section of world economies has left austere conditions in its wake. For example, Benach, Muntaner, Chung, Solar, Santana, Friel, Tanja, Houweling and Marmot (2010) reported that the economic recession has brought about debilitating levels of unemployment, underemployment and job insecurity the world over. However, given the growing global uncertainties, financial and economic pressures, nations and international institutions had to set forth in search of political, social and professional answers to these challenges (Jorgensen, 2009 p.5). For developing economies like Nigeria, an answer may as well be found in flexible labour markets. But, Nigeria’s sojourn with labour market flexibility appears to have tilted in the direction of marriage of convenience rather than conviction. The reason for this line of thought is not farfetched.

According to (Tucker, 2002 p.12) until recently, job creation was at the forefront of the labour market policy agenda and not job quality *per se* (given that governments had to address high unemployment). In fact, at inception, the concept of labour market flexibility was borne out of

the need for a truly free entry and exit into the labour markets of the advanced world. Thus for the employers (given the experiences with the World War), the initial idea behind labour market flexibility was to guarantee freedom in hiring labour as the shocks of the economy dictate. Smarting from the World War and with lots of electioneering promises unfulfilled, governments had to encourage the new policy as it contributed to employment generation. For labour, flexible labour market was welcome as it offered flexible working time and patterns to accommodate personal and professional undertakings. However, as the years went by, the structure of labour markets and employment in developed and developing economies saw wide scale changes as seen in the intensified use of non-standard work arrangements.

In the words of Bohle (2012 p.1) precarious labour is most often operationalised by employment status (e.g. casual, seasonal, temporary, subcontract or agency work) and promoted as “flexible” or “family-friendly” but in reality, employers usually benefit the most by way of reduced labour cost. According to Fudge and Owens (2006) the flexibility in the workplace has been nurtured by such factors as globalization, the shift from the manufacturing sector to the service sector and the spread of information technology leading to decline of standard employment relationship and a dramatic increase in precarious work. In the same vein, Fashoyin, Owoyemi and Chidi (2012 p.1) contended that more often than not, the trending non-standard work arrangements are perpetuated as the mal-functioning of labour markets induced job seekers to take up any job available while governments tacitly support the policy in the guise of increased employment opportunities and arrest to the rising wave of unemployment.

Ideally, employment protection regulation ought to be an integral part of labour market flexibility – meaning that there should be employee protection against dismissals, limitations on the use of temporary forms of employment, regulation of working hours and on a broader sense, employee health and safety as well as the protection of employees in less favourable conditions (Eamets & Masso, 2004 p.2). But far from it, not just that labour market flexibility has led to situations whereby employees are engaged without formal letter of employment, such jobs can pass for what was described in McGovern, Smeaton and Hill (2004 p.235) as “bad jobs” in terms of low wages and devoid of pension benefits, sick pay and no recognized promotion ladder. In fact, the “precarious” nature of the employment is evident in their low quality and that describes a number of factors that put workers at risk of injury, illness and/or poverty - ranging from low wages, low job security, limited control over workplace conditions, little protection from health and safety risks in the workplace to less opportunity for training and career progression (Burgess & Campbell, 1998; Rodgers & Rodgers, 1989 cited in Tucker, 2002 p.5).

It has been revealed in ILO (2014 p.4) that more than half of the developing world’s workers are in vulnerable employment. This implies that such workers are not covered by social protection (i.e. pensions and health care or have regular earnings) and are victims of poor remuneration with limited ability to invest in their families’ health and education, which in turn dampens overall development and growth prospects – not only for themselves but for generations to follow. Specifically, ILO (2014) also disclosed that 839 million workers in developing countries are unable to earn enough to lift themselves and their families above the US\$2 a day poverty threshold.

In Nigeria, Eroke (2013) had argued that the massive shift away from regular employment into temporary work or jobs through agencies and labour brokers (due to labour market flexibility) is having a deep impact on all workers, their families, and on the society such that employee-employer relationship (often the basis of labour law), is eroded to the point of a growing number of violations of workers' rights. It is against this backdrop that the paper sets to examine the health implications of precarious labour in Nigeria.

The Problem

In highlighting the precariousness of employment conditions in Nigeria, Fashoyin, Owoyemi and Chidi (2012) described non- standard work as being antithetical to ILO's decent work agenda. For ILO (1999) the decency of employment lies in how well the employment engenders respect for core international labour standards, the ability of the employment to generate decent and productive employment and finally, how well the employment facilitates social protection and social dialogue. Stuck with the job on account of fear of the unknown or fear of being left in the freezing cold of the unemployment market, the helpless employee accepts the vulnerable, insecure and low paying job with attendant great risks of employment rights abuse and stifling history of lack of job progression and nonexistent career path. Thus, it is as if the already disadvantaged worker have accepted the fate as sang in the lines in one of the lyrics of late Nigerian afro beat legend, Fela Anikulapo Kuti: "suffering and smiling". As aptly captured in Ori and Sargeant (2013 p.xiii), "the high levels of temporary work means they (employees) are often unable to challenge it".

Under normal circumstances, the workers' union had to stand up and be counted in defense of policies and programmes that are inimical to labour. However, it is becoming increasingly obvious that employers' policy of casualization of employment has stripped unions of the muscle to collectively bargain on behalf of members. As Oto (2013) pointed out, union membership across Africa is experiencing dwindling fortunes hugely on account of skyrocketing unemployment and low prospects of employment. Not only has this effectively broken the resolve of workers to fight for their rights, it has also resulted in trade unionism becoming unattractive to workers who are desperate to keep their jobs. In the same vein, the continued "flexibilisation" of the labour market in Africa has pummeled nations into "race to the bottom" in pursuit of Foreign Direct Investments (FDIs). As a consequence, labour markets in Africa are nothing but employers' market (Oto, 2013 p. 26) with labour at the receiving end of all the unwholesome practices.

The 300 sacked Airtel workers (Fapohunda, 2012) underscores the insecurity of jobs in the Nigerian labour market while the unfortunate fate of workers in a Chinese company at Ikorodu, Lagos in 2004 (Oginni & Adesanya, 2013) highlights the gravity of the situation. It would be recalled that about 250 employees at a plastic manufacturing plant at Odogiyian, Ikorodu (a suburb of Lagos, Nigeria) lost their lives to fire inferno. The account in Oginni and Adesanya (2013 p.103) indicated that none of the factory workers could escape as the employer at close of work (on the fateful day) locked the doors to the plant and left for home. So the workers who had no route of escape were charred to death. As at today, it remains to be seen where anyone or organization assumed responsibility for the incident or sanctioned despite the outrage and condemnation that greeted the incident. For ILO (2009), these firms view accident prevention,

better working conditions and enforcement of standards as cost to business that they remain indifferent to the cost of not preventing accidents or poor conditions of work.

The views as expressed in Evans and Gibbs (2009 p.5) regarding the consequences of the growth of precarious work are clear:

“Besides the loss of protection and increase in employment insecurity, workers in precarious employment lose influence, individually and collectively, over working conditions, the pace of work and wages. Precarious work also affects individuals outside the world of work. It creates insecurity and leads to increases in inequality and poverty. Uncertainty about the future of employment and earnings affects a range of family decisions from whether to start a family, enrol in higher education, or attend training courses. In short, precarious work adversely affects society as a whole”.

Unfortunately, we are reminded in Fapohunda (2012 p.258) that casualization of employment in Nigeria is growing at an alarming speed. The reality that casual workers are subjected to lower pay, barred from their right to join union, and denied medical and other benefits make it imperative that the phenomenon should be seriously checked and if possible be completely expunged from the Nigerian employment system (Fapohunda, 2012).

The Objectives

The major concern of the paper is how the flexibility of the Nigerian labour market has brought about precariousness of employment with unhealthy implications for labour. As a result, the paper would examine why the practice of indecent jobs persists and what this portends for industrial relations actors especially labour. The paper would also look at measures to adopt in addressing the workplace conditions that have placed labour at the greatest disadvantage in terms of economy, health and voice. Although precariousness can be a feature of other forms of employment (Burgess and Campbell, 1998), the paper like Tucker (2002) would treat precariousness as subset of non-standard employment.

THEORETICAL FRAMEWORK AND LITERATURE REVIEW

Labour market flexibility, described in Eamets and Masso (2004 p.6) as the freedom employers have to expand or contract their workforce as they wish and to employ workers on a temporary or part-time basis (i.e. working time flexibility, functional flexibility and pay flexibility) can be seen from the theoretical perspective of Neo-liberalism. According to Bamidele (2010), the basic assumption behind neo-liberalism (which was coined in 1938, but came into use in the 1960s) is the emphasis on fewer government regulations and restrictions in the economy, in exchange for greater participation of the private sector. The Neo-liberal theory is explained within the framework of economic liberalization (Bamidele, 2010). Thus, Crotty (2000) had argued that the idea of economic liberation implied greater efficiency leading to the availability of “bigger pie” for all players. On the other hand, employment protection regulation is an integral aspect of labour market flexibility. In the words of Eamets and Masso (2004 p.2) this presupposes employee protection against wanton dismissals, control on the use of casualised labour, regulation of working hours, and in a broader sense, employee health and safety as well as protection of employees in disadvantaged conditions.

However, literature in Freeman (1993) as cited in Eamets and Masso (2004) revealed that the “institutionalist” and “distortionist” perspectives has emerged as opposition to idea of employment protection regulation. By way of explanation, the institutionalist standpoint emphasizes that labour regulations are needed to ameliorate the weak bargaining power of employees in employment relationships, inadequate insurance against the risk of unemployment, to cushion the effects of fluctuations in aggregate demand and to enhance investments in *people* who make up the organizations and thereby leading to improved performance. For the distortionist perspective, rigid employment protection regulation only adds to the dualism of the labour market as it inadvertently favours regular employees, increases effective labour costs, discourages hiring and militates against adjustment to economic shocks. So, Eamets and Masso (2004 p.2) contended that “in order to avoid adverse labour-market outcomes, some trade-off has to be made probably between employment security and labour market flexibility” with labour being the sacrificial lamb.

The position in Freeman (1993) as cited in Eamets and Masso (2004) is further re-echoed in Shyam Sundar (2011 p.1) in terms of the “flexibility school” which demands that the “employer should be in a position to reduce workers’ strength, change the composition of workers, reduce the price of labour, introduce functional changes, such as workload or work assignment (via technological changes or retrain workers), close down unviable units and reallocate resources to more productive uses, and so on” and the “institutionalist school” which contends that “employers left to themselves would act opportunistically, myopically and aggressively, which may result in sub-optimal outcomes, including high labour turnover, low wages and poor working conditions”.

Bohle (2012 p.6) developed three (interacting?) constructs (i.e. financial and reward pressure, disorganization and regulatory failure) to explain the impact of precarious employment on the employee. The construct is tabularized below:

The rapid growth in nonstandard forms of employment in recent times has brought about discussions about the changing nature of work in general, especially in the area of job quality (McGovern, Smeathon & Hill, 2004 p.225). The position in Scherrer and Greven (2001) showed that the new world economic order has posed some threat. Accordingly, Fudge (2006 p.84) reported that one of the most significant impacts of the new economic regime on employment is the rise in non-standard, contingent, or precarious forms of work. This development Plant (1994) maintained has impacted negatively on labour standards and rights. For Fapohunda (2012 p.258) casualization of employment in Nigeria is rising at an alarming proportion that if not checked, meant continued doom and gloom for labour.

Bohle (2012 p.1) submitted that precarious labour is most often operationalised by employment status (e.g. casual, seasonal, temporary, subcontract or agency work) and promoted as “flexible” or “family-friendly” work. Precarious work has been described in Fudge and Owens (2006) described as non standard employment that is poorly paid, insecure, unprotected, and cannot support a household. In the world of work and industrial relations lexicon, the terms vulnerable work” and “precarious work” are often used interchangeably,. However, when talking of occupational, health and safety issues, it is important to make distinctions between the precariousness of work attributable to particular types of contractual relationships, and the

vulnerability of the people carrying out the work (Ori & Sargeant, 2013 p.ix). According to Ori & Sargeant (2013 p.ix) not just that the two terms (i.e. precarious and vulnerable work) are inextricably linked quite often, precarious work often leads to increased vulnerability for workers in relation to occupational, health and safety challenges. As contemplated in Quinlan, Mayhew and Bohle (2001) precarious work can be found in outsourcing, part-time workers, temporary workers (i.e. fixed-term contracts and casual workers); workers affected by organizational change (such as privatization, downsizing and re-structuring) and small businesses (like workers in self-employment).

Precariousness' in employment is a catch-all term that attempts to encompass the full range of attributes associated with employment quality (Campbell & Burgess, 1998 p.6). Precarious work are "forms of work characterized by atypical employment contracts, limited or no social benefits and statutory entitlements, high degrees of job insecurity, low job tenure, low wages and high risks of occupational injury and disease" (Evans & Gibbs, 2009 p.4). For Tucker (2002 p.24) the concept of precariousness involves instability, lack of protection, insecurity and social or economic vulnerability. The situation is so pathetic in Nigeria that many of the affected employees do not have letters of employment while it is common to observe that the affected organizations do not keep records of their casual employees in a bid to evade the law (Alozie, 2009). Similarly, labour utilization is poor in the country as employee vulnerability is festered by high level unemployment and poverty.

The exploitation of labour is insidious in many organizations in Nigeria (Kazeem, 2004) and often promoted by the adoption of flexible work arrangements by many organizations which have left Nigerian labour concerned for issues such as job security, social security, terminal benefits and minimum conditions of work (Fapohunda, 2012). For Okafor (2012) this is not surprising as the rule of free market economy encourages work organizations in Nigeria to tow the narrow path of increasing profit margins by reducing labour costs. As Okafor (2012) further explained, the nonstandard mode of employment relations comes at the expense of the already improvised workers in violation of extant labour law, with serious infractions and deficits of decent work in Nigeria. However, this is not surprising, "it is well known that employers left to themselves (as it is the case with labour market flexibility) would act opportunistically, myopically and aggressively, which may result in sub-optimal outcomes, including high labour turnover, low wages and poor working conditions" (Shyam Sundar, 2011 p.1).

In the opinion of interested parties such as the Nigeria Labour Congress (NLC) the new world order has only worked to intensify hardship and deepen the levels of poverty in Nigeria. Specifically, NLC (2007) maintained that "globalisation has produced negative effects such as casualisation, mass retrenchment of labour, the elimination of local industries, trade liberalisation and the economic, political and cultural domination of the third world countries". However, technological impact is not an enough explanation for the current trend of events, especially in a country like Nigeria given the low level of technological development and adoption (Bamidele, 2010). It is instructive to note that to some firms, the current regime of employment relationships may present a route to profit maximization and remaining in touch with competition; but business practices like casualization of workers remain unethical in Nigeria as such practices end up hurting workers interest and violating some fundamental labour laws (Okafor, 2007).

DISCUSSION

Labour market flexibility in Nigeria has given rise to the dualism of labour market characterized by regular (standard) and irregular (non-standard) employment with attendant features and obtainable employment relationships. The spread of regular (standard) and irregular (non-standard) employment in key sectors of the Nigerian economy can be seen in tables 2, 3 and 4.

It must be emphasized that there is no alternative to gainful employment. In fact, literature in Evans and Gibbs (2009) described work as “key ingredient of social recognition, self-esteem, personal identity and participation in society”. In the past, the idea of work was mainly related to the standard employment model under which a worker had one employer, worked full-time devoid of pre-determined end date, mostly on the employer’s premises, and entitled to benefits either directly provided by the employer or through the social security system. However, the face and nature of work have changed in so many ways and the reason being unconnected to the process of globalisation, intensified global competition, technological change and corporate restructuring.

The situation is such that “flexibility” has been pursued selectively and with untold hardships on workers as evidenced in the disregard for employment standards and employees used as corporate risk bearers while governments through policies of deregulated labour markets have only worked to contribute to the emergence and growth of precarious labour (Evans & Gibbs, 2009 p.4). The dehumanization of workers in Nigeria has continued unabated and this is in clear violation of extant labour law, constitution and ILO conventions through nonstandard employment relations (Mokwenye, 2008; Okafor, 2010; in Okafor, 2012 p.99) and while labour bears the full brunt, the body language of government is anything but encouraging.

CONCLUSION

It is acknowledged that the flexibility of the labour market as presented in casualization of labour offers some measure of flexibility and autonomy (at least on the surface) to stakeholders. For instance, many forms of non-standard work are highly desirable for both workers and employers (Tucker, 2002) . However, as collaborated by literature, there exists an interface between some types of non-standard employment and precariousness. The conclusion reached in literature indicated that casual and temporary work arrangements have a higher risk of being precarious than standard employment or other forms of non-standard employment (Tucker, 2002 p.2). For example, casualization of labour as currently practiced in Nigeria is detrimental to employees and has grave consequences on the employer and the national economy (Fapohunda, 2012). In fact, the concept of meaningful, gainful and decent employment is fast becoming some form of utopia in Nigeria. It is not uncommon to hear people talk about their “take-home-pay” not being able to take them home. The overall implication of this development is that large aspects of work remain “unproductive” and cannot deliver fair income. In addition, such works offer little by way of employment security, social security and opportunity for personal development. Employees in such condition have been left docile to point of lack of voice and collective action. It even amounts to travesty of justice that the employees are not accorded (directly or indirectly) the right to participate in decisions that affect their lives.

The paper states that a number of measures need to be adopted to tackle the monster. For instance, the security and welfare of the citizenry which is the guiding principle of governance

should not be left to chance. Government as a major player in the industrial relations arena needs to give bite to her supervisory functions. As a matter of priority, government should not abdicate her responsibilities in the guise of promoting Foreign Direct Investments (FDIs) and diverting scarce resources towards economic transformation. By the same token, management should realize that healthy labour force remains vital to optimal organizational performance and as such, decent labour should be promoted. For the labour unions, the time to act is now. The unions need to be proactive in addressing unwholesome workplace practices. More importantly, employees under the non-standard working arrangement should rise up and empower themselves through collective representation. It is their inalienable right, deeply enshrined in our statute books. A stop should be put to the continued treatment of labour as a commodity; therefore the International Labour Organization (ILO) is enjoined to not just bark but bite as well. To this end, the ILO should do more than the promotion of conventions and recommendations for ratification by member states. The paper believes that a lot need to be done in order to arrest the growing threat to labour standards which precarious labour represents and the best time to start is now!

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TABLES

Table 1: Impact of Precarious Employment on the Employee

Financial & reward Pressure	Disorganization	Regulatory Failure
Irregular working hours, contingent or inconsistent work.	Poor or fragmented communication.	Poor knowledge of legal rights, obligations.
Payment systems that encourage unhealthy or unsafe behavior.	Procedural failures.	Fear of reporting incidents or injuries.
Inconsistent income and financial problems.	In experience (from short tenure) and limited expertise	Limited access to legal protection or compensation.
	Poor induction, training and supervision.	Non-compliance and limited enforcement.
	Poor coordination of workers and tasks.	

Source: Bohle (2012 p.6)

Table 2: Spread of Regular (Standard) and Irregular (Non-Standard) Workers in the Nigerian Petroleum Sector

Company	No and % of Permanent Workers	No and % of casual workers	Total
Nigeria Agip. Oil	246 (12.8%)	1680 (87.2%)	1926
Chevron Petroleum	202 (74.2%)	582 (74.2%)	784
Shell Pet. Dev.	695 (7.8%)	8190 (92.2%)	8885
Connoil	387 (15.3%)	2150 (84.7%)	2537
Mobil Producing	35 (6.6%)	529 (93.8%)	564
NNPC	9000 (75.0%)	3000 (25.0%)	12000
Total	10,565 (39.6%)	16131 (60.4%)	26696

Source: Fapohunda (2012 p.267)

Table 3: Spread of Regular (Standard) and Irregular (Non-Standard) Workers in the Nigerian Banking Sector

Company	No and % of Permanent Workers	No and % of casual workers	Total
UBA	595 (15.8%)	3178 (84.2%)	3773
GTB	358(14.1%)	2180(85.9%)	2538
ZENITH	325 (16.2%)	1680(83.8%)	2005
SKYE	264 (16.0%)	1376 (84.0%)	1640
FIRST BANK	1830 (30.0%)	4270 (70.0%)	6100
Total	3372 (21.0%)	12684 (79.0%)	16056

Source: Fapohunda (2012 p.267)

Table 4: Spread of Regular (Standard) and Irregular (Non-Standard) Workers in the Nigerian Telecoms Sector

Company	No and % of Permanent Workers	No and % of casual workers	Total
MTN	151 (2.6%)	5570 (97.4%)	5721
Airtel Nigeria	105 (2.1%)	4800 (97.9%)	4905
GLO	92 (3.4%)	2650 (96.6%)	2742
Etisalat	67 (4.6%)	1376 (95.4%)	1443
Starcomms	46 (3.9%)	1130 (96.1%)	1176
Total	461 (2.9%)	15526 (97.1%)	15987

Source: Fapohunda (2012 p.267)

PUBLIC POLICY IMPLICATIONS FOR TRADE UNION DEVELOPMENT IN NIGERIA

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ABSTRACT

Trade unions play major roles in shaping the labour market and in the development of Nigeria as a nation. The strategic importance of trade unions, has made its development a matter of great concern to the government hence the enactment of various policies to guide its activities so as to promote industrial peace in the work place and the nation in general. The purpose of this paper is to appraise the implications of public policy on the development of trade unions in Nigeria. The paper adopted qualitative research approach using information gathered from secondary sources. It was observed that public policy has had both positive and negative effects on the development of trade unions in Nigeria. The paper concluded that the various public policies were enacted to solve the challenges arising from the circumstances of the time of enactment; that government had good intentions for the policies even though some of the policies were aimed at undermining the powers of trade unions and their leaders; and that most of the reforms and the policies were based on unilateral actions by the government which negates the spirit of tripartism and social dialogue. The study recommended that government should in future explore the possibility of consulting the unions and adopting social dialogue while the trade unions and their leaders should act in such ways that government will see good reasons to partner with them when embarking on any further trade union reforms.

Keywords: Public policy; Trade union, Development, Ordinance, Structure

INTRODUCTION

Trade unions being one of the actors in industrial relations system play major role in shaping the labour market. From the formation of the first trade union in Nigeria in 1912, trade unions have had major impact in the development of Nigeria. On the other hand, the strategic importance of trade unions has made its development a matter of great concern to the government hence the enactment of various policies to guide their activities in order to promote industrial peace in the work place and the nation in general.

The purposes of the regulations of the actions and activities of the other actors in any industrial relations system by the State through the machinery of government and its agencies are; for the maintenance of law and order, to ensure that justice prevails, and to guarantee liberty and freedom. According to (Fashoyin, 1992, p86), “the role of the State forms part of its broader responsibility for the commitment to social order”. The intent of public policy is to promote industrial peace and harmony in the work place. Fajana (2007) had expanded the role of the State

to include the coordination of the activities of employers, employees, political parties among others. Different public policy regimes starting with the trade union ordinance of 1938 have some influence on the development of trade union in Nigeria.

The legal framework for industrial relations in Nigeria is in five main legislative parts; Labour and Employment Acts, Trade Union Act, Trade Disputes Act, Factory Act, and Employees' Compensation Act.

There have been various studies in the areas of trade union development but a few of these works have looked at how public policy affects trade union development in Nigeria. The purpose of this paper therefore is to appraise the public policy implications on the development of trade unions in Nigeria. The paper adopted qualitative research approach using information gathered from secondary sources. The study will focus on the various trade union Acts and reforms that shape the development of labour movement in Nigeria.

This paper commenced with an introduction, followed by explanation of public policy and review of the phases of trade union development in Nigeria. In addition, it explores the provisions of the various public policies on trade unions particularly the Trade Union (Amendment) Act of 2005 and finally draws conclusion and recommendations.

Public Policy

The public policy in Nigeria was at first based on the principle of voluntarism, which was inherited from the British industrial relations system. The government was to intervene in extreme cases of necessity in the interest of public peace. However, the use of wage commission by the government for regulations of terms of employment in the public sector makes the failure of the principle of voluntarism inevitable.

Following the failure of the principle of voluntarism and the impact of Nigeria Civil war from 1967 to 1970, the government introduced the restrictive and interventionist policy in 1968. The policy adopts the concept known as limited intervention and guided democracy. The main legal instrument that formalised the interventionist policy was introduced by Mohammed/Obasanjo regime in 1975 through the then 'New National Labour Policy'.

LITERATURE REVIEW

Periods of Trade Union Development in Nigeria

The history of trade unions in Nigeria started in 1912 with the formation of Civil Service Union (CSU). Writers such as Omole (1991), Abu (2007), and Otobo (1987) have identified some significant phases of trade union development in Nigeria;

The first period is the pre-1938 era. This period marked the introduction of wage employment in Nigeria. In this period, the government did not allow workers to form unions and where they formed such unions, the government and the employers did little to recognise the unions so formed.

The second phase is the period between 1938 and 1966. This was the stage of recognition and voluntarism. It is at this time that government showed interest in the formation of trade unions.

This period marked the birth of the Trade Union Ordinance of 1938, which granted recognition to trade unions. Trade union of this time were recognised and hence could operate without overt molestation or intimidations

The third phase is the stage of development and intervention (1967 -1975). The phase is characterised by limited intervention in industrial relations by the government. This phase started during the Nigerian Civil War (1967 to 1970) and it is important to state that the civil war situation fuelled the government interference in industrial relations (Abu, 2007).

The fourth phase (1976 -1998) is the phase characterised by proscription, banning and forced restructuring of trade unions. Government banned trade unions in Nigeria from international affiliations with foreign labour unions and organisations except for International Labour Organisation (ILO) and Organisation of African Trade Union Unity (OATUU). It was this period that the Trade Union (Disqualification of certain Persons) Act No. 15 of 1977 that banned eleven trade unionist including veteran Michael Imoudu from trade union activities for life was enacted. In addition, the Decree proscribed the four existing labour centres and created a single labour centre; the Nigeria Labour Congress (NLC). Also, the over 1000 trade unions as at that time were restructured into 70 unions. This phase also, witnessed the further restructuring of the industrial unions to 29 unions. There were cases of proscriptions of trade unions in the 1970s for instance, the National Union of Bank Employees was proscribed on 27 May 1976 after a strike (Otobo, 1987) and also, in 1988 the Military Authority proscribed the Immigration, Customs and Excise Workers Union.

The fifth and the current phase (1999 to date) commenced with the advent of civilian regime in 1999. This phase witnessed the democratisation and liberalisation of trade unions. A major legislation in this phase is the Trade Union (Amendment) Act of 2005, which set the pace for the democratisation of the trade unions along the ILO standards.

Public Policy and Trade Unions

The late development of trade unions in Nigeria could be traceable to lack of wage employment as the economy was dominated by subsistence agriculture. In addition, the few employers then and the colonial government were not comfortable with the need to have trade unions as they viewed them as agents of social change that can be a threat to their political agenda. For example, the employers and colonial masters opposed the formation of trade unions on excuses that such unions would rival the authority already accorded the traditional rulers (Fajana, 1991).

With the growth and expansion of wage employment in government establishments, the first trade union in Nigeria, the Civil Service Union (CSU) was formed in 1912. While Ananaba (1969) and Otobo (1987) supported the view that trade unions generally came into being from the effort of the workers to seek through collective action, an improvement of existing working conditions such as wages, hours of work, work place safety and other employment conditions, (Fashoyin 1992; Yesufu, 1962) argued that the CSU then was not the typical Trade Union, as its formation did not follow the ideals of trade union as an organisation propelled by the need to fight for members rights. They also argued that the formation of the union was not out of frustration or disaffection with the workers' condition of work.

The formation of Nigerian Union of Teachers (NUT) in 1931 followed that of the CSU. They sought for the harmonisation of the working conditions of African teachers in mission schools with those in government schools. In 1932, the Nigeria Union of railwaymen (NURM) which later became Railway Workers Union (RWU) came into being and became the most militant at that time. The above three unions, the CSU, the NUT and NURM dominated the industrial relations space in the 1930s.

The Trade Union Ordinance passed in 1938 came into force on the 1st of April 1939. This was followed by the creation of a labour inspectorate, which became the department of labour in 1942. In addition, the administration enacted a trade dispute (Arbitration and Inquiry) ordinance in 1941. The 1938 Trade Union Ordinance made provision that every trade union be registered within three months of formation or be disbanded. Trade union membership was restricted to persons above sixteen years of age and a minimum of five persons could form a union. A minor or an illiterate cannot hold positions of treasurer, secretary and/or president. Some of the provisions of the ordinance were in fact, made for the benefit of the government. For instance, the compulsory registration represented a “formidable weapon in the selective harassment of union leadership particularly in the turbulent 1940s when colonial officialdom strenuously sought to drive a wedge between nationalist politicians and union leadership” (Otobo, 1988, p46). Besides, the provision of the ordinance that a minimum of five persons could legally form a union has been criticised for it brought about multiplicity of unions. The Ordinance encouraged indiscriminate formation of trade unions which according to Fajana (2006), resulted in the growth of large number of ineffective trade unions. However, the provisions of the Ordinance have some positive attributes as the number of workers in paid employment then were small. Such that any attempt to increase significantly the number of workers that can form a union might have made the formation of unions difficult and this might bring little gain if the minimum number was so high and unrealistic that it failed to take into account the small size of majority of existing establishments.

By 1942, the African Civil Servants Technical Workers’ Union (ACSTWU) formed by Technical Workers in the Civil service had 12 affiliate members. There was also the formation of Trade Union Congress TUC by the strong support of the Railway Workers Union. In 1942, Michael Imoudu a foremost trade unionist led a strike to protest against rising cost of living that resulted from the World War II. This led to banning of Imoudu in 1943. The TUC and ACSTWU came together to form the Trade Union Congress.

During the civil war, the government came up with some interventionist policies meant to limit internal democracy by organisation and trade unions during the wartime. Among the various Decrees promulgated was the Trade Dispute (Emergency Provision Decree) No. 21, 1968, which replaced the (Arbitration and Inquiry Act of 1941). The major provisions of the decree were the banning of strikes, lock-outs, and the provision for dispute settlements during the war with the aim of creating a wartime industrial peace and harmony.

A further amendment to the decree came in 1969. The Trade Dispute (Emergency Provision Amendment) Decree No. 53 of 1969. The Decree as part of its provision established an Industrial Arbitration Tribunal that had a final decision on trade disputes. The Decree also provided that the

implementation of any wage increment must follow approval of the Federal Military government.

Despite these Decrees, the government still allowed the principles of collective bargaining and intervened whenever there was a deadlock in the process of collective bargaining.

Another major government intervention in trade union affairs was the enactment in 1973 of the Trade Union Decree No. 31 meant to regulate the process of registration of trade unions. The Decree provided that the employers of labour effect the registration of trade union compulsorily. The period of 1970s witnessed the existence of several trade unions and a number of federations all struggling for ideological leaning and international affiliation. “The consequence of this development was that the unions lacked proper organisational structures and dependable financial resources, with inevitable consequences for their security” (Fajana, 2007, p150).

To curb the challenge of ideological struggle, the federal military government in 1975, promulgated a Decree banning any form of international affiliation with foreign trade unions such as International Confederation of Free Trade Unions (ICFTU) and the World Federation of Trade Unions (WFTU). The Decree however retained the affiliation to International Labour Organisation (ILO) and Organisation of African Trade Union Unity (OATUU). Government also in 1976 set up a tribunal to look into the activities of trade unions in Nigeria. At the end of the tribunal sitting and subsequent submission of their report, the government promulgated the 1978 Trade Union Decree that revoked the certificates of the existing trade union federations and banned some trade unionists from further participation in trade union activities.

This intervention led to the appointment of a sole administrator who was to restructure, coordinate and administer the affairs of the unions then. The appointed Administrator of Trade Unions worked on the restructuring exercise and at the end, the number of trade unions in Nigeria reduced from over 1000 to 70 unions organised along industrial lines. Under the arrangement, the emergent 42 industrial unions became affiliates of the NLC. The Decree provided for automatic registration to the new unions and the employers were most obliged to recognise them (Fajana, 2006; Fajana, 2007).

In 1996, the government used Trade Union (Amendment) Decree 4 to restructured the industrial unions from 41 to 29 unions. The essence of this exercise was to streamline and combine the overlapping Industrial Unions. In 1999, the Military handed over government to the civilian government led by Chief Olusegun Obasanjo who was also the presiding Military Head of State in 1978 when the government first restructured the Trade Unions in Nigeria. In October 2003, the Government sent an Executive Bill to the National Assembly to further amend the Trade Union (Amendment) Act of 1996. The Bill passed into law by the National Assembly was assented to, by the President on March 30, 2005.

The table above represents the structure of trade unions as at 2006, the number of Senior Staff Associations has however increased to 25 in 2012 (Fashoyin, Owoyemi & Chidi, 2012)

The Trade Union Amendment Act of 2005

This section is to appraise in detail the provisions of the Trade Union (Amendment) Act of 2005. The central objective of the amendment was to bring about further democratisation and the liberalisation of trade unions in Nigeria in the sense that it created an opportunity for registration of multiple federations of trade unions and each employee had the freedom of choice of which union they want to join. The areas amended included voluntary membership, check-off dues, payment to Federations, representation at collective bargaining, participation in strikes and lock-outs, federation of trade unions, registration requirements, and personal freedom.

Voluntary Membership:

Section 2 of the new Act provided that membership of trade unions by employees shall be voluntary and that no employee shall be forced to join any trade union or be victimised for refusing to join or remain a member. In practice today, membership of the union is still automatic but members can opt out if they so wish.

Check-Off Dues:

Section 3 of the 2005 Amendment Act restricts the deductions of check-off dues from the wages of only workers who are members of any of the trade unions and such deductions be remitted to the trade union so registered. Also, trade unions shall pay to the appropriate registered federation of trade unions out of the contribution received from their members, whatever amount specified in the constitution of the registered federation of trade unions concerned.

Representation at Collective Bargaining:

Section 5 provides that for the purpose of collective bargaining, all registered unions in the employment of an employer shall constitute an electoral college to elect members who will represent them in negotiations with the employer. For the purpose of representation at tripartite bodies or any other body, the registered federation of trade unions shall constitute an electoral college taking into account the size of each registered federation, for electing members who will represent them.

Participation in Strikes and Lock-Outs:

Section 6, Subsection 6 provides that workers, trade union or employer shall take part in a strike or lock-out or engage in any conduct in contemplation or furtherance of a strike or lock-out if, they are not engaged in the provision of essential services; the strike or lock-out concerns a labour dispute that constitutes a dispute of right; the strike or lock-out concerns a dispute arising from a collective and fundamental breach of contract of employment or collective agreement on the part of the employee, trade union or employer; the provision for arbitration in the trade Disputes Act Cap 432, laws of the Federation of Nigeria, 1990 have first been complied with and in the case of an employee or a trade union, a ballot has been conducted in accordance with the rules and constitution of the trade union at which a simple majority of all registered members voted to go on strike.

A fine of ₦10,000.00 or six months imprisonment or both the fine and imprisonment on conviction for any person, trade union or employer who contravenes the provision of this subsection.

Subsection 8 affirms that the determination of the National Industrial Court in all such disputes shall be final. Subsection 9 defines 'Disputes of Right' to mean any labour dispute from the negotiation, application, interpretation of a contract of employment or collective agreement under this act or any other enactment or law governing matters relating to terms and conditions of employment.

Federation of Trade Unions and Registration Requirements:

Section 7 changed the nomenclature of the labour centre from ‘Central Labour Organisation’ to Federation of Trade Unions’. Section 8 explains the conditions for the registration of a trade union by the Registrar. This section further provides that, the Registrar shall within 90 days register the Federation and issue certificate of registrations once all the requirements for registration are satisfied.

Personal Freedom:

Section 9 states that no person shall subject any other person to any kind of constraints or restriction of his personal freedom in the course of persuasion. It further provides that no trade union or registered Federation of Trade Unions or any of their members shall in the course of any strike action compel non members of its union to join any strike.

FINDINGS

This section discusses the outcomes of the various public policies on the development of trade unions in Nigeria. Both positive and the negative outcomes are examined.

It is observed that the various public policies influenced Trade Union development in the following positive ways:

- The reduction of destructive ideological conflicts among the Federations of Trade Unions in Nigeria
- Renewal of moribund unions and the substitution of large number of and ineffective industrial unions for effective ones
- The 1978 Decree created a monopoly in NLC but the 2005 Amendment Act broke the monopoly of NLC. There are now two Federations of trade unions, the Nigerian labour Congress and The Trade Union Congress (TUC). With the existence of two federations of trade unions, the scope of collective bargaining and negotiation has widened
- Assurance of dependable internally generated financial resources through automatic check-offs and timely remittance to the concerned trade unions
- Encouraged the employment of well disciplined and experienced trade union leaders performing full time duties

With the democratisation of trade unions, employees now have the freedom to join trade unions and at the same time, they are free to withdraw their membership of any trade union at any given time. The rigid structure that confines only junior workers to affiliate with NLC has given way for a more flexible one that allows unions to freely affiliate to any federation of trade unions of their choice

Negative outcomes include the following:

- Fajana (2007) expressed the view of some commentators whose belief it is that the target of series of trade union reforms by the government were at a few ‘trouble makers’ in the trade union movement who have barred the State from imposing higher fuel prices on the Nigerian people. This is similar to the views of (Otobo, 1988) on the 1978 Trade Union Decree that the thrust of the new policy was clearly intended to undermine and pre-empt the efforts of labour leaders.
- The 2005 Act makes it difficult if not impossible for workers to embark on strike on issues that do not directly border on contract of employment. This is because section 6(3) of the 2005 Amendment Act provides that strike or lock-out should concerns disputes arising from

a collective and fundamental breach of contract of employment or collective agreement on the part of the employee, trade union or employer

- The Decrees on trade unions were strong on proscription of unions and banning of trade unionists. There were more like punitive measures than developmental in outlook.
- The policies created opportunity for the State to intervene in the affairs of voluntary associations such as trade unions and employers' association. This aligns with Ootobo's view that the intention of the military regime that engaged in the restructure of trade unions was not just to discipline the unionists but rather to achieve some objectives, which include attempts to influence, control and incorporate the labour movement as a State apparatus (Ootobo, 1987; Ootobo, 1986).

CONCLUSION AND RECOMMENDATIONS

From the foregoing, one can conclude that the various public policies on trade unions were at different stages of enactment meant to solve some challenges arising from the circumstances of that time. For instance, the Trade Union Ordinance was meant to legitimise and set standards for the formation of trade unions. The activities of trade unionists in the 1970s coupled with the number of mushroom unions, made the intervention of government necessary. The 1996 legislation was to solve the problems created by the 1978 restructuring exercise. The 2005 Amendment Act was to democratise and liberalise the trade union movements according to ILO standards.

In all these, there are arguments that successive governments in Nigeria deliberately pursue policies designed to undermine the powers of trade unions. However, the reasons advocated by the government for the various reforms may be good but the unilateral actions of the government makes their intentions suspect. There are increased cases of unilateralism by the State at the detriment of tripartism and social dialogue in the areas of policies on trade unions in Nigeria.

Government therefore could in future explore the idea of tripartism and social dialogue when attempting any further reforms of the trade unions because no matter how golden the reforms might be, unilateralism of action will open the reforms to strong criticism and rejection by the trade unions and other interested parties.

On the part of the trade unions and trade unionists, they should play the game in such a way that government will not see any reason to carry out reforms without due consultations especially now that we are in a democratic regime.

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APPENDIX

Table 1

Structure of unions after trade union (amendment) act of 2005.

Type of Union	1978	1986	1988	1990	2006
Industrial Union	42	42	41	41	29
Senior staff association	15	18	21	20	20
Employers Association	9	22	22	22	22
Professional unions	4	4	4	4	4
All	70	86	88	87	75

Source: Fajana (2007, p151), see also Fajana (2006, p158)

EFFECT OF NIGERIAN AGRICULTURAL INSURANCE SCHEME ON RISK MANAGEMENT IN LIVESTOCK (POULTRY) PRODUCTION IN OYO STATE

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ABSTRACT

Livestock industry constitutes an important engine of growth and poverty reduction. The poultry sub- sector represents a major source of income in Nigeria. It offers the quickest returns to investment outlays in livestock enterprise. The poultry subsector is the most commercialised of all the sub- sectors of the Nigerian agricultural industry. In spite of the significance of the poultry industry to the national economy, poultry farms face risks and uncertainty inimical to the growth of the industry. This study therefore evaluates Nigerian Agricultural Insurance Scheme (NAIS) on Risk Management in Livestock (poultry) production in Oyo State. Quantitative data were collected with the use of questionnaire from Nigerian Agricultural Insurance Corporation (NAIC) in Oyo State. Descriptive and inferential statistics were used in the analysis. Result revealed that only 13.44% of the total poultry farmers that made losses were paid. 30.37% the total amount of income loss was also indemnified by NAIC. There was positive relationship between indemnity paid and income loss of farmers using regression analysis. This study concludes that participation of poultry farmers in NAIS has not been impressive as a result of low claim settlement, poor funding, inadequate staff and low patronage of target market. It is therefore recommended that adequate supportive policy by federal and state government in the area of funding, aggressive marketing, competent personnel at the state level will enable better performance of N.A.I.C.

Keywords: Livestock, Poultry, Risk, Indemnity paid, Income loss

INTRODUCTION

Agriculture is a major driver of economic growth in Nigeria. Agricultural sector is the largest employer of labour in Nigeria as about 70% of the rural population is involved in agricultural production. In 2010 agriculture contributed about 40% to the Gross Domestic Product (GDP). Also, the agriculture sector is a fulcrum to the national food security by providing the largest proportion of the national total food consumption requirement NASS (2012) Agriculture also helps to generate foreign exchange.

Agricultural activities comprise of crop, livestock, poultry and fisheries. Livestock subsector is the second largest agricultural sub-sector of the Nigerian economy contributing about 10% of agricultural gross domestic product (GDP), (CBN, 2008). Livestock contribute about 3% to Nigeria's GDP (NBS 2006). According to the Federal Department of Livestock (FDL, 2010); livestock estimates in Nigeria as at 2009 stood at 16.43 million cattle, 34.69 million sheep, 55.15 million goats, 7.18 million pigs and 183.16 million poultry.

Nigeria agriculture is not meeting up in its food production to meet food requirement of the raising population (Aboki, Jongur and Onu, 2013). One of the major problems is inadequate

animal protein in diets of a large proportion of the population especially in the rural areas which constitutes over 70% of the Nigerian population.

The poultry sector represents a major source of income in Nigeria. It offers the quickest returns to investment outlays in livestock enterprise by virtue of its short gestation period, high feed conversion ratio alongside being one of the cheapest, commonest and best sources of animal protein in the country (Ojo, 2002). In Nigeria, production of eggs and poultry birds occupies a prime position for improving animal protein consumption of both rural and urban households. Poultry products (meat and eggs) have assumed the role of providing much needed animal protein to human populace (Aihonsu and Sunmola, 1999).

In spite of the significance of the poultry industry to the national economy, poultry farms are still facing challenges inimical to the growth of the industry such as low capital base, inefficient management, disease and parasite, housing and marketing problems (Alabi et al., 2000). Poultry diseases remain one of the major threats to boosting poultry production in Nigeria.

Poultry enterprises are usually faced with a lot of risks and uncertainties, some of which are natural hazard such as floods, drought, fire outbreak, diseases, pest attacks and theft. Since the poultry farmer cannot predict the probability of occurrence of any of these and cannot bear these risks and uncertainties alone, he is faced with the option of transferring or sharing the risks involved in the production. Therefore, poultry farmers underwrite livestock insurance in order to mitigate the ill effects of risks. Risk according to Vaughan and Vaughan (2010) is a condition in which there is a possibility of an adverse deviation from a desired outcome that is expected or hoped for. Risk as the possibilities of loss or misfortune which in some what pessimistic. Risk in inseparable from life and nobody is exempt from it. The ability to control or reduce risk is referred to as risk management. Kaye (2001) also defines risk management as the identification, analysis and control of those risks which can threaten the operations and other responsibilities of an organization. Insurance exists to combat the adverse effects of risk.

According to Vaughan and Vaughan (2010) insurance is an economic device for reducing and eliminating risk through the process of combining a sufficient number of homogeneous exposures into a group to make the losses predictable for the group as a whole. The insurance sector plays a great role in the economy of a nation and all government ensures its stability. Insurance exists to combat the adverse effects of risk. In other to mitigate the effect of agricultural losses the government of Nigeria had put in place a number of rural development strategies. One of these strategies is the Nigerian Agricultural Insurance Corporation (NAIC) in 1987. This corporation established a scheme Nigerian Agricultural Insurance Scheme (NAIS). The major objective of NAIS was to reduce the impact of risks and uncertainties to an acceptable minimum. It was also intended to promote agricultural production generally by minimizing or eliminating the need for ad hoc assistance previously provided to farmers by governments during agricultural disasters. It was design so that small, medium and large scale farmers will benefit from the scheme either as individuals or groups (Aina and Omonona, 2012).

Agricultural insurance is an economic component of farm management designed to reduce the adverse effect of natural disaster on farmers' incomes through the payment of indemnity. According to Epetimehin (2012) agricultural insurance is designed to provide covers for

financial losses incurred due to reduction in expected outputs from agricultural products. The major products are crops and livestock. The National Agricultural Extension and Research Liaison Services (NAERLS 1991) identified the following as the benefits of agricultural insurance to farmers: (a) it protects farmers against financial disaster after suffering any of the insured risks for which indemnity (compensation) is paid. The farmer is not only able to continue in business but also the stability of his income is enhanced; (b) agricultural insurance empowers the farmers to obtain farm credit. Since insurance guarantees protection against crop and/or livestock failure, the insured farmer has greater confidence in obtaining loans; (c) it facilitates better planning and project implementation since there is a high level assurance for continuity in business; (d) it serves as an assurance to banks and other financial institutions to grant loan for agricultural purposes that loans given will be repaid; and (e) it build farmers confidence in using new technologies and making greater investments in agriculture. All the livestock raised in the country are provided insurance cover under the Scheme. The perils covered include death or injuries to the livestock due to accident, disease, fire, lightning, storm and flood.

Ajieh (2010) studied poultry farmers' response to agricultural Insurance in Delta State, Nigeria. The author made use of simple descriptive statistics to determined differences in perception of constraints to agricultural insurance between participating and non -participating poultry farmers. Results of the study reveal that only 37% of the respondents insured their poultry farms. This indicates a low participation in agricultural insurance by the farmers. The study also found generally favourable attitude of the farmers towards agricultural insurance. The poultry farmers agreed that agricultural insurance is beneficial and is needed to cushion the effects of losses and damages. The constraints to poultry farmers' participation in agricultural insurance identified by this study include: fears that claims may not be paid; inadequate knowledge on the benefits of agricultural insurance; late payment of compensation, high premium rate and compensation paid does not cover losses.

In the light of this, this study intend to examine the effect of agricultural insurance scheme on risk management in poultry production and to assess the operational conduct of NAIC and the funding of NAIS in Oyo State.

RESEARCH METHODOLOGY

The study was carried out in Ibadan metropolis and sub-urban in Oyo state, Nigeria. The population of the study are the poultry farmers having policies with NAIC. Secondary and primary data were used for this study. Data were collected with the use of well structured questionnaire to acquire information from NAIC officials and 89 poultry farmers on total premium income, insured farmers, number of claims paid, number of claim beneficiaries, amount of indemnity paid, amount of income loss and activities of NAIC as perceived by poultry farmers.

Model Specification

$$Y = f(TP, INLOSS)$$

$$INDP = \beta_0 + \beta_1 TP + \beta_2 INCLO + U_i$$

Where Dependent Variable is:

INDP = Indemnity Paid

Independent Variables are:

TP = Total Premium

INCLO = Income Loss

U_i = Error term

Method Data Analysis

Data were analysed using a number of analytical techniques. These include descriptive statistics and inferential statistics. Ratio and percentages were used to calculate the number of claims beneficiaries to number of claims made. The ratio of amount of indemnity paid to the amount of income loss of farmers was also calculated. Multiple linear regression was used to examine the effect of indemnity paid on total premium and income loss of poultry farmers.

RESULTS AND DISCUSSION

The effect of agricultural insurance scheme on risks management in livestock production according to table 1 revealed that Banks/other lending institutions and relatives/friends provide the largest source of awareness of NAIC with 26.97% and 24.72% respectively. NAIC uses newspaper, radio/television program and ADP Extension outfit as sources of awareness of NAIC activities and these provide information for 10% respectively. Only 2.25% poultry farmers knew about NAIS through NAIC officials which indicate that NAIC does not have marketing agents to disseminate information about NAIC activities so as to reach the target market.

Result in table 2 showed that 11.24% respondent were of the opinion that it was a waste of resources to join the scheme, 4.49% said it is expensive to join the scheme, 42.70% complained that insurance companies (not restricted to NAIC) are dubious as they always give excuses of moral hazards as conditions in order not to settle claims when losses arise. About 26.97% are of the opinion that the scheme is a good one while 15.61% said the scheme is more effective for loss reduction. 85.28% respondents confirmed not having plans to continue with the scheme while 13.48% intend to continue with the scheme but complained that N.A.I.C shies away from indemnifying farmers that suffer losses.

Table 3 revealed that 32.26% consider the premium charged as low, 59.68% considered it moderate while 8.05% believed they cannot afford the premium because it is high. In all, 91.94% of the respondents considered the premium charge by the scheme affordable. 53.93% respondents joined the NAIC to secure loans while 20.22% joined to increase farming efficiency and 23.60% joined to insure against losses.

Benefit derived by respondents in NAIC activities was measured by asking respondents to rate themselves on a three point scale of beneficial, fairly beneficial and non beneficial. The following observations were made. 70.79% Poultry farmers that participated in NAIC activities said the programme was not beneficial to farmer, 24.74% believed that the scheme was fairly

beneficial while 4.49% opined that the Nigerian Agricultural Insurance Scheme was fully beneficial. Large number of poultry farmers believed that the scheme is not beneficial because most of the time, indemnities are low or not paid at all.

Result on the operational conduct of NAIC revealed that out of ₦47,116, 773 income loss by insured poultry farmers, NAIC only indemnified the insured to the tune of ₦14,544,970 which is 30.87% of the total losses. A total of 4443 claims were made on NAIC but indemnity was received by only 597 poultry farmers which amount to 13.44% between 1989 and 2013.

From table 7, 8 and 9, correlation coefficient ($R= 0.806$) revealed a high positive relationship between the dependent and the independent variable. The coefficient of multiple determination $R^2 = 0.649$ shows that 64.9% variation in indemnity paid is explained by total premium received by NAIC and income loss by poultry farmers. This suggests that a strong goodness of fit. By implication, there are other factors that determine indemnity paid to farmers. The F statistics obtained from the regression result was significant at 5%. Regression parameters of the model indicate a negative relationship between indemnity paid to farmers and total premium received by NAIC. There was a positive relationship between indemnity paid to farmers and income loss by farmers. Therefore, total premium has no statistical significance on indemnity while income loss is statistically significance at 5% level of significance. On this basis, we conclude that income loss has effect on indemnity.

CONCLUSION

The study revealed that the participation of livestock (poultry) farmers in the Nigerian Agricultural Insurance Scheme has not been so impressed. This is as a result of poorly publicized programme, non availability of inspection vehicles, poorly located office and inadequate number of staff in Oyo State branch of N.A.I.C.

In the area of funding, Oyo State government has not being paying it own share of the subsidies since 1995 meaning that it is only federal government that has paid up till date. Inability of N.A.I.C to underwrite and settle claims promptly led to some dissatisfaction among its clientele- both farmers and banks.

Conclusively, N.A.I.S has not achieved its objective of effective risk management because the study revealed that out of 4443 poultry farmers that incurred losses from 1989-2003, it was only 597 poultry farmers that were indemnified which form only 13.44% of the total number of farmers that incurred losses. Even when there was prompt report of losses, there was delay in payment of indemnity.

RECOMMENDATION

The study revealed the operational conduct, performance of N.A.I.C and the effect of agricultural insurance on risk management in livestock (poultry) production in Oyo State. The following policies are therefore recommended for improvement of NAIC activities.

The number of staff on the organization chart of N.A.I.C is not the same with the actual number of staff in the Oyo State branch as only five members of staff are actually attached to the branch while the organization chart indicated nine members of staff. Effort should be made to increase

the number of competent personnel in the branch to enable better performance of the organization.

Secondly, activities of N.A.I.C should be well funded by the federal and the state government to enhance increase performance. Aggressive marketing strategy should be designed and embarked upon. This should include: provision of inspection vehicles, standard office, organization of workshops, advertisement (print media), sponsoring of radio and television programmes which lay emphasise on the importance of agricultural insurances, some degree of collaboration should also be developed with the central bank and ACGSF. These institutions would prove to be useful allies in monitoring bank loans for the purpose of insurance.

Conclusively, premium remittance, commission and claim settlement procedure should be seriously addressed. Since insurance operates on the basis of “no premium” “no cover”. The banks given agricultural loans should remit premium promptly on N.A.I.C so that policy document can be issued to the insured. This will also help to reduce the time lag between lodgment of claim and claim settlement. Nigerian Agricultural Insurance Corporation should endeavour to keep religiously to contractual arrangements so as to allay the fears of farmers that claims may not be paid.

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APPENDIX

Table 1 Source of Awareness of NAIC Activities

NO	SOURCE	FREQUENCY	PERCENTAGE
1	Newspaper	10	11.24
2	Relatives/friends	22	24.47
3	NAIC officials	2	2.25
4	Radio/television	13	14.61
5	ADP extension outfits	10	11.24
6	Other farmers	5	5.62
7	Banks/other lending institutions	24	26.97
8	Other sources	3	3.37
	Total	89	100

Source: Computed from Field Survey (2014).

Table 2. Impression of Respondents about the Scheme and distribution on plans to continue with the scheme

IMPRESSION	FREQUENCY	PERCENTAGE
Waste of resources	10	11.24
Expensive	4	4.49
Dubious	38	42.70
Good	24	26.97
Loss reduction	13	14.61
Total	89	100

Source: Computed from Field Survey (2014)

Table 3. Impression about the Premium

Premium	Frequency	Percentage
Low	20	22.4
Moderate	64	71.9
High	5	5.62
Total	89	100

Source: Computed from Field Survey (2014).

Table 4. Reasons for Joining the Scheme

Reason	Frequency	Percentage
To secure Bank loan	48	53.93
To increase farming efficiency	18	20.22
To insure against loss	21	23.60
Other reasons	2	2.25
Total	89	100

Source: Computed from Field Survey (2014)

Table 5. Benefit Derived Level of Respondents

Categories	Frequency	Percentage
Non beneficial	63	70.79
Fairly beneficial	22	24.72
Fully beneficial	4	4.49
Total	89	100

Source: Computed from Field Survey (2014).

Assessment of Operational Conduct of NAIC in Oyo State.

Table 6: Number of Claims and Amount paid to Poultry Farmers 1989-2013

YEAR	TOTAL PREMIUM (₦)	INSURED FARMERS	NO OF CLAIMS MADE	NO OF CLAIMS BENEFICIARY	AMOUNT OF INDEMNITY PAID (₦)	INCOME LOSS (₦)
1989	200,493	20	0	0	0	0
1990	158,509	46	5	1	2,000	5,000
1991	250,439	58	15	3	10,000	14,050
1992	288,463	89	25	8	24,000	36,400
1993	349,042	105	46	4	15,000	42,186
1994	469,000	215	100	2	4,000	12,690
1995	849,605	280	28	6	48,000	85,450
1996	967,548	568	72	5	56,750	97,000
1997	874,649	614	150	16	567,840	350,408
1998	1,046,573	816	360	14	350,000	548,000
1999	945,679	876	410	18	64,050	611,150
2000	1,474,608	1120	140	10	478,740	864,186
2001	1,602,940	1454	300	21	750,400	2,234,807
2002	1,742,873	1674	506	32	1,045,000	6,498,486
2003	1,856,741	1652	490	8	175,000	3,304,000
2004	2,007,500	1230	534	30	346,800	900,486
2005	1,605,700	1435	200	29	400,000	1,50,000
2006	1,875,000	823	134	24	75,286	400,000
2007	2,042,154	1002	247	58	498,450	3,004,118
2008	2,389,405	525	156	70	568,986	2,000,746
2009	1,600,560	843	136	50	2,763,968	5,746,540
2010	2,200,670	690	116	65	1,500,000	4,000,960
2011	2,400,500	800	135	48	3,500,000	8,158,400
2012	2,600,545	870	70	50	900,000	2,201,410
2013	2,800,000	860	68	25	400,700	6,000,300
TOTAL	34,599,196	18,665	4,443	597	14,544,970	47,116,773

Source: NAIC (2014)

From Table 6:

Ratio of poultry farmers that had claims to those that were indemnified =

Number of Claims Made $\times 100 = 597 \times 100 = 13.44\%$

Number of Beneficiaries Paid 4443

Ratio of the amount of indemnity paid to amount of income loss to poultry farmers =

Amount of indemnity paid $\times 100 = \frac{14,544,970}{47,116,773} \times 100 = 30.87\%$

Amount of income loss ₦47,116,773

Regression Result

Table 7. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.806	.649	.617	534176.059

Table 8. ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	1.160E+13	2	5.799E+12	20.324	.000
Residual	6.278E+12	22	2.853E+11		
Total	1.788E+13	24			

- a. Dependent Variable: Indemnity Paid
 b. Predictor: (Constant), Income, Total premium

Table 9. Coefficient

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std.Error	Beta		
1 (Constant)	135044.765	220059.337		.614	.546
Total premium	-.099	.182	-.094	-.544	.592
Income loss	-.309	.061	.866	5.025	.000

THE ADOPTION OF STRUCTURED AEROBIC EXERCISE PROGRAMME AS A MEANS OF IMPROVING FEMALE CARDIOVASCULAR HEALTH CONDITION

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ABSTRACT

Studies have been carried out over the years on the role of exercise on health. However, predisposing factors to cardiovascular diseases develop slowly from childhood and manifest clinically in middle age. This study therefore assesses the cardiovascular changes among women following 8 weeks structured aerobic exercise programme. 180 female staff between ages 40 to 60 years from tertiary institutions in Lagos metropolis participated in the study. The participants were grouped into experimental and control groups. The exercise programme comprised warm-up, treadmill walking/running and warm down which lasted for eight weeks. Analysis of Covariance (ANCOVA) and regression were used in analyzing the data. The variables measured before and after the exercise programme include: physical characteristics, resting blood pressure values and fasting blood sugar level. Findings showed significant changes in the resting blood pressure values and the fasting blood sugar levels of the participants. The study also indicated that the resting heart rate is a function of weight, height, resting blood pressure, hip circumference, waist circumference, waist to hip ratio, body mass indeed, fasting blood sugar level and age. The study concluded that aerobic structured exercise programme is an effective therapy for improving cardiovascular health among females.

Keywords: Cardiovascular disease, Structured aerobic exercise, Resting heart rate,

INTRODUCTION

The health challenges of some developed and developing countries of the world seems to be in the area of cardiovascular diseases. The developed countries have made significant progress in improving the cardiovascular health status of its citizens through aerobic exercise but the developing countries have not dedicated enough attention to this area (Otinwa, Phillips & Mbakwem, 2006). It has been identified that regular aerobic exercise induces physiological responses (Otinwa 2004 & 2008; American College of Sports Medicine, 2000; Blair & Brodney, 1999; Abass & Angba, 2012). Despite the widespread interest in the clear benefits of exercise on health and lifestyle, cardiovascular disease (CVD) especially coronary heart diseases (CHD) continue to be the leading cause of death in developed countries and their prevalence is gradually increasing in developing countries of which Nigeria is not an exception (Kearney et al, 2004).

Cardiovascular diseases and stroke remain the highest cause of death worldwide. This is attributed to the fact that as a nation develops higher standard of living, death from cardiovascular diseases increase. Hypertension has been identified as the most prevalent cardiovascular (CV) disorder affecting the adult population of both developed and developing countries, the prevalence observed as increasing with age and rising steeply after the age of 50 (Kearney, Whelton & Reynolds, 2004; Agostino & Graham, 2007). Health and wellness are means of achieving a balanced and harmonious lifestyle and they are frameworks used to organize, understand and balance human growth and development (Otinwa, 2008).

Population Reference Bureau (2007) stated that the average life expectancy for individuals in Nigeria is 46 years for males and 47 years for females. When this is compared to the World Health Organization, calculation of healthy life expectancy that places Nigeria at 182nd position with a healthy life expectancy of 46.9 and is 30% below world average which is 67.2 (United Nations List of Countries by Life Expectancy, 2010), it will be concluded that there is problem in our hands. As a result of this, researchers have recommended that all individuals age forty and above should have a routine cardiovascular risk assessment to discover earlier the risk of developing cardiovascular diseases. The younger adults that have a strong family history of early cardiovascular disease should be assessed. Women have been found to be more prone to cardiovascular diseases than men, (Farias, Souza, Laurent & Alencan, 2009; Jousilahi, Qiao, Kato & Tuomilehto, 2004 & Otinwa, 2008). Similar health condition was observed at the University of Lagos Medical Centre, where women reported cases of cardiovascular diseases more than men. This forms the basis for conducting this study. Furthermore, medical records from one of the tertiary institutions revealed that in the year 2005, 481 out of 883 female staff of the institution reported cases of hypertension which is 54.5% of the population, 48 reported diabetes while the number of male staff that reported hypertension were 361 out of 847 which is 42.6% of the population. In 2006, 301 hypertensive cases which is 34.09% of the population and 86 diabetes were reported among females while 296 cases of hypertension that is 34.9% of the population and 80 diabetes were recorded. In 2007, 406 or 46% of the population reported cases of hypertension. In 2008, 286 females or 32.38% of the population were reported to have hypertension, 70 diabetes and 4 stroke cases were among the females. 203 females or 24% of the population reported cases of hypertension while 198 males or 23.37% of the population reported cases of hypertension in 2009. As a result of these discovery from medical records, this study identified the various cardiovascular changes that will predispose individuals to cardiovascular diseases and how structured aerobic exercise can avert or reduce the problem. The main research question is that there will be no significant difference in the resting blood pressure and physical characteristics of participants after eight weeks of aerobic structured exercise.

METHODS

Pre-test-post-test control group experimental research design was used for the study. The participants comprise purposively selected individuals who volunteered, gave their consent and are staff of higher institutions in Lagos metropolis which include: University of Lagos, Yaba College of Technology, Lagos State University, Federal College of Education (Technical) Akoka and St. Augustine College of Education. Recruitment of participants was done through advertisement on Radio Unilag, Campus Newsflash which was displayed on the notice boards of the tertiary institutions and physical visit to female offices. The participants were randomly divided into experimental and control groups.

Test Administration

Measurements of the subjects were carried out three days before the commencement of the structured exercise programme, during the programme, and after the completion of the programme. Measurements were taken between 8.00am and 11.00am and between 4.30pm and 6.30pm respectively. Aerobic structured exercise programme consist of warm up exercise on light jogging round the gymnastic room which lasted for 5 minutes. Main workout includes, riding on a bicycle ergometer for 10-15 minutes, five minutes rest, which is followed by flexibility exercises such as stretches were performed for 10 minutes and 5-10minutes slow walk

as a warm down activity. This aerobic structured circuit exercise programme lasted for eight weeks.

RESULTS

Results are presented as mean, standard deviation, range and inferential statistics of analysis of covariance.

The mean average of the pre-exercise body mass index of the participants in the experimental group reduced from 34.51 ± 7.12 to 32.37 ± 6.9 . Whereas the mean average of the control group increased from 33.91 ± 5.28 to 35.37 ± 5.54 . The reduction in the body mass index of the experimental group may be due to the intervention of the aerobic structured exercise other extraneous factors taken into consideration.

The analysis of covariance in table 2 on the effect of aerobic structured exercise programme on cardiovascular changes of female staff of tertiary institutions in Lagos metropolis in the experimental and control group shows significant difference ($F = 398.1, 300.19, 50.96, 31.97$ & 124.6 ; $df 1$; $P = 0.05$) between the experimental and control groups. Therefore, the null hypothesis that there is no significant difference in resting blood pressure levels of participants after eight weeks of aerobic structured exercise programme was rejected.

DISCUSSION OF FINDINGS

The pre-test mean values for systolic and diastolic blood pressures obtained in this study fall within the range for normotensives. The significant decrease observed in the blood pressure of the subjects agrees with the findings of Otinwa (2008), Astrand and Rohdal (2003) who reported that regular exercise exerts considerable effects on blood pressure. The results revealed a significant difference in the pre-test and post-test values of females in tertiary institutions in Lagos metropolis. Astrand and Rohdal (2003) confirmed the benefits of structured exercise programme on females.

The findings of this study revealed that structured exercise programme has a significant effect on the resting systolic, diastolic blood pressures and the heart rate of females in tertiary institutions in Lagos metropolis. This is in line with the research findings of Primatesta et al (2001), Ferguson et al (2000), Shephard (1995 & 1999), & Emiola (2008), Otinwa & Agbaraji (2008) which stated that exercise aids greater emptying of the systolic. The evidence is seen on the pretest mean resting systolic and diastolic blood pressure measurements of 155.6mmHg and 85.74mmHg which reduced to 144.96mmHg and 81.57mmHg respectively after the application of the exercise treatment. The findings of this study revealed that exercise is of immense benefit to the female participants in tertiary institutions.

CONCLUSION AND RECOMMENDATIONS

Research findings suggest that there is an ample evidence that a definite relationship exists between exercise and improved cardio-respiratory efficiency. This is particularly evident in the case of reduction in the resting blood pressure levels between pre-exercise test. This indicates that aerobic structured exercise programme improves the resting blood pressure levels of the participants.

Based on this, it is recommended that tertiary institutions of learning should adopt an active lifestyle by participating in aerobics, strength and flexibility exercises. Staff should be given opportunity, access and time to participate in regular physical exercise.

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TABLES

Table 1: Descriptive Statistics of the Pre-Test Post-Test of Participants Physical Characteristics

Variables	Pre-Test N = 180				Post-Test N = 180			
	Mean	SD	Max Range	Min Range	Mean	SD	Max Range	Min Range
Age(Yrs)	52.44	±4.98	60	40	52.44	4.98	60	40
Height (m)	1.63	±0.11	1.65	1.51	1.63	0.11	1.65	1.51
Weight (Kg)	7.88	±8.33	90	78	7.88	±8.33	90	78
BMI(Kg/m ²) Exp.	33.91	5.28	34.51	32.63	32.37	6.9	32.37	30.51
BMI (Kg/m ²) Control	34.51	7.12	35.37	33.91	35.37	5.54	35.37	33.91

Table 1 shows the descriptive statistics of the physical characteristics of the participants.

Table 2: ANCOVA Analysis of Pre-test and Post-test Resting Blood Pressure Levels of Experimental and Control Group

Variables	Pre-Test (N = 180)			Post-Test (N = 180)			ANCOV A DF=1
	Sum of Squares	Mean Square	F	Sun of Squares	Mean Square	F	
RSBP (mmHg) Exp.	192412.8	192412.8	398.1	192412.8	192412.8	398.1*	0.000
RSBP (mmHg) Control	3483496.3	3483496.3	7207.4	3483496.3	3483496.3	7207.4*	0.000
RSBP (mmHg) Exp.	134907.72	134907.72	300.19	134907.72	134907.72	300.19*	0.000
RSBP(mmHg) Control	3487595.5	3487595.5	7738.3	3487595.5	3487595.5	7738.3*	0.000
RDBP (mmHg) Exp.	3261.3	3261.3	50.96	3261.3	3261.3	50.96*	0.000
RDBP (mmHg) Control	1751877.2	1751877.2	27377.9	1751877.2	1751877.2	27377.9*	0.000
RDBP(mmHg) Exp.	17231.83	17231.83	294.67	17231.83	17231.83	294.67*	0.000
RDBP(mmHg) Control	1807667.2	1807667.2	30912.0	1807667.2	1807667.2	30912.0*	0.000
RHR (BPM) Exp.	11591.45	11591.45	31.97	1159.45	11591.45	31.97*	0.000
RHR (BPM) Control	1648901.4	1648901.4	33124.6	1648901.4	1648901.4	33124.6*	0.000
PRHR (BPM) Exp.	5627.12	5627.12	124.6	5627.12	5627.12	124.6*	0.000
RHR (NPM) Control	1599258.5	1599258.5	35398.4	1599258.5	1599258.5	35398.4*	0.000

Key:

Pre RSBP Exp. = Pretest Systolic Blood Pressure Experimental Group

Pre RSBP Control = Pretest Systolic Blood Pressure Control Group

Pre RDBP Exp & Control = Pretest Diastolic Blood Pressure Experimental and Control Group

Pre RHR Exp & Control = Pretest Resting Heart Rate for Experimental and Control Group

Post RHR Exp. & Control = Posttest Resting Heart Rate for Experimental and Control

*Significant at 0.05

DETERMINANTS OF HYGIENIC PRACTICES AMONG STUDENTS OF UNIVERSITY OF LAGOS

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ABSTRACT

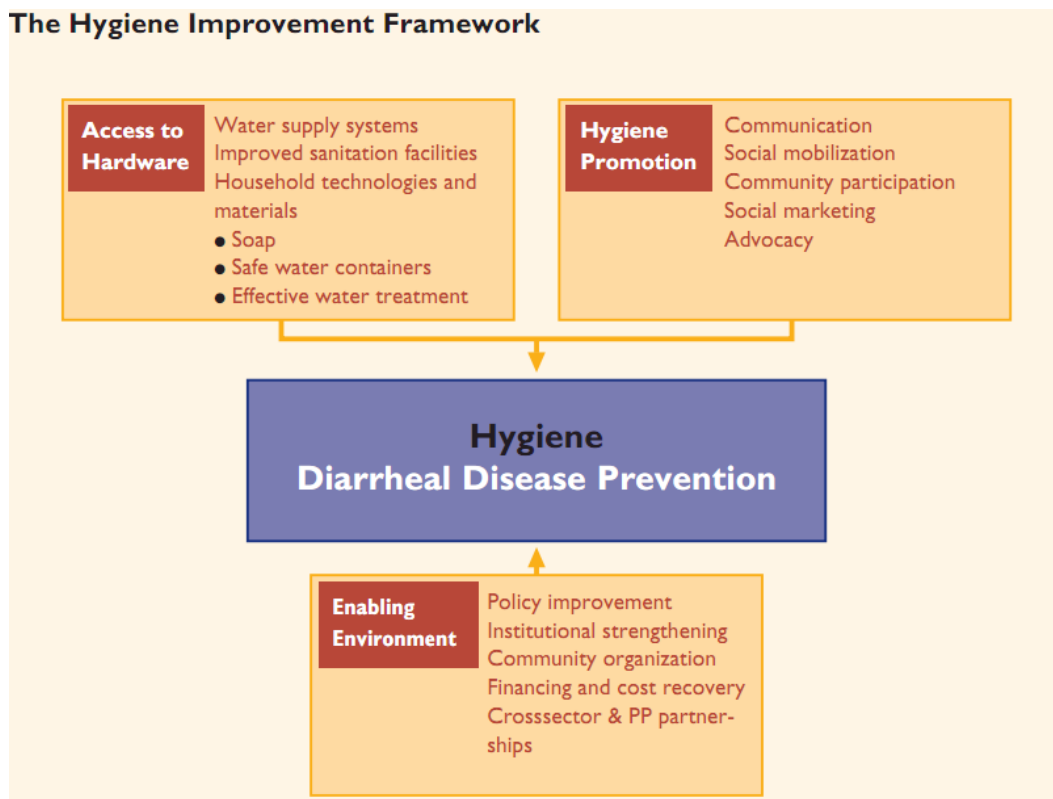
Personal hygiene is important to man in order to prevent bacterial infection and diseases. This study examined hygienic practices among undergraduates of the University of Lagos, Nigeria. One hundred (100) participants which comprised of (50) male and (50) female undergraduate of University of Lagos selected through purposive sampling technique was study sample. The research instrument was a researcher developed, structured and validated questionnaire. The data collected were analyzed using descriptive statistics of frequency counts and percentages. Inferential statistics of Chi-square was used for hypotheses testing. The study concluded that the perception and attitude of undergraduate students towards a healthy lifestyle is negative. The student unhealthy hygiene practices can be traced back to the home where some of the parents are incapable of maintaining healthy life styles which the student emulate and practice in school. Also that water supply is poor around the hostels as students sometimes have to fetch water in buckets to do their chores and flush the toilet .Based on the findings, it is recommended that shortage of water supply is a major barrier to maintaining hygienic practices. The University should enable provision of constant water supply by ensuring that the school hostels are properly managed by facility managers to enable practice healthy hygiene. Health awareness in the hostels and classrooms area to serve as reminders to student on the need to maintain healthy hygienic practices.

Keywords: *Personal hygiene, Hygienic practices, Hygiene promotion, Infections, Healthy lifestyle*

INTRODUCTION

Personal hygiene is important to man in order to prevent bacterial infection and diseases. Good hygiene behavior is essential for the dignity, status and wellbeing of every person, whether rich or poor, irrespective of where one lives. Hygiene refers to conditions and practices that help to maintain health and prevent the spread of diseases. Hygiene therefore includes a specific set of practices associated with this preservation of health, for example environmental cleaning, sterilization of equipment, hand hygiene, water and sanitation and safe disposal of waste. (WHO, 2013) primary barriers to diarrheal and other water related disease transmission include both physical infrastructure and hygienic practices. Hygiene promotion is setting in place processes whereby people (women, children, men) effect and sustain a hygienic and healthy environment for themselves. These is done by erecting barriers to prevent transmission of disease agents (broadly by means of sanitation) and by reducing risky hygiene practices and conditions being faced.

Experience has shown that sustained improvement in access to sanitation and sustained changes in hygienic behavior requires appropriate enabling environment (Apple, Brain & Wijk , 2003).



All cultures promote hygiene for men, women and children with measure to keep themselves clean with removal of waste products, prevention and spread of infections. Practicing good hygiene is very important in communal living, efforts of individual person is needed to promote good health. Communal living is practiced by undergraduate which implies that everybody would be required extra effort to keep the environment clean, However, some students are nonchalant about cleanliness of the environment which poses risk to every other persons.

The hygiene improve framework is a conceptual model developed by United States Agency for International Development (USAID) . The hygiene improvement model states that hygiene improvement and health benefits to the society arises when three things are in place

I Hygiene promotion

II Improved access to hardware water supply, sanitation and hygiene

III and an enabling environment.

The framework focuses on intervention variables such as improved sanitation at the household level, improved water supply, solid waste management and better drainage. The framework recognizes that a wider range of individuals do not regard sanitation as a priority activity, therefore certain motivation must be in place to enable individuals participate which includes providing an enabling environment. It also recognizes that stand alone sanitation and hygiene promotion are rare and are unlikely to be effective if the reasons for sanitation is not properly understood because the individual involved are not specialist.

The World Health Organization (WHO) estimates that over one billion people lack access to improved water sources (WHO,2004) which often evolves into poor hygiene practices in the home, school and society at large.

The study therefore aimed to access the determinant of hygienic practices among undergraduate students, attitude of student to hygiene practices and examined the availability of amenities in the environment and how they are often managed.

Research hypotheses

The following hypotheses were postulated for the study

Attitude will not significantly influence hygienic practices among undergraduates of University of Lagos

Access to amenities will not significantly influence hygienic practices among undergraduates of University of Lagos

METHODS

A descriptive survey design was adopted for this study. The population consist of both male and female undergraduates of the University of Lagos. A total of one hundred (n=100) which comprised of Fifty (50) male and (50) female participants were drawn for this study using purposive sampling technique.

Instrument

The instrument for this study was a researcher developed, structured and validated questionnaire using a 4-point modified Likert scale of SA (strongly agree) , A (Agree), D (Disagree) and SD (Strongly Disagree) used to elicit information from the participant of the study. The questionnaire had two parts: Sections A and B. Section A solicited demographic information on the respondents. The face and content validity was used to determine the validity of the instrument

Procedure for data analysis

Descriptive statistics of frequency counts and inferential statistics of Chi-square was used for hypotheses testing.

RESULTS AND DISCUSSION**Demographic section**

*Age	N	%
16-19 years	35	35
20-24 years	37	37
25-29 years	28	28
*Marital status	N	%
Single	75	75
Married	25	25
*Level	N	%
100	20	20
200	20	20
300	25	25
400	35	35
*Note each demographic section is the total number of participants n=100		

Hypotheses 1: Attitude will not significantly influence hygienic practices among undergraduate of University of Lagos.

Table 1. Attitude as a determinant of hygienic practices among undergraduate students in the University of Lagos.

<i>Responses</i>	<i>Frequencies</i>	<i>%</i>	<i>X²</i>	<i>df</i>	<i>Remarks</i>
SA	40	40%			
A	25	25%	139.52	12	significant
SD	20	20%			
D	15	15%			

Calculated $\chi^2 = 139.52$; χ^2 table value = 21.026 ; level of significance = 0.05

Table 1 show that 40 of the respondents representing 40% strongly agreed while 25 respondents representing 25% agreed and 35% of the total respondent disagreed that attitude is a determinant of hygienic practices among undergraduates in the University of Lagos. This finding was supported by Parker (2002) that hygiene practices should begin from home; this is the best place to learn about hygiene and healthy lifestyle which eventually forms the attitude of an individual later in life. Parents may not be capable of handling sensitive issues as hygiene and students are left with no other option than to showcase what they have learnt from their homes.

Hypotheses 2: Access to amenities will not significantly influence hygienic practices among undergraduates of University of Lagos

Table 2. Access to amenities as a determinant of hygienic practices among undergraduates of University of Lagos

<i>Responses</i>	<i>Frequencies</i>	<i>%</i>	<i>X²</i>	<i>df</i>	<i>Remarks</i>
SA	40	40%			
A	30	30%	246.1	12	significant
SD	15	15%			
D	15	15%			

Calculated $\chi^2 = 246.1$; χ^2 table value = 21.026 ; level of significance = 0.05

Responses on the above distribution table shows that 40(40%) of the respondents strongly agreed, 30(30%) agreed, 15(15%) disagreed, while 15(15%) of the respondents disagreed. It implies that lack of basis amenities is a significant determinant to hygienic practices among undergraduate of university of Lagos. Some of the student opined that if amenities for sufficient for students it will encourage good hygiene practices but due to issue amenities, the facilities available are over used. According to an access paper presented by Evan, Davis and Cross in 2003, it stated that sixty percent of people living in developing countries amounting to some 2.4 billion people have no access to hygienic means to enable good hygienic practices which poses risk to individuals and causes transmission of infections.

CONCLUSION AND RECOMMENDATION

The study was conducted primarily to carry out an assessment on determinant of hygienic practices among undergraduate of university of Lagos. The study went further to discuss hygiene promotion and improvement, sanitation and access to amenities. It was concluded that hygiene practices among University of Lagos is poor. Although the students are knowledgeable of implications of a dirty environment, it was attributed to poor management of facilities, lack of sufficient amenities, overcrowding and attitude of students. Findings of other research studies have suggested that health education on personal hygiene and interventions to prevent disease and infections can have a beneficial impact on the health of students (Ilika & Obionu ,2002) and should therefore be encouraged from time to time. Hygiene may not be seen as important due to ignorance or lack of proper health education or inculcation of poor hygiene habits. This study therefore recommends that toilets, bathroom that students use should be managed properly by appropriate authorities. Furthermore overcrowding should be avoided in the hostels to prevent facilities from being over used and waste management processes should be improved.

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ALCOHOL CONSUMPTION AND ACCIDENT PREVALENCE AMONG COMMERCIAL MOTORCYCLISTS IN LAGOS STATE

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ABSTRACT

Use of alcohol is as old as man, particularly among some commercial motorcyclists who believe that without a little use of alcohol, their operation might not be effective. There have been studies on the consequences of attitude of road users generally but there are little of such in the relationship between alcohol consumption and commercial motorcycle operators. Descriptive survey research design was used for the study. Multistage sampling technique was adopted in the study. 1,200 respondents formed the sample size. A revalidated questionnaire was used with test-retest method yielded 0.79 alpha.

Hypotheses were tested using PPMC at 0.05 level of significance. The findings showed a significant influence from family background and alcohol use ($r= 0.87, p < 0.05$). This could be deduced that family background has influence on behavioural pattern of some people. Peer influence and alcohol use ($r= 0.53, p < 0.05$), environmental influence ($r= 0.43, p < 0.05$). It is important to note that peer and environment have greater influence on individuals, depending on which lifestyle they choose. Based on the findings, it is therefore recommended among other things; there should be regular awareness campaign on the dangers of alcohol use, under age should not be allowed to operate commercial motorcycle, sales of alcohol should be banned, government should sentence any motorcyclist who contravenes the operation of commercial motorcycle popularly known as Okada in Lagos State.

***Keywords:** Alcohol, Accident prevalence, Commercial Motorcyclists*

INTRODUCTION

The use of motorcycles as public transport became popular in 1992, as a result of the dearth of other means of transportation (Alti-Muazu and Aliyu, 2008). They continued that in 1995, an estimated 45000 motorcycles were in use for public transportation in Lagos metropolis alone. In 2012, it was revealed according to the statistics obtained from the Lagos State Government that over five hundred and thirteen (515) Lagosians were earlier killed, as well as seriously injured as a result of accidents caused by commercial motorcycles popularly called Okada. This however led to the ban of the operation of commercial motorcycles within the major areas of Lagos State. Though, there have been fewer accidents occurrence in the city of Lagos since Lagos State Government banned its operation, except the involvement of alcohol use by Okada operators.

Alcohol is a drug use which when taken into the living organism performs different functions and can sometimes lead to outright intoxication. Benneth, Campillo, Chandrashekar and Gureje (2008) affirmed that alcoholic beverages have been consumed for hundred years and the pattern and purpose of consumption vary considerably among societies and even within communities. One of the major causes of road accidents in Lagos State, Nigeria is alcohol use by commercial motorcycle operators. This continues to claim lives and properties year in-year out. It may

however, increase because drivers are advised to drink responsibly instead of asking them not to drink if they must drive.

Nigeria ranks the third out of the ten countries with the highest number of deaths due to road accidents. This problem may likely continue because of the availability, use and misuse of alcohol. Mabbott and Hartley (2009) lamented about the global burden diseases as a result of alcohol use which account for 4%. A resolution by the World Health Organisation during the 58th World Health Assembly in 2005 focused on concerted efforts at the global, regional and country level to address the social determinants of the use of alcohol, as well as reducing alcohol related effects (Asogwa, 2006). Use of alcohol by commercial drivers has been broadly documented but not very much is known on the prevalence of road accidents resulting from alcohol consumption by commercial motorcyclists in Lagos community.

Igbobi Orthopedic Hospital Lagos has recorded highest number of accident prevalence among commercial motorcyclists popularly known as Okada in Berger area of Lagos State. Studies have confirmed that most commercial drivers in Port Harcourt, Ile-Ife, Warri and Lagos engage in alcohol use which accounts for 70%.

Labinjo, Juillard, Kobusingye, and Hyder, (2009) Alcohol is the most widely used and abused drug in the world today mostly among the adolescents. Many people do not regard alcohol as a drug, which actually it's a drug. It creates vastly more social, economic and moral problems than the several illegal drugs combined. Alcohol otherwise known as ethyl alcohol or ethanol, is a beverage obtained by the process of fermentation and distillation of fruits, like grapes, grains, corn, barley (Aniebue and Okonkwo, 2005). It could also be obtained from milk, honey and molasses.

Alcoholism or Alcohol Dependence is a chronic disease marked by a craving for alcohol. People who suffer from this illness are known as alcoholics. They cannot control their drinking even when it becomes the underlying cause of serious harm, including medical disorders, marital difficulties, job loss, or automobile crashes. Medical science is yet to identify the exact cause of alcoholism, but research suggests that genetic, psychological, and social factors influence its development. Alcoholism cannot be cured yet, but various treatment options can help an alcoholic avoid drinking and regain a healthy life (Branas, 2001).

Alcohol dependence affects a broad cross section of society around the world. Statistics show that alcohol dependence touches successful business executives, skilled mechanics, laborers, homemakers, and church members of all denominations. Scientists have not identified a typical alcoholic personality, and they cannot predict with absolute certainty which drinkers will progress to alcohol dependence. Alcohol use varies depending on an individual's social, cultural, or religious background (McLean and Holubowycz, 2000). Intoxication threatens not only the individual who drinks but also the surrounding community. Therefore, societies around the world have attempted to control excessive use of alcohol. Temperance societies in the 19th and 20th centuries pushed for laws ranging from arrest and jail sentences for public drunkenness to prohibition of the manufacture, distribution, and consumption of alcoholic beverages (Aguwa, Anosike and Akubue, 2008).

METHODS

Research Design

The study adopted a cross sectional survey research design. The study was conducted in Berger area of Lagos State using total-enumeration sampling technique to pick 1,200 respondents and systematic stratified sampling technique to divide the study location into six strata for easy accessibility of the respondents.

Procedure

The instrument used for data collection was a validated questionnaire which yielded 0.79 alpha. Twenty five (25) question items were generated on a 4 point likert format. The items were subjected to principal components analysis using exploratory and confirmatory factor analysis setting the retention criterion at 0.7. After the factor loading, only 19 question items met the 0.7 minimum criterion. Data were analyzed using Descriptive statistics of frequency counts and percentages for demographic attributes of the respondents while Pearson Product Moment Correlation statistics was used to test the hypotheses at 0.05 level of significance.

Age attributes of the respondents shows that 299 (24.9%) of the total respondents were between 18-22years, 378 (31.5%) were between 23-27years, 318(26.5%) 28-32year-old, while those within 33 year-old and above constitute the least respondents 205(17.2%). The implication of this is that, most of the commercial motorcyclists were still young and that age as an important factor could lead to anti-social behaviour. In terms of ethnicity of the respondents, 371(31.8%) are Yorubas, 308(26.4%) are Hausas, 235 (20.1%) are Igbos, while 206 (21.7%) formed others. On marital status, 673 (56.2%) of the total respondents are single, while 527(43.8%) are married. As regards educational qualification of the respondents,471(41.5%) had primary school certificate, followed by those with SSCE/WAEC certificate 301(26.5%), OND/NCE 127(11.2%), first and second degrees 99(8.7%) and 2(0.2%) respectively while 135 (11.9) with no formal education certificate.

Hypotheses Testing

Hypothesis 1: There will be no significant influence from Family background and the use of Alcohol among Commercial Motorcyclists in Lagos

The r value of 0.87 is significant at 5% ($P < 0.05$). This implies that there is a significant relationship between family background and alcohol use among commercial motorcyclists in Gbagada area of Lagos State. The findings agreed with Jones, Kugelberg, Holmgren, and Ahlner (2009) who stated that concerning alcohol and drugs consumption, that those adolescents living in single parent compared to both parent households are more likely to be involved in at-risk behaviors, like use of alcohol, drugs and tobacco. Abiona, (2006) also corroborated that most motorcyclists are from families where elders take alcohol, visitors are entertained with alcohol and some of them encourage their young ones to take alcohol from their teen age

Hypothesis 2: There will be no significant influence by Peers and Alcohol Use among Commercial Motorcyclists in Lagos State.

The r value of 0.53 is significant at 5% ($P < 0.05$). This implies that there is a significant relationship between peers and alcohol use among commercial motorcyclists in Lagos. This finding is supported by Drummer, Gerostamoulos, Batziris, Chu, Caplehorn, Robertson, and

Swann, (2003) who opined that upon all the series of campaigns mounted by government, non-governmental organization and health agencies, the persistence with which motorcyclists still engage in alcohol consumption creates great concern to the government. By virtue of interacting together, living together and working together, the peer has a very strong ability to manipulate the lifestyle of their colleagues. An individual may start using alcohol on his own and then has a friend who does the same.

Hypothesis 3: There will be no significant influence of Environment on Alcohol Use among Commercial Motorcyclists in Lagos state

The r value of 0.43 is significant at 5% ($P < 0.05$). This implies that there is a significant relationship between environment and alcohol use among commercial motorcyclists in Lagos. This finding is in agreement with Adedeji, (1999) who stated that the environment in which people live and work heavily affects their attitudes and behaviour around drinking. He further said that environmental influences on alcohol use include; acceptance of alcohol use by society, availability, advertising and marketing both nationally and locally and public policies regarding alcohol and enforcement of those policies.

CONCLUSION AND RECOMMENDATIONS

The study concluded that family background, and environment influence alcohol use among commercial motorcyclists in Gbagada Area of Lagos State. The study therefore recommends that; awareness campaign should be carried out by regulatory agencies to enlighten populace on the dangers of alcohol use and underage drinking, responsible alcohol beverage service training should be carried out and passed by bar owners and their waiters, promulgation concerning hours of sales, density of retail outlets and other factors affecting availability of alcohol should be strengthened by government, government should pass stricter laws concerning drinking while driving, those still marketing alcohol should be made to pay fine, there should be restriction of alcohol use or sales in parks, public places, at community events or in stadia.

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Ojodu Berger Lagos State



Berger Area of Lagos State

TABLES

Table 1: Pearson Product Moment test of relationship between family background and use of alcohol among commercial motorcyclists in Lagos State

Variables	N	Mean	±SD	Df	r _{cal}	r _{crit}	Remarks
Family Background	1200	1.30	0.422	1196	0.87	0.195	Significant
Use of Alcohol	1200	1.80	0.222				

P < 0.05, df=1196

Table 2: Pearson Product Moment test of relationship between peer influence and alcohol use among commercial motorcyclists in Lagos State

Variables	N	Mean	±SD	Df	r _{cal}	r _{crit}	Remarks
Peer Influence	1200	1.76	0.213	1196	0.53	0.195	Significant
Use of Alcohol	1200	1.80	0.222				

P < 0.05, df=1196

Table 3: Pearson Product Moment test on the influence of environment and alcohol use among commercial motorcyclists in Lagos State

Variables	N	Mean	±SD	Df	r _{cal}	r _{crit}	Remarks
Environment	1200	1.99	0.632	1196	0.43	0.195	Significant
Use of Alcohol	1200	1.80	0.222				

P < 0.05, df=1196

FIGURES CAPTION

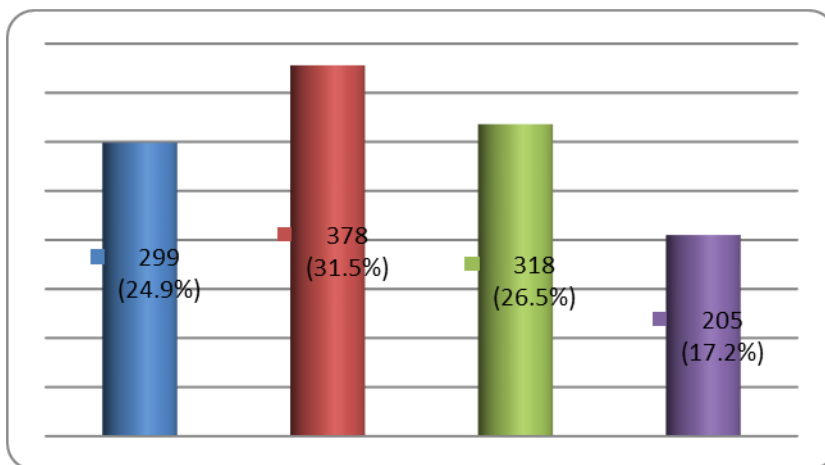


Figure 1: Bar chart showing respondents' distribution on age

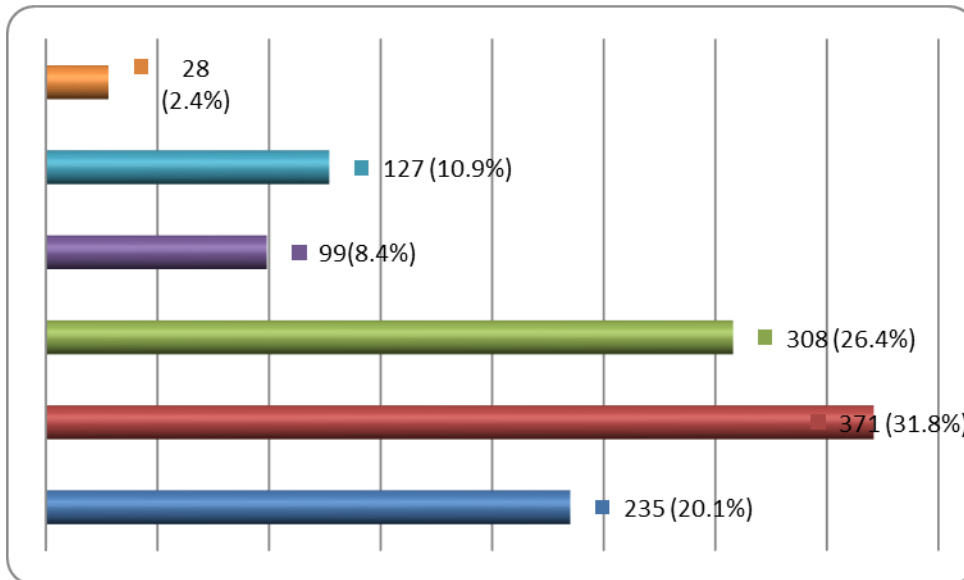


Figure 2: Bar chart showing respondents' distribution on Ethnicity

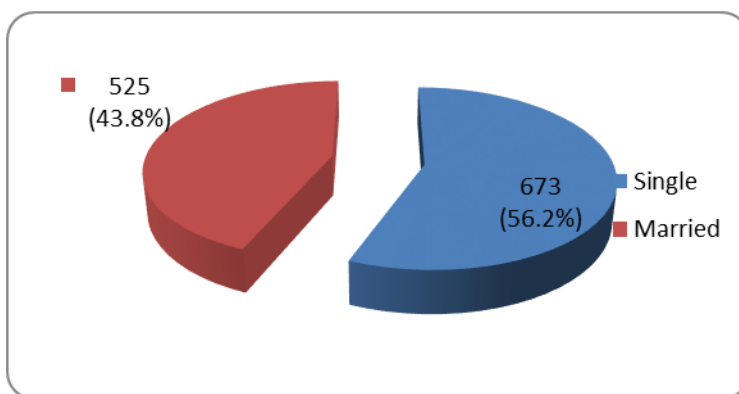


Figure 3: Pie chart showing respondents' Distribution on Marital Status

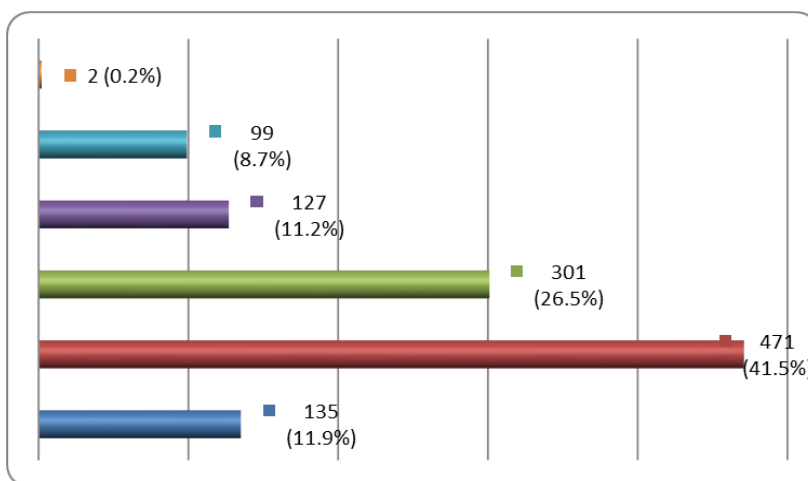


Figure 4: Bar chart showing respondents' educational qualification distribution

COMPARATIVE ASSESSMENT OF CORONARY HEART DISEASES RISK FACTORS OF ADULTS POPULATION IN URBAN AND RURAL AREAS OF LAGOS STATE, NIGERIA

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ABSTRACT

Coronary Heart Disease (CHD) remains a major cause of morbidity and a leading contributor to mortality worldwide. This study was conducted to assess and compare the prevalence of risk factors of CHD in apparently healthy adults in urban (Ikeja and Mushin) and rural (Ojo and Alimosho) local government areas (LGA) in Lagos State. Five hundred healthy subjects were selected using systematic sampling technique. Data were collected using a pre-tested, semi-structured questionnaire to obtain information on socio-demographic characteristics, lifestyle, physical activities and other risk factors. Anthropometric measurements were made using standard procedures, while food intake data was collected using 24-hr dietary recall. Blood samples from 10% of the selected healthy subjects were analyzed for hematological indices. Data were analyzed using Pearson Product Moment Correlation to establish relationships among variables. The results showed that 21.6% of urban and 10% of rural subjects had family history of heart disease. Thirty-four percent of urban compared to 19.2% of rural subjects were sedentary while the major physical activity in the rural LGA was walking. About 17.6% urban and 10.8% rural subjects were cigarette smokers while 29.6% of urban and 36% of rural subjects consumed alcohol. Prevalence of overweight among urban and rural subjects was 37.6% and 26.8% respectively while 28.4% of urban and 17.2% of rural subjects had waist-hip ratio indicating high risk of heart disease. Sixty-eight percent of urban subjects and 52% of rural had energy intake above 75% Recommended Dietary Allowance (RDA), while 80% urban and 68% rural subjects met above 75% RDA for protein. Total cholesterol was above 240mg/dl in 28% and 20% of urban and rural subjects respectively. Triglycerides was >200 mg/dl in 36% of urban and 28% rural subjects. Low density lipoprotein (>160mg/dl) was similar in 20% of rural and urban subjects. High density lipoprotein was <40mg/dl in 16% and 20% of urban and rural subjects respectively. Systolic blood pressure was high in 27% urban and 19.2% of rural subjects while diastolic blood pressure was high in 21.2% and 18% urban and rural subjects respectively. There was positive relationship between blood pressure and nature of job ($r = 0.033$, $p < 0.01$), blood pressure and age ($r = 0.122$; $p < 0.01$), blood pressure and alcohol consumption ($r = 0.021$, $p < 0.05$). There was significant association between the activity level and risk of CHD in individuals having more than 50% RDA for energy. This study has established high blood pressure, tobacco smoking, high lipid profile, physical inactivity, obesity and diabetes as prevalent risk factors of CHD in healthy adults in urban and rural LGAs in Lagos state.

Keywords: Coronary Heart Disease, Anthropometric, Dietary Allowance, Systolic Blood Pressure, Lipoprotein

INTRODUCTION

The World Health Report (1999) estimates that in 1998, 78% of the burden of non-communicable diseases (NCDs) and 85% of the CHD burden emanated from the low and middle income countries. This CHD burden afflicts both men and women, with CHD deaths accounting for 34% of all deaths in women and 28% in men in 1998. As the epidemic advances, the social gradient also reverses with the poor becoming the most vulnerable victims in both developed and developing countries. CVD claims more lives each year than the highest four leading causes of death combined—cancer, chronic lower respiratory diseases, accidents, and diabetes mellitus. It is estimated that the elderly population will increase globally (over 80% during the next 25 years), with a large share of this rise taking place in the developing world because of expanding populations. Increased longevity due to improved social and economic conditions associated with lifestyle changes in the direction of a rich diet and sedentary habits, is one of the main contributors to the incremental trend in CHD in the last century. Nigeria has witnessed tremendous socio-economic changes and rural-urban migration which have led to emergence of non-communicable diseases (Emiola, 2007). The development of CHD is promoted by major risk factors - dyslipidaemias, hypertension, diabetes (DM) and smoking. CHD has become the number-one cause of death in the developing world, causing twice as many deaths as HIV, malaria, and tuberculosis combined. This epidemic has the potential to place a large social and economic burden on developing countries, where CHD tends to strike those in their prime of life. In developing countries, the increase in CHD burden is largely the result of an increase in the prevalence of risk factors and a relative lack of access to various interventions used to achieve successes in developed countries as reported by Mahmoud *et al.*, (2010).

A survey among the rural and suburban population in the south western part of Nigeria revealed that although the prevalence of most of the individual risk factor was low, there was high prevalence of multiple risk factors which was as high as 20% (Ezenwaka *et al.*, 1997). Another study on prevalence of risk factors of CHD among the rural Nigerian population indicated that the prevalence of diabetes seemed to be on the increase even among rural dwellers, hypertension and obesity varied from one rural community to the other while a high prevalence of hypertension (30%) and obesity were reported from southern Nigeria (Okesina *et al.*, 1999). Therefore, there is need to carry out comparative assessment of coronary heart diseases risk factors of adult's population in urban and rural areas of Lagos state.

METHODS

Survey Area

Lagos State is an administrative division of Nigeria, located in the south-western part of the country. The smallest in area of Nigeria's states, Lagos State is the second most populous state and arguably the most economically important state of the country, the nation's largest urban area.

Subjects

The subjects for the study were members of the public who were apparently healthy (asymptomatic), that is had no physical disability and believed to be in a good state of health and between the ages of 30-59 years.

Sample Size

The sampling frame covers members of the public in both urban and rural local governments in which two local governments were randomly selected respectively for the study. The sample size was calculated using the formula:

$$n = \frac{t^2 \times p(1-p)}{m^2}$$

Where n = the minimum sample size

t = 1.96 Confidence interval

P= 20% of all form of coronary heart related diseases (Onayiga, 2006)

m = level of precision (5%)

$$n = 246$$

5% was added for contingencies = 248

The minimum number of subjects required for this work was calculated to be 248 but the number was increased to 500 .

Sampling Procedure

The twenty local government areas in Lagos state are stratified into urban and rural (NPC 2006). Two local governments were randomly selected from urban (Ikeja and Mushin) and two from the rural (Alimosho and Ojo) and purposive sampling method was used to select 50% of the wards in each local government considering the population of each local government. Since total of 500 apparently healthy subjects were to be considered, systematic random sampling was used to select 33 households in each wards and for a household to be eligible, a subject must be between 30-59years and apparently healthy but where many households were eligible in a house, simple random sampling was used to select the subject after adequate information and consent of each household and participant was sought.

Method of Data Collection

The data was collected using a structured sectionalized questionnaire. The questionnaire has information on personal data, demographic data, anthropometric measurement, blood pressure measurements, dietary assessment (24-hour dietary recall and food frequency), and Blood sample tests (determination of total plasma cholesterol, determination of total plasma triacylglycerols, determination of HDL cholesterol, estimation of LDL cholesterol).

Data Analysis

Descriptive statistics such as mean, frequency and percentages as well as charts were used to describe and summarize the data from the socio-economic characteristics of the subjects. It was also used to describe the health behaviour and habits of both the apparently healthy subjects and patients. Pearson Product Moment Correlation (PPMC) was also used to test for significant relationship between nutritional status and the CHD risk factors as well as the lipid profile and the risk factors. The significance was tested at 5% and 1% probability level.

RESULTS

The age range of 30-40 years had the highest percentage of respondents for both urban and rural local governments featured in the study which were 56.4%, 65.2% respectively. The results also show that 32.8% were in the age range 41-50years in the urban local governments while this was 22.4% in the rural samples. Also, 10.8% were in the age range 51-59years in the urban local

government and this was 12.4% in the rural samples. Sixty percent (60.0%) of the subjects were males while 40.0% were females in both urban and rural local governments. The percentage of the subjects with no formal education was low 0.8% in the urban LGA compare to 2.4% in the rural LGA. Those with primary education in both urban and rural local governments were 10.0%, 14.0% respectively and 30.8%, 34.8% of them had secondary school education. The subjects with post secondary education constituted the highest proportion in both areas.

As for the primary occupation of the subjects, 58.8% (urban) and 39.2% (rural) of the subjects were civil servants while 25.2% of the urban and 51.2% of the rural were traders. Also, 16.0% and 9.6% from urban and rural local governments respectively were artisans. The respondents with monthly income below 100 thousand naira were 60.8% in urban and 71.2% in rural LGAs while the respondents that earned between 200 – 299,000 thousand naira monthly were 10.4% of the urban population and 7.2% in rural local government. The respondents with monthly income between 300 – 399, 000 thousand naira had lowest percentage of 4.8 in the urban local government and none of the respondent was within the category in rural local government. Respondents that earned above 400,000 thousand monthly were 6.0 in urban and 0.8% in the rural LGAs.

Table 2 shows the comparison of the BMI of the subjects from the two LGAs. More respondents from rural local government (61.6%) compared to urban local government (45.6%) were within the normal range of BMI while there were more overweight subjects in the urban local government(37.6%) compared to rural local government(26.8%). In comparing the two LGAs, the majority of the subjects in urban LGA were at borderline of total cholesterol, low density lipoprotein and triglycerides except for the high value in high density lipoprotein level that were recorded for female subjects (Table 3)

The female subjects in both urban and rural local governments had slightly higher values in almost all the parameters featured, for example the mean BMI of all the female subjects considered in the two LGAs was higher compared to that of male subjects, which shows that more women were overweight when compared with their male counterparts in the LGAs. Total cholesterol was also higher in women when compared with men although the increase was not statistically significant ($p > 0.05$). HDLc and TC were not statistically different between the two sexes ($p > 0.05$), although women tended to have slightly lower HDLc when compared with men and it shows that more of the women were at the borderline but more men were above 40mg/dl which is the recommended HDLc level by American Heart Association (2003). The Triglyceride (TG) level of all the subjects in both urban and rural LGAs also shows that women were at higher risk of developing heart disease as compared to men and shows a significant statistical difference between the sexes ($p < 0.05$).

Table 6 reveals that more subjects were at higher risk of developing heart disease. Both the mean value for systolic and diastolic bp were higher in men than in women and this was also statistically significant ($p < 0.05$). Male respondents with mean value higher than that of their female counterparts but with only diastolic bp that was significant at ($p < 0.05$). When comparing the two LGAs, the urban subjects LGA had higher mean value for both systolic and diastolic blood pressure, which means that more subjects in the urban LGA were at risk of developing heart disease compared to rural subjects. The diastolic blood profile shows a significant statistical difference between the two sexes.

DISCUSSION

The present study was carried out to compare the prevalence of selected risk factors of coronary heart diseases in adult's population in urban and rural areas (30-59years). The socio demographic information revealed that majority of the respondents were with the risk factors of heart diseases in both urban and rural LGAs.

Majority of the subjects were within the age range 30-40years who constitute the major working force of the country. Their income level reflects that majority of the respondents earn less than hundred thousand naira in a month. Considering the standard of living in the study area, it can be concluded that the income of most respondents were low because 50% of the subjects in urban LGA and 68.8% in rural earns less than hundred thousand naira monthly. The low monthly income of most of the respondents may therefore be expected to affect their nutritional status. Some studies have in fact shown that low economic status is associated with heart disease (Kanala et al 2002). The socio demographic information also shows that majority of the respondents in the rural areas were traders (51.2%) but the majority of urban respondents were civil servants. Expectantly the nature of the respondents' job should have a lot of implication on the educational level of the respondents. Indeed this study shows that majority of the traders were primary school certificate holders (54.2%) while most of the civil servants in urban LGA had further education. This might affect their choice of food because nutrition education is believed to have a lot to do with formal education (Kanala et al 2002).

Based on the standards, 33.4% of the male subjects and 69.0% of female subjects in urban LGA were overweight/obese while 24.7% (male) and 42.0% (female) in rural LGA were overweight/obese. These figures are similar to the findings of the study that investigated obesity, diabetes and associated CVD risk factors among Torres Strait Islanders which reported 51% obesity among the subjects (Leonard, 2002). Another study of Obesity and Hypertension prevalence in populations of African origin reported 36% for obesity (Rotimi, Cooper, and Ataman 1997). Also a study on prevalence of some risk factors of coronary heart disease in a rural Nigerian population reported a lower value for obesity (Okesina, Oparinde, Akindoyin, and Erasmus,1999). The result of the study also shows a positive relationship between body mass index and blood pressure ($r= 0.088, 0.016, p<0.05$) for both male and female subjects in the LGAs. This association suggests that high body mass index is an important risk factor of coronary heart disease in these subjects.

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Table 1: Socio-demographic characteristics of healthy subjects.

Age group (Years)	Urban L.G.A (n=250)		Rural L.G.A (n=250)	
	Frequency	%	Frequency	%
Age distribution				
30 – 40	141	56.4	163	65.2
41 – 50	82	32.8	56	22.4
51 – 60	27	10.8	31	12.4
Total	250	100.0	250	100.0
Sex of the subjects				
Male	150	60.0	150	60.0
Female	100	40.0	100	40.0
Total	250	100.0	250	100.0
Marital status of the subjects				
Married	189	75.6	172	68.8
Divorced	6	2.4	4	1.6
Widowed	4	1.6	3	1.2
Single	51	20.4	71	28.4
Total	250	100.0	250	100.0
Educational status				
No education	2	0.8	6	2.4
Primary school	25	10.0	36	14.4
Secondary school	77	30.8	87	34.8
Post secondary	146	58.4	121	48.4
Total	250	100.0	250	100.0
Occupation				
Trading	63	25.2	128	51.2
Civil servant	147	58.8	98	39.2
Artisan	40	16.0	24	9.6
Total	250	100.0	250	100.0
Religion				
Christian	188	75.2	166	66.4
Muslim	62	24.8	84	33.6
Total	250	100.0	250	100.0
Subjects Monthly income				
< 100,000	152	60.8	178	71.2
100,000 – 199,000	46	18.4	52	20.8
200,000 – 299,000	25	10.0	18	7.2
300,000 – 399,000	12	4.8	0	0
400,000 above	15	6.0	2	0.8
Total	250	100.0	250	100.0
Number of Family member sharing a room				
One	47	18.8	40	16.0
Two	63	25.2	78	31.2
Three	88	35.2	51	20.4
Four	52	20.8	81	32.4
Total	250	100.0	250	100.0

Table 2: Frequency distribution and percentages of subjects' BMI according to local government

BMI(kg/m ²)	Urban LGA (n=250)		Rural LGA (n=250)	
	Frequency	%	Frequency	%
<18.5	2	0.8	2	0.8
18.5-24.9	114	45.6	154	61.6
25.0-29.9	94	37.6	67	26.8
30 above	40	16.0	27	10.8
Total	250	100.0	250	100.0

Table 3: Plasma lipid profile of the subjects by LGAs

Variable	Urban LGA		Rural LGA		(n=50)
	Frequency	%	Frequency	%	
Total cholesterol (mg/dl)					
<200	8	32.0	13	52.0	
200-239	10	40.0	7	28.0	
240 above	7	28.0	5	20.0	
Total	25	100.0	25	100.0	
HDL (mg/dl)					
<40	4	16.0	5	20.0	
40-59	13	52.0	12	48.0	
60 above	9	36.0	8	32.0	
Total	25	100.0	25	100.0	
LDL (mg/dl)					
< 130	8	32.0	10	40.0	
130-159	12	48.0	10	40.0	
>160	5	20.0	5	20.0	
Total	25	100.0	25	100.0	
Triglycerides(mg/dl)					
<70	1	4.0	2	8.0	
70-200	15	60.0	16	64.0	
>200	9	36.0	7	28.0	
Total	25	100.0	25	100.0	

Table 4: Mean Blood pressure values by LGA

Variable	Urban LGA		Rural LGA	
	Frequency	%	Frequency	%
Systolic (mmHg)				
Less than 120	44	17.6	46	18.4
121-129	73	29.2	116	46.4
130-139	65	26.0	40	16.0
140-159	42	16.8	36	14.4
160-179	20	8.0	6	2.4
180 above	6	2.4	6	2.4
Total	250	100.0	250	100.0
Diastolic (mmHg)				
<80	46	18.4	56	22.4
81-84	117	46.8	112	44.8
85-89	34	13.6	37	14.8
90-99	31	12.4	34	13.6
100-109	18	7.2	10	4.0
Above 110	4	1.6	1	0.4
Total	250	100.0	250	100.0

Table 5: Relationship between BMI and lipid profile of subjects in featured LGAs.

Parameter	Urban LGA	Rural LGA	P-value
BMI(kg/m ²)	26.4±12.4	24.6±11.5	0.017
TC (mg/dl)	228.3±66.1	212.1±62.9	0.218
HDLc (mg/dl)	48.8±11.5	50.1±11.1	0.030
LDLc (mg/dl)	146.9±55.5	138.9±52.4	0.011
TG (mg/dl)	120.3±28.17	109.9±23.5	0.023

*P<0.05

Table 6: Correlation of blood pressure profile of subjects in urban and rural LGAs

LGAs separately				
LGA	Parameter	Subjects		P-value
Urban		Male	Female	
	Systolic	135.5±51.8	125.7±47.3	0.027
	Diastolic	87.8±19.5	83.5±17.2	0.043
Rural	Systolic	127.6±48.7	122.6±42.7	0.128
	Diastolic	84.3±18.8	81.2±13.8	0.015
LGAs together				
		Urban LGA	Rural LGA	
	Systolic	130.5±49.6	125.1±45.7	0.136
	Diastolic	85.7±18.4	82.5±16.1	0.031

*P<0.05

ENTREPRENEURSHIP EDUCATION IN NIGERIA: PROBLEMS AND PROSPECTS

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ABSTRACT

The economic well-being of a nation depends on the quality of its people. If they are creative, innovative, self-seeking and greathearted enough to bear the risk, the nation will develop rapidly. Such people are distinguished as entrepreneurs and their character obviously reflects entrepreneurship. This study therefore focuses on the problems and prospects of entrepreneurship education in Nigeria. Primary data were obtained from a convenient sample of fifty higher institution students, while a member of National Foundation for Entrepreneurship of United States was interviewed. The data were analysed using descriptive statistics, Pearson Product Moment Correlation Coefficient and Chi-square. The results show that (i) 66.0% of the students were not entrepreneurs (ii) there is 90% significant relationship between students' entrepreneurship and means of sustenance and that (iii) entrepreneurship education does not have any significant impact on students' entrepreneurship. It was however concluded that (i) the present entrepreneurship education is yet to achieve its aims; (ii) the present entrepreneurship education practice cannot produce the anticipated graduate entrepreneurs. The study therefore recommended that (i) teachers should be given special training in delivering entrepreneurship education in all ramifications; (ii) entrepreneurship should be institutionalised and linked with bodies like Commercial Banks, Nigerian Stock Exchange, etc.

Keywords: Unemployment, Entrepreneurship, Education, Entrepreneurial skills.

INTRODUCTION

It is a known fact long time ago that the struggle between education and unemployment in Nigeria is as old as the history Nigerian independence itself. This was evident in the old Western Region in the late 50s, when about 108,000 school leavers were turned out every year while barely 50% of these gained admission in top other further education, or found useful employment; this led the old Western Region Government to the establishment of the farm settlement scheme in 1959, which was a total failure as the problem of unemployment remains unsolved (Olatunbosun, 1971). This struggle up to date remains constant, as Dabalén, Oni and Adekola (2000 cited Inegbenebor, 2005) in their study of the labour market prospects of University graduates in Nigeria found the unemployment rate for graduates to be around 25% while their prospects for employment have worsened over time. In a bid to solve the problem of unemployment among the literate Nigerian youths, entrepreneurship education was made compulsory in higher institutions, yet the rate of unemployment among the Nigerian graduates continues to increase. More recently, it had been reported that about 80% of the graduates find it difficult to get employment every year (Baba, 2013).

Driving entrepreneurship education however, is the process through which individuals are made participating members of their society (Ojeifo, 2013). It enables them to become capable of living in the society and to contribute towards its economic development (Nwachukwu &

Nwamuo, 2010). The implication of this is that a functional education system takes into cognizance the dynamics of the labour market, equips its graduates with occupational skills and competencies to enhance their self reliance.

On this note, this study investigated the entrepreneurship education in Nigeria, vis-à-vis the course content, delivery method, impact on students' entrepreneurial skills, among others.

Entrepreneurship Education in Nigeria

Entrepreneurship is the willingness and ability of an individual to seek for investment opportunities, to establish and to run an enterprise successfully (Solomon, 2007). Baba (2013) sees entrepreneurship as the act of starting a company, arranging business deals and taking risks in order to make profit through the education skills acquired. The zeal for entrepreneurship is a pivot to an entrepreneurial society and culture.

This zeal is required for the overall economic growth of any nation especially developing ones like Nigeria. This is in agreement with the opinion of Ojeifo (2013) that entrepreneurship is the willingness and the ability of an individual or a firm or an organization to identify an environmental change and exploit such an opportunity to produce goods and services for public consumption. Entrepreneurship is about taking a risk; it is the process of creating new ventures that did not previously exist; it is the practice of starting new organization, especially new business; it involves creation of new wealth through implementation of new concepts (Drucker, 1970). Drucker (1970) in his own submission believes that entrepreneurs are not distinguished by their personality traits, rather, a commitment to innovation. For innovation to occur the entrepreneur must have not only talent, ingenuity and knowledge but he must also be hardworking, focused and purposeful.

Many studies have recognized entrepreneurship as an important aspect of an organization and economies (see Ossai & Nwalado, 2012; Ojeifo, 2013). Entrepreneurship contributes in an invaluable ways toward new jobs and wealth creation, poverty alleviation, as well as income and revenue generation for both individuals and the government. Having understood the role of entrepreneurship in economic development, it is obvious that aggressive but careful attention is needed to invest and promote entrepreneurship.

Education on the other hand is seen as one of the precondition for entrepreneurship development particularly in a place like Nigeria where the zeal and culture for entrepreneurship are nothing to write home about. It is said to be an important determinant of selection into entrepreneurship, formation of new venture and entrepreneurial success (Dickson, Solomon, & Weaver, 2008). However, Ayatse (2013) in his study assumed that there is a positive relationship between education and individual's choice to become an entrepreneur as well as the result and outcome of his or her entrepreneurial activity.

The move toward poverty reduction should not be considered and treated in isolation, different approaches and strategies need to be employed. For any country to foster genuine economic growth and development, its educational system must be considered in the bedrock of any meaningful development (Akpomi, 2009).

The Nigeria policy on education made it clear on the need for functional, to be relevant, practical and acquisition of appropriate skills and development of competencies as equipment for the individuals to live in and contribute to the development of his/her society (Aladekomo, 2004).

In addition, much has not been done in trying to bring collaboration between the entrepreneurs and the institutions. The universities, polytechnics and any other academic institutions

community stand to benefit a lot from entrepreneurs located there. Similarly, the entrepreneurs may harness and use the expertise of facilities in those institutions. This kind of interaction and interrelationship will go a long way in bridging the gap that exist between the entrepreneurs and the institutions. Lack of this kind of synergy shows the weaknesses, inadequacies and fallacies of the educational policies in Nigerian in attainment of educational objectives (Aladekomo, 2004; Akpomi 2009).

Objectives of Entrepreneurship Education

Entrepreneurship education seeks to provide students with the knowledge, skills and motivation to encourage entrepreneurship success in a variety of settings. Entrepreneurship education therefore has different objectives to achieve according to different studies. In this paper however, the objectives highlighted by Paul (2005) and Ojeifo (2013) are considered.

1. To offer functional education for the youth that will enable them to be self-employed and self-oriented.
2. Provide the youth graduates with adequate training that will enable them to be creative and innovative in identifying novel business opportunities.
3. To serve as a catalyst for economic growth and development.
4. Offer tertiary institution graduates with adequate training in risk management, to make certain bearing feasible.
5. To reduce high rate of poverty.
6. Create employment generation.
7. Reduction in rural – urban migration.
8. Provide the young graduates with enough training and support that will enable them to establish a career in small and medium sized businesses.
9. To inculcate the spirit of perseverance in the youths and adults which will enable them to persist in any business venture they embark on.
10. Create smooth transition from traditional to a modern industrial economy.

Aspiration without perspiration as said is a day dream. X-raying the above objectives and the delivery of entrepreneurship education in the Nigerian higher institutions, it is glaring that these objectives are what entrepreneurship education purports to achieve and no significant success had been recorded in reality. This is why all hand must be on deck to rescue the sinking boat of entrepreneurship education in Nigeria.

METHODS

The research design adopted in this study is basically descriptive in approach as it seeks to establish relationship between two and more variables. The design is partially exploratory as it attempts to uncover the various motivating and facilitating factors in entrepreneurship.

Primary data were obtained from a convenient sample of fifty (50) higher institution students, while a member of the National Foundation for Entrepreneurship of United States, who also doubles as a certified entrepreneurship teacher with eight years in teaching entrepreneurship education in Nigerian institution, was interviewed. The data were analysed using descriptive statistics, Pearson Product Moment Correlation Coefficient and Chi-square statistical tools, using the Statistical Package for Social Scientists (SPSS).

RESULTS

Out of a sample of 50 higher institution students, only 34% of them were entrepreneurs, while the rest 64% were not. This signifies that the majority of the students were not entrepreneurs, however, the 34% entrepreneurs symbolises that a trace of entrepreneurship zeal exists among the students, which entrepreneurship education can be built upon and facilitate in others. The study also found a 90% significant relationship between students' entrepreneurship and their means of livelihood with correlation coefficient (r) of -0.242 and a p-value of 0.098 (<0.1 level of significance). This result is also backed with the descriptive analysis of the motivating factor for the students' entrepreneurship, which established the fact that 75.0% of the student-entrepreneurs engage in one business or the other to make an independent living. This indicates that the majority of the student-entrepreneurs engage in it for their sustainability. The data analysis also revealed that 64.5% of the students who were not entrepreneurs were demoralised by their engagement in school. This implies that the Nigerian higher institutions though made entrepreneurship education compulsory for their students but do not do not give room for the practice of entrepreneurial skills due to their overwhelming academic and extra-curricula activities. It is also worthy of notice here that the result of this study shows that 82.4% of the student-entrepreneurs did not register their businesses with the Corporate Affairs Commission (CAC), while 64.7% of them as well, did not have personal bank accounts for their businesses. The implication of this is that the future of their businesses is at stake, as these will not make them to think properly and futuristically for the businesses. This in addition, had already manifested in their vision for their businesses, as 84% of them did not also have a SMART (Specific, Measurable, Achievable, Realistic and Timing) vision for their businesses in the next five years.

In addition, the result of the findings shows that entrepreneurship education does not have any significant impact on students' entrepreneurial skills. This signifies that the essence of entrepreneurship education in Nigeria is not manifested in the Nigerian students, despite the compulsory nature of entrepreneurship education.

Problems of Entrepreneurship Education in Nigeria

Many previous studies have identified some challenges facing the entrepreneurship education in Nigeria; among these are Inegbenebor (2005), Adegun and Akomolafe (2013), as well as Bonabo and Ndiomu (2011). The findings of this study however identified the following factors as hindrances to effective and result-oriented delivery of entrepreneurship education in the Nigerian higher institutions.

1. Generalisability of the course content,
2. Decentralisation of delivery method,
3. Inadequate qualified personnel to teach entrepreneurship,
4. Unsustainable passion on the part of the teachers,
5. Interested unqualified personnel in teaching entrepreneurship,
6. Inadequate time and resources allocation for entrepreneurship education,
7. Lack of institutional and professional linkage,
8. Students lack of knowledge in the area of need in the society,
9. Little or no provision special training and workshops for entrepreneurship teachers,
10. Lack of motivation to enhance and sustain students' interest in entrepreneurship,
11. Little or no utilisation of the Federal Government fund for entrepreneurship education, etc.

Prospects of Entrepreneurship Education in Nigeria

Sequel to the afore-identified problems, the following recommendations would bring about achievement of the entrepreneurship education objectives. Thereby reducing the rate of unemployment in the country. More so, this will aid the growth of the Private Sector, which under the National Economic Empowerment and Development Strategy (NEEDS) is positioned as the engine of growth of the economy.

1. The course content should be decentralised in such a way that each student would learn how he/she can be innovative and creative with respect to his/her field of study. Through this, individual student and/or graduate create job for himself and the larger society.
2. The delivery method should be generalised to include, theory and practice, field trip, internship etc., to trigger and sustain entrepreneurship interest and skills in students.
3. Entrepreneurship institutions should be created to teach entrepreneurship educators.
4. Entrepreneurship educators should be motivated and adequately trained and rewarded.
5. Sufficient time and resources should be allocated for entrepreneurship education, as entrepreneurial zeal and traits inculcation is a long-term process.
6. Entrepreneurship Students should be linked with professionals in the field and corporate institutions like Corporate Affairs Commission, Nigerian Stock Exchange, Research institutes, Bureau of Statistics, to enable them identify and harness various opportunities.
7. Students-entrepreneurs should be supported with interest-free loan through the Federal Government fund for entrepreneurship education and Small and Medium Scale Enterprises, as well as the commercial and microfinance banks. In addition to this, they should also be linked with successful entrepreneurs in the society, for mentoring.
8. Each institution should create a trade-fair on a regular basis where students come to display their skills in entrepreneurship for sales and connectivity.

DISCUSSION

Education is a viable means through which any nation can experience growth and development. The study revealed that job creation by entrepreneurs is only possible through if entrepreneurship education is carefully conducted in schools. This is in consonant with the submission of Anerua and Obiazi (2009) that the knowledge of entrepreneurship enables one to conquer the problem of unemployment and business challenges by being resourceful, ingenious, innovative and enduring.

The study also revealed that exposing student-entrepreneurs to business opportunities through adequate training, field trip, trade fair and institutional linkage. This reveals the views of Igbokwe (2006) that government, private individuals, banks and Non-Governmental Organization (NGOs) should assist entrepreneurs with funds, logistic information, and facilities (where available) to be used for training.

The study shows that government, institutions and corporate bodies should provide interest-free loans to student-entrepreneurs to start up their own business. This is in agreement with the result of Banabo and Ndiomu (2011) findings that this enable entrepreneurs to acquire the basic machinery necessary to carryout their functions and business that will guarantee sustainable development. However, intensive monitoring of projects by economic reform implementers to ensure that the beneficiaries of subsidies and free (low) interest loans actually embark on the project for which the funds were released. The role of sponsors (government, NGOs, Private individuals, Banks, etc.) should not be limited to provisions of funds alone, but also include

monitoring and evaluation to ensure implementation by beneficiaries (Uloko & Ejinkeonye, 2010).

ACKNOWLEDGEMENTS

My profound gratitude to almighty Allah, for the gift of Life and His greatest favour on me.

I equally appreciate my parents; Mr. and Mrs. Adefowoju, for their unflinching efforts towards discharging their parental responsibilities.

I also appreciate my teachers and guidance Mr. Ganiu Bisiriyu and Mr. Dada Isiaka Taiwo for their supports and courage.

Finally, I would also love to show my profound gratitude to the Chairman Conference Planning Committee, Prof. B.O. Silva and other members of the committee, for giving me this opportunity.

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APPENDIX

Table V Entrepreneurship Education and Students' Entrepreneurial Skills

S/N	QUESTION ITEMS	SA(%)	A (%)	U (%)	D (%)	SD (%)	Total
1.	I only took entrepreneurship course once through out my stay.	44.90	28.60	2.00	12.22	12.22	100%
2.	The lecturer(s) in-charge were not regular in class.	22.90	20.80	6.30	22.90	27.10	100%
3.	The course was not practical oriented.	29.20	27.10	8.30	18.8	16.7	100%
4.	No field trip was done as part of the course.	44.7	22.7	8.50	10.60	8.50	100%
5.	The course did not enhance my interest in entrepreneurship.	15.20	28.30	8.70	32.60	15.20	100%
6.	I just studied the course to pass the exam.	21.70	32.60	6.50	21.70	17.40	100%
7.	The course was a General Study, that did not had to my CGP	27.70	8.50	4.30	31.90	27.70	100%

Source: Field Survey 2014

THE INFLUENCE OF GENDER ON JOB-COMPETENCIES REQUIREMENTS OF CHEMICAL-BASED INDUSTRIES AND UNDERGRADUATE-COMPETENCIES ACQUISITION OF CHEMISTS IN SOUTH WEST, NIGERIA

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ABSTRACT

Developing young people's employability is a key policy issue for ensuring their successful transition to the labour market and their access to career oriented employment. The youths of today irrespective of their gender need to acquire the knowledge, skills and attitudes that will enable them to create or find jobs as well as cope with unpredictable labour market changes throughout their working lives. In a study carried out to determine the influence of gender on job-competencies requirements of chemical-based industries and undergraduate-competencies acquisition by chemists working in the industries, all chemistry graduates working in twenty (20) chemical-based industries that were randomly selected from six sectors of chemical-based industries in Lagos and Ogun States of Nigeria were administered with Job-competencies required and undergraduate-competencies acquired assessment questionnaire. The data were analysed using means and independent sample t-test. The findings revealed that the population of female chemists working in chemical-based industries is low compared with the number of male chemists; furthermore, job-competencies requirements are found not to be gender sensitive while there is no significant difference in undergraduate-competencies acquisition of male and female chemists. This suggests that females should be given the same opportunity of employment in chemical-based industries as their male counterparts. The study also revealed the level of acquisition of undergraduate competencies as related to the needs of chemical-based industries.

Keywords: Knowledge, Skill, Attitude, Acquired, Required, Employability.

INTRODUCTION

The scientific and technological development of any nation depends largely upon the acquisition and application of scientific principles (Akubudike 2000), therefore if a country is to advance in this existing world of science and technology, the general community (male and female alike) need to increase in scientific and technological knowledge and competence. Recently, there has been rising global consciousness both at the grassroots and policy levels regarding the impact of gender issues in education and national development. There is also the growing consciousness that women constitute more than half of the world's population. Thus, issues regarding women in national development and Science and Technology education, which is a vital tool in the development of nations cannot be ignored.

Science and technology encompass a broad range of activities, women's participation in science and technology therefore refers to the extent that women have been able to utilize this tool in capturing the same opportunities available to men, ranging from research to high-skilled employment in firms (Okeke, 2001). According to Busari (2004), the involvement of women in knowledge production is through their participation in academic activities. These entail both the education and subsequent employment of women. The education phase develops skills and

empowers, whereas higher up the academic ladder, the person as a professional begins to contribute to science and technology development.

In Nigeria, in spite of the Federal Government insistence on equal opportunities for all (NPE, 2004) as well as the gradual growth of female education, especially in the science and technology sector since late 1980's, there is still a low level participation of women (Oke, 2009). This low level participation has resulted in women scientist shortage and thus shortages of their crucial skills in the labour market. Efforts have been made by the government and organisations such as Girls in Science and Technology (GASAT), Women in Engineering (NIE), National Science Foundation (NSF) among others to address the issue of low participation of women in science and technology through policies and organisation of conferences and seminars. However, there has been some improvement in both enrolment and employment in science and technology based establishments respectively (Esiobu, 2005). It is therefore logical that in an age dominated by science and technology, attention should be drawn to the gender influence on competencies required and poor representation of women in science and science related careers if they are to be part of the development process.

The main purpose of this study is to determine the influence of gender on job-competencies requirements of chemical-based industries

1. Determine the level of women participation in chemical-based industries.
2. determine if job-required competencies are related to gender
3. determine if graduate-acquired competencies are affected by gender

The following research questions are to be answered

1. What is the level of women participation in chemical-based industries?
2. What are the differences in the job-required competencies by gender?
3. What are the differences in the graduate-acquired competencies by gender?

The following hypotheses have been raised to answer research questions 2 and 3.

1. There is no significant difference between male and female chemical-based industry job-required competencies.
2. There is no significant difference between male and female chemistry graduates acquired competencies.

METHODS

The study adopts descriptive survey and correlation research designs. A correlation research was used to establish the relationship that exists between chemical-based industries job-required and chemist-acquired competencies.

The study made use of multistage sampling techniques. Chemical-based industries were stratified into twelve sectors depending on their products. Six (6) sectors of industries were selected from these using simple random sampling. The industries randomly selected are: Breweries, Foams and Mattress Industries, Food and Beverages Industries, Paint industries, Pharmaceutical Industries and Toiletries and Cosmetics Industries. A total of twenty industries were then randomly selected.

The population for the study comprises of chemists working in chemical-based industries in Lagos and Ogun States of Nigeria. All chemists in the employment of the 20 randomly selected chemical-based industries that are available were selected and administered with the questionnaire. The number of chemists in the chemical-based industries varies depending on

what is being produced in the industry and how big the industry is. A total of 103 chemists were administered with the questionnaire

Required and Acquired Competencies Assessment Questionnaire (RACAQ); a survey questionnaire with two sections were administered to chemists working in the twenty industries. The questionnaire assesses the competencies in the cognitive (knowledge), psychomotor (skill) and affective (attitude) domains. Respondents were asked to identify the undergraduate course contents, skills and attitude that are relevant to their work experience in their various industries and those acquired from undergraduate education on a four-point scale. The skills and attitude parts of the Questionnaire were adapted from the employability profiles outlined for chemistry graduates by Rees, Forbes and Kubler (2006) and the research report of Martin, Villeneuve-Smith, Marshall and McKenzie (2008) on Employability skills explored.

DATA ANALYSIS AND RESULTS

Research Question 1: What is the level of women participation in chemical-based industries?

A total of 97 out of the 103 chemists indicated their gender on the questionnaire filled. The 97 chemists comprise of 30 (30.93%) females and 67 (69.07%) males. The figures showed that female chemists working in chemical-based industries are only about one-third. The male chemists more than double the number of female.

Research Question 2: Is there any difference between male and female chemical-based industry job-required competencies?

The three components of competencies are given consideration in providing an answer to this research question. Using the descriptive statistics, the mean values were calculated and compared for both female and male job-required competencies.

Knowledge

Table 1 shows the analysis of perception of female and male respondents as regarding the knowledge of chemistry required and acquired by chemical-based Industries from graduates of chemistry. The eighteen (18) chemistry core courses are considered.

The analysis shows that for all the core courses in chemistry, there is a slight difference between the male and the female perception on the knowledge of courses required by the industries with the mean values of males slightly higher than those of females except in SIWES and Project where the mean values of females are slightly higher.

The level of significance was tested using the independent sample t-test on equality of means. Thus, it can be generally said that the knowledge of course contents required by the industries for graduates to work effectively is independent of gender.

Table 1: Gender analysis by core course for knowledge required and acquired.

Core Courses	Gender	REQUIRED				ACQUIRED			
		N	Mean	t	sig	N	Mean	t	sig
General Chemistry I	Female	30	2.0161	-0.88	0.38	28	2.5427	-0.820	0.414
	Male	66	2.1491			66	2.6219		
General Chemistry II	Female	30	1.9427	0.454	0.65	28	2.4731	-0.449	0.654
	Male	66	2.0201			66	2.5121		
Physical	Female	30	1.7879	-	0.65	27	2.4974	-0.949	0.345

Chemistry I	Male	66	1.8756	0.443	9	66	2.6306		
Organic Chemistry I	Female	30	1.6000	-	0.48	28	2.3548	0.307	0.759
Organic Chemistry I	Male	65	1.7397	0.694	9	65	2.3174		
Inorganic Chemistry I	Female	30	1.2333	-	0.83	27	2.0381	0.228	0.820
Inorganic Chemistry I	Male	64	1.2773	0.209	5	64	1.9987		
Analytical Chemistry I	Female	30	2.3556	-	0.38	28	2.5117	0.920	0.360
Analytical Chemistry I	Male	67	2.4913	0.865	9	65	2.3859		
Structure and Bonding	Female	30	1.1017	-	0.76	28	2.0607	-0.391	0.697
Structure and Bonding	Male	66	1.1606	0.299	6	66	2.1258		
Physical Chemistry II	Female	29	1.2948	-	0.39	28	2.1488	0.028	0.978
Physical Chemistry II	Male	66	1.4788	0.863		64	2.1445		
Inorganic Chemistry II	Female	30	1.3433	-0.13	0.89	29	2.3078	0.585	0.560
Inorganic Chemistry II	Male	65	1.3702		7	63	2.2273		
Organic Chemistry II	Female	30	1.8870	-	0.58	27	2.4048	0.341	0.734
Organic Chemistry II	Male	65	1.9973	0.552	2	64	2.3639		
Atomic & Mol. Struct; Symmetry	Female	29	0.8706	-	0.68	27	1.7482	0.293	0.770
Atomic & Mol. Struct; Symmetry	Male	63	0.9490	0.402	9	62	1.6868		
Applied Spectroscopy	Female	27	2.2222	-	0.95	26	2.24	-1.084	0.283
Applied Spectroscopy	Male	64	2.2344	0.051	9	60	2.4167		
Chemical Kinetics	Female	30	1.6970	-	0.65	28	2.3238	0.339	0.735
Chemical Kinetics	Male	62	1.7888	0.454	1	62	2.2804		
Analytical Chemistry II	Female	30	2.0039	-	0.82	27	2.28	0.910	0.365
Analytical Chemistry II	Male	67	2.0470	0.226	2	65	2.1254		
Chemistry of Lanthanide and Actinides	Female	27	1.1296	0.2	0.84	25	2.2261	1.491	0.140
Chemistry of Lanthanide and Actinides	Male	65	1.0769		2	62	1.8952		
EXPTAL CHEM	Female	26	2.4231	-	0.15	23	2.5909	0.248	0.805
EXPTAL CHEM	Male	57	2.6842	1.454		54	2.5556		
SIWES	Female	25	2.7200	0.176	0.86	24	2.7826	0.746	0.458
SIWES	Male	62	2.6935		1	60	2.6833		
PROJECT	Female	25	2.7200	1.46	0.14	24	2.7391	0.638	0.525
PROJECT	Male	63	2.5238		9	58	2.6552		

Significant if $p < 0.05$

Skills

Table 2: Gender analysis by core course for skills required.

Skills	Groups	REQUIRED				ACQUIRED			
		N	Mean	t	Sig.	N	Mean	t	Sig.
Team work	Female	30	2.9333	-1.063	0.295	29	2.6552	1.222	0.225
	Male	67	2.9851			67	2.4627		
Communication	Female	30	2.9667	-0.091	0.928	29	2.8621	3.563	0.001*
	Male	67	2.9701			67	2.4776		
Planning	Female	30	2.8667	-1.288	0.205	29	2.6552	2.26	0.027*

Skills	Groups	REQUIRED				ACQUIRED			
		N	Mean	t	Sig.	N	Mean	t	Sig.
Organising	Male	66	2.9545	-1.071	0.291	66	2.3788	3.105	0.003*
	Female	30	2.8333			27	2.7778		
Decision making	Male	66	2.9394	0.384	0.702	66	2.4091	2.551	0.013*
	Female	28	2.8214			28	2.6786		
Leadership	Male	66	2.8636	-1.475	0.15	66	2.2424	3.127	0.002*
	Female	28	2.8929			29	2.6552		
Problem solving	Male	67	2.9851	-0.303	0.762	67	2.5970	1.436	0.156
	Female	30	2.9000			27	2.7778		
Management	Male	67	2.7463	-0.244	0.808	66	1.9848	2.291	0.024*
	Female	28	2.7143			28	2.4286		
Information Technology	Male	66	2.6364	0.932	0.354	64	1.7500	3.313	0.001*
	Female	28	2.6071			29	2.3448		
Self Motivation	Male	67	2.8209	-0.569	0.571	65	2.3231	2.809	0.006*
	Female	29	2.8966			28	2.7143		
Innovative Skills	Male	66	2.8788	-0.994	0.326	66	2.0606	3.246	0.002*
	Female	29	2.8276			28	2.6429		
Creative Skills	Male	67	2.8955	-1	0.326	65	2.1692	2.567	0.012*
	Female	30	2.8000			28	2.6071		
Time Management	Male	67	3.0000	-0.483	0.63	67	2.3284	4.012	0.000*
	Female	30	2.9000			28	2.8214		
Computer Literacy	Male	66	2.7121	-1.102	0.273	64	1.7969	1.832	0.07
	Female	29	2.6552			30	2.1667		
Ability to Manipulate Instruments	Male	63	2.6984	0.791	0.431	61	1.9016	0.875	0.384
	Female	27	2.5556			29	2.1034		
Investigative	Male	66	2.7879	0.089	0.929	65	2.1077	1.471	0.145
	Female	29	2.8621			28	2.3929		
Observational	Male	66	2.8939	-0.452	0.652	65	2.3538	2.517	0.014*
	Female	30	2.9000			28	2.7143		
Production	Male	66	2.8636	0.259	0.796	67	1.9104	2.067	0.041*
	Female	29	2.8276			29	2.3448		
Quality Control	Male	67	2.9552	-1.024	0.309	67	2.0597	2.781	0.007*
	Female	30	2.9667			28	2.6071		
Entrepreneurial skills	Male	66	2.5152	-1.063	0.295	65	1.6769	2.425	0.017*
	Female	30	2.3333			28	2.2500		

Significant if $p < 0.05$

From the comparison of the mean values of both female and male skills requirement of chemical-based industries, there is no difference in the mean values.

From the independent sample t-test for equality of means, it is observed that all the p values are greater than 0.05 for all the skill variables. This implies that there is no significant difference

between the perception of male graduates and female graduates in the skills requirement of the chemical-based industries. The null hypothesis is accepted. Thus, the skill requirement of the industries for graduates to be employed is not gender-based.

Attitude

Table 3: Mean values of attitude items by gender.

Attitudes	Codes	Required				Developed			
		N	Mean	t	sig	N	Mean	t	sig
Self reliance	Female	29	2.8276	-1.021	0.313	30	2.7667	1.779	0.079
	Male	66	2.9091			67	2.5821		
Open mindedness	Female	30	2.7667	-0.853	0.396	29	2.5517	-0.004	0.997
	Male	66	2.8485			67	2.5522		
Flexibility	Female	29	2.8966	1.187	0.239	30	2.5000	1.144	0.256
	Male	66	2.8030			65	2.3385		
Perseverance	Female	29	2.8966	0.061	0.952	28	2.8214	1.453	0.151
	Male	65	2.8923			66	2.6818		
Adaptability	Female	29	2.9655	0.74	0.461	30	2.7333	0.632	0.529
	Male	67	2.9254			67	2.6567		
Pragmatism	Female	26	2.5385	-1.689	0.101	27	2.3704	0.099	0.922
	Male	63	2.8095			62	2.3548		
Honesty	Female	30	2.9333	-0.446	0.656	29	2.7586	0.46	0.647
	Male	67	2.9552			67	2.7015		
Initiative	Female	30	2.9333	-0.113	0.911	29	2.5862	0.617	0.538
	Male	66	2.9394			67	2.4925		
Respect	Female	29	2.8621	0.578	0.565	30	2.7667	1.876	0.065
	Male	67	2.806			67	2.5373		
Integrity	Female	30	2.9333	-1.063	0.295	29	2.7931	1.201	0.233
	Male	67	2.9851			67	2.6567		

Significant if $p < 0.05$

From the mean values presented in Table 3, it can be observed that there is no difference in the mean values of female and male perception of attitudinal requirements of chemical-based industries. Thus, the attitude requirement of the industries for graduates to be employed is independent of gender.

From the independent sample t-test on equality of means, it is observed that all the p- values are greater than 0.05 for all the required attitude variables. This implies that there is no significant difference between the perception of male graduates and female graduates in the requirement on graduates' attitude by the chemical-based industries. The null hypothesis is accepted. Thus, the attitude requirement of the industries for graduates to be employed is independent of gender.

Research Question 3: Is there any significant difference between male and female chemistry graduates acquired competencies?

Knowledge

From Table 1, the analysis of perception of males and females regarding the knowledge of chemistry acquired by graduates working in chemical-based industries showed that the mean values are the same and further test of hypothesis showed that all the p-values are greater than 0.05, signifying that for all the core courses in chemistry, there is no significant difference between the male and the female perception on the knowledge of courses acquired by the graduates, using the independent sample t-test on equality of means. The null hypothesis is accepted. Thus, it can be generally said that the knowledge of course contents acquired by chemistry graduates is independent of gender.

Skills

Analysis of the skill acquired by the graduates shows that attributes such as Team work, Problem solving, Computer Literacy, as well as Ability to Manipulate Instruments and Investigative skill do not have significant values at $p = 0.05$, whereas other skill attributes recorded significant values. Thus, skills, which include Communication, Planning, Organising, Decision making, Leadership, Management, Information Technology, Self-Motivation, Innovative Skills, Creative Skills, Time Management, as well as Observational, Production, Quality Control and Entrepreneurial skills show that there is a significant difference between the perception of male graduates and female graduates in skill acquisition. This further revealed that the level of skill acquisition is greatly dependent on individual ability.

Attitudes

Similarly, as reported for the attitude requirement, the independent sample t-test on equality of means shows that all the p-values indicate insignificance for all the acquired attitude variables. This implies that there is no significant difference between the level of acquisition of male graduates and that of female graduates as may be demanded by the chemical-based industries. Thus, the attitude requirement of the industries for graduates to be employed is independent of gender.

DISCUSSION

The analysis has revealed that competencies requirements of chemical-based industries is not gender based and competencies acquisition of chemistry graduates working in chemical-based industries is not gender based. Hence, employment opportunities should not be gender biased. However, from the data collected, the figures indicate that there are more male chemists employed in chemical-based industries. If the policy on gender equality is to be followed then, this study has further revealed that the policy has not been fully implemented in Nigeria.

Dugbazah (2009) noted that gender composition of occupations in both the formal and informal sectors of a country is an important indicator of the economic opportunities open to women. According to him, the participatory level of individual in each sector could be determined by the enrolment of males and females in schools and their participation in certain school subjects and career. Salman (2001) reported low enrolment of females in sciences and technological-related courses at the University level of education. It was also observed that females take the least resistance by opting for disciplines designated as feminine such as liberal arts, education, nursing, law and shy away from courses in Sciences, Engineering, Medicine and Mathematics, which have been designated as masculine subjects. Also, Oke (2000) stated that science courses

have been interpreted as men's work while Nnorom (2009) analyzed the admissions of students into Faculties of Engineering and Science based courses for three consecutive years at the University of Lagos. Findings from the study revealed that more males enrolled in the two faculties and that the status quo had remained even with the improved access to education by both gender. However, Ehindero, Adeleke, Oloyede & Ajibade (2010) noted that the issue of gender influence on students' performance in science is not straight jacketed. It can thus be inferred that employment into chemical-based industries should not be gender biased.

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ENERGY RESOURCES GOVERNANCE FOR NATIONAL DEVELOPMENT: OPTIONS FOR SOCIALLY SUSTAINABLE ELECTRICITY GENERATION, TRANSMISSION AND DISTRIBUTION IN NIGERIA

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ABSTRACT

The provision of low-cost, affordable and regular electricity is crucial to industrial development, employment generation and poverty alleviation in Nigeria. To this extent, the power sector of Nigeria has recently witnessed major policy re-directions, which are intended to reposition it for better efficiency through private players and by streamlining the regulatory and supervisory roles of government and its agencies. The Nigerian government believes very strongly that the new initiative will help to create a paradigm shift in a sector replete with regulatory overlaps, under-productivity and administrative laxities. While commending reform initiatives in the power sector of Nigeria, a careful look at the reformed electricity sector leaves one with an impression that the new policy is yet to sufficiently reflect the trends of sustainable electricity governance in other countries where similar reforms had taken place. This paper reviews primary and secondary legal instruments, the *Electric Power Sector Reform Act* of 2005 (EPSR) and the Regulations (Electricity Regulations made pursuant to the EPSR Act). It throws-up the inadequacies of the current (reformed) electricity regime to the extent that some of its provisions violate certain sections of the Nigerian Constitution, and are inherently contradictory. Some of the findings have been published in the *Nigerian Electricity Law and Regulation (March, 2013)* - a pioneering electricity law book in Nigeria wherein the Author identified specific areas/aspects requiring urgent reforms. Subsequent research findings on the subject were also published in other journals with the aim of engaging and exploring identifiable gaps and lapses in the law as basis for future law reforms in the power sector. The presenter has taken the first major step by pioneering the introduction of *Electricity Law and Regulation* in University of Lagos as field of study/specialization in Nigeria. Having reviewed the Energy Resources Law I & II syllabuses in the LL.M programme at University of Lagos to include electricity Law and Regulation, it therefore became a matter of cause for a legal text on this very green area of the Nigerian Law.

Keywords: *Electricity Law, Governance, Energy Resources.*

INTRODUCTION

The word ‘development’ is vague and general term ‘law’ is scarcely more precise.⁹⁵ Law is incapable of a precise or generally agreed definition.⁹⁶ There is also no common ground as to when a country is developed or undeveloped as “development” is viewed from different perspectives and contexts.⁹⁷ Notable scholars of law and development have, however, advocated

⁹⁵ See Elliot M. Burg, “Law and Development: A Review of Literature and a Critique of “Scholars in Self-Estrangement” (1977) 25 *The American Journal of Contemporary Law*, 492 at 504.

⁹⁶ See Robert B. Sheidman, “Law and Economic Development in English-Speaking, Sub-Saharan Africa” (1966) *Wisconsin Law Review*, 999 for overview of “law” as defined by Kelsen, Pound, and other schools of thought, at 999-1001.

⁹⁷ See Elliot Burg, *supra* note 1, at 502-505.

a suitable model capable of accelerating socio-economic development of Nigeria, particularly in the areas of electricity and infrastructure. The underlining idea of the theory of law and development is that: “Development cannot proceed save in a reasonably stable political and legal environment. Private capital will not invest in a country whose legal order does not possess a high degree of predictability. The private sector cannot advance unless long-range planning can be made effective, and effective long-range planning requires the same degree of predictability as does the private sector”.⁹⁸

To a depressingly great extent, Nigeria, like other African countries, has become a country of legalisms rather than legality.⁹⁹ The new laws now multiplying in Nigeria and other countries in the region are *elitist*. Most of those enactments embody not what the people at large desire, but what a tiny minority of those in power, whether as politicians, legislators, soldiers, civil servants or “leaders of thoughts”, have decided was most suitable for the people.¹⁰⁰ This is the case of the Nigerian electricity law and regulation.

Modern scholars of the theory of law and development seem to be de-emphasizing law as a magic wand for development. Scholars’ focuses have shifted from legalism to getting the institutions right.¹⁰¹ This entails judicial reforms, effective law enforcement mechanisms, elimination of corruption and other correlative factors inimical to socio-economic development.¹⁰² Getting the institutions right appears much more crucial to realizing the objective of the reformed power sector of Nigeria. Regrettably, research outcomes (most of which are published in the above referenced book and several learned journals) reveal that Nigeria needs to get both the law and institutions right to realize the lofty objectives of the new power sector era.¹⁰³

LITERATURE REVIEW

Overview of the Reformed Power Sector In Nigeria

The history of electricity in Nigeria dates back to 1896 under the colonial rule when electricity was first produced in Ijora, Lagos by the British Colonial Government.¹⁰⁴ The Nigerian Electricity Supply Company (NESCO), was later established and commenced operations in 1929.¹⁰⁵ In 1946, the Colonial Government took over electricity governance by establishing the Public Works Department (PWD). The PWD took over the responsibility of electricity supply in

⁹⁸ See Robert B. Sheidman, *supra* note 2, at 1062.

⁹⁹ *Ibid*, at 1023.

¹⁰⁰ Allot, Anthony, “The Unification of Laws in Africa” (1968) 16 *American Journal of Contemporary Law* pages 51, at 52-53.

¹⁰¹ See Kevin E. Davis, “How Important is the Legal System?” *Law and the Developing World: Can Law Alleviate Despair*, University of Toronto, *Nexus*, Spring/Summer (2003) at 18.

¹⁰² *Ibid*.

¹⁰³ See generally MJS Partners, “Update On Sale Of Generation Companies (Gencos) And Distribution Companies (DISCOS)”, *MJS Quarterly Newsletter of Nigerian Electricity Law and Regulation*, Volume 1, Number 3, 2012, available on-line at: <<http://www.pgey.com/index.php?m=Index&a=down&type=pdf&title=NIGERIAN%20GOVERNMENT%20DEREGULATES%20ELECTRICITY%20%E2%80%A6&src=http%3A%2F%2Fxa.yimg.com%2Fkq%2Fgroups%2F27065299%2F2134166051%2Fname%2FMJS%2BNEWS%2BLETTER%2BVol%2B1.pdf>> accessed August 30, 2014.

¹⁰⁴ Niger Power Review: “Development of Electricity Industry in Nigeria (1960-1985)”, 1985, pp. 1-6.

¹⁰⁵ See *Electricity Ordinance Act of 1929*.

Lagos. Four years later, precisely in the year 1950, the *Electricity Corporation of Nigeria* (ECN) was created pursuant to the Electricity Corporation Ordinance 1950¹⁰⁶ while the *Niger Dams Authority* (NDA) was also established about the same time by an Act of Parliament.¹⁰⁷

Fusion of generation and transmission began formally in Nigeria in April 1, 1972 when amalgamation of the two existing organisations, namely the ECN and the NDA was effected by a military decree¹⁰⁸ to form the *National Electric Power Authority* (NEPA). NEPA was exclusively responsible for generation and distribution of electricity in Nigeria. After about four decades, NEPA unsuccessfully managed electricity generation, transmission and distribution in Nigeria and was unbundled and divided into eighteen new companies and semi-autonomous business units under the now dissolved initial holding company called the *Power Holding Company of Nigeria* (PHCN).¹⁰⁹

Under the new regime, the Nigerian Electricity Regulatory Commission (NERC) is to serve as the main regulatory body. The existence of NERC is brought about by the *Electric Power Sector Reform Act*.¹¹⁰ The current regime of power sector reform began in 2000 with the implementation of the Electric Power Implementation Committee (EPIC). The committee drafted the *National Electric Power Policy* (NEPP) in 2001 leading to the EPSR Act 2005.¹¹¹ The model of electricity governance in Nigeria under the *National Electric Power Authority* (NEPA) is radically different from the regime of the EPSR Act.¹¹² A major difference is that the *NEPA Act* intended a wholly state-owned and government-controlled electricity sector in Nigeria.¹¹³ NEPA merely served as a statutory body to effectuate state monopoly in the sector.¹¹⁴ The *EPSR Act* expressly provides for a liberalized regime of electricity, and promotes competition and level playing field in the power sector. It embraces radical, private sector involvement by way of direct and indirect investments, including technical partnerships with the Nigerian government.¹¹⁵ The new regime makes a sharp departure from the old paradigm of state monopoly in electricity governance in Nigeria.¹¹⁶ A

¹⁰⁶ See *Electricity Corporation Ordinance* No. 15 of 1950.

¹⁰⁷ Manafa, N.: *Electricity Development in Nigeria*, Rasheen Publisher, Lagos, 1995, pp.37- 51

¹⁰⁸ See the *National Electric Power Authority Decree No. 4*, 1972.

¹⁰⁹ The commercialization and privatization regime had listed NEPA as one of the state enterprises to be commercialized. See the *Commercialization and Privatization Decree No. 25*, 1988.

¹¹⁰ See section 31 of the *Electric Power Sector Reform* (EPSR) Act 2005, Cap E7, Laws of the Federation of Nigeria (LFN), 2004 (Revised 2010).

¹¹¹ Ibid.

¹¹² See the *National Electric Power Authority* (NEPA) Act, Cap N 33, Laws of the Federation (LFN) 2004.

¹¹³ See YemiOke, "Beyond Power Sector Reforms: The Need for Decentralized Energy Options (DEOPs)" (2012) 18:1 *Nigerian Journal of Contemporary Law, University of Lagos*, 67 at 68-71. See also YemiOke, "National Grid or National Greed", *The Punch Newspaper* (7 December 2011) 14 and (8 December 2011) 16. See also Chigbue, I.N., "Electric Power Sector Reform: Privatization, Regulation and Other Challenges" a presentation at the National Workshop on Electric Power Sector Liberalization, 30th March, 2006, on-line at: <http://worldstagegroup.com/truecolour/media/11152404144.ppt>, accessed April 18, 2013.

¹¹⁴ See for example, sections 1 and 3 of the NEPA Act, *supra* note 18.

¹¹⁵ See YemiOke, "Manitoba Hydro and Electricity Undertakings in Developing Countries: The Case of Nigeria" (2012) 36: 1 *Manitoba Law Journal*, at 37-65.

¹¹⁶ See sections 25, 26, 28, 29, and 82 of the EPSR Act, *supra* note 16. For example, sections 80 and 81 of the *EPSR Act* provide for consumer protection, and require high performance standards by the operators to engender maximum utility and safety to consumers of electricity. Regrettably, section 27 of the repealed NEPA Act declares that NEPA is not responsible for safety either of the consumers or for the efficiency or safety of their cables and appliances of consumers. Section 35 of the NEPA Act forbade any other person or

crucial question is: **despite the reforms, how socially sustainable is electricity governance in Nigeria?**

Some Legal and Constitutional Concerns

In a number of ways, the provisions of the *Electric Power Sector Reform Act 2005* (the Act) would appear to contradict the *Constitution of the Federal Republic of Nigeria* (as amended). The Nigerian constitution provides for electricity regulation under items 13 and 14 of the Second Schedule, Part II, Concurrent Legislative List to the extent that: *The National Assembly may make laws for the Federation or any part thereof with respect to-(a) electricity and the establishment of electric power stations; (b) the generation and transmission of electricity in or to any part of the Federation and from one State to another State.*

A potential challenge in the sector is that, by virtue of paragraph 14, State Governments in Nigeria are at liberty to engage in licensing and regulation of electricity subject as provided by the Constitution. Item 14 states that: *A House of Assembly may make laws for the State with respect to – (a) electricity and the establishment in that State of electric power stations; (b) the generation, transmission and distribution of electricity to areas not covered by a national grid system within that State; and (c) the establishment within that State of any authority for the promotion and management of electric power stations established by the State.*

Apparent from the above section is that the Nigerian Constitution provides for decentralized electricity governance. It is therefore curious why State Governments in Nigeria are yet to avert their attention to this gap.¹¹⁷ While the Constitution provides for decentralized regulatory framework, the EPSR Act provides for a centralized regime, which is outside the contemplation of the Constitution, thus making it null and void to the extent of its inconsistency.¹¹⁸ The Act also established an agency, to be known as the *Rural Electrification Agency (REA)*.¹¹⁹ The REA administers the *Rural Electrification Fund (REF)*, a designated fund to provide, promote and support rural electrification programmes which ordinarily comes within the ambit of off-grid electricity structure for State regulation.

i) Rural Electricity:

Rural electricity is off-grid, and comes squarely within the ambit of regulatory purviews of the State Governments in Nigeria¹²⁰ bearing in mind that the Constitution vests Local Government administration in the state Governments.¹²¹ The objective and purpose of the REF is a noble one, at least on paper, and are similar to that of the regulatory agency, the REA.¹²² However, noble as its objectives might seem, the REF has generated more ripples than intended in its short history

state government agency from obtaining licenses to operate power plants or generate electricity, in contradistinction with the level-playing, competitive structure under the EPSR Act of 2005.

¹¹⁷ See items 13 and 14 on Electric Power (F), in the Second Schedule, *Part II, Concurrent Legislative List, Constitution of the Federal Republic of Nigeria* (CFRN) 1999 (as amended).

¹¹⁸ *Ibid*, section 1 (1) and (3) of the CFRN, 1999 (as amended).

¹¹⁹ S. 88 (1) of the EPSR Act, *supra* note 16.

¹²⁰ See Item 14, of the Schedule II to the CFRN, *supra* note 23.

¹²¹ Section 6 (7) CFRN 1999 (as amended).

¹²² See section 88 (13) (a-d) of the EPSR Act, *supra* note 16.

due largely to corruption and mismanagement of the REF.¹²³ It is the considered view of the presenter that vesting *Rural Electrification Agency (REA)*, *Rural Electrification Fund (REF)*, and *Rural Electrification Project (REP)* in the hands of the Federal Government runs counter to the intendment of the Nigerian Constitution. An attempt to bring ‘off-grid’ subject within “National-Grid” is tantamount to what the writer had referred to in another piece as “National Greed”.¹²⁴

ii) ***Captive power generation***

Power to regulate captive electricity generation should ordinarily vest in the State Governments. Therefore, the *NERC Regulations for the Granting of Permits for Captive Power Generation, 2008*¹²⁵ is, *ipso facto*, unconstitutional. Under this regulation, the NERC grants captive electricity permits to an individual, a company, partnership or any association of individuals whether incorporated or not.¹²⁶ The word “*Captive Power Generation*” means ***generation of electricity in excess of one (1) MW for the purpose of consumption by the generator, and which is consumed by the generator itself, and not sold to a third-party***.¹²⁷ The underlining objective of the regulation is to streamline the procedure for power generation by interested person(s), groups or corporate organization in excess of 1 MW, but without the intention of trading or engaging in the sale of electricity to a third-party.

There is no direct or specific provision under the Act authorizing the NERC to regulate captive generation of electricity. Section 62 of the EPSR Act expressly excludes captive generation. It only provides that no person shall construct, own or operate an undertaking for the purpose of electricity generation, transmission, distribution, systems operation or electricity trading in excess of 1 megawatt without a licence by the Commission.¹²⁸ Thus, even under section 32 (1)(a), 32(1)(e), and 32 (2)(d) of the Act, the NERC has a general but not specific statutory duty to regulate the operation of captive generating plant, among others.¹²⁹ Like the REA, REF and REP; captive generation of electricity is also off-grid, and comes within the ambit of legislative competence and regulatory purviews of the State Governments in Nigeria, in line with the intendment of the Constitution. As the sector develops, it is anticipated that State Electricity

¹²³ The arrest of some principal officers of the National Assembly over the *Rural Electricity Project* by the *Economic and Financial Crimes Commission (EFCC)* has further reinforced the argument on the current structure of the electricity governance in Nigeria. See “The Raging Scandal over Government’s Rural Power Projects” Guardian online at: http://www.ngrguardiannews.com/weekend/article01//indexn2_html?pdate=150509&ptitle=The%20raging%20scandal%20over%20govt's%20rural%20power%20projects accessed June 17, 2009.

¹²⁴ See YemiOke “National Grid” or “National Greed”? *supra* note 19.

¹²⁵ The *Nigerian Electricity Regulatory Commission (NERC) Regulations for the Granting of Permits for Captive Power Generation, 2008* is made pursuant to Section 96 (1) of the Electric Power sector Reform Act, 2005 which gives the Commission power to make regulations for the granting of permits for captive power generation.

¹²⁶ See section 2 of the Regulations. The section defines ‘person’ to include an individual, a company, partnership or any association of individuals whether incorporated or not.

¹²⁷ See Section 2 (1) of the *Captive Power Generation Regulations*, *supra* note 31.

¹²⁸ See generally Section 62 (1) (a-e), (2) and (3) of the Electric Power Sector Reform Act, *supra* note 16.

¹²⁹ A careful reading of the provisions of section 32 (1)(a), 32(1)(e), and 32 (2)(d) of the Act shows that the NERC is vested with no specific but general powers to create, promote, and preserve efficient electricity industry including ensuring the safety, security, reliability and quality of service in the production and delivery of electricity to consumers as well as license and regulate persons engaged in the generation of electricity, transmission, system operation, distribution and trading of electricity.

Regulatory Commissions would be established by interested State Governments in Nigeria to license private companies to engage in off-grid electricity generation, transmission and distribution including renewable electricity, captive electricity generation, rural electrification and others. The ultimate objective is to ensure regular supply of power for economic development. Therefore, Federal and State Governments must act as collaborators, not as competitors, in terms of electricity governance in Nigeria.¹³⁰

iii) *Revocation of land for electricity purpose*

Revocation of land for electricity purpose is another potentially sensitive issue capable of undermining private sector-led electricity sector in Nigeria. The issue of land ownership and management is capable of generating tension between electricity companies and the local communities.¹³¹ Land ownership is a sensitive subject under the Nigerian law. The EPSR Act provides that for the purpose of electricity, a generation licensee, transmission or distribution licenses, or a proposed licensee for generation, transmission and distribution services may apply to the NERC in a manner as may be prescribed, for a declaration that the land is required for purposes of generation, transmission or distribution of electricity.¹³²

The Commission may, subject to further conditions as it may specify, declare that the land identified by the licensee is so required, with such modifications to the boundaries as it may specify.¹³³ The exception granted for the purpose of a declaration requiring land for electricity purpose may include a condition that the physical environment be protected, and that there is no greater damage to the streets or interference with traffic that is reasonably necessary. The Governor, as custodian of land, shall be bound by a declaration that a piece of land is required for public (electricity) purposes. The Act provides, in clear and definite terms, that when the President issues a notice requiring the land for public purpose pursuant to section 28(4) of the Land Use Act,¹³⁴ the Governor of a State shall revoke the existing right of occupancy in respect of the land and grant a certificate of occupancy in favour of the licensee.¹³⁵

Revocation of land for ‘overriding public interest’ may not ordinarily justify revocation of existing rights of occupancy or allocation of same to a business enterprise simply because such entities trade in electricity or related activities. Companies holding either generation, transmission or distribution licenses are business enterprises trading with the ultimate objective of profit maximization in electricity. Therefore, for the purpose of electricity undertakings, a declaration that the land is required for purposes of generation, transmission or distribution of electricity should be based on payment of compensation equal the current commercial or market value of the land in question as it exists in respect of compulsory purchase of land. Payment of commercially realistic amount in compensation would mitigate apparent social injustice of the declaration that a person’s right of occupancy would be revoked for going concerns and mercantilists’ entities engaging in electricity trading on ground of ‘public need’.

¹³⁰ YemiOke, “Rural Electrification and Captive Power Generation” (2013) 3 *Nigerian Lawyers’ Journal, Law Digest* (UK), summer 2013, at 51-52.

¹³¹ For detailed analyses on land and electricity in Nigeria, see YemiOke, *Nigerian Electricity Law and Regulation*, (Lawlords, Abuja/Lagos, 2013) Chapter 5, at pages 83-95.

¹³² See section 77(1) of the EPSR Act, *supra* note 16.

¹³³ *Ibid*, sub-section (3).

¹³⁴ See *Land Use Act*, Cap L5, Laws of the Federation of Nigeria 2004.

¹³⁵ See section 77(9) of the EPSR Act.

Revocation of right of occupancy to land for purposes of electricity undertakings is a negation of total deregulation and commercialization of electricity in Nigeria.¹³⁶ As argued elsewhere,¹³⁷ the principle of compulsory purchase, compared to revocation of right of occupancy, enables the acquiring authority assume the obligation of paying for the full value of the land to be purchased or taken.¹³⁸ The profit motive of the reformed electricity sector of Nigeria would appear to make ‘compulsory purchase’ a suitable mechanism compared to ‘compulsory acquisition’ of land for electricity purpose. Compulsory purchase of land is particularly suitable where private-commercial motives intermingle with public interest as it makes for the payment of actual market value for the land purchased or acquired. Compared to revocation of right of occupancy where land is required for the purpose of electricity undertakings either for generation, transmission or distribution; a fair and just end is attained that makes for a win-win situation unlike acrimonious relationship between land owners or resource-bearing communities and oil companies in Nigeria.¹³⁹

iv) Dispute Resolution Mechanisms

The Dispute Resolution Mechanisms¹⁴⁰ of the reformed power sector of Nigeria also appears potentially counter-productive¹⁴¹ as they contradict the traditional principle of adjudication. For example, the provision for re-hearing¹⁴² raises certain legal questions. Re-hearing a matter before the same panel that sat over the earlier proceedings, for whatever reason or motive, is immoral, unjust and illegal; it offends the principle of natural justice. The later decision arising from such rehearing would ordinarily be tainted with elements of bias. Re-hearing sometimes comes up before the same panel on certain conditions. However, it is advocated that rehearing in this circumstance should come up before a new panel. It is a settled principle of justice that a court or panel or tribunal becomes *functus-officio* once it has rendered its decision on the issue.

v) Host Community concerns:

To a significantly large extent as justified below, host communities concerns have been relegated or seemingly ignored in the privatisation of the power sector in Nigeria. Community concern in electricity is a new development in Nigeria. It has its roots in community-related agitations in the oil and gas sector due to the top-down (state-centric), centralized structure of energy and natural resource governance in Nigeria. Host community issue is a potent factor capable of undermining the activities of both local and foreign electricity companies operating in Nigeria, as elsewhere.

¹³⁶ See Public Enterprises (Privatization and Commercialization) Act, *supra* note 15.

¹³⁷ See YemiOke, “Advocating Compulsory Purchase as an Alternative to Revocation of Title to Land for Electricity Purpose in Nigeria” (2013) *Journal of Private and Property Law*, University of Lagos, at pages 36-59.

¹³⁸ See section 63 of the *Lands Clauses (Consolidated) Act 1845*. The provisions of the Act formed the basis of the decision of the Privy Council in *Director of Buildings and Lands v Shun Flung Ironworks* [1995] 2 AC, 111; [1995] 1 All ER 846; [1995] 19 EG 147. See Barry Denyer-Green, *Compulsory Acquisition and Compensation* (8thed.) (EG Books, London: 2005), at 168.

¹³⁹ YemiOke “Advocating Compulsory Purchase as an Alternative to Revocation of Title to Land for Electricity Purpose in Nigeria”, *supra* note 43.

¹⁴⁰ See Rule 11 of the *Business Rules of the Nigerian Electricity Regulatory Commission*, 2006.

¹⁴¹ Rule 17 (1).

¹⁴² Rule 22 (1).

Host community hostility is a new generation of foreign investment risk.¹⁴³ Matters affecting the host populations rarely receive much attention.¹⁴⁴ Most legislative and contractual documents based on the exploitation of energy resources, including electricity generation, transmission and distribution tend to be silent on devising institutional means to protect the host populations against sometime devastating environmental, health and social impacts of the activities of energy companies.¹⁴⁵

Although yet to be enforced, the Nigerian electricity regime seems to provide for institutional framework to protect the host community¹⁴⁶ located around hydro-based power generation installations under the *Hydro-Electric Power Producing Areas Development Commission (HEPADC) Act*.¹⁴⁷ The *HEPADC Act* primarily aims to create a Commission charged with responsibility for managing the ecological menace of hydro-based electricity due to operation of dams, and for related matters affecting the hydro-electric power-producing States or areas in Nigeria. Aside from the legal framework providing for hydro-based electricity generation under the *HEPADC Act*, no similar framework exists for other forms of electricity generation in Nigeria.

vi) *Environmental concerns*

Environmental implications of potential increase in electricity generation, transmission and distribution appear insufficiently contextualized under reformed power sector.¹⁴⁸ The power sector arguably stands in closer proximity for environmental degradation like the oil and gas sectors. This is not only because the liberalization policy of government tends to accommodate environmentally insensitive disposition by sector players; but also because principles like pollution haven, regulatory chill, the “race-to-the-bottom theory”¹⁴⁹ and other phenomena associated with competition¹⁵⁰ might become inevitable in the quest to attract foreign direct investment (FDI) in the power sector of Nigeria.¹⁵¹

¹⁴³ George S. Akpan, “Host Community Hostility to Mining Projects: A New Generation of Risk?” in Bastiba, E.; Walde, T., and Warden-Fernandez, J., (Eds.) *International and Comparative Mineral Law and Policy: Trends and Prospects* (The Hague: Kluwer Law International, 2005) at 311.

¹⁴⁴ *Ibid.* at 312.

¹⁴⁵ *Ibid.* Akpan argues that inability of members of the host communities to have recourse to effective remedies in both the host and the home State and in international law, against activities of players in the energy sector that have deleterious effects on them has potential of creating a new source of risk to foreign investment in the sector.

¹⁴⁶ For detailed discussion on hydroelectric power producing states and communities, see YemiOke, *Nigerian Electricity Law and Regulation* (Lawlords Publishers, Abuja: 2013), Chapter 7 at pages 118 and 126-132.

¹⁴⁷ See *Hydro-Electric Power Producing Areas Development Commission*, Cap H5A, Laws of Federation of Nigeria (LFN), 2004.

¹⁴⁸ See DayoAmokaye and YemiOke, “Electricity Regulation in Nigeria: Perspectives to Host Communities and Environmental Concerns” (up-coming) in (2015) *Boston Journal of Environmental Law and Policy*, at 10-26.

¹⁴⁹ See for example T. Johnston, “The Role of Intergenerational Equity in a Sustainable Future: The Continuing Problem of Third World Debt and Development” (1998) 6 *Buffalo Environmental Law Journal*, pp 36-80, at 58; and Madeline Cohen, “A Menu for the Hard-Rock Café: International Mining Ventures and Environmental Cooperation in Developing Countries” (1996) 15 *Stanford Environmental Law Journal*, 130 at 154. But see and compare David Wheeler, “Racing to the Bottom? Foreign Investment and Air Pollution in Developing Countries”, (Paper Written for Development Research Group, World Bank, 2001) at 5.

¹⁵⁰ For detailed discussion and overview of literature on the issue of investment theories, see “Environmental Issues in Policy-based Competition for Investment: A Literature Review”, ENV/EPOC/GSP (2001), 11; A Report of the Organization for Economic Co-operation (OECD), 4 April 2001, online: OECD

The current energy mix reveals that Nigeria generates electricity from thermal, natural gas, and hydro sources with natural gas sources being the highest source.¹⁵² These sources naturally imply attendant environmental pollution by way of land degradation, water pollution and atmospheric pollution occurring at each stage of energy process.¹⁵³

Ecological footprints¹⁵⁴ of bad environmental management, particularly in electricity undertakings may hardly get totally erased by legislation or policy. More worrisome, the current regime of electricity appears insufficient to regulate attendant environmental implications. To effectively curtail pollution in the power sector would require creating appropriate institutions with powers to invoke civil and criminal sanctions to curtail attendant environmental recklessness in electricity generation, transmission and distribution.

CONCLUSION:

As a legal researcher in this crucial sector (power and energy), I've come to realize the enormity of legal and regulatory gaps and overlaps in the new power sector regime in Nigeria. This presentation amplifies my past and current research works in the area of "Electricity Law and Regulation in Nigeria". It essentially articulates a regime of sustainable electricity governance for Nigeria in the wake of the reformed power sector, which targets private-sector driven electricity generation, transmission and distribution. Without doubt, the country is on the right path towards economic development, particularly in the area of power and infrastructure. However, findings from the above researches have thrown-up crucial issues that must be addressed towards realizing the objective of the reformed power sector in Nigeria. This is due to the realization that economic development cannot be attained unless in a reasonably stable political and legal environment. Sustainability of the country's power sector is dependent on the degree of predictability of the legal and regulatory framework of the sector. As law has never proved to be the *magic wand* for automatic sustainability, the success of the reformed power sector would also entail getting the institutions right, through effective enforcement of law and

<www.oecd.org/findDocument/0,2350,en_2649_34313_1_119666_1_1_37465,00.html>, last visited on 20 July 2004.

¹⁵¹ See "Environmental Benefits of Foreign Direct Investment: A Literature Review ENV/EPOC/GSP (2001), 10; A Report of the Organization for Economic Co-operation (OECD), 5 April 2001, online: OECD <www.oecd.org/findDocument/0,2350,en_2649_34313_1_119666_1_1_37465,00.html>, last visited on 20 July 2004 for detailed discourse and review of literature on the environmental and other benefits of FDI which seems to justify foreign investment in natural resources including mining, at 10-24.

¹⁵² See World Bank Development Indicator, on-line at <http://www.tradingeconomics.com/nigeria/electricity-production-from-hydroelectric-sources-percent-of-total-wb-data.html> accessed 30 June, 2013.

¹⁵³ Amokaye & Oke, *supra* note 54.

¹⁵⁴ Yemi Oke, "Intergenerational Sustainability and Traditional Knowledge in Africa: Natural Resource Management Perspective" in *Sustaining Life on Earth: Environmental and Human Health Through Global Governance* (C.L. Soskolne, et al., eds.) Lexington Books Maryland, USA. (2007) at 227-239. *Ecological Footprint* is the analysis of a philosophical assumption that advocates new system-based approach to environmental consciousness. It was developed by Dr. Williams Rees at the University of Columbia in the 1990s as analytical tool called "Ecological Footprint Analysis- EFA". See Brian D. Ladd and Colin L. Soskolne, "A Toolkit for Ecological Enquiry under Global Ecological Change-Conventional and Disaggregated Ecological Footprint Analysis" in Colin L. Soskolne (ed.) *Sustaining Life on Earth* (Lexington Books, New York, 2008) 369 at 372.

regulation in the sector as well as elimination of corruption and other anti-social practices that often retard social and economic development.

NB: The *Presidential Task Force on Power* had, (at some point recently), realized the need for reforming the legal framework of the power sector and had called for input from the presenter. I was tasked, and about putting my thoughts together on about two hundred (200) identifiable lapses in the legal and regulatory regime of the reformed power sector in Nigeria. But, due to the fact that the reform is on-going, and (on-going) privatization in the power sector exercise was yet to be concluded; it was decided, justifiably so, that best to tarry until the conclusion of the privatization exercise than attempting to change or amend the law in the middle of the exercise. I patriotically hope the opportunity will present itself in future to do so. Until then, we'll keep pushing the frontiers through our research and related endeavours.

INTELLECTUAL PROPERTY RIGHTS, HEALTH, INFRASTRUCTURE AND DEVELOPMENT: A CASE FOR DEVELOPING ECONOMIES

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ABSTRACT

Several emerging concepts and developments have led to widespread rethinking of the ownership of intellectual property. Most important have been the broadening acceptance of Creative Commons licensing and the adoption of open access policies. These developments do not actually lead to a change in the ownership of the copyright in works. However, they provide for effective means to share rights and to use many scholarly works for research and development. Whilst the advent of technology has made access to information so much easier and convenient, in the developing economy, there is low level of Information Communication Technology (ICT) awareness and non-availability of ICT equipment and infrastructure. The basis of this paper is to balance Intellectual Property Rights (IPRs) with the need to avoid hindering access to health, infrastructure and development.

The paper analyses the consequences of strict Intellectual Property Rights (IPRS) regimes in developing economies especially those with low technology activity. It reviews the implications of the agreement on Trade Related Intellectual Property (TRIPS) under the World Trade Organisation (WTO). It focuses on the national implementation of TRIPS agreement, copyright and related rights, technological development and health protection in developing countries. It submits that addressing these issues will require policy and institutional innovations in the developed and developing economies. The paper presents strategies for developing economies in the field of IPRS.

Keywords: Intellectual property, Health, Technology, Developing Economies.

INTRODUCTION

Traditionally, intellectual property ranged from full copyright where ‘all rights are reserved’, to the public domain or ‘no rights reserved’ in which the creator asserts all rights concerning the creative work. Over the past decade, there has been a movement towards creating more freely accessible materials and documents. This is particularly in the light of advances in digital technologies and the internet, where works can be made accessible to a much larger group of people on different continents. The concepts of Creative Commons and Open Access were created to make it easier for a creator to share works freely with the public. The vision was for a space in the Internet world where people could share and reuse IP material without fear of being sued. Creative Commons and Open Access constitute a simple yet very effective licensing model. The idea was to ask copyright owners, where they were willing, to agree or give permission for their material to be shared through a generic licence that acted as permission in advance.

One major advantage of creative commons and open access is that they bring to an end the era of where IP owners being restrictive right holders are tracked down by intending users, resulting in unnecessary loss of time and money in seeking out permission from right holders. Creative commons are public licences which allow anyone worldwide to use a copyrighted work without

necessarily having to pay a fee or royalty or ask permission as long as they adhere to the conditions specified in the licence. It is only if a person desires to use a work in a way other than that specified in the licence that permission needs to be sought from the copyright holder. It is in the light of this that this paper explores the actual or real and possible effect or implication of these emerging concepts on the scope of protection in IPRS, health, infrastructure and development in developing economies.

Intellectual Property refers to the creation of human intellect. These could be ideas or expressions or devices. As per the Convention establishing the World Intellectual Property Organization (WIPO), '*intellectual property*' shall include the rights relating to: Literary, artistic and scientific works; Performances of performing artists, phonograms, and broadcasts; Inventions in all fields of human endeavour; Scientific discoveries; industrial designs; Trademarks, service marks, and commercial names and designations; Protection against unfair competition; and all other rights resulting from intellectual activity in the industrial, scientific, literary or artistic fields.¹⁵⁵

The Rationale For Intellectual Property (Ip) Protection

This protection of intellectual property is intended to be beneficial to the society. The protection should result in greater divulgence and dissemination of works and inventions. For instance, an inventor obtains patent protection for his or her invention in return for making it known to the society through the publication of it in a register. Exclusive rights are granted in return for a wide dissemination of the results of inventiveness and creativity. This serves the society at large because the protected productions may then serve as a basis for further creative and inventive work.

History Of Intellectual Property Law

The concept of Intellectual Property goes back to very ancient times. Authors complained about the theft of their works in the Greek and Roman times.¹⁵⁶ Potter's marks were recognized more than 2000 years ago in Rome as distinguishing marks of the producer.¹⁵⁷ Legal protection for intellectual property goes back to the Middle Ages. In the fifteenth century, Venice had a law protecting patents.¹⁵⁸ In 1449, a patent was granted for glass making process in England. After the invention of printing with movable typefaces by Gutenberg, many countries of Europe, including England, introduced legal restrictions on printing, which led to the emergence of modern copyright legislation. The Statute of Anne of 1709 is known as the mother of all copyright laws. In modern jurisprudence, the emergence of international harmonized laws on Intellectual Property can be traced to the Paris Convention for the Protection of Industrial Property and the Berne Convention for the Protection of Literary and Artistic Works of 1886.¹⁵⁹

Intellectual Property In Nigeria

¹⁵⁵ World Intellectual Property Organization Treaties. (n.d.) Retrieved August 16, 2014 from http://www.wipo.int/treaties/en/convention/trtdocs_wo029.html#P50_1504.

¹⁵⁶ Stewart, S. M. (1989). *International Copyright and Neighbouring Rights* (2nd ed.). London: Butterworths.

¹⁵⁷ Torremans, P. (2001). *Intellectual Property Law*. London: Butterworths.

¹⁵⁸ Op. cit.

¹⁵⁹ James, T.C. (2006, March). Notes on Intellectual Property Rights in the Digital Environment Paper presented in the workshop on Enforcement of Intellectual Property Rights organized by Indian Law Institute, Cuttack, India.

By virtue of its colonial experience, the English Copyright Act of 1911 was first introduced to Nigeria and it governed copyright infringement in the country until 1970 when the Copyright Decree No. 61 (later known as Copyright Act) was promulgated.¹⁶⁰ The 1970 Copyright Act was replaced with Copyright Act of 1988 which introduced new provisions, particularly those relating to copyright administration in Nigeria. Today, copyright issues are governed by Copyright Act Cap C28 Laws of the Federation of Nigeria 2004.

Trips Agreement

The TRIPS agreement, which came into effect on 1 January 1995, was one of the main achievements of the Uruguay Round of trade negotiations. The agreement represented an important step in efforts to harmonize intellectual property rules and establishing minimum standards for national laws. The Agreement on Trade Related Aspects of Intellectual Property Rights made protection of IP an enforceable obligation of the member states of the World Trade Organization. The objective of the Agreement was to reduce distortions and impediments to international trade, and to ensure that, while effective and adequate protection of intellectual property rights is needed, measures and procedures to enforce intellectual property rights do not themselves become barriers to legitimate trade.¹⁶¹

The relationship between intellectual property protection and international trade has been one of the most controversial issues in global negotiations in recent years. The debate has largely been about the implications of the agreement on the Trade-related Aspects of Intellectual Property Rights (TRIPS) under the World Trade Organization (WTO) for international trade in general, and for developing countries in particular.¹⁶² Most of the views expressed by developing countries on the TRIPS agreement arise from their interest in technological development. The agreement recognizes the role of technology in social and economic welfare and sets out its objectives in Article 7. Many of the views expressed by developing countries stem from their perception that the TRIPS agreement affects their ability to use technological knowledge to promote public interest goals such as health, nutrition and environmental conservation

Controversies On Iprs And Developing Countries

In recent times, the controversies in the role of Intellectual Property Rights in developing countries are in the field of technological developments and National implementation on TRIPS. This paper will now focus on these issues and proffer strategies for developing countries.

Technological Innovation And Intellectual Property Rights

Technological development may be one of the most important issues for developing countries. It was because of this concern that many developing countries were originally opposed to a GATT-

¹⁶⁰ Amadi- Shodeinde, (2011) “**Intellectual Property Rights and Globalisation: Challenges to Developing Countries**” published in *The Law of Intellectual Property in Developing Countries* by Nigerian Institute of Advanced Legal Studies. Abuja. 3rd Edition, Vol. 4. P45

¹⁶¹ Preamble to TRIPS

¹⁶² The TRIPS agreement covers: copyright and related rights (including the rights of performers, producers of sound recordings and broadcasting organizations); trademarks including service marks; geographical indications including appellations of origin; industrial designs; patents including the protection of new varieties of plants; the layout-designs of integrated circuits; and undisclosed information including trade secrets and test data.

driven accord on intellectual property rights. Indeed, one of the most important changes in international intellectual property law embodied in the TRIPS agreement is the extension of the scope of protection to all types of technologies. Article 27 on patentable subject matter provides that “patents shall be available and patent rights enjoyable without discrimination as to the place of invention, the field of technology and whether products are imported or locally produced.”¹⁶³ This provision brought under the scope of the agreement technological fields, such as pharmaceutical products, that were previously excluded from patentability by many countries. It is therefore no surprise that one of the first disputes to be dealt with by WTO was on pharmaceutical products.

In a dispute involving India and the United States, a panel set up under the Dispute Settlement Body of WTO concluded in its 1997 report that “On the basis of the findings set out above, the Panel concludes that India has not complied with its obligations under . . . the TRIPS Agreement, because it has failed to establish a mechanism that adequately preserves novelty and priority in respect of applications for product patents in respect of pharmaceutical and agricultural chemical inventions during the transitional period to which it is entitled under . . . the Agreement, and to publish and notify adequately information about such a mechanism; and that India has not complied with its obligations [under] the TRIPS Agreement, because it has failed to establish a system for the grant of exclusive marketing rights.”¹⁶⁴ India appealed against some aspects of the panel report but the WTO Appellate Body upheld the findings of the panel.¹⁶⁵ This case is an instance of the growing interest in the technological implications of the TRIPS agreement for developing countries. Many of the technology-related concerns arise from the public interest provisions of the TRIPS agreement and the perception that these are being eroded.

The impact of intellectual property protection on health care in the developing countries has received much attention recently. The issues include the impact of intellectual property rights on access to essential drugs (including parallel imports), drug pricing, promotion of research and development (R&D) on tropical diseases, transparency in drug regulation, and local drug manufacture.¹⁶⁶ The pharmaceutical industry has, in turn, argued that most of its R&D investment (estimated at US\$24 billion for 1999) is made possible because of the existence of an intellectual property protection system.¹⁶⁷

The risks associated with drug development extend to other factors such as product liability and the development of competing or generic drugs. In addition, product development is influenced by the publication of related research results by competing firms or research institutions. Under such circumstances intellectual property protection provides more than just the ability to exclude others from the unlicensed use of inventions; it grants the monopoly control needed to provide a

¹⁶³ Trade Related Aspects of Intellectual Property Rights Agreement. (TRIPS) 1994.

¹⁶⁴ WTO 1997. *India: Patent Protection for Pharmaceutical and Agricultural Products*. Report of the Panel. World Trade Organization, Geneva.

¹⁶⁵ Op. cit.

¹⁶⁶ For a review of the impact of intellectual property protection on drug pricing, see Subramanian, A. 1995. “Putting Some Numbers on the TRIPs Pharmaceutical Debate.” *International Journal of Technology Management*, Vol. 10, No. 1/3, pp. 151-168.

¹⁶⁷ Over the 1975-97 period over 1,223 new chemical entities were marketed of which 379 were considered therapeutic products. Only 12 of these (1%) were specifically for tropical diseases, according to Trouiller, P. et al. 1997. *Analysis of Drug Development Patterns of Six Tropical Diseases Between 1975 and 1998*. Paper Presented at the 8th International Congress on Infectious Diseases, May 15-18, Boston, USA.

predictable environment for product development. But the public welfare impact of this control is subject of considerable debate.

But for developing countries the concerns go beyond harmonization and are largely about access to technology.¹⁶⁸ Nations that generate technology have always sought to protect it while those that import it have pursued avenues that maximize access to the available technology.¹⁶⁹ Nations seeking to develop technologically have often imitated and learned from those already posing the knowledge. For instance, when “the United States was still a relatively young and developing country . . . it refused to respect international intellectual property rights on the grounds that it was freely entitled to foreign works to further its social and economic development.”¹⁷⁰

The history of intellectual property protection in pharmaceutical products demonstrates this point. Many of the industrialized countries introduced patent legislation in this field after they had reached a certain level of technological competence and international competitiveness.¹⁷¹ More recently, technological learning has provided the policy basis for rapid industrialization among developing countries.¹⁷² These countries have favored policies and laws that promote the local working of patents, parallel imports, compulsory licensing and exclusion from patentability for certain classes of technologies. Much of the debate over the loosening of intellectual property protection in the World Intellectual Property Organization (WIPO) and the United Nations Conference on Trade and Development (UNCTAD) in the 1970s focused on these issues. For instance, the Berne Convention for the Protection of Literary and Artistic Works was substantially revised in 1971 to include an annex on “Special Provisions Regarding Developing Countries”. The annex allows a country to “grant non-exclusive, non transferable licences to its nationals for the reproduction or translation of foreign-owned copyright works for educational or research purposes.”¹⁷³

These revisions were justified on the basis of national public interest. Similar revisions were attempted in other intellectual property regimes but were stalled by the onset of the Uruguay Round of negotiations. It is notable that there have been no major efforts by developing countries to invoke the special provisions of the Berne Convention to grant copyright works to their nationals. This is mainly because of the difficulties associated with the use of compulsory licensing as a development policy instrument. The need to balance between enforcement of intellectual property rights and meeting the technological needs of developing countries became a key theme in the Uruguay Round negotiations.

¹⁶⁸ These issues are part of a larger developing country multilateral trade agenda. For a review of the issues, see The South Centre 1998. *The WTO Multilateral Trade Agenda*. The South Centre, Geneva; The South Centre 1999. *Issues Regarding the Review of the WTO Dispute Settlement Mechanism*. The South Centre, Geneva.

¹⁶⁹ For a review of the negotiating history, see Yusuf, A.A. 1998. “TRIPs: Background, Principles and General Provisions,” in Correa, C.M. and Yusuf, A.A., *Intellectual Property and International Trade: The TRIPs Agreement*. Kluwer Law International, London.

¹⁷⁰ Office of Technology Assessment 1986. *Intellectual Property Rights in an Age of Electronics Information*. US Government Printing Office, Washington, DC, p. 228.

¹⁷¹ France and Germany introduced pharmaceutical patent laws in 1960 and 1968 respectively while Japan and Switzerland acted in 1976 and 1977 respectively with Italy and Sweden joining them in 1978.

¹⁷² Kim, L. 1997. *Imitation to Innovation: The Dynamics of Korea’s Technological Learning*. Harvard Business School Press, Cambridge, USA.

¹⁷³ Juma, C. (1999). *Intellectual Property Rights and Globalization: Implications for Developing Countries*. Science, Technology and Innovation Discussion Paper No. 4, Center for International Development, Harvard University, Cambridge, MA, USA. P23

The TRIPS agreement reflects this point and states that countries¹⁷⁴ “may, in formulating or amending their laws and regulations, adopt measures necessary to protect public health and nutrition, and to promote the public interest in sectors of vital importance to their socio-economic and technological development, provided that such measures are consistent with the provisions of this Agreement.” The agreement¹⁷⁵ provides countries with freedom to adopt measures that “may be needed to prevent the abuse of intellectual property rights by right holders or the resort to practices which unreasonably restrain trade or adversely affect the international transfer of technology.” This prevention of abuse clause deals primarily with measures that undermine competition.¹⁷⁶ But the existence of such flexibility suggests that developing countries will need to formulate their interests through national policy and legislation. The successful use of the flexibility granted in the TRIPS agreement will also depend on the relationship between a country and its major trading partners in the industrialized world. This is because most of the inventions that are likely to be affected by national laws belong to rights holders in the industrialized world.

Institutional Capacity

All the strategies above would be successful if there is the political will and the institutional capacity to implement them. Developing countries need to build awareness among their populace about the rationale and consequences of IPR on the various facets of life. Only legislation on IPRs is not enough. It has to be followed by the efficient executive and judicial actions where needed. Researchers, academics, and civil society have to be engaged in this debate to help protect societies from exploitation while promoting and encouraging innovation.

CONCLUSION

Intellectual Property Rights are one of the major concerns of developing world policy makers in the post TRIPs era. Despite the benefits propounded by advocates of stronger IPR regimes, the issues facing developing countries at different levels of development vary according to their social, economic and technological levels. In the knowledge-based economies of the presentday world issues in copyright and patents are crucial for the developing world. TRIPs Agreement needs to be examined critically as they affect the food security and health of large populations in developing countries. Developing countries need to form strategies learning from the experience of sister nations while keeping in mind the obligations of the TRIPs Agreement and the pressures from the developed world. Successful implementation of the chosen strategies will depend *inter alia* on the awareness created among the stakeholders about the role and relevance of IPRs. The

¹⁷⁴ Article 8 TRIPS.

¹⁷⁵ Article 8.2 TRIPS.

¹⁷⁶ It has been argued that this provision needs to be developed into a separate agreement to protect the interests of the developing countries. This issue arises from Article 40 of the TRIPS agreement which deals with “licensing practices or conditions that may in particular cases constitute an abuse of intellectual property rights having an adverse effect on competition in the relevant market.” It has been proposed that this could be remedied by the adoption of a Trade-Related Anti-trust Measures Agreement (TRAMS) which “would focus on basic principles, cooperation in procedures, and disciplines against clearly anticompetitive measures such as tolerance of export cartels and domestic exclusionary agreements and the protectionist use of anti-dumping rules. . . [but] such an agreement would be difficult but certain tradeoffs may be envisioned that could enhance its likelihood and effectiveness,” Maskus, K. 1999. *Competition Policy and Intellectual Property Rights in Developing Countries*. Paper Presented at the WTO/World Bank Conference on Developing Countries in a Millennium Round, September 20-21, Geneva.

expressed intention needs to be backed by institutional capacity to legislate, execute and enforce these policies. It is no gainsaying that open licenses like creative commons, public domain tools and supporting technology have become the global standard for sharing across culture, education science and more.

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COMBATING MATERNAL MORTALITY IN NIGERIA THROUGH COMBINED AND SUSTAINABLE REGULATORY APPROACH

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ABSTRACT

Maternal mortality or death is the death of a woman during pregnancy or labour as a result of pregnancy within forty two days after delivery or abortion. Death occurring after this time is no longer ensuing from pregnancy. The world is putting a lot of efforts at reducing this menace and is recording a number of successes. But worrisomely, Nigeria still has the second highest rate of maternal death (globally) after India. Factors that have been identified as causing it ranges from poverty, ignorance, illiteracy, religion, socio-cultural and political causes. Despite the seemingly active interventions of both the medical institution and government in Nigeria, the battle is far from being won as indicated by the existing data. There have been a number of socio-medical programmes embarked upon by various levels of government in Nigeria, but because of non-sustainability and non-synthesised approaches (through combined regulations and policies), each effort often crumbles as a new government and political regime comes into power. This paper identifies and classifies the diverse factors responsible for high incidence of maternal death in Nigeria. Proper and clear-cut classification by this paper helps in presenting a clearer picture of the causes and proffering practical and attainable solutions. The workable answer lies in the combination of efforts rather than just combating the various causative factors disjointedly. Efforts can only be combined if there are sustainable regulations and policies that will outlive each political regime. A major contribution of this paper lies in the fact that the paper urges for the creation of holistic and combined regulatory/policy structure to tackle the problem which may not necessarily be medical or socio-cultural alone. This include educational polices, financial and budgetary policies, as well as health policies. The combined approach is essential because it provides a multidimensional and broad answer to the problem. For instance enlightenments (as part of the solutions) should not commence at the age of childbirth, rather it should have been included in the child's curriculum both at the primary and secondary schools through the educational policies; which should also have the financial and budgetary backup for sustainability. This paper used primarily, works from previous authors in this area will be examined and used, books, articles and academic material will also be accessed through library. Other forms of secondary data such as Reports via news and newspapers will be used as well.

***Keywords:** Mortality, Sustainable Approach, Pregnancy, Health*

INTRODUCTION

Issue of maternal health is almost an over flogged issue in Nigeria; this theme occurs in almost every medical and social discussion. A lot of workshops and seminars have been organised to discuss and proffer solutions to this issue. Nonetheless, the problem is still persistent in our nation with its venom as harsh as it was in days of yore. Pregnancy and childbirth ought to be a thing of joyful celebration but this appears not to be the case in Nigeria as pregnancy comes with

a lot of fear and apprehensions because the safety of either the mother or the unborn is unknown and uncertain. This fear is not based on assumption or imagination it is rather based on empirical facts and figures. Nigeria is recorded to have the second highest rate of maternal death in the world.¹⁷⁷

There have been a number of efforts at reducing the rate of death in Nigeria by both local and international bodies.¹⁷⁸ In fact there have been global commitments at reducing this menace, thus the inclusion of maternal health as the fifth goal of the MDGs. However, the matter of maternal death goes beyond health issues, it depicts the eye of the society to womanhood and the place of gender in the society. Therefore addressing this problem requires a holistic approach that will tackle not only medical but the socio-cultural, religious and psychological causes.

This paper therefore aims at methodically analysing the causes of maternal death, through a different classification style. It will then go further to explore the possibility of attaining reduction through the creation of answers to each of the factors that make the rate high. The primary contribution of this paper to the existing discussion lies in the recommended means of combating it, which is a holistic and practical approach that traverses the entire length of human endeavour. It is not making a general or sweeping recommendation rather it gives recommendation based on each specific causative factor identified. However, the paper start by examining the menace called maternal mortality, and then moves to discuss the causes through its classification.

LITERATURE REVIEW

Maternal Mortality

Maternal mortality is the same thing as maternal death and has been defined by so many authors and organisations in times past. It has been defined by The International Federation of Gynaecologist and Obstetricians as death occurring during pregnancy or labour as a consequence of pregnancy within forty two day after (42) after delivery or abortion.¹⁷⁹ The world Health Organisation (WHO) equally defines Maternal Mortality as the death of a woman while pregnant or within 42 days of the termination of the pregnancy, (via birth, miscarriage or abortion) irrespective of the duration and site of such pregnancy, from any cause related or aggravated by the pregnancy or its management.¹⁸⁰ Thus accidental or incidental causes to pregnancy are not included in this. Another author defines it as the death of female associated with pregnancy, labour and *puerperium*.¹⁸¹ Another author defines maternal mortality as the death of mothers caused by disease and other conditions related to pregnancy and childbirth.¹⁸²

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¹⁷⁷ Ogunjimi L. Olusegun I, Thomas R. and Ikorok M. "Curbing maternal and child mortality: The Nigerian experience" *International Journal of Nursing and Midwifery* Vol. 4(3), pp. 33-39, April 2012.

¹⁷⁸ L. Pearson, L. deBernis, R. Shoo, "Averting Maternal Death and Disability, Maternal Death Review in Africa" *International Journal of Gynecology and Obstetrics* 106 (2009) 89-94

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¹⁸⁰ WHO - <http://www.who.int/healthinfo/statistics/indmaternalmortality/en/> (Accessed 1st August, 2014)

¹⁸¹ Yaukey, D. & Anderson, D. L. (2001). *Demography: the Study of Human Population*. (2 Ed.), Wave Land Press Inc.

¹⁸² Supra note 3. See also Ronsmans C., Vanneste A. M. Chakraborty J. and Ginneken J.V. "A comparison of three verbal autopsy methods to ascertain levels and causes of maternal deaths in Matlab, Bangladesh" *Int. J Epidemiol.* (1998) 27(4):660-666.

Essentially, maternal mortality is death of a woman due to the state of her pregnancy or related facts to the pregnancy, during the pregnancy, birth or a close period after birth. Death could also occur even if the pregnancy did not result into birth, i.e. irrespective of how the pregnancy terminated. The high incidence of maternal death has grave implications not only for the family or the community but also the nation at large.¹⁸³ Safe motherhood is an indices of a nation's development or otherwise. Maternal mortality rate for every year is the number of death ascribed to pregnancy and childbirth per 1000 registered total birth.¹⁸⁴ The implication of this is that if death occurs more than 42 days after the termination of such pregnancy then it is no longer classified as maternal mortality.

Maternal Mortality is a major health challenge globally, more than one woman die every minute from pregnancy and child birth, about 585,000 die every year; it is an indicator of disparity and inequality between men and women and it signals the place of women in society and their access to social and to economic opportunities.¹⁸⁵ A number of the cases of maternal mortality are preventable. "It is estimated that 74% of maternal deaths could be averted or prevented if all women have access to the interventions for preventing or treating pregnancy and birth complications to the Challenges".¹⁸⁶

This type of death is a complex challenge globally based on many factors; the death itself is a major challenge while the problem of neglect, inadequate information and data collation methods pose a bigger challenge. Nations with the highest level of mortality rarely have good coverage or reporting of vital events such as births, sickness and deaths, even countries with relatively complete vital registration may have less than adequate attribution of causes of death.¹⁸⁷ It is essential to have accurate information and record because knowing the timing and cause of death in relation to pregnancy is material and key to classification of the cause of death whether indeed it can be deemed as maternal mortality or not.

Attaining and maintaining reduction in the maternal death rate has become an issue in the front burner globally because it is a reproductive right which governments have been facing increasing obligation to protect. According to CEDAW's General Recommendation and CESC's General

¹⁸³ Op cit.

¹⁸⁴ Supra note 4

¹⁸⁵ World Health Organisation, UNICEF, UNFPA and The World Bank "Trends in Maternal Mortality: 1990 to 2008 (2010), available at http://whqlibdoc.who.int/publications/2010/9789241500265_eng.pdf. (Accessed 1st August 2014).

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Comment on women's health issue,¹⁸⁸ every Nation has three kinds of obligations for the implementation of human rights namely the:¹⁸⁹

- Obligation to respect rights
- Obligation to protect rights and
- Obligation to fulfil rights

The implication of the above is that each nation is required to refrain from interference with rights, prevent actively the violation of such rights by another person and to also take appropriate steps towards a full realisation of such right.¹⁹⁰ Para 14 of CEDAW General Recommendations on Women and Health emphasised this further when it stated that:

The duty to fulfil rights places an obligation on States Parties to take appropriate legislative, judicial, administrative and budgetary, economic and other measures to the maximum extend of their available resources to ensure that women realise their rights to health care.

Maternal Mortality in Nigeria

Nigeria has one of the highest numbers of maternal mortality and is ranked second in the world behind India with the maternal mortality ratio (MMR) being about 81 times worse than in the industrialised countries and accounts for about 13 percent of global maternal death.¹⁹¹ India is estimated to have 136,000, followed by Nigeria with 37,000, Pakistan -26,000, Democratic Republic of Congo and Ethiopia -24,000 each, the United Republic of Tanzania 21,000, Afghanistan 20,000, Bangladesh 16,000, Angola, China and Kenya with 11,000 each, Indonesia and Uganda - 10,000 each. These 13 countries account for 67% of all maternal death globally. An estimated 56,000 women die each year as a result of pregnancy related causes.¹⁹² Nigeria forms part of the six countries that collectively accounted for over 50% of all global maternal death.¹⁹³ She ranked eighth in terms of maternal mortality ratio in Sub-Sahara Africa, just behind Angola, Chad, Liberia, Niger, Rwanda, Sierra Leone and Somalia.¹⁹⁴ Though Nigeria has put in a lot of intervention efforts at reducing maternal death through the primary health care which ensures that as much as possible women are healthy throughout pregnancy and childbirth and that they recover fully from the effect of pregnancy,¹⁹⁵ however, when mortality rates are viewed

¹⁸⁸ CEDAW's General Recommendation No. 24 Women and Health (Article 12) (Twentieth session, 1999) Contained in document A/54/38/Rev.1, chapter I. See also CESCR General Comment No. 12: The Right to Adequate Food (Art. 11) Adopted at the Twentieth Session of the Committee on Economic, Social and Cultural Rights, on 12 May 1999 (Contained in Document E/C.12/199/5)

¹⁸⁹ See Committee on the Elimination of Discrimination against Women (CEDAW), General Recommendation No 24 on Women NS Health, Para 29, Feb. 2, 1999. See also the International Covenant on Economic, Social and Cultural Rights (CESCR) General Comment 14 on the Right to the highest Attainable Standard of Health, UNESCOR 2000, UN Doc. E/C. 12/2000/4. 11 August 2000.

¹⁹⁰ *Ibid.*

¹⁹¹ July 12, 2014. ThisDay Newspaper. See also, Okonofua F. Report of the Society of Gynaecology and Obstetrics of Nigeria (SOGON 2005).

¹⁹² Okonofua F *Maternal Mortality in Nigeria : Causes and Effect*, This Day Newspaper, p 16 March 15, 2006

¹⁹³ Adebowale S.A., Fagbamigbe F. A, and Bamgboye E. A "Rural-Urban Differential in Maternal Mortality Estimate in Nigeria, Sub-Saharan Africa". Journal of Medical and Applied Biosciences Volume 2, September 2010. See also Maternal Health in Nigeria: a statistical overview Maternal Health in Nigeria Statistical Overview, Global One 2015. Version 30 June 2011. Revised, 17 Aug. 2011. Revised again 26 June 2012.

¹⁹⁴ Akinrinola B., Sedgh G., Okonofua F., Imarhiagbe C., Hussain R. and Wulf D. (2009) "*Barriers to Safe Motherhood in Nigeria*" New York : Guttmacher Institute. Avalalable online at www.guttmacher p 3.

¹⁹⁵ Supra note 3.

globally, approximately 1 in every 9 maternal deaths occurs in Nigeria.¹⁹⁶ This high incidence therefore calls for serious concerns and actions. But before solutions can be proffered it is essential that the real cause be known and properly outlined so that the country will not embark on a futile journey.

Causes

According to World Health Organisation, (WHO) maternal death is divided into two groups, the direct and indirect obstetric death. Direct obstetric death are those ensuing from obstetric complications of the pregnant state (pregnancy, labour and the puerperium) from interventions, omissions, incorrect treatment, or from a chain of events resulting from any of the above. The other one is the indirect obstetric death which are deaths resulting from previous existing obstetric diseases or disease that developed during pregnancy and which was not due to direct obstetric causes, but was aggravated by the physiological effects of pregnancy.¹⁹⁷

Over the years, there have been enormous researches in what actually causes the high incidence of maternal death in Nigeria and a number of solutions have also been submitted through those studies. However, a clear outline appears to be missing in a lot of these works. Thus perusing through the works of other scholars and researchers, the paper has been able to identify and clearly delineate the causes of maternal mortality in Nigeria. This paper will therefore not follow the usual classifications of others, but will regroup and discuss the causes in a different manner so as to create clarity for solution. It should be noted that based on the heterogeneous nature of the country, a particular cause may be prevalent in some areas of the nation more than the other areas, although there are general ones which traverse nationwide notwithstanding the region.

1. Medical Factors: these are ill-health and complications associated with pregnancy and childbirth or mishaps that may attend pregnancy and delivery. Some are temporary mild or severe conditions, while others are chronic or permanent conditions that persist beyond the *puerperium*¹⁹⁸. Haemorrhage is a leading cause of death; it consists of bleeding from the genital track of the woman during pregnancy, birth or after delivery (intra-partum and post-partum).¹⁹⁹ Though antepartum is no longer causes of maternal death in developed country, it continues to be a leading cause in developing countries like Nigeria. But postpartum is still a challenge to both developed and developing countries. The formal

¹⁹⁶ Doctor H.V., Bairagi R., Findley S.E., Helleringer S. and Dahiru T. "Northern Nigeria Maternal, Newborn and Child Health Programme; Selected Analyses from Population-Based Baseline Survey" *The Open Demography Journal*, 2011, 4, 11-21. See also, UNICEF, The state of the World's Children 2009. New York: United Nation Children's Fund 2008.

¹⁹⁷ WHO, (2004). "Maternal mortality in 2000: Estimate developed by WHO", UNICEF and UNFPA: Department of reproductive health and research WHO, Geneva.

¹⁹⁸ Mills S, Williams J.E, Wak G, Hodgson A: "Maternal Mortality Decline in the Kassena-Nankana District of Northern Ghana". *Matern Child Health J* 2008, 12(5):577-585.see also, Zakariah A.Y., Alexander S., Roosmalen J.V., Buekens P., Kwawukume E.Y., Frimpong P.: "Reproductive Age Mortality Survey (RAMOS) in Accra, Ghana". *Reproductive Health* 2009, 6(1):7.

¹⁹⁹ Abouzahr C. "Antepartum and postpartum haemorrhage". In: Murray C.J.L., Lopez A.D. (eds.) *Health Dimensions of Sex and Reproduction: the Global Burden of Sexually Transmitted Diseases, Maternal Conditions, Perinatal Disorders, and Congenital Anomalies*. Geneva: WHO, 1998.

definition of –partum haemorrhage is blood loss of 500ml or more within 24 hours after delivery and or within 42 days following delivery.²⁰⁰

Puerperal Sepsis is another leading medical cause which can lead to obstetric shock or death. However, this can be curtailed with the administration of antibiotics to the patient; nevertheless puerperal sepsis is still prevalent in developing countries and continues to be a leading cause of maternal death especially in operative deliveries and antibiotic resistant cases.²⁰¹

Others include pre-eclampsia and eclampsia (hypertensive disorders of pregnancy - HDP) which are a group of medical conditions that has to do with high blood pressure during pregnancy; it comes as proteinuria and in some causes convulsions.²⁰² Eclampsia is a condition that usually results from pre-eclampsia. The state consists of central nervous system seizures that leave the patient unconscious and may lead to death if untreated. Wilcox and Horney describe the condition as associated with vasospasm, pathologic vascular lesions in multiple organ system, increased platelet activation and subsequent activation of the coagulation system in the micro-vasculature.²⁰³

Abortion also is a leading cause of maternal death. it covers a variety of conditions that arises during early pregnancy (from ectopic pregnancy to hydatiform mole, spontaneous and induced abortion) and basically causes maternal death when it is unsafe and it leads to haemorrhage and infection particularly when it is done in places where it is unauthorised, unsafe or places that are not health facility.²⁰⁴ Getting data on number of deaths resulting from abortion in developing countries like Nigeria may be quite difficult because voluntary or elective abortion is still illegal, thus women who seek elective abortion patronize quacks and willing medical practitioners who does it in unsafe and unhealthy situations.

Another leading cause of maternal death is obstructed labour, this happens when the presenting part of the foetus is unable to progress into the birth canal, despite strong uterine contractions. One major cause of obstructed labour is cephalo-pelvic disproportion i.e. a mismatch between the foetal head and the mother’s pelvic brim.²⁰⁵

When such obstruction is neglected, it results into either the death of the mother or the infant. Usually, the solution to this is the carrying out of operative procedures such as caesarean section or other forms of instrumental delivery such as forceps, vacuum, extraction or simphysiotomy.²⁰⁶ A lot of complication can therefore result from

²⁰⁰ Clinical Practice Guideline Prevention and Management of Primary Postpartum Haemorrhage Institute of Obstetricians and Gynaecologists Royal College of Physicians of Ireland and Directorate of Strategy and Clinical Programmes Health Service Executive Version 1.1 Date of publication: October 2012 Guideline No. 17 Revision date: May 2014. See also, Dolea C., AbouZahr C., Stein C. “Global burden of maternal haemorrhage in the year 2000” Evidence and Information for Policy (EIP), World Health Organization, Geneva, July 2003. http://www.who.int/healthinfo/statistics/bod_maternalhaemorrhage.pdf (accessed 5th August, 2014).

²⁰¹ AbouZahr C. “Global burden of maternal death and disability” *Oxford Journals Medicine & Health British Medical Bulletin* Volume 67, Issue 1 Pp. 1-11., see also note 23 supra.

²⁰² *Ibid.*

²⁰³ Wilcox A.J., Horney L.F., “ Accuracy of spontaneous abortion recall”. *Am J Epidemiol* (1984) 120: pp. 727–33.

²⁰⁴ Supra note 25.

²⁰⁵ *Ibid.*

²⁰⁶ *Ibid.*

neglected obstructive labour such as intrauterine infection, vesico-vaginal fistula or recto-vaginal fistula (or both).²⁰⁷

There are other medical conditions that are not necessarily resulting from pregnancy but leads to death when it occurs during pregnancy, at birth or immediately after delivery such as anaemia, malaria, hepatitis, cardiovascular diseases, respiratory diseases, Sickle Cell disease, meningitis, cerebrovascular and tuberculosis and others.²⁰⁸ A number of complications and death can be averted, managed and reduced when proper medical care is administered.

2. Socio-Cultural Factors: - these are influences that stem from the societal and cultural attitude and system of the people, the traditional beliefs and harmful practices that play negative roles in disallowing women access health services.²⁰⁹ Such includes gender disparity in education, harmful traditional practices, ignorance, low literacy level, social distance (such as language barrier) etc. The community where women reside has great impact on her attitude to maternal issues.²¹⁰ The World Health Organisation stated that maternal mortality is an indicator of disparity and inequality between men and women and it portrays the extent to which women can access social, health and economic services and opportunities in the society”.²¹¹

Other traditional harmful practices include circumcision of pregnant women and food taboos. A lot of times the eating habits of women are guided by the local taboos, administering of poisonous substances (regarded as traditional alternative medicine) before, during and after childbirth. Another important cause which is socio-cultural in nature is early marriage or child marriage, where young girls who are not biologically fit for pregnancy are pushed into marriage and childbearing. Averagely 27% of Nigerian women aged 15 to 19 are married and of these, 23% have begun childbearing, 9 % of women aged 25 to 49 have given birth by age 15, and 47% have become mothers by the age of 20.²¹² The patriarchy nature of our society puts pressure on a woman to give birth to male children regardless of her health status; she is willing to endlessly go through pregnancy and birth until she is able to birth male children.²¹³ This male dominated societal structure exposes women to morbidity and mortality risk. Further, pregnant women are exposed to risk that could be averted with proper antenatal care, but prevented based on the cultural inhibitions that have been mounted by the society. The situation in the Northern part of Nigeria is even more critical because strong cultural beliefs and

²⁰⁷ *Ibid.*

²⁰⁸ *Ibid.*

²⁰⁹ Aniekwu N. I. *Reproductive Health Law; A Jurisprudential Analysis of Gender Specific Human Rights for the African Region* (first Edition) Ambik Press Nigeria p. 85.

²¹⁰ Machando, C. J. & Hill, K. “Maternal, Neonatal and Community Factors Influencing Neonatal Mortality in Brazil. (2004). *J. Blossoc. Sci.* 37: 193 – 208.

²¹¹ World Health Organisation, UNICEF, UNFPA, and The World Bank “ Trends in Maternal Mortality : 1990 to 2008 (2010) , available online at http://whqlibdoc.who.int/publications/2010/9789241500265_eng.pdf. (Accessed 25th July, 2014).

²¹² National Population Commission (NPC) and ICF Macro, 2009 Nigeria Demographic and Health Survey 2008. Abuja, Nigeria: National Population Commission.

²¹³ Aniekwu N. I. “Examining the Reproductive Health and Rights of Nigerian Women: A Legal Perspective”, *University of Benin Law Journal* Vol. 6 (2) 2001.

practice on childbirth and fertility-related behaviours partly contributes significantly to the maternal morbidity and mortality picture compared to the Southern part of Nigeria.²¹⁴

3. Economic and Infrastructural Factors: - Poverty and lack of access to resources play a major influence in the high incidence of maternal mortality in Nigeria as a large number of Nigerians are impoverished. The World Population Data Sheet (2005) shows that 91 percent of Nigeria's lives below 2 dollars per day. Also in a USAID report (2006) it has been reported that about 60% of Nigerian lives in abject poverty and are incapable of paying medical bills, thus they are not seeking paid medical services.²¹⁵ The presence of poverty does not limit access to proper medical care alone, it also limits access to proper nutrition and consequently affects the immune system, creates anemia, increases infection rates amongst the poor and lowly, all these make them susceptible to diseases.²¹⁶ Poverty also debar women from engaging skilled attendant during childbirth, thus increasing the death rate.²¹⁷

Another area is the lack of adequate infrastructure in our health facilities and inadequate medical supplies, the inaccessibility of health facilities to women especially rural dwellers. Besides, the cost of medical care is beyond the reach of a lot of women who settle for cheaper ones that they find in the arms of local and traditional health attendants. Other infrastructures like means of transportation, bad road network that will aid getting women in the hinterland to a near health facility are lacking. All these are grouped together to constitute the economic and infrastructural factors that causes high incidence of maternal death in Nigeria.

4. Religious Factors: this factor could have easily come under the socio-cultural factor but this paper decides to separate it and give it a separate mention because of the strong role religion has come to play in Nigeria. A number of choices and decisions that women take are rooted in their various religious beliefs. People in the upper echelon of the society can boast that it has easily shaken off the influence of customary practice and cultural beliefs but are readily indoctrinated with religious beliefs that moderate their choices and decisions. In the case of *Medical and Dental Practitioners Disciplinary Tribunal v Dr. John Emewulu Nichola Okwonkwo*.²¹⁸ The patient (Mrs. Martha Okorie) was a Jehovah witness who refused blood transfusion together with her husband and had even put pen to paper to instruct that on no account should blood be transfused on her even if she goes into coma, as a result of this refusal, the patient died. This goes to show the extent that religious beliefs can influence the choices pregnant woman makes in Nigeria. Other harmful habits engaged in by women are equally based on religious beliefs.
5. Human Capital Factors: This factor has to do with the number, level and proficiency of people who attend to issues of pregnancy and childbirth in Nigeria. There are various forms of professionals in this regards; the orthodox and the traditional birth attendants.

²¹⁴ Wall L.L. "Dead Mothers and injured wives: the social context of Maternal Morbidity and Mortality among the Hausa of Northern Nigeria. *Stud Fam Plann* 1998; 29: 341-59.

²¹⁵ Husaini M. B. "Causes of Maternal Mortality in Nigeria" http://www.academia.edu/3605112/Major_causes_of_Maternal_Mortality_in_Nigeria (accessed 10th July, 2014).

²¹⁶ Wermuth, L. *Global Inequality and Human Needs: Health and Illness In An Increasing Unequal World*. (2003). Person Education, Inc..

²¹⁷ Theddues, S. and Maine, D. "Too far to walk: Maternal mortality in context". *Prevention of Maternal Mortality Programme (PMMP)*, (1990). Columbia University.

²¹⁸ (2001) 6 NWLR (pt 710).

The orthodox consist of physicians, (gynaecologist), midwives and nurses and other professionals in their team. The issue then is what is doctor/patient ratio in Nigeria? Is medical referral system operating effectively and efficiently? There are instances where traditional birth attendant are incapable of attending to a case based on its complexity, is there an effective structure of referral to a more competent professional. This is not limited to traditional birth attendants alone, there are equally levels of professionalism and speciality in medical practice, how and when will a general practitioner refer a patient to a more qualified medical professional for better care and attention. Ancillary to this is the menace of quackery in the medical field. There are a number of unqualified, untrained and fraudulent persons masquerading as healthcare giver and thus endangering the lives of the patients that come to their health facilities; and of cause there seems to be no ready and available means of verifying the genuineness of the practitioner and facility. Other challenge in this area is the incessant strike or industrial actions in our health institution.²¹⁹ Further is the issue of the ineffective means of addressing medical negligence by health care givers which makes them to be careless and carefree at times in their operation. Lastly there is the bickering and unhealthy rivalry that exists amongst and within the different strata of healthcare givers in Nigeria. The issue of headship of governmental health institution, the leadership of medical teams etc.

In additional, the quality and quantity of the healthcare giver calls for attention. How proficient are the skills of the healthcare practitioners being chunked out of our tertiary institution, how has the government invested in medical education and what provisions do we as a nation have for continuous medical education. This has led to brain drain wherein a lot of healthcare professionals happily find their way to other jurisdictions where they can express their knowledge, since they are provided with the tool of employment to practice. “The emigration of African professionals to the West is one of the greatest obstacles to African’s development”.²²⁰ Ethiopia is leading in terms of brain drain, followed by Nigeria then Ghana.²²¹ The sad reality then is that Nigeria is educating her populace for the consumption and use of other nations in the globe. Nigeria has not been able to meet its doctor-patient ratio, yet the she keeps loosing health professionals to other nations. Nations like Cuba and India have their doctors trained in industrialised western nations only for them to return and contribute to the health development of their nations. Some of the factors attracting medical doctor to other nations include substantial funding for medical research, advanced technology, modern facilities and experienced support staff while factors that drive away the medical professionals are under-utilisations of specialists and qualified professionals, poor working conditions and environments, lack of research facilities etc.

6. Political Factors: This has to do with the governmental commitment to women’s health and right. What are the existing health policies in place that protects women’s health? Matters of health fall under the concurrent list of the Constitution, the implication being that both the National and state Houses of Assemble have the authority to legislate on matters of health.²²² Equally the three tiers of government in Nigeria are involved in

²¹⁹ at the date of this research, Medical Doctors nationwide are on strike

²²⁰ United Nations Economic Commission for Africa (ECA).

²²¹ “Brain Drain in Africa: Facts and Figures” <http://www.aracorporation.org/files/factsandfigures.pdf> (Accessed 26th May, 2014).

²²² Supra note 33, p. 87

health care delivery; the primary health care system is handled by the local government, while the secondary health care is handled by various states and the Federal Government has the responsibility to provide the tertiary health care. “The Federal Government is largely responsible for policy guidance planning and technical assistance, coordination of state level implementation of the National Health Policy and the establishment of health management information system”.²²³ The primary health care is designed to reach the rural dwellers and grass root and to serve as the first point of call for majority of the sick however “it is evident that the primary health care system simple do not deliver adequate services to their client”.²²⁴ Over the years the Federal Government has adopted several health policies, but the health policies may not be functional in a nation like Nigeria with no sustainable health insurance scheme or social security system. This has an undulate effect on the care of women, especially women during pregnancy and birth.²²⁵ Though recently the National Health Policy was signed into law, but there is a lot of skepticism on its workability because some of the bases of its operations are not in place. The role that a good and effective government policy plays cannot be under-emphasized in improving or aggravating issues of health in Nigeria. Effective and sustainable policy encourages private investments in health, health services and aids to health both from the international and local investors. The lack of effective government policies and commitment to other ancillary issues to health such as environment, good water supply, pests control etc. play a major role in the high incidence of maternal death. Basic measures such as mosquito and pest control are of immeasurable benefit to reduction of maternal death.²²⁶ It is medically acclaimed that pregnant women and children are vulnerable to malaria and its complications.

The depth of corruption in the government is also a big blow to maternal health, coupled with many years of poor governance, military rule, “unaccountable rules with power concentrated in the hands of small elites eroded health infrastructure and bred corruption”.²²⁷ There have been accusations and counter accusations in government circle about funds budgeted and aimed at improving health facilities but have been diverted for personal use. Other issues under the political factor are bureaucracy and administrative bottleneck. How urgently are the health facilities treating emergencies without the usual administrative protocol which is often directed at protecting themselves from government sanctions. But the bottom-line is that the political factor serves as the underlining denominator of the other factors, because where there is the political will to solve the problem, other factors will find their resolves.

Getting it Right

Over the years there have been a lot of international and national initiatives commitment and collaboration aimed at reducing maternal mortality. The world came together under the MDGs and listed the lowering of maternal mortality as its number 5 attainable targets by 2015.²²⁸ The

²²³ *Ibid.*

²²⁴ Supra note 39.

²²⁶ Supra note 40.

²²⁷ Supra note 39.

²²⁸ Rosemarin A., Ekane N., Caldwell I., Kvarnstrom E., McConville J., Ruben C., Fodge M. *Pathways for Sustainable Sanitation: Achieving the Millennium Development Goals* IWA Publishing (2008). See also,

United Nations reported that from 1990 to 2010, there has been a decline in the global maternal death from about 543,000 to 287,000; this is about 47 percent reduction.²²⁹ The yearly rate of decline of the global MMR since 1990 was 1.3% (1.0—1.5).²³⁰ However, the Nigerian scenario is far from recording this feat, as shown by available data both locally and internationally. The previous approaches engaged in solving this challenge, at times is caught up in the web of other causative factors as well. For instances, when palliatives such as funding for ‘seemingly sufficient medical materials’ are included in the budget, one of the political factors such as corruption would swallow up this palliative and the vicious circle keeps going. Heads of African Unions met in 2001 in Abuja with the aim of creating a plan of improving the health sector of their countries, they hence formed the Abuja Declaration wherein Article 26 of it describes the goal of the policy that :

we commit ourselves to take all necessary measures to ensure that the needed resources are made available to take all necessary measures to ensure that the needed resources are made available from all sources and that they are efficiently and effectively utilised... we pledge to set a target of allocating at least 15 (percent) of our annual budget to the improvement of the healthcare sector.

This statement appears to capture the effective approach towards reducing maternal mortality. ‘All necessary measures’ need to be taken as well as ‘the needed resources’ be made available from ‘all resources’. Thus financial, social, religious and political (etc.) resource should be employed at tackling this challenge. Giving lone solution or single sided solutions will never help at reducing this menace because the problem is caused or aggravated by so many factors as discussed above. Therefore achieving any form of result entails a comprehensive, joint and holistic approach by the government who are to lead the governed in achieving a reduction of maternal death. Therefore comprehensive plans and effort are to be made in order to achieve any meaningful reduction in maternal death in Nigeria. WHO advocates certain key working areas such as:

- Strengthening health systems and promoting interventions focusing on policies and strategies that work, ensuring they are pro-poor and cost-effective.
- Monitoring and evaluating the burden of maternal and new-born ill-health and its impact on societies and their socio-economic development.
- Building effective partnerships in order to make best use of scarce resources and minimize duplication in efforts to improve maternal and new-born health.
- Advocating for investment in maternal and new-born health by highlighting the social and economic benefits and by emphasizing maternal mortality as human rights and equity issue.
- Coordinating research, with wide-scale application, that focuses on improving maternal health in pregnancy, during and after childbirth.

Holmner-Marlene M. “The road to the information and knowledge society : indigenous knowledge and the Millennium Development Goals” (2011) Mousaion Vol. 29 Issue 2 pp. 139-157

²²⁹ Global Health Programs Report to Congress FY 2012, <http://www.usaid.gov/sites/default/files/documents/1864/CSH-finalwebready.pdf> (Accessed 25th August, 2104).

²³⁰ Policy Brief On MDG’s 4 & 5: On Reduction Of Under Five And Maternal Mortality Rate Policy Brief On MDG’s 4 & 5: On Reduction Of Under Five And Maternal Mortality Rate <http://www.cislacnigeria.net/wp-content/uploads/2012/05/Reduce-Under-five-and-Maternal-Mortality.pdf>

Though this paper agrees in principle with these working options, however, the options may be too general and inexplicit especially to nations like Nigeria where the necessary process is not available to interpret and execute these key focuses; Therefore, specific and practical options are deemed more suitable, though each of these specific solutions should be combined and engaged together. Until there is a combined and joint engagement of all available plans and efforts, there may be no substantial reduction in maternal death in Nigeria. This is because there is an interconnectivity of all the causative factors, hence if all is not combated jointly, each cannot be fought alone. Below therefore this paper discusses in a practical and holistic manner what can be done to every causative factor identified so as to reduce to this danger ravaging our nation.

S/N	FACTOR	REDUCTIVE MEASURES
1.	Medical Factor	A lot of the medical causes identified in this area are both preventable and treatable. Therefore, since all these causes have been identified, there should be capacity building of medical professionals in tackling it. Adequate medical facilities, like drugs etc. should be provided in sufficient quantity. Further, accessible and affordable health care system should be made available because the affordability of the health facilities creates better patronage from the public. Healthcare giver should be encouraged to develop more inviting and accommodating attitude so as to make locals (especially) more comfortable with the orthodox health facilities. Women from the grassroots often prefer the traditional birth attendants because of the unfriendly and harsh attitude of the personnel in the orthodox facilities. Generally the health system should be strengthened through policies, attitude and cost-effective treatment. The issue of medical bureaucracy should equally be removed or reduced so as to encourage ante-natal culture among pregnant women. Similarly, medical administrative procedures should be easy, friendly and noncomplex. Thus, the training schools should inculcate into the would-be healthcare givers “customer-centric” attitude, aimed at focused and seamless service delivery. ²³¹
2.	Socio-Cultural Factor	Since culture is dynamic, then the dynamism of culture can be used to achieve mortality reduction through education, enlightenment, encouragement and enforcement. There have been a lot of advocate on radio education and jingle, this paper equally subscribes to such, but far beyond the radio messages alone, the government should take positive steps by introducing into the education curriculum Gender Studies. It is recommended that an entirely new subject termed “Gender Studies” be introduced into the education curriculum of Nigeria from the kindergarten to the tertiary level. This new subject should run <i>pari pasu</i> with other conventional subjects like English Language.

²³¹ See Adebawale S.S. supra note 17.

S/N	FACTOR	REDUCTIVE MEASURES
		<p>Physics, Chemistry, Mathematics etc. when this is done, the young minds are taught early on how to take care of their bodies and lives. The young girls know the importance of adequate care and their young mind is disabused from cultural inhibition. The boys too are not left out they are taught the value of support system in the family and the obligation of procuring adequate health care for pregnant ladies. Pupils and students should be able to relate curriculum to personal life and living.</p> <p>The enlightenment campaign should be “target” focused. It should take into cognizance the mental ability and language appreciation of the targeted audience; thus actual communication should be achieved. Campaign languages should be clear and familiar to the public where possible, in some local languages where the people can connect and not some “westernised” language which is unfamiliar to the audience.</p> <p>Further, there should be a form of enforcement or sanctions to old and unyielding traditionalist who continues the ancient practice that increases the maternal and infant death. The fear and certainty of sanctions has a way of reducing any malpractice. While encouragement should be given to mothers in terms of material support such as immediate material reliefs like free packs of diapers, toiletries, food supply etc. for short periods after birth. This will encourage would-be mothers to patronise accredited health facilities.</p> <p>Also, traditional birth attendance scheme should be strengthen, training, retraining and re-orientation of these birth attendances should be embarked upon, and a reward system should be worked upon so that these sets of people will be willing to come out for collaboration with the government.</p> <p>Structures which the Government can also leverage on are the traditional royal institutions that exist in Nigeria. There is a well-structured traditional headship in Nigeria which the colonialist saw and made use of. This structure too can be positioned to meet this challenge since most of the traditional rulers are closer to the members of their tribe.</p>
3.	Economic and infrastructural factor	<p>Adequate budgeting for health is imperative if any government is serious in achieving reduction in maternal death. Maternal health should take priority in economic planning of the nation. Antenatal care, delivery, including operative delivery should be FREE and accessible to all. This free maternal healthcare should exist for the duration of a generation i.e. 25 years by that time; the incoming generation would have acquired the basic enlightenment through Gender Studies. The present health delivery structure should be strengthened and emphasis should be given to rural dwellers by erecting more medical facilities among the rural dwellers and the</p>

S/N	FACTOR	REDUCTIVE MEASURES
		urban poor. These can be achieved through adequate budgeting and economic planning. In fact the medical factor can only be addressed through adequate financing and funding. Hence, this reductive measure seems to form the foundation of the other measures.
4..	Religious Factors	Collaborations with the leading religious leaders in the country. Over the years, there have been a lot of mistrust in the government but continually people repose high hopes, faith and believe in their religious leaders whom they have found solace in times of trouble. Thus the government should collaborate and partner with the religious leaders in educating their faithful on this issue. Going sideways with this is the education of religious bodies especially the one that provide birth facilities to its members to recognise their limits and when to refer to health facilities for complicated cases. The Government should also subtly create a sanction system for religious bodies that goes beyond the allowed medical scope as regards maternal health.
5.	Human Capital Development	Healthy human capital development certainly affects a countries economic and socio-cultural development and increases productivity. ²³² Health service unfortunately is a team-based delivery services, wherein a lot of hands are needed both specialised and unspecialised. Often, focus is placed on the specialised hands at the detriment of the unspecialised hands; whereas, a lot of hazards are done by the untrained unspecialised hands. Thus this paper is recommending the registration, training and strengthening of these unspecialised hands such as Wards Attendants, Auxiliary Nurses etc. This type of work should be regulated because unlike other menial jobs that people engage in, they are dealing with human lives. Additional, both the government and the Professional bodies should confront the menace of quackery; both the orthodox and unorthodox quackery. The government too should invest more in medical training, both the medical schools education and continuous medical training so as to build up capacity of the medical practitioners. Points systems should be embraced wherein points are awarded for each continuous medical education a practitioner attends in a year and failure to meet up with the number of points may attract sanctions. Similarly, on this, both the government and professional unions should be sincere, open and credible to their agreements so as to avoid incessant trade disputes. Finally, when patients become victims of medical negligence, simple and accessible redress/compensational system should made so as to boost public trust.

²³² Savvides A., Stengos T., *Human Capital and Economic Growth* (2008) Stanford University Press.

S/N	FACTOR	REDUCTIVE MEASURES
6.	Political Factors	<p>As mentioned earlier in the paper, the political cause is perhaps the underlining denominator of other factors because the political will to solve the problem is the driving tool to achieving success. Therefore the government must develop the will and drive at reducing maternal death to the barest minimum. The government should not just publicise and make “fun-fare” of intangible efforts, rather serious and determined effort should be exercised at resolving the challenges. Towards this, issue of corruption must be addressed. With the high presence of corruption in our nation’s life, little can be achieved in this regard. All workable political tools should be employed at lowering corruption in Nigeria.</p> <p>Further, the Government needs to create a sustainable, workable and effective maternal health care policy with the focus of immediate, short and long term needs. This should be made in a manner that it can be sustainable and outlive the regime of a particular government and political party. Thus structures should be built to sustain the policy rather than individuals. A number of previous efforts are built around individuals. For instance wives of serving Governors make this type of challenges i.e. maternal mortality their “pet projects”, and after their husbands leaves power and office, such programmes collapse. Those structures should be built so that their operation is devoid of individualism but institutions. Ondo State appears to be having a lead in reducing Maternal health in Nigeria presently through its <i>Abiye</i> programme. The international community has acclaimed the programme as successful and a model for other African Countries to emulate so as to achieve the MDGs goal 4 and 5. In fact as of June 12, 2011 barely 15 months into the operation of this programme, 2526 patients had been treated and about 5,879 babies safely delivered out of which 905 were by caesarean section. When this is compared with major medical facilities in four different states it indicates that the <i>Abiye</i> Programme had the lowest maternal mortality ratio during its first year of operation.²³³ Fantastic as this programme is the problem with the Nigeria Political climate is that this may go with the political dispensation of Governor Olusegun Mimiko the “visionier” and originator of the scheme. Programmes and ideas in Nigeria are often not anchored on structures, thus they are short lived.</p>

²³³ “World Bank seeks adoption of Ondo State’s *Abiye* project as model for Africa”. Vanguard Newspaper July 19, 2011. See also Fajimbola T. “*Abiye* Safe motherhood :A case of Leadership in turning the tide of Maternal Mortality in Nigeria” (2011) *nigerianhealthjournal*.

CONCLUSION

Maternal mortality or death is the death of a woman during pregnancy or labour as a consequent of pregnancy within forty two days after delivery or abortion. The only known process by which human beings increases and multiplies is through pregnancy and delivery. It is therefore incumbent on us all to make this process safe and peaceable as possible. The world has taken this challenge very seriously and a lot of human, financial, material and physical resources have been committed at reducing and eradicating death of mothers during and immediately after pregnancy. The successes recorded at the world level are unfortunately not exhibiting in Nigeria. Nigeria accounts for the second highest maternal mortality in the world after India. This is alarming and should not be left as it is, thus comprehensive and combined efforts should be put in addressing the situation. The cause of the high index recorded in Nigeria is classified into six factors which are - medical, socio-cultural, economic and infrastructural, human capital, religious and political factors. There have been previous efforts by the Nigerian Government at reducing this challenge, but there has been little success recorded. But the bottom line is that based on the six causative factors earlier identified, there is the need for a combined and comprehensive regulatory and policy backup for all these measures aimed at reducing maternal death in Nigeria. The combined intervention should be anchored on a structure and not on individual. Anchoring it on a structure requires a strong regulation and policy for sustainability and continuity.

Finally, safe motherhood is human right; right to life and survival. A woman must be protected from dying as a result of pregnancy and child birth.²³⁴

²³⁴ Aniekwu N.I., Uzodike Eunice U., *Legislating Gender, (Re) producing Rights: A Analysis of African Case Law*, Vol. 30, No. 2 *Journal of Social Welfare & Family Law*, Unversity of Liverpool, U.K. (2008).

MATERNAL HEALTHCARE IN THE CONTEXTS OF CULTURE, INFRASTRUCTURE AND DEVELOPMENT IN PLURALISTIC NIGERIAN SOCIETY

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ABSTRACT

The paper examines culture, infrastructure and health development in pluralistic Nigerian society and the need for integrated interventions. Culture, poverty, maternal health, and their outcomes for the mother and child are all interconnected in Nigeria, and life threatening too. Poverty is detrimental to the health of both mother and child, while cultural tendencies help in perpetuation of seemingly negative practices. Culture contours, poverty and lack of political will act as the primary cause for high mortality rates among mothers and babies in their first year of life. The main reasons for this among other things are low utilization of quality of maternal healthcare services, negative opinion of important referents, social, cultural, physical and economic barriers such as patriarchy, long distances, high transport and other indirect costs. Therefore, an epistemological understanding of healthcare consumption and process of care depends on these factors: the genetic, social, environment and culture. Others are poverty, bad hygienic conditions, limited access to treatment and underdevelopment of infrastructures. The review examined the existing level of maternal and child mortality/morbidity within the extant literatures and it was found out that inadequate health care/maternity centres, paucity of physicians and insufficient budget allocation were stumbling blocks to effective maternal health. It is therefore suggested that government should make available functional primary health care facilities including maternity centres equipped with up to date infrastructures which would be funded equitably to encourage patronage and easy access to both rural and urban residents. Effort should be made to retain trained professionals.

Keywords: Maternal health, Culture contour, Development, Poverty, Infrastructure

INTRODUCTION

The Millennium Development Goals (MDG5) on maternal health was established by the United Nations in 2000 to improve on maternal health in general and specifically to drive maternal and child deaths down by 2015. Improvements in key health indicators have been slow and Nigeria ranks second in the world among the countries with the highest child and maternal mortality: the under-five mortality rate is 201 per 1,000 live births (NHRHSP, 2012); maternal mortality ratio is estimated at 800 per 100,000 live births ((NHRHSP, 2012). Achieving the Fifth Millennium Development Goal (MDG 5) will require political will on the part of the government and enthusiastic participation of the people in pulling resources together for the needed development and suitable strategies for sustained implementation. In Nigeria alone, maternal mortality rate reaches up to 3,200 women (number of mothers per 100,000 births dying within 42 days after the childbirth). The case is more worrisome in Northern Nigeria, where the rate is even higher.

Maternal healthcare is the total health cares for pregnant mother and under five year's baby. It encompasses educational, social, and nutritional services and medical care during and post

pregnancy. It is however, to be noted that, there are a variety of reasons while maternal women and those of reproductive ages choose not to engage in proper prenatal and postnatal cares. Among these reasons are factors of culture, genetic and the levels of social, economic and political developments. That is, the nature (biology) and nurture (environment) play strong and decisive roles in maternal healthcare consumption of women in any society. Culture is critical for the establishment of social order and health stability in every society. This is in coterminous with every aspect of human behaviours – including the means and methods of deployment of knowledge and technological knowhow to correct every form of health discontinuities – for instance maternal ill-health/disease. Development in the sense is a state of growth or advancement in maternal health care utilization and accessibility. It may also mean an epoch which constitutes a new stage in changing situation or innovation.

Maternal health when viewed *vis-à-vis* the level of technology and health system in Nigeria, and elsewhere in developing countries, studies revealed that there is a positive relationship between the numbers of pregnancies a woman has had before, the total number of her children she is having presently and overall development of such children. Not less number of these children die before age five (Tella, 2014; UNFPA 2010a). And each year over 162,000 women die from causes related to pregnancy and childbirth with sub-Saharan Africa countries (AbouZahr & Wardlaw, 2003) **and** neonatal deaths in developing countries account for 98% of worldwide yearly. These rates of incidence are precariously larger than any region of the world (WHO, 2006). Pregnancy also affects women's health because for each maternal death in Nigeria and elsewhere in developing world, more than 100 women suffer illnesses related to pregnancy and childbirth (Safe Motherhood). Many of these pregnancies may not be necessary, if there is high priority on overall socio-economic development and maternal health in term of budgetary allocation to emphasize primary health in its entire ramification. Nigeria and other countries of Sub-Saharan Africa (SSA) are still reputed to have high maternal morbidity and mortality rates in the world (United Nations -UN 2003). The World Health Organization's (WHO) in 1992, on the 10th revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10) defines maternal mortality as:

the death of a woman while pregnant or within 42 days of termination of pregnancy irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes

Morbidity is the disease/illness suffered by the pregnant women during the period of pregnancy. Sometimes it may lead to disabilities and in some cases it affects the victims economic, social and fertility roles (World Health Organization-WHO, 2003). The risk for maternal death (during pregnancy or childbirth) in sub-Saharan Africa is 175 times higher than in developed countries, and risk for pregnancy-related illnesses and negative consequences after birth is even higher (UNICEF, 2006). Literally, every minute a woman dies from avoidable complications caused by pregnancy; this adds up to approximately half a million fatalities per year (UNICEF, 2006). In Nigeria alone, maternal mortality rate reaches up to 3,200 women (number of mothers per 100,000 births dying within 42 days after the childbirth). Maternal deaths result from a wide range of indirect and direct causes. The case is more worrisome in Northern Nigeria, where the rate is even higher. The main reasons for the low utilization were the low perceived quality of maternal healthcare services in clinics, negative opinion of important referents, physical and socio-economic barriers such as income, long distances, high transport and other indirect costs.

Indirect causes represent 20% of the total incidence of mortality - they are pre-existing or concurrent diseases that are not complications of pregnancy, but that are complicated during pregnancy or aggravated by it (WHO, 2006). Major direct causes however, in Africa are haemorrhage (34%), infection (10%), hypertensive disorders (9%) and obstructed labour (4%) (WHO, 2006). Added to these are anemia, malaria, placenta retention, premature labor, prolonged/complicated labor, and pre-eclampsia.

The rate of maternal mortality of 500/10,000 along with high rate of morbidity in Nigeria is one of the highest in the world worst incidences (Anate, 2006; Harrison, 1997). The reasons include social and economic issues, such as poverty, ignorance, patriarchy norms – there is high proclivity of men taking decisions on major marital issues with little or no consultation with the concerned wives, and other cultural beliefs and practices that are still being used to diminish the rights of women ((Nwokocha & Okakwu, 2012; Ashford 2001).

DISCUSSION

Maternal Health and Development

Interpreting what is development in Nigeria and elsewhere in Sub-Saharan Africa countries regarding the quality of maternal health care which is available to individual pregnant and nursing mother could be gleaned from the level of development and socio- cultural inputs by the government and society respectively. Cultural preferences often act as the unseen hands in acceptability of health worker services outside their domain. Government's inputs are in forms of infrastructures, progressive budgetary allocation and overall political will for monitoring and evaluation to encourage compliance to technological advances, such as vaccine and drug innovations. But society's contributions would be seen from core value and norms attached to overall health of the mothers and children through cultural prescriptions (Feyisetan, Asa & Ebigbola, 1997).

The foregoing underscores the structural inputs, process and outcomes of care available to women seeking for maternal health care. Structural inputs in health care provision are classified as building, medical equipments, drugs, medical supplies and vehicles (Efe, 2013; Ogundele & Olafimihan, 2009; Ademiluyi & Aluko-Arowolo, 2009). Others are personnel, money, organizational arrangements or bureaucratic apparatus (Efe, 2013, Erinosh, 2006; Geyndt, 1995). These inputs are not only complimentary to health care consumption specifically and other family health in general but it is highly instructive for all round quality health. But often they are not always sufficient and available (Salami & Taiwo, 2012; Jegede, 2002). Where these are available, the technological know-how to harness the resources together is inadequate or may be lacking (Grange, 2012; Jegede, 2012).

The process, as the second of the tripod upon which quality health stands encapsulates the actual effort done to and for the patients in giving and receiving care. This entails accessibility and health care workers relationship with care consumers. Process in this sense is the key element to ensure quality and adequate supply of inputs (Owumi, 2002; Geyndt, 1995). It is also assumed that a correct process has a high probability of a satisfactory health improving outcome including maternal ones. However, the outcomes, which is the last but, not the least of the tripod may be uneventful if the process is well managed or otherwise eventful – such as maternal complications, disability or loss of life if the process was encumbered and shoddy (Geyndt,

1995; Eschen, 1992). Outcomes are therefore the end result of the correct process of, and for patient care and the timely availability of the necessary inputs.

Outcome may be measured using indicators of mortality, morbidity and impairment (Geyndt, 1995). Favourable outcome however can be affected by factors not under the direct control of the health workers. These factors can be enumerated thus: Culture, housing, diet, environment, genetics, etc. All have impact on the process and outcomes of any intervention. Several cultural practices are noted to have influence on maternal and child mortality in Nigeria and elsewhere in sub-Saharan African societies (Salami & Taiwo, 2012). These challenges involved infrastructure, economic, social and cultural factors (Owumi, 2002; Erinosh, Osotimehin & Olawoye, 1996). Apart from inadequate and inefficient healthcare services in Nigeria (Tella, 2014) as in most other developing nations, institutional arrangements, cultural beliefs and practices have contributed to the rise of maternal and infant mortality rates in Nigeria. A cursory look at institutional arrangements- such as budgetary allocation, spatial distribution, beliefs and practices would suffice to explain the predicaments:

Budgetary Allocation, Spatial Distribution of Health Workers and Facilities

Health care facilities and infrastructures allocation in any society are influenced by different institutional, local and regional factors (UNFPA, 2010a). Poor work environment including dilapidated structures, inadequate and outdated equipment and cumbersome work flows, lack of protective, safety equipment and logistics for staff and misalignment of pre-service production and training programmes to health priorities are all too common challenges. It will also affect accessibility to the patients who may like to patronize the centre. It is a common knowledge that the location and what a health officer practices with would have impacts on his personality and subsequently affects his/her relationship with the patients and his/her productivity (Maguire 2010; Lupton, 2000). It is not unthinkable that health worker without the necessary equipments and facilities to work with may behave offhandedly and untoward his/her patients. This assertion is supported by inequity in which Nigerian ministry of health spends 70% of her budgetary allocation in the urban areas with just 30% of the population and the remaining 30% on 70% on burgeoning rural population (Ademuliyi & Aluko-Arowolo, 2009).

There are great disparities in health status and access to health care among different population groups in Nigeria. For instance, the under-five mortality rate in rural areas is estimated at 243 per 1,000 live births, compared to 153 per 1,000 in urban areas (UNICEF, 2006). While 59 percent of women in urban areas deliver with a doctor, nurse, or midwife, only 26 percent of women in rural areas do so (NHRHSP, 2012; Ogun State Health Bulletin, 2009). Furthermore, there are wide variations in health status and access to care among the six geo-political regions of the country, with indicators generally worse in the North than in the South (MDG Report 2004 in, NHRHSP, 2012). In 2014 budget allocation to health sector was six percent or N262 billion (or, 1.7billion USD), this is against N279billion allocated in 2013. The usual template of allocation between rural and urban areas was still in place. The urban areas benefitted to the detriment of rural areas and little effort was on primary health including maternal health. Following from foregoing, healthcare system in Nigeria is replete with spatial variations in terms of availability, quantity and quality of facilities which often may not be apt to the needs of health care of the pregnant and nursing mothers. The health sector in Nigeria is noted to be facing financial and human resources crisis (NHRHSP, 2012). The Human Development Index (HDI) as a composite

index that measures the achievement of countries in three basic dimensions of human development in the areas of: a long and healthy life, knowledge, and a decent standard of living have poor rating for Nigeria. There are also systemic deficiencies in the planning, management and administration of available personnel. The common outlooks are: shortage of professional staff in the north and over supply in the south. Distribution of health workers is also skewed toward urban centres with acute shortages in rural locations. Coupled with these are staff recruitment regulations in some states with shortages of critically needed health staff that discriminate against non-indigenes (Efe, 2013; NHRHSP, 2012). Attrition of health professionals is becoming excessive due to brain drains. Brain drain is whereby professionals from the country of origin are “pushed away” due to unfavourable conditions of service to another country with alluring scenario that are “pull factors”

Migration of health care personnel to other countries is a current and serious issue in the health care system of the country, from a supply push factor, a resulting rise in exodus of health care personnel may be due to the unbearable working condition among other things. Furthermore, there are low level and discrepancies in salaries and other conditions of service for health professionals working at different levels and between states. The health worker force available was unevenly distributed (Efe, 2013; Ogundele, & Olufimihan, 2009, Aluko-Arowolo, 2005) with urban areas of 30 percent inhabitants having the larger concentration of health workers, as against the rural areas with preponderance percentage of 70 percent having to do with lesser health workers (NHRHSP, 2012; Aluko-Arowolo, 2005). In Nigeria of more than 160 million people, there are about 39,210 doctors and 124,629 nurses (This would translate to a doctor’s ratio of 1: 4103; or, about 30 doctors per 100,000 populations and 1: 1284 or about 100 nurses per 100,000 populations respectively) registered in the country, currently working (or not working or practicing at all) (NHRHSP, 2012). Though, it is taken for granted that we cannot all be sick at the same time, but this figure is in gross contradiction of WHO standard ratio, which specifies ratios of doctors, Nurses and environmental officer of 1: 600 patients, 1: 4 patients and 1: 8,000 people respectively (Ogun State Health Bulletin, 2009).

Paradoxically, the insufficiency in the numbers of health personnel does not prevent the available ones from seeking for better pay and conditions of service elsewhere, where it is assumed that there are favourable climates. (See tables in the Appendix)

The figures presented in Table 1 are for some health professional categories registered by Nigerian doctors. One notices with anguish that family/general practice (281/ 10%), paediatrics (427/15%) and obstetrics and gynaecology (161/6%) totalling 869 or 31% that are directly working directly on maternal health are particularly on attrition (NHRHSP, 2012).

Many Nigeria doctors have emigrated to North America and Europe. In 2005, 2,392 Nigeria doctors were practicing in the US alone, in UK number was 1,529.

CONCLUDING REMARKS

Mother and child mortality and incidences of disease show that lack of maternal education, culture, development and income have a significant impact in exacerbating mother and child deaths. The points therefore, that suffice from this review are thus: Pregnant women are directed by certain socio-cultural, environmental factors and the society level of development. However, with an extensive health education, sufficient budgetary allocation, moderation of some cultural

elements which is contrary to maternal health consumption; the inhibitions would be mitigated. Therefore, to attain the expected and robust health seeking behaviour, pregnant women are expected to act individually in response to their health issues and adhere strictly to the antenatal, delivery and post-natal matters. Also, the husband/partner should collaborate with his wife/partner in order to achieve better health/pregnant status for the woman.

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APPENDIX

Table 1: Nigerian Doctors Registered with the American Medical Association by Specialty

Specialty	Number	Percentage
Internal Medicine and sub specialties	1269	44
Surgery and surgical sub specialties	332	12
Family/ General practice	281	10
Paediatrics	427	15
Psychiatry	187	7
Obstetrics and Gynaecology	161	6
Pathology/ Oncology	90	3
Radiology	35	1
Preventive Medicine	32	1
Others	41	1
Total	2855	100

Source: National Human Resources for Health Strategic Plan, 2012

A STUDY OF DISTRIBUTIONAL PATTERN OF BLOOD BANKS IN OSHODI-ISOLO LOCAL GOVERNMENT AREA, LAGOS

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ABSTRACT

Blood transfusion is a highly essential aspect of healthcare delivery system. The demand for blood transfusion is also high in Sub-Saharan Africa because of the high prevalence of anemia especially due to malaria and pregnancy-related complications. The need for blood transfusion gave rise to the establishment of blood banks. Blood banks due to their importance ought to be located within geographical locations that ensure their accessibility to intended users especially during emergencies. Although, usually located in hospitals and other health facilities, there is still problem of easy access by intended users during emergency situations. This is as a result of lack of information about locations of these blood banks. This paper applies the use of Geographic Information Systems (GIS) to analyse the distributional pattern of blood banks in Oshodi-Isolo Local Government Area of Lagos State which could enhance their accessibility. The study identified 119 health facilities in Oshodi-Isolo Local Government Area categorized into five: 8 primary health centres, 8 specialist hospitals, 15 convalescent centres, one (1) general hospital and 74 private clinics. Out of the 119 health facilities identified only 32.8% have blood banks. Further, the available blood banks in Oshodi Local Government Area were randomly distributed with nearest neighbor ratio of 0.95 and Z score of -0.38. Similarly, only two (2) out of the 39 health facilities with blood banks in Oshodi-Isolo Local Government Area satisfied the World Health Standards. To ensure availability and accessibility of blood banks to end users their distribution should not be left to chance distribution as it obtains currently. Also, the blood bank facilities must be well regulated by appropriate government agencies to promote quality healthcare service delivery. This calls for cooperation between government and private organisations in planning and management of blood bank facilities and their locations as important components of the health care delivery system in Nigeria.

Keywords: Blood banks, GIS, health facilities, healthcare delivery system, Oshodi-Isolo LGA

INTRODUCTION

There is serious concern about having safe blood and accessibility of blood banks. Several cases of maternal deaths as a result of excessive loss of blood during child births are known in Africa. For instance, 26% of maternal deaths in Africa are caused by non-availability of blood (Bates I. et al, 2008) which is a serious challenge in public health delivery system. Blood banks are laboratory centers that are responsible for the collection, processing and storage of blood for research and medical purposes. Blood banks due to their importance ought to be located at areas that can be easily accessible (Awad, E. & Carlos, T. 2014; Bell, S. et al, 2013; Hiscock, R., Pearce, J., Blakely, T., & Witten, K. 2008; Pearce, J., Witten, K., & Bartie, P. 2006).

Available statistics show that there is a huge shortfall between the estimated demand for blood and blood collection and storage in blood banks in Nigeria. For instance, the Federal Ministry of Health (2005) indicated that Nigeria requires a total of 1.5 million units of blood per annum for her current level of health care delivery system and national population (120 million). This has made blood transfusion the second largest source of HIV infection after unprotected sex (Bates I,

et al, 2012). The major reason for this is the indiscriminately established blood banks and transfusion centers and lack of modern screening equipment (Bates I, et al, 2012;). Already, the World Health Organisation (AABB, 2002) has set the criteria for an ideal Blood bank facility to include:

- (i) a space of 100 square meters for its operation and an additional area of 50square meters for the preparation of blood components;
- (ii) (ii) the area for the preparation of blood components should be air-conditioned to maintain a temperature of between 20°c to 25°c;
- (iii)Regular source of power and air-conditioning system.

Furthermore, the poorly implemented national blood policy in Nigeria encourages most blood banks to continue to sell unscreened blood which gives rise to the spread of HIV infection as well as other blood related diseases.

Recently, the Lagos State Government has put in place some measures to regulate blood transfusion services. This includes compulsory registration of health facilities with blood banks and the registration of the blood donor at any of the screening centers in the state. Unfortunately, the measure is also limited by non-availability of spatial information about the locations of these blood banks to help in monitoring and standardization (Baker Amanda 2011). Lagos State due to its high population houses a large number of health institutions ranging from privately owned hospitals which most of the times serve as consulting clinics, primary health centers which are usually owned by local government, secondary health centers or general hospitals and a number of laboratories, maternity centers and pharmacies. Yet, in spite of the large number of health facilities in the State, there still is the problem of inadequate knowledge of the particular hospitals or health centers to obtain blood from in the right quantity and quality in the event of the need for blood transfusion. This is due to the non-availability of a proper database showing where blood banks are located and this is the gap this paper aim to fill. According to PENCHANSKY and THOMAS (1981) and OLIVER and MOSSIALOS (2004) factors that affect the ability to access appropriate healthcare services are: (i) availability, (ii) acceptability/affordability, and (iii) accessibility. Availability and accessibility of blood banks are two important factors to be considered for the purpose of blood transfusion. Thus the aim of this paper is to show the locational pattern of health care facilities in Oshodi-Isolo Local Government Area, Lagos state using Geographic Information System technique with a view of determining those with blood banks. Studies by Hawthorne, T. L., & Kwan, M.P. (2012); Sumi Singh (2006); Don de Savigny & Pandu W. (1995); Aregbeyan (1992) rendered accessibility to healthcare facilities of an individual in spatial perspective and physical accessibility has been considerably important but however constrained by distance. To achieve this aim, the following objectives were set which include to: (i) Identify and map health facilities in the study area, (ii) Ascertain health facilities with blood banks, (iii) Assess the spatial distribution of blood banks in the study area for easy access, and (iv) Determine the level of compliance with the standards set by WHO for blood banks.

METHODS

Description of the Study Area

Oshodi- Isolo is one of the 57 Local Government Areas (LGA) within Lagos State. The Defunct Oshodi/Isolo Local Government was however carved out from erstwhile Mushin Local Government. It is located on the North-East part of Lagos State which is situated on the south

western part of Nigeria, West Africa, on the narrow coastal plain of the Bight of Benin. It covers a land area of about 9.0 sq.km and has a growing population of over 1 million inhabitants. The neighbours are Ikeja Local Government to the North, Onigbogbo Local Government to the North-East and Mushin Ajina Local Government to South East. Oshodi- Isolo Local Government consists of seven wards which are: Ewutuntun ward, Mafoluku ward, Oluyeye ward, Afariogun ward, Shogunle ward, Igbehinadun ward and Ogunoloko ward.

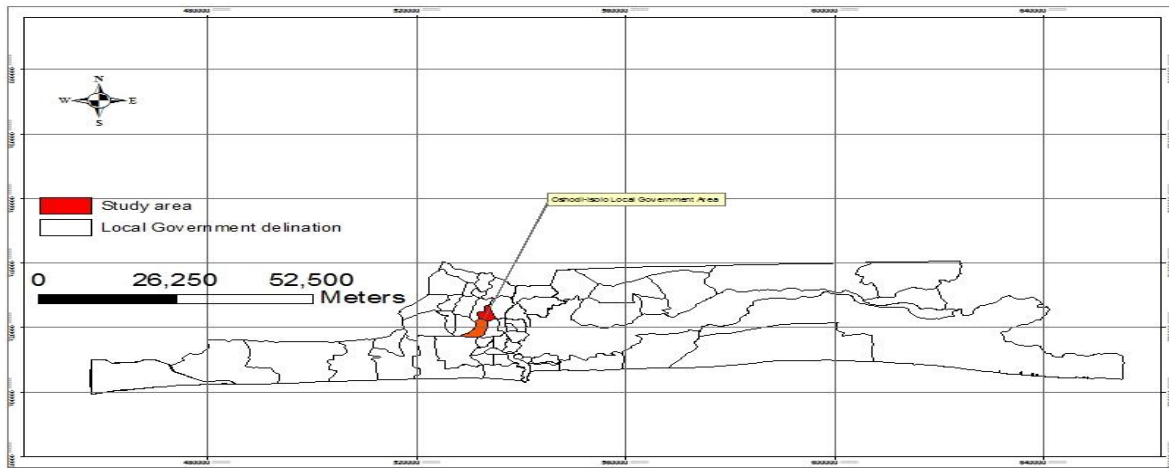


Figure A: Lagos State map showing Oshodi-Isolo Local Government Area

DATA COLLECTION AND ANALYSIS

Locational data of health facilities was collected using Global Positioning System and secondary data such as health care data forms and street map of Lagos Island Local Government from where that of Oshodi-Isolo Local Government area was carved out. The administrative map and Street map of Lagos was scanned into GIS environment and saved in Tiff format and analysis was conducted in the Arc GIS 9.3 software environment using the series of GIS extension. The cadastral map of Oshodi-Isolo Local government Area was overlaid on the administrative map of Lagos State. Each theme was extracted by digitizing as points, lines and polygons. The point features includes location of health care facilities, the line features include roads while the polygon features contained settlement of Oshodi- Isolo Local Government Area. The street map of Lagos were converted to a shape file and edited to show information that are of importance to this study. The result of accessibility of health facilities were shown on the digitized map of the Local Government Area.

RESULTS AND DISCUSSIONS

Health Care Facilities in the Study Area

Health is the key to achieving Millennium Development Goals (MDGs). All the MDGs have health related dimensions while Goals 4,5 and 6 specifically emphasize health. Thus, generating health care database for easy access to required information about an urban area could play a critical role in this regard. Health care information derives from both spatial and non-spatial data (Wani Rashid, et al, (2013). The analysis shows that there are eight primary health centers, eight specialist hospitals, fifteen convalescent centers, one General Hospital and seventy-four private hospitals and clinics (Table 1).

The spatial distribution of health care facilities in the study area was mapped according to their absolute locations and the attributes alongside the road network as shown in Figure 2. From a simple visual analysis it can be observed that the health facilities are randomly distributed.

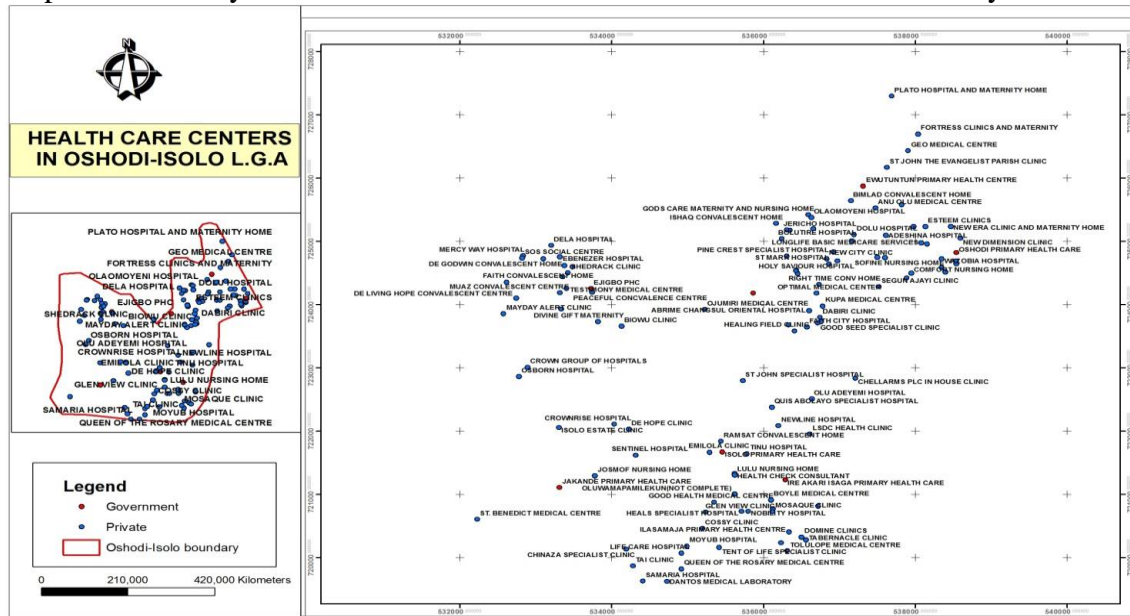


Figure B: Location of Health Facilities in Oshodi-Isole Local Government Area

Spatial Query for Health Care Centers with Blood Banks in the Study Area

If somebody wants the location and addresses of health care facilities with blood banks, the analysis in Figure 4 is able to identify health facilities with blood banks using spatial query. This makes it easy to find health facilities with blood bank location and address which shows that out of the 119 health facilities in the study area 39 have and 80 do not. The query is given below.

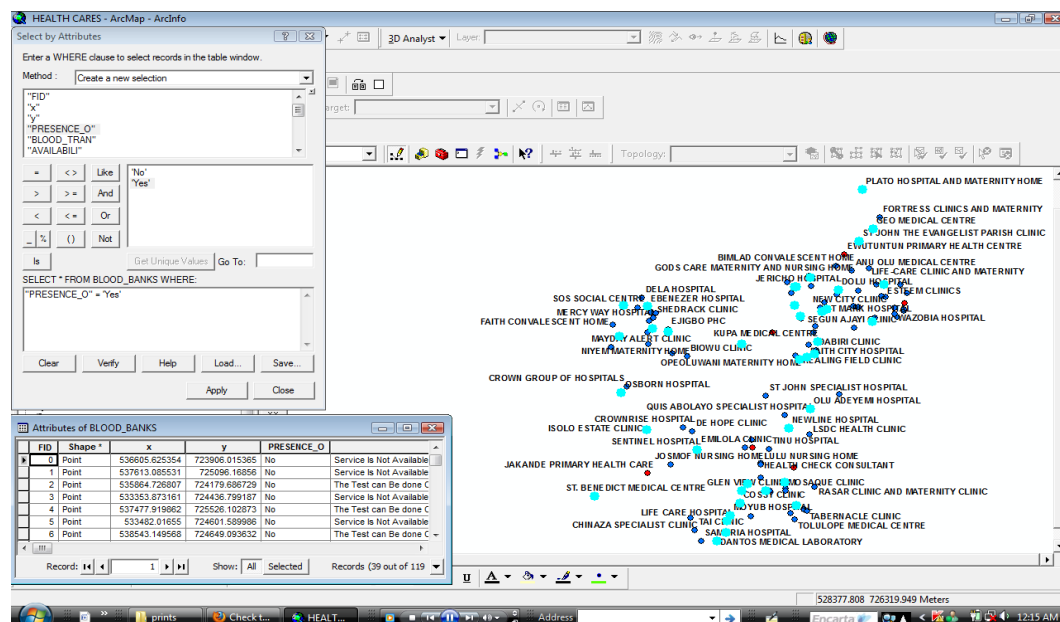


Figure C: Query of Health Facilities with Blood Banks in Oshodi-Isole Local Government Area

Similarly, if one desires to know the spatial distribution of health facilities with blood banks the analysis is able to show this. The analysis show that the location of health care facilities with blood banks is randomly distributed (Figure 5). The analysis further reveals that the statistics of the nearest neighbor index (NNI) and Z score to be 0.95 and -0.38 respectively. This confirms that the health facilities with the blood banks in the study area are located without purpose or rule.

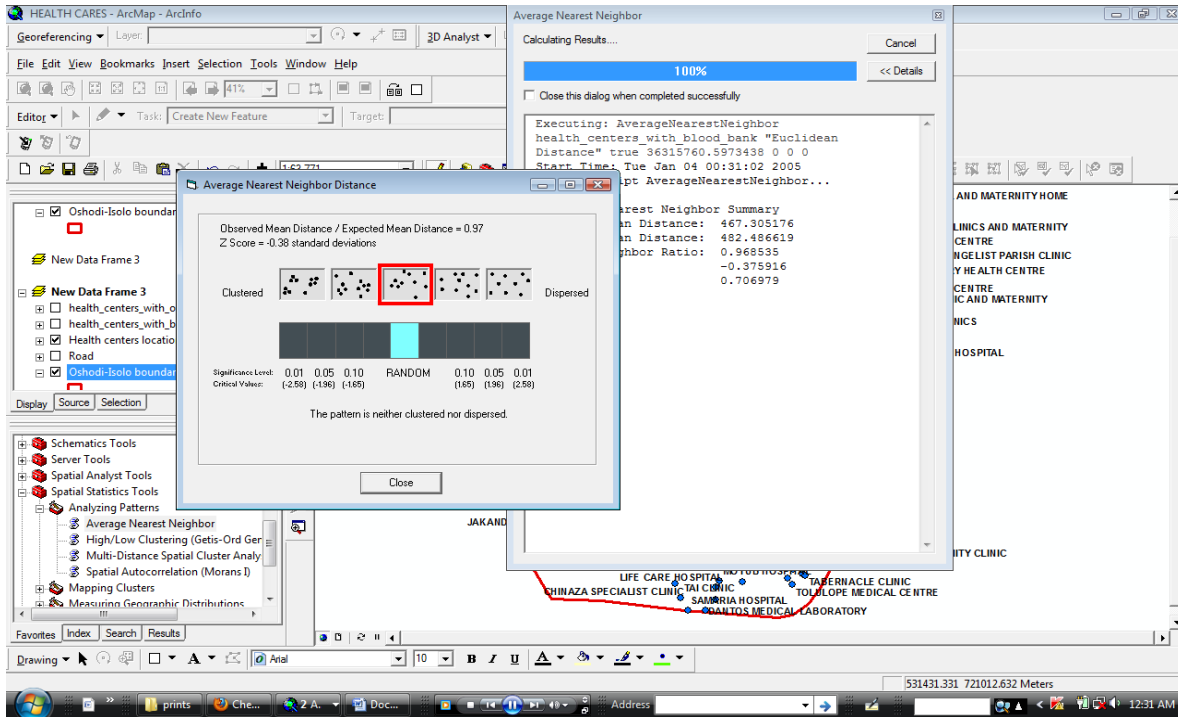


Figure D: Print Screen Showing the Spatial Distribution of Blood Banks in Oshodi-Isolo LGA

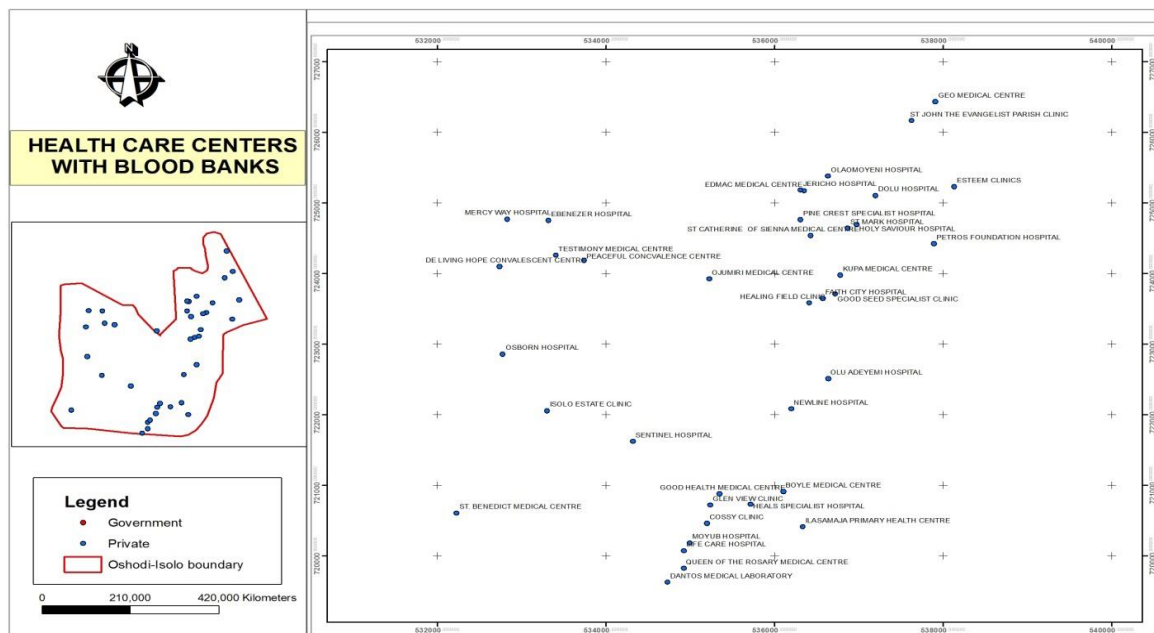


Figure E: Health Care Facilities with Blood Banks in Oshodi-Isolo Local Government Area

Also, the spatial Query for health care facilities with blood bank that satisfy WHO standard was conducted. Figure 7 shows the spatial query conducted to determine the number of hospitals that meets the WHO standards for a blood bank facility. The analysis indicates that only two (2) out of the thirty nine (39) health facilities with blood banks in the study area actually satisfied the World Health Organisation blood bank standards.

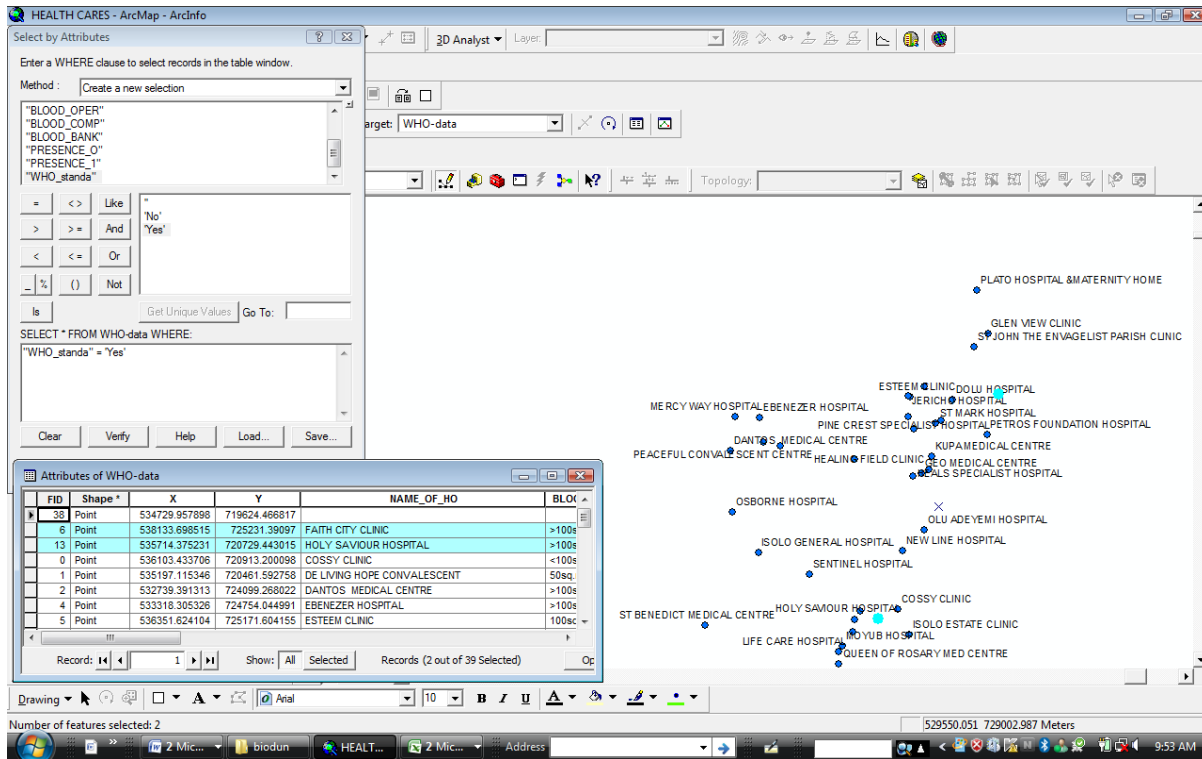


Figure F: Blood Banks That Conform to World Health Organisation Standards

SUMMARY AND CONCLUSION

The relevance of database for accessibility to health care facilities in a typical urban area cannot be over-emphasized as demonstrated in this paper. The study identified health facilities in Oshodi-Isolo Local Government Area by categories and examined the number with blood banks which shows that only 32.8% of a total of 119 health facilities had blood banks with only two able to meet WHO requirements. This has serious implications for access to adequate number of health care facilities with the required services and of the right quality. Further, the spatial query of the spatial distribution of health care facilities with blood banks in Oshodi Local Government Area shows that they were randomly distributed with nearest neighbor ratio of 0.95 and Z score of -0.38. This indicates a lack of direction with grave implication for land use planning and health care facility monitoring and control which could further compound the problem of accessibility. There is a serious need therefore to review the planning and distribution of health care facilities and services in the study area.

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Table 1: Types of Health Facilities in Oshodi-Isolo Local Government Area

Types of Health Facilities	Number
Primary Health Care	8
Specialist Hospital	8
Convalescent Centre	15
General Hospital	1
Private Hospitals/Clinics	74
Total	119

Source: Field Survey (2012)

UNDERREPRESENTATION OF WOMEN IN THE PROFESSORIAL POSITIONS IN THE ACADEMIA: TAKING STOCK OF THE DOCTORATE DEGREES OF THE UNIVERSITY OF LAGOS SINCE 2009

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ABSTRACT

Although women are gradually closing the gap in most occupations, women in the academia had consistently been fewer in higher ranking positions due to fewer women with doctorate degrees which are a prerequisite to promotions above Lecturer 1 in the University of Lagos (UNILAG). The requirement of ‘publish or perish’ had been expanded to include ‘no Ph.D no promotion’ even when all the papers required to get to the apex is complete. This paper reviews the number of doctorate degrees awarded by UNILAG in the past five years – from 2009 to 2013- to assess the extent the gap existing between the two genders in the professorial cadre had been tapered. It complements the data with in-depth interviews conducted with women who are still struggling to obtain their Ph.Ds to appraise the constraints they face. This is because to get to the professorial position, an academic must not only have obtained a Ph.D, he/she is also expected to have a quantum of publications in the required combinations in what UNILAG has termed ‘local’ and ‘foreign’ journals. The paper found a disturbing asymmetry with respect to the margin between male and female Ph.D graduates with the latter still in the minority. Considering the constraints faced by women both in the private and public spheres and flowing from the interviews with women academics, the paper made some suggestions. One of such is the provision of and/or creation of female TETFUND scholarships to give more opportunities for women in academia to close the ever increasing gap in the professorial cadre.

Keywords: Academia, Professorial, Doctorate, UNILAG, Women

INTRODUCTION

Academic career is challenging to both male and female academics but the gender gap still suggests that the system in place is more in favour of men. It is no longer news in the academia about the constraints women academics face in progressing in their careers. Several studies have shown academic career development coincide with family building which force individuals to make choices and compromises and women often are at the receiving end (Universities UK, 2008; Martinez, et al. 2007; University of Leeds Report, 2002; Whitelegg, et al. 2002; Sutton, nd.).

An European Commission (EC) report alluded to in Sutton (nd), indicates that women accounted for 54% of students in European degree programmes leading to qualification for research studies and 59% of the graduates were also women. However, women’s participation begins to decline after the initial stage, with women accounting for only 15% of the highest posts in research institutions. This phenomenon commonly referred to as the ‘leaky pipe’, ‘glass ceiling’ or ‘slippery slope’ in academia is more rampant in Science, Engineering and Technology (SET)

disciplines. Also study has shown that women are still less likely than their male colleagues to advance to the senior positions in academia, despite their growing numbers in the SET undergraduate and postgraduate courses since the 1970s (Zalevski et al., 2009). For instance, Sutton (nd) reports that only 30% of students entering these fields of study were women. At the initial stage, female research candidates show resilience as they represent 34% of PhD graduates. However, by the time a woman reaches the top tier of research, she finds herself clearly in the minority (9%). According to the report “Strong male dominance is also evident in other institutions in the power structure of the sciences: editorial boards, peer panels, and selection committees for professorships”. Zalevski et al’s (2009) study also show that only 23.8 per cent of all women in SET departments are professors and senior lecturers, compared to 42.1 per cent of all men. The situation, according to the study, has not improved significantly for some time, which challenges the notion that ‘a critical mass’ of women in the lower ranks of a profession should necessarily translate to a greater gender equality in the more senior academic posts.

Despite this lopsidedness, recent evidence has shown that women in the United States (US) have made an appreciable incursion into the rare doctorate degrees held previously by the men. Men retained the lead in doctoral degrees until 2008, largely through their dominance in engineering, mathematics and the physical sciences. According to a report from the Council of Graduate Schools, based in Washington cited in de Vise (2010), of the doctoral degrees awarded in the 2008-09 academic year, 28,962 were women and 28,469 were men representing 50.4% and 49.6% respectively which shows a slightly higher percentage in favour of women. The increase in women receiving doctoral degrees has been attributed to years of persistent gains across several areas of study. In the health sciences, for example, the number has risen at a rate of 14 percent per year over the past decade with women earning 70 percent of doctorates in that field. They also represent 67 percent of doctoral degrees in education, and 60 percent in social and behavioral sciences. Notwithstanding these reported successes, the situation is not the same in the developing world of Africa and Nigeria to be specific.

In South Africa, for instance, between 2001 and 2009, there has been an increase in the enrolment of women into the Ph.D programmes from three to four of ten total enrolments, yet they are still in the minority at the postgraduate level study (Hweshe, 2012). For Edukugho (2011), males comprised 87.9 per cent (58) of the sixty-six academics elevated to the professorial cadre and females 12.1 per cent (8) in the University of Ilorin (UNILORIN). In addition, twenty nine (29) or 93.5 per cent of the 31 new Readers or Associate Professors are men as against two (2) or 6.5 per cent that are women; 29 or 82 per cent of the 35 new professors are men while the remaining 6 or 17.1 per cent are women. In similar vein, Udeani and Ejikeme (2011) found a great disparity in professorial positions among male and female academics in SET between 1999 and 2009 in UNILAG with none occupying a chair in Engineering and Environmental Science in 1999. For although, there was a steady increase in percentage of women appointed to the professorial cadre, in all the SET disciplines listed the percentage margin between men and women professors are still significant. The reason for these observed differences has been attributed to women’s surmountable challenges.

Macinnis-Ng (2013) identified two of such challenges that women face in the academia. One, according to her, is universal to all women and it refers to success rates for funding and publications which are lower for females than males, and young girls are raised to be nurturing

and compliant rather than competitive and assertive. These factors impact the careers of all women at some stage, often in very subtle ways and throughout their working lives. The second category of challenges is what she termed 'circumstantial' because these depend on the situation a woman finds herself. These include career responsibilities, parental leave gaps and periods of part-time work. To this end, women are more likely to be left with the burden of caring for elderly or sick relatives and very young children; just as women in a relationship are more likely to be the 'following' partner when a couple or family moves overseas or interstate and these impact on their career opportunities. She submits that although these 'circumstantial' factors do not impact all women, but when they do, they can be catastrophic for a promising and even flourishing career. In terms of taking care of young children, studies have also shown that women researchers with small children felt their career progression was slowed because they were exhausted, and thus unable to compete favourably with men (University of Leeds Report, 2002).

Other studies that explored attrition of female PhD students in chemistry and biosciences from future careers in research (Lober Newsome, 2008a, b), had shown the likelihood that women do not want to stay in academic science in the long term compared to men. Reasons cited by most respondents behind that decision was the perceived incompatibility between an academic career and motherhood and/or maintaining a work-life balance. This was also reverberated in the study by Whitelegg et al. (2002) where young women physicists interviewed raised issues concerning the difficulties of combining working with raising a family. These female researchers reported that working in a lab goes with the inconvenience of having a baby or raising a family mainly because of long hours spend running experiments in the evenings and at weekends and this does not augur well for family life especially when the family is still at the teething stage. Evidence also suggests that having children may be an impediment to women's probabilities of tenured jobs and full professorships. Ginther and Kahn (2006) report that single women in academia do better at each stage than single men, and that children make it less likely for women in science to advance up the academic job ladder while both marriage and children increase men's likelihood of advancing.

Women with a partner and children also face the barrier to their career mobility (Ackers, 2004; Martinez et al., 2007; Universities UK, 2008). Ackers (2004) established that women were more likely to defer to their partners' career interests, when couples were faced with an international move whereas men in a similar situation were less likely to do this even when the women's job attracts higher pay. These cultural pressures result in a major attrition of women who put their time and effort to studying for a doctorate degree thus creating a huge loss to the academic profession. Often, the women settle for any available position that they can find, thereby effectively de-skilling themselves and removing highly skilled professionals from the research labour market (Ackers 2003, 2004).

Academics as a form of profession has its own problems. These problems are hardly ever realized by an observer who believes that there is ample time available for 'academicians'. New entrants are also lured with this belief only to get frustrated when they become tenured. Both female and male researchers generally view academic research not only as enjoyable but also intellectually rewarding (Garforth and Kerr, 2009; Lober Newsome, 2008 a, b). It is against this backdrop that this paper reviews the number of Ph.D graduates in UNILAG since 2009 with a

view of ascertaining the probability of women attaining the position of a professor in UNILAG as this is a criterion for promotion above Lecturer 1 grade.

THEORETICAL BACKGROUND

Power, in social and political theory, is often regarded as an essentially contested concept (Lukes, 1974; 2005; Connolly, 1983) and this claim is itself contested (Haugaard, 2010; Morriss 2002, and Wartenberg, 1990), with no doubt that the literature on power is marked by deep, widespread, and seemingly intractable disagreements over how the term power should be understood. One group conceptualizes power as a resource and prominent among them is Okin, (1989) whose postulation this paper is anchored. In her work, *Justice, Gender, and the Family*, Okin argues that the contemporary family structured along gender lines unjustly distributes the benefits and burdens of familial life amongst husbands and wives.

One of her list of benefits includes power, which she calls “critical social goods.” As she puts it, “when we look seriously at the distribution between husbands and wives of such critical social goods as work (paid and unpaid), power, prestige, self-esteem, opportunities for self-development, and both physical and economic security, we find socially constructed inequalities between them, right down the list” (Okin, 1989, 136). For Okin, power is a resource that is unequally and unjustly distributed between men and women and so, the goals of feminism are to incorporate the redistribution of this resource in more equitable ways. This theory explains the discourse in two ways: first it provides that opportunities for self-development are one of the ‘critical social goods’ in the rein of men which they expend at their pleasure. Second, since this resource is in the domain of men, women’s access to it depends on men’s approval and the latter determines their career prospects.

METHODS

Data for the paper was extracted from the Ph.D graduation lists of UNILAG from 2009 to 2013. The paper sought to know the number of Ph.D graduates by gender for the five year period under consideration (see table in the appendix). The data did not go into further details of preparing the tables by disciplines. This is because the interest of the paper is to have an overview of the performance of the female gender in the doctorate degrees awarded for the five year period and, by extension, see if their probable career mobility to professorial cadre is attainable. It is noteworthy that the classification by gender was prepared by the author. In addition, a female doctoral staff candidate each was interviewed from Faculties of Arts, Education, Social Sciences, Science, Engineering, Environmental Science, Law and Business Administration to ascertain the constraints they face in the programme. This served as a complement to the data.

RESULTS

As the table in the appendix shows, although there is an appreciable number of female Ph.D graduates in the five year period under consideration, there is still a significant disparity between male and female Ph.D graduates. In 2009, there were 46 male and 30 female graduates. This reduced for both sexes to 38 and 27 in 2010 respectively. By 2011 and 2013, the numbers rose correspondingly to 45 and 29 and 70 and 35. Nevertheless, 2012 witnessed another downward trend of 31 and 17 for male and female Ph.D graduates and also the lowest number of female Ph.D graduates (17) for the five year period just as the males. All the same, in spite of the increase in the number of female graduates in 2013 convocation (35), this only translates to 33 percent of female Ph.D graduates as opposed to 34 percent in 2012.

Overall, only 37 percent of females obtained a Ph.D degree in the five year period under study which is almost half of 63 percent for the males indicating a great disparity between both sexes. It also shows that despite the increases in the enrolment of women for higher degrees, this has not translated into obtaining or completion of a doctorate degree implying that the attrition rates for women at the doctoral level still remains high. Although the interest of this paper is not to disaggregate the degrees obtained by courses, despite everything, most female Ph.D graduates for the five year period are predominantly located in Education, Humanities and Social Science faculties while they are hardly visible in Science, Engineering, Business Administration and Environmental Sciences. The in-depth interviews throw more light on what women in the academia face in achieving their set objectives, and this is incorporated in the discussion section.

DISCUSSION

The data has shown a great disparity in the number of women Ph.D graduates in the five year period considered in this paper. It goes to confirm the ever increasing disparity between the two genders in the acquisition of a doctorate degree in UNILAG. This supports studies such as Sutton's (nd.) which shows a very insignificant rate of completion at the doctoral level for women. Yet studies have also shown that the gap is closing in some other countries like the US (de Vise, 2010) and South Africa (Hweshe, 2012). This study is also reinforcing Edukugho's (2011) report on UNILORIN's promotions to the professorial cadre as well as Udeani and Ejikeme's (2011) study of UNILAG and the ever present gap between male and female academics in the professorial cadre since the attainment to the professorial position in the latter institution is tied to obtaining a Ph.D degree.

This underrepresentation of women academics in the professorial cadre (which also has a prerequisite of a Ph.D degree and number of required papers categorized under 'local' or 'foreign') is not unconnected with the societal expectations of women which hinders their career prospects. Such societal expectations include fulfillment of their *natural* and domestic roles which takes precedence to their career prospects. In that regard, they are forced to make choices and compromises for the sake of building their families (Universities UK, 2008; Martinez, et al. 2007; University of Leeds Report, 2002; Whitelegg, et al. 2002; Sutton, nd.).

Some of the in-depth interviews conducted lay credence to these studies. According to one of the interviewees who pleaded anonymity:

I am faced with difficulties both in the office and at the home front. In the office, my supervisor poses a serious barrier to my getting this Ph.D. He hardly ever looks at my work and gets agitated when I approach him for consultation and advice. I don't know if he wants me to have this Ph.D or he is bent on frustrating me out of the programme. At the home front, I don't need to tell you what is expected of you as a mother as well as a wife. You are to see that the home front is in perfect shape if you must have the needed tranquility for the progress of the programme. I think this summarizes my experience as far as this programme is concerned.

Also, lack of opportunities for further training, unsupportive work environment, lack of female role models have also been identified as factors that make women lag behind men in the academia (Udeani and Ejikeme, 2011), factors which Okin's (1989) refers to as 'critical social goods'. In support of this view, another respondent feels that providing scholarships that will target women academics will do a lot of good. According to her:

It is a very commendable effort on the part of Federal Government to establish the Tertiary Education Trust Fund (TETFUND) which helps to alleviate the problems of accessing funds for conferences and publications of journals and books in the institutions of higher learning in the country. However, I think that creating a separate fund that targets only female academics will grant more opportunities for women considering that they are still teething in the field and still have a long way to go in closing the gap between them and the male gender. Have you taking time to see the number of graduates each year and how many women are part of it? This is more pronounced in the Sciences, Engineering and Technological courses where women are hardly present because of the cultural belief that women are not naturally endowed in these courses.. That is not say, however, that they are not good in these courses. The 2009/2010 first degree graduation (I am not so sure which one) for instance, produced more females than males with second class upper degrees in one of the Engineering courses. What does that tell you?

Another interviewee had not seen the women at the apex serving as role models. In her words:

Most female Professors are not real role models. They are vindictive and take it very personal when you make your views known. The male colleagues are more accommodating and support their kind in the pursuit of their career. I get more cooperation from the male than female colleagues.

Other interviews yielded the same responses but one of the respondents is quick to add this:

What is important is to have a level playing ground for all of us. What I mean is that granting opportunities for access to funds, training opportunities and allocation of courses and responsibilities in the institution should be done objectively and fairly. I am sure that despite domestic responsibilities, most women will cope in the presence of fair treatment. After all, 'modern' men these days provide a helping hand in the domestic sphere especially the progressive ones. But I wish to add that female academics also face harassment from their colleagues which, to me, is very bizarre. It becomes more ridiculous when this is used to assess your academic competence. So, when you don't have what it takes to advance in your career and you succumb to such pestering, the likelihood that you get what you want is high. Are we morally competent, then, to complain of falling standard of education?

The in-depth interviews have revealed startling information which may not be known to the University authorities regarding what female academics, most especially those still in their early careers, face and how in the face of these difficulties, they try to balance things.

Considering the findings and bearing in mind that women are constrained by other factors beyond academics, the study recommends that:

- ❖ A gender inclusive policy is required for advancement of women in academia especially in UNILAG where 'no Ph.D, no promotion' and 'local and foreign' publications are the norm. This can be done through training and scholarship opportunities targeted at the group to cushion the effect of domestic responsibilities which bring untold but unremunerated hardships on them. One of such outlets is the creation of an exclusive female TETFUND scholarship as suggested by one of the interviewees, most especially those still in their early career, to encourage them to remain in the profession in spite of the difficult hurdles they have to cross. This will provide incentives for them to make greater efforts to succeed and ultimately produce more women in the professorial cadre.

- ❖ Second, women academics, in their reproductive age and are still bearing and rearing children should be granted concessions in terms of academic workload and other administrative responsibilities which also tie academics down and reduce their expected performance and achievement..
- ❖ Third, conducive work environment in the form of a policy document is needed to address the harassment problem. This could be reinforced with having cameras installed in offices and strategic places where these crimes are committed. By so doing, the victims as well as the predators will be respectively protected and saved.
- ❖ Finally, in such a metropolitan and hostile environment like Lagos, availability of accommodation within the institution is suggested which will go a long way in alleviating the difficulties faced through traffic jams and robbery attacks in traffics especially for the vulnerable group like the women in the academia. This can be achieved by encouraging developers to build houses which can be taken over by the institution after an agreed period when they could have recouped their investments.

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APPENDIX**Table Showing Ph.D Graduates for the Five-Year Period under consideration by Gender***

Convocation Year	No. of Graduates		
	M (%)	F (%)	T (%)
2009¹	46 (60.5)	30 (39.5)	76 (100)
2010²	38 (58.5)	27 (41.5)	65 (100)
2011³	45 (60.8)	29 (39.2)	74 (100)
2012⁴	31 (66.0)	17 (34.0)	48 (100)
2013⁵	70 (66.7)	35 (33.3)	105 (100)
Total	230 (62.5)	138 (37.5)	368 (100)

Sources: ¹The University of Lagos, Nigeria Convocation 2009 Order of Proceedings pp. 150-154

²The University of Lagos, Nigeria, Convocation 2010 Order of Proceedings pp. 137-143

³The University of Lagos, Nigeria, Convocation 2011 Order of Proceedings pp. 192-200

⁴The University of Lagos, Nigeria, Golden Jubilee Convocation 2012, Order of Proceedings pp. 125-128

⁵The University of Lagos, Nigeria, 2013 Convocation, Order of Proceedings pp. 101-108

*The table is compiled and prepared by the author

STRIKE BY STATE-SECTOR DOCTORS, THE DUAL MANDATE AND INHERENT CONTRADICTIONS IN PUBLIC HEALTH MANAGEMENT

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ABSTRACT

The major indices of public health care status in Nigeria tell a story of gross ineffectiveness, inefficiency and formidable operational obstacles. Doctors and other health professionals are key elements in the chain of difficulties as well as solutions. Specifically, the conditions of work of doctors and how well they are taken care of are as critical as health care infrastructure, the state of intra-health professionals' relations or issues of capacity and access among the citizens in determining the quality of care rendered to the people and system efficiency. The habit of doctors going on strike repetitively breaches the Hippocratic Oath and imperils the peoples' health. Among doctors, it is sign of unresolved labour grievances; of existence of gap between work and life expectations and reality. The factors associated with strike must be addressed so that the norms of the oath could once more become the infrastructure of doctors' professional conduct and practice which at the moment is characterized by normative contradiction. Using multistage sampling and structured questionnaire, the views of 303 doctors across the country were sought on the crisis between the oath and doctors' strike. Among other factors, dissatisfaction with pay and allowances, status inconsistency, relative deprivation, blocked ascendancy; perceived status insecurity, unsatisfactory working conditions, unimplemented collective agreements, intra-sector rivalry and official policy inconsistency were mentioned as contributory. The Oath is blamed for exclusively rooting to secure the health of patients and the integrity of the profession while simultaneously neglecting the interest and working conditions of the professional. Deriving from the analyses, reinvigorating the National Health Insurance Scheme and shifting paradigmatically from state benevolent healthcare to entrepreneurial public health management are suggested to bring stability and efficiency to the system.

Keywords: Strike, Dual mandate, Hippocratic Oath, Status inconsistency, Bureaucratic red-tapism

INTRODUCTION

While doctors are vital to cutting edge public health delivery, persistent strikes by those employed by and in the state sector jeopardize effectiveness and efficiency of public health infrastructure and service delivery. Though strike is not inherently destructive, and may in fact be constructive, incessant and prolonged work stoppages impair the health of patients and erode confidence on the capacity of the state to protect the citizens. The Nigerian economy is riddled with strikes by state-employed (federal and state governments) physicians and this tends to subvert the realization of the Hippocratic Oath, a statement of some universal moral standards of medical practice that put the patient first. This raises the question as to why industrial strikes persist among public sector doctors in a way that contradicts the social values embedded in the oath. A gap has emerged between the oath ideal and doctors' working condition the closing of which is inevitable in bring industrial stability back to the health sector of the country.

Against this background the thematic proposal of this study is that persistent industrial strike and continued violation of the Hippocratic Oath by doctors connotes existence of systemic contradictions between ideals of the oath and the conditions under which doctors practice their profession. The underlying assumption is that industrial strikes are likely to continue in the public sector until this gap is bridged fully or substantially. Accordingly, this study aims to address a set of related objectives. First, emphasize the conflict-generating potential of the gap between the ideals of the oath and the shortfall in doctors' actual working conditions. Second, the study will analyse and illuminate the implications of continuing industrial strike for public health efficiency and, thirdly, suggest measures to bridge the gap and thereby stem industrial disharmony in the sector

Problem Articulation – The Dual Mandate

Each time doctors go on strike many commentators ask 'why should doctors strike? Many citizens who see their work as basically humanitarian find it difficult to reconcile the act of going on strike with the primary duty to save life. Some will ask 'if they strike what happens to the patients they swore to protect? Such people call doctors names at such times. Even government falls into the same trap exploiting that preconceived notion to whip up negative sentiment against doctors in strike periods. It is recalled that upon induction doctors have the Hippocratic Oath administered to them. According to this Oath, their primary allegiance is to the profession and first duty is the health of the patient. This though is without due consideration for the financial and psychological condition of a doctor or the organizational and physical situation of work. The issue is when they embark on strike are they not failing their obligation under the Oath?

There is a general belief among the public that doctors are relatively well paid for the services they render. This opinion is attributed one, to the way doctors carry their shoulders high in the hospital. So far, doctors appear to have failed to lay their message of inadequate remuneration in the public domain and this is a factor in their often being castigated during strike periods. The dilemma for the doctor is: which of the obligations should override the other – self on one hand or the profession, the patient, public service on the other? The doctor has the dual mandate to satisfy self or the profession without a clear guide as to the superior obligation. The dilemma presents in a number of contradictory ways; between professional standards and doctor's remuneration and other conditions of work. It is unclear whether there are conditions under which a doctor might be excused to ignore the Oath and press for better conditions or is allegiance to the Oath an iron law? Another face of the dilemma is whether state health care is mainly or strictly welfare service or can it also be organized as economic service? Does it give rise to only social obligations between parties (e.g. between state, doctor and patient) or does it involve enforceable legal obligations as well? Is the condition of work of the individual doctor also of interest to the Oath or not? There is a dilemma on the state. It is between the state as sovereign and state as employer and equal negotiating party with health sector unions in industrial conflict. Is the state party, regulator, adjudicator or executor in the sector or is it all of these together? Can the state combine these functions without contradictions such as abuse of power that may occasion inefficiency in the sector? Yet there are other dilemmas. There is the issue of double coincidence of superiority complex between doctors and state officials. There is outstripping of demand over supply of quality health service. State officials who plan and implement public health do not themselves use the facilities but are treated abroad at state

expense. These are some of the contradictions that position public health as an arena of crisis, inefficiency, ineffectiveness and disappointment.

To clarify, it is mainly state-employed doctors that face the dilemma. Patients in public hospitals are oriented to believe that health care is social service and as such can be secured free of cost. On the other hand, for doctors in private practice, both patient and doctor understand from the outset that the transaction is strictly business implying fair reward for service and an agreement is often reached before service is given or received. Patients do not approach private clinic expecting the doctor to be benevolent, philanthropic or generous. Thus the dilemmas talked about are embedded in the system of state health care administration. Strikes, conflict and inefficiency persist in the sector owing to non-resolution of these contradictions. The public sector health reforms by the federal and some state governments may be understood in the context of finding a solution to these contradictions. Interrogation of the factors associated with government health system that produces these negative results is a key objective of this paper.

Hippocratic Oath and the Dilemma

Hippocratic Oath is a traditional oath began around 1747 by physicians who pledge to practice medicine according to the ideals and moral principles put forth by the ancient Hippocrates (c. 460-377 B.C.E) though the wordings were not necessarily written by him (Etymology Dictionary, 2010). Though the oath takes diverse forms all over the world differing in its detail over time from one locale to another, it is an ethical professional behaviour guide for physicians. It underscores the expected orientation of doctors towards their profession, other practitioners, the community and the patient. Though many medical schools administer one or another form of the oath, certainly not all schools do. The oath puts the patient first. The intent is to help sick people and avoid any harm to them. It prioritizes respect for the rights of patients and recognizes the special value of human life. Similarly, patient confidentiality and upholding of internally accepted standards of human rights is a key goal. In addition, respect of superiors in the profession and sharing of knowledge with professional peers is a valued intent (American Heritage New Dictionary, 2005).

Commendable as the intent of the oath might be, a survey of the oaths administered to freshly qualifying medical graduates in Nigerian medical schools in the last decade shows that while they share the universal values enshrined in the oath, they nonetheless appropriate different words to convey the ideals there being no generally accepted universal or standard oath. An important observation on the Oath is that while it emphasizes the priority of the patient and the interest of the profession, it is silent on the working condition of the doctor as care giver. This is a key source of behavioural dilemma for practising doctors. The expectation of doctors while in training is that they will be comfortable in life practicing medicine. Considering the length of training time and the rigour and stringent qualifications for admission, doctors may feel justified or entitled to expect the best working conditions from society. In addition, their service being essential, basic and humanistic, they may be excused for the high expectations of returns in terms of pay and other benefits. The reality is that in the lower rungs of the medical hierarchy conditions fall far short of expectation occasioning frustration, disappointment and feeling of betrayal. Doctors tend to perceive bias, imbalance or injustice in the spirit and letters of the Oath. Some doctors suggest that a complementary consideration of some minimum conditions of medical work and practice should be added as part of the construction of a modern oath so as to

protect doctors and instil a sense of responsibility in those that will employ and deploy medical doctors. This unfortunately is not the case. Some argue that expecting doctors to give their best to patients without volunteering a thought on the work condition of the doctor leaves a gap which is identified as a likely source of the normative contradiction and industrial unrest in the health sector.

Industrial Strike in the Health Sector

Industrial strikes in the sector have mostly staged by state and federal government employees. Although nurses and other organized health professionals embark on strike action from time to time, medical and dental practitioners under the aegis of the NMA and the National Association of Residents Doctors have more frequently engaged in work stoppage than other groups. Since 1973/74 the NMA called nation-wide strike in 1964, 1975, 1978, 1982, 1984 and 1985. Fifteen years from the 1990 to the first half of 2000s was relatively peaceful. The temperament of the NMA leadership, attitude of government and general socio-economic and political condition prevailing in the country are among factors that determine occurrence of strike. Hostilities resumed from about 2007 when the NMA staged a 14-day warning strike from February 26 – March 4 and the main strike from 5 – 10 March. In Lagos State, the strongest state branch of NMA, doctors went on strike four times from 2010 to 2012. The 2012 industrial action lasted one month from May 1st. The state government whimsically sacked the 788 doctors in its employ claiming to have engaged 303 new doctors in their place. The matter was however amicably resolved.

On 18th December, 2013 NMA started a 5 – day warning strike with the threat that if its demands were not met an indefinite strike would follow on January 6, 2014. Though the main strike was averted, a similar scenario to the Lagos State episode of 2012 played out at the national level in 2014. On July 1st 2014, federal government doctors began an indefinite strike which lasted for eight weeks ending on 24th August, 2014. In the heat of the strike the Federal government announced the sacking of 16,000 resident doctors who make up 70% of doctors' workforce in Nigeria. While doctors considered the unpatriotic interpretation of remaining on strike in the face of the outbreak of the Ebola virus disease, doctors called off the strike after government reviewed some allowances and reinstated the residency programme.

It has been a chequered history of work stoppages, industrial instability and unpredictable service environment in the public sector. Besides these recorded strikes some of the state branches of NMA all over the country (e.g. Rivers and Edo states) engaged in strike action at one time or the other in this period to press home their demand for better conditions. Issues in dispute include underfunding of the sector, non-implementation of agreements, low and discriminatory salaries and allowances and general poor working conditions, etc.

Situation Analysis of the Health Sector

The situation of inefficiency in the sector is a contributory factor as well as result of the incessant strike and instability being experienced therein. It is a condition that orchestrates primacy of patients' rights without complementarily emphasizing the necessity of optimal working condition for practitioners. Health sector situation analysis and evaluation is carried out under six sub-titles as follows:

Organizational Structure

Nigerian health care system can be divided into three broad sub-systems: government services, private medical services (both being orthodox) and traditional or alternative medical services. Owing to cash constraints traditional medicine is most affordable, available and accessible to a higher percentage of the population particularly the rural dwellers. Government medical services are structured into primary, secondary and tertiary care provided by the local government councils in Primary Health Centres (PHCs), state governments in general hospitals and the federal government in specialist and teaching hospitals and medical centres respectively. The activities and services of these tiers of government are coordinated, interfaced and regulated by the National Council on Health though substantial autonomy is left for the health care authorities at each level to decide on emergent issues. Patients pay for services except in special programmes such as HIV/AIDS, Tuberculosis, and ad-hoc free medical services by non-governmental organizations. About 90% of HIV / AIDS funds though are sourced from abroad. Only 3.75% of the population is catered for by the National Health Insurance Scheme and this is a key disincentive to assessing orthodox health care. Alternative medicine is bedevilled by discrimination by orthodox practitioners, lack of infusion of modern research, science and new technology, dosage problems, lack of universal standards of knowledge, training, practice and ethnics etc. Orthodox medicine is bedevilled by brain-drain, crisis in remuneration policy as between pay parity or unified scales versus special scales. Disagreement among health sector professionals, frequent work stoppage and preference for off-shore services by government top shots are the other problems. It is estimated that 7,000 Nigerians go to India alone annually for medical treatment. On the whole, about ₦250 billion is spent on medical tourism annually.

Financing

Governments at the three tiers budget for and finance their hospitals and health centres. Resource allocation to the sector is paltry. While the MDG initiative expects governments to spend 15% of their total annual budget on health, in 2013 the sector shared just 6.04% or 279.23bn out of a total budget of 4.94tr Naira.

The health budget is criticized for being tilted in favour of the rich and the elite as close to 70% of the country's health budget is spent on tertiary centres while primary care which caters to the poor, teeming citizens is starved of funds.

Owing to budget shortfall, equipment are absolute, remuneration is poor and services sub-standard in the public health system. Patients shoulder substantial veiled and overt expenses by themselves. Patients pay the total cost of services in private health systems and alternative service outlets which are more or less business enterprises. The frequent strikes in government facilities have pushed up the number of citizens that patronize private and alternative care outlets.

Planning and Regulation

The Federal and State Ministries of Health, the Medical and Dental Council of Nigeria, professional bodies such as the Nigeria Medical Association (NMA), Pharmaceutical Society of Nigeria, the Council and Association of Registered Nurses and Midwives, etc, set ethical standards and regulate patient care, health personnel behaviour and minimum standard of equipment as well as drugs and administration. However, without a national legislative code on

medical practice it is doubtful whether aggrieved patients or their relatives would be able to successfully proceed against erring health personnel that negligently infringe on patients' rights or those that do not exercise due diligence in caring for patients. The rate of hidden doctor error is high and this represents substantial unexplored dimension of denial of patient rights in the country.

Physical and Human Resources

Physical resources in health care comprises hospital buildings, beds, theatre equipment, ambulance services, technical support facilities and consumables, etc. The health care system generally shares the culture of low mechanization of production systems in the Nigerian economy. Budget constraints militate against procurement of adequate and up- to-date equipment in hospitals most of which are imported from overseas. The sample index of physical inadequacy in this sector is the population- hospital bed ratio in the country. It is less than 2 beds per 1000 people (UN,2011).

Human resources comprise health personnel of varied specializations, functions and expertise. They include doctors, nurses, pharmacists, radiographers, physiotherapists, technologists, and public health inspectors, etc. There is gross inadequacy of health care personnel in the country going by their number or quality.

Doctors lead the medical team and their situation constitutes a very vital index of health personnel resources in the country. There are, by NMA estimate in 2013, about 27,000 doctors in the country catering to the 160million people or a doctor-population ratio of nearly 1:6,000. This is ten times higher / worse than the WHO standard of 1:600. Close to 2,300 doctors are produced yearly in the country's 28 medical schools – 23 public and 5 private. To attain the WHO standard, 256,303 more doctors will need to be produced. At the current production rate, it will take 123years to produce enough doctors to attain the WHO benchmark or an additional 2,429 medical schools to bridge the gap instantly. The above statistics assume that all doctors produced in domestic medical schools will be retained within and not be attracted offshore by greener pasture. This is highly improbable. The personnel situations in the other health specializations are not far from the doctors' experience.

Provision of Services

A wide variety of public health services are provided by the system. There is primary, secondary and tertiary care. There is short-term out-patient care, long-term care for malignant and long lasting illnesses. There are pharmaceutical services, physiotherapy, mental health care, maternal and child health services and dental care. There are also optical, ambulance and preventive services. The quality of care obtained depends largely though on the financial capacity of the patient and the status of facility patronized. Poor people generally access lower quality health care.

However, the outbreak of the Ebola Virus disease in 2014 and the decisive way that the hierarchy of health agencies in the three tiers rose to contain it indicates that the potential to deliver quality health care inheres in the system. This brings to the table the question of system reform; reform that might unleash the hidden abilities trapped by poor motivation, inadequate remuneration, disabling structures, organization and management styles.

Health System Reform

Nwabueze (2014) detailed the urgency of the need, the direction as well as the challenges to health system reform in Nigeria. Total and comprehensive transformation of the sector is inevitable. Based on the observed system ineffectiveness and inefficiency, suggestion is made for a shift in public health philosophy and official policy from State charity characterized by state dominance and monopoly of service to enterprise health service framework involving public, private partnership. To change the method of financing patient bill the NHIS needs to be reinvigorated, its universalisation policy pursued decisively while discontinuing elitism and exclusivity in its coverage. Owing to the total rot in the system the reform should be introduced in all the tiers of health service facilities in the country. The need to integrate traditional and alternative health care into the national policy is advocated. The policy should aim to attract doctors into the rural and semi-urban areas of the country in order to stop the disproportional concentration of skilled health personnel in the cities and urban centre.

Approach to the Study

This is a national survey of Federal and state government-employed medical doctors in the country. NMA (2006) estimated the registered doctors in the country by 2005 to be about 25,000. About 11,292 of these were professional fee-paying practitioners. It was estimated that about 7,000 of that number was state-employed. The rest were in private practice. On the proportion employed at Federal or State level, the President of NMA (2004-2006) Prof. Wole Atoyebi estimated it thus: 'may be 50-50 or slightly different, close like a ratio of 52-48'. A total of 303 doctors were sampled in two categories for this study. Doctors were classified into those employed by the Federal or state government. The country was stratified into four health zones and a total of 187 of them were sampled from four Federal tertiary health facilities located in Lagos, Jos, Uyo and Kano representing the South West, North Central, East and North respectively. The number sampled from each institution was weighted to be proportional to the number of doctors employed in each of those facilities. Similarly, the country was stratified into North and South zones and one well-established state government-owned health facility was randomly selected from each zone. Accordingly, 116 doctors were sampled from Lagos (Lagos State University Teaching Hospital, LASUTH) and Makurdi (Benue State University Teaching Hospital, BENSUTH) representing South and North respectively. A pre-tested and pre-validated instrument, Doctors' Alienation and Strike Response Survey Questionnaire (DASRSQ) was administered to elicit responses from doctors on a wide range of questions including the correlates of willingness to strike and related matters. Fieldwork was carried out using multi-stage sampling technique to draw individual respondents from respective institutions. The data collected was processed using the SPSS package to facilitate correlation analysis.

Why Strikes Persist – Research Findings

The survey of the opinion of state sector doctors reveals that the feeling of alienation from their employer, that is, the state among the two categories of employees is a key composite explicator of this behaviour. The analysis was carried out at two levels – all doctors and a comparative analysis of employees of the Federal government and employees of States (or region) governments.

- i) Perception of public health sector working conditions and effect on the behavior of doctors

Up to 70.6% of doctors in state employment view the physical conditions in public hospitals as neither adequate nor satisfactory. This assessment pertains to dilapidated hospital buildings, poor sanitary conditions, unkempt office environment, ill-equipped laboratories, theatres, diagnostic aids, toilets, wheel chairs, etc. About half of all sampled (54%) value autonomy of self control at work. Close to 56% regard their job as secure while 64% complain that their work scheduled gives no allowance for leisure. While 87% rate inter-collegial relationship as 'very cordial', 74% describe their remuneration as 'unsatisfactory'. When all these are summed together 73% of doctors are 'not satisfied' with their work. Other reasons for non-satisfaction relate to their poor quality of life which their income and conditions is able to support. Only 28% of doctors live in 'own houses' while 67% are in rented or official quarters. Although over 80% live in fairly comfortable apartments (flats, bungalows, duplexes, etc.), the fact that they are not owner-occupier diminishes the appeal of the apartments. Close to 60% rate health as a priority sector to government but 90% rate funding of the sector as 'inadequate'. Close to 60% view the funding of the sector as government responsibility and as such over half of the sample thinks that government through subsidized National Health Insurance Scheme (NHIS) should pay the health cost of poorer citizen. Less than 5% are of the view that patients should bear full responsibility for their Medicare bill. Generally, doctors in state employment are less positive about enterprise health care option than private practitioners who live off enterprise health arrangement than social welfare health care. Over 90% rate equipments in public hospitals as 'inadequate' given advances in technology and the level in other countries while 82% disagree that public sector doctors 'are well taken care of'.

Against this unsavoury working environment, doctors understand that they need to support their union for it to be able to advance their cause. Over 80% voluntarily contribute check-off dues and 61% put up regular attendance at the Association's meetings. The NMA doubles as a trade union and as a professional association, sometimes engaging in conflicting functions that get members disagreeing on which direction they should go. Close to 65% describe NMA administration as 'democratic', 66% are willing to occupy executive position while 76% are 'very interested' in the Association election results and who gets to run their affairs. About 72% are willing to support any strike call by the Association because strikes are justified (97%) as legitimate grievance processing mechanism Sixty-seven percent t of doctors disagree with the view that the Association strikes too frequently. Over 90% does not see strike as confrontational to the employer. However, 78% detest violent industrial action, which they describe as counterproductive to the interest of members. In summary, there is tremendous collective consciousness and commitment to the union among doctors. They perceive unionism and strike actions as 'very effective' and 'dependable' means to improved working conditions.

ii) Dimensions of status inconsistency

The notion of status inconsistency or relative deprivation stems from the practice among doctors to compare their pay and other work conditions with other professions within and outside of their country of practice. Three dimensions of this phenomenon were identified as bearing significant relationship to the willingness of doctors to adopt strike as grievance processing mechanism. They are:

a) *Decline of doctors' remuneration relative to other professions*

A significant factor in state-sector doctors' high propensity to strike in Nigeria is a feeling that they are short-changed in the public services. In Annual Report 2004-2005, (NMA, 2006)

doctors adduced statistical facts and figures to support the view that they have, since independence, suffered systematic decline in their salaries relative to other specified professionals in the service. They compared the position of the Medical Consultant/Specialist who was only .09 points of the CJN but higher than the rest in 1975 but which has become worse than all in the year 2003. The relative decline is illustrated in Tables 1 and 2 in Fig. 1

Table 1: Comparison of the Basic Salary per annum of Top Grade officers in Nigeria between 1960 and January 1975

S/N	Title	Salary	Ratio
1.	Chief Justice of Nigeria	£3600	(1.0)
2.	Medical Consultants (Specialists)	£3300	(0.91)
3.	Justices of the Supreme Court	£3000	(0.83)
4.	Head of Service (Federal)	£3000	(0.83)
5.	Permanent secretary (Federal)	£2500	(0.69)

Source: NMA 2004/2005 Annual Report pp.80

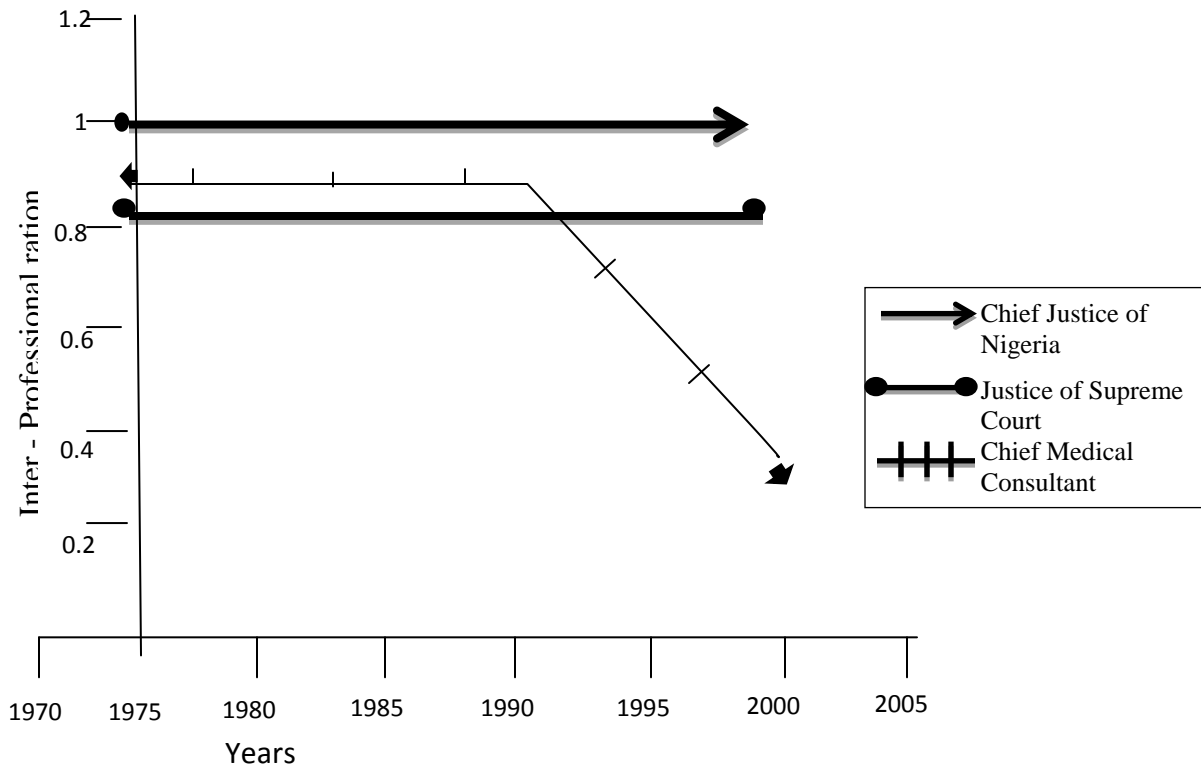
Table 2: Comparison of the Basic Salary per annum of Top cadre officers in Nigeria as at December 2003

S/N	Title	Salary	Ratio
1.	Chief Justice of Nigeria (CJN)	₦1,346,589	(1.0)
2.	Medical Consultants	₦554,648	0.4 (down from 0.91)
3.	Justices of the Supreme Court	₦1,104,200	0.81(down from 0,83)
4.	Head of Service (Federal)	₦1,150,000	0.85(up from 0.83)
5.	Permanent Secretary (Federal)	₦865,200	0.64(down from 0.69)
6.	General or its equivalent in the Armed Forces	₦1,194,600	(0.88)

Source: NMA, Annual Report 2004/2005 pp.80.

By 2003, the CJN earned close to 250% the annual basic salary of the Medical Consultant/Specialist. The NMA considered the length of time spent by doctors in training, the essential character of their functions and are unable to justify the decline which arose rather from political influence and not the contribution of the respective professions to national productivity. They argue that this trend does not end with the Specialist alone but permeates the entire salary structure to the lowest grade doctor. The discontentment is not just about how much they are paid but also its relativity. Thus in the 2007 and 2014 national strike and the 2012 Lagos Medical doctors' strike, wages and salaries remain the key bone of contention. The discrepancy is further illustrated graphically in Fig.1.

Fig 1: Progression of Inter-Professional Wage Ratio of Doctors 1975 – 2003



Source: NMA, Annual Report 2004/2005 pp.81

b) Discrepancy between educational qualification and remuneration

Among the factors explaining the discontentment among doctors with their salary is the length of time they spend in training, the rigor of medical training as well as the high and competitive admission criteria into the course. Most doctors (258 or 87.2%) consider their remuneration inadequate compensation for their intensive training, academic qualification and the professional content of their services. The result of the test of the association between these variables ($X^2=53.304$, $df=6$, $c=0.60$, $p=0.983$) indicates a strong disconnection between the doctors' assessment of their educational qualification and their remuneration which they see as unfair and inequitable. Correlation test result shows a positive association between status inconsistency and the readiness to support strike action.

c) Discrepancy between medical profession and being rich

The survey result shows that 264 (or 88.9%) of sampled doctors felt disappointed that their professional practice did not seem likely to lead to wealth or comfortable life. There is a general feeling among state-sector doctors that a doctor should be comfortable or at least be moderately wealthy out of the practice of the profession because of the important services they render to society. With an association test result of ($X^2=19.761$, $df=9$, $c=0.250$, $p=0.019$), the frustration emanating there from and the idea of working in a 'wrong place' was a strong factor in supporting collective action for higher wages and conditions. Status inconsistency is a social psychological condition that connotes the existence of a gap between expectation and reality. It

illuminates a yearning that employees, in this instance, hunger to fulfil. And as long as that desire is unsatisfied actions intended to redress the imbalance will continue. Doctors feel that they are well educated, that their services are essential and invaluable, that they deserve to be respected, to be comfortable, well remunerated and perhaps stay ahead of the other professions. The deduction from the attitude of the state tends to be that while doctors are accepted as undeniably important, that other health professionals are equally indispensable in the health service chain. The truth though is that the terms and conditions of service of the non-doctor health professionals must also be factored into the process of meeting doctors' demand as they cannot be treated in isolation.

iii) Blocked Ascendancy

Most doctors in the study (286 or 97.0%) out of a sample of 295 perceive themselves as blocked ascendants, that is, as people denied of the right of being promoted when due and earned. The feeling is stronger though among lower grade doctors. The general notion is that bureaucratic bottlenecks have diluted and compromised the professional basis of determining promotability on the job making political and extraneous factors a priority. Looking at their career from historical perspective, most doctors opined that the criteria for promotion of doctors are more stringent today and upward mobility slower at present than it was in the 1960's and 1970s. The result shows a strong, positive association between feeling of blocked upward mobility and the willingness to support strike action. The association test result is $X^2=35.809$, $df=12$, $c=0.000$, $rs=0.248$, $p=0.329$ and significant at $p=0.01$. This is a critical contributory element to the feeling by doctors that they are systematically being estranged from the State's scheme of important professions.

iv) Blockage of the technical interest of doctors

Association between availability of modern equipment and new technological diagnostic and prognostic aids and job satisfaction among doctors was shown to be an important factor in willingness to strike. Doctors define the lack of fundamental tools as a blockage of their professional and technical interest. Some described the mental torture of watching a patient die of an illness for which equipment to aid treatment exist but not locally available. Apart from that, the dearth of modern technology builds up skills obsolescence among doctors in such a situation relative to their counterparts in other parts of the world. Some doctors mentioned this as a strong consideration in the internal brain-drain from public to private practice and emigration to places with better equipment. About 289 (97%) out of 298 doctors associate the poor state of medical equipment in public hospital with the high propensity to strike. The association test result is given as $X^2=15.410$, $df=12$, $c=0.222$, $rs=0.094$, $p=0.105$. The general feeling is that public hospitals in the country are ill-equipped, lacking new supplies and poor maintenance culture reducing the potent applicability of existing ones. Equipment update was identified as a direction that health sector transformation must address in order to sanitize the industry and institutionalize the standards of best global practice.

v) The Professional-Bureaucratic Dilemma

Generally, doctors complain about the frustrating bureaucracy in the health sector criticizing it for having little or, sometimes no respect for the peculiar pressures and demands imposed by the values of the medical profession. Though they generally express satisfaction with the level of freedom exercised in carrying out their official function in hospitals including responsibility for

managing patients and all the members of the health team, they nonetheless are not happy with the slow process of procurement, of securing approvals during emergencies and the snail-speed processes of acceding to salary and wage demands.

The divergence results in strife, unrest and crisis because while bureaucracies emphasize hierarchy, strict compliance with existing rules and procedures or ritualism, centralized power, unified command, productivity and uniform pay structure etc, on one hand, the professions, on the other, emphasize autonomy, independence, expertise, collegiality, differentiated pay structure, creativity, etc (Elliot, 1972). By the operation of these divergent values there is fundamental normative conflict involving professionals employed in bureaucratic structures and organizations. Miller (1976) in a study of industrial scientists and engineers described its effect on professionals as 'work alienation' which results from strict control that discourages motivation of professionals. Hall (1968), Harris-Jenkins (1976) and McKelvey (1969) in separate studies corroborate the finding that professionals in bureaucracies tend to experience conflict of values and develop varieties of coping mechanisms.

DISCUSSION

Social Theory and Alienation strike Persistence

A modified form of the classical Marxist theory of alienation was applied to explain the persistent restiveness among doctors in state employment and inefficiency in public health delivery system. A careful content analysis of literature discourses on alienation including Marx, 1848 (1976), Durkheim (1984), Weber (1958), Blauner (1964), Seeman(1972) and Gouldner (1979) identify conceptual synonyms of alienation to include separation from, estrangement from, indifference to, abandoned by not belonging to, withdrawal from, etc. In the study, Gouldner's dimensions of the concept were tested and it was found that a feeling of relative deprivation, institutionalized status inconsistency, blocked ascendancy, concern for the poor state of public health, bureaucratic- professional dilemma and a deep feeling of job non-satisfaction are correlates of the consistent indication to participate in collecting industrial action. As defined in this study, alienation connotes two related meanings. One is a feeling of (a) loss of belonging to the 'body' of the state, (b) loss of state protection by doctors. The same state is perceived to harbour discriminatory willingness to embrace and protect some selected professions in the service while relegating doctors. These feelings were nurtured by the factors cited above particularly, unsatisfactory terms and conditions of work and relative systematic status devaluation of the medical profession in the hierarchy of the service. The humiliation of mass sack and the suspension of Residency programmes during strike by government lend credence to this feeling. The rivalry between doctors and other health professionals and the ambivalence of government in the background matters contributes to felling of despondency, distrust and hopelessness.

As can be deduced from the attitude of doctors during strikes, they do not demand revolutionary seizure of state power but to remain leaders of the health team. Their limited aim is greater accommodation by state authorities, acceptance and admission back into the state mainstream with restored dignity, commensurate remuneration, due respect and professional recognition; nothing more. The operational dimensions of the traditional Marxist theory of alienation e.g. separation from product, from the labour process, estrangement from self and from others which feature prominently in the explanation of working class alienation and action do not seem to be

significant explicators of alienation or its concomitants among members of the medical profession. Doctors are merely ‘fighting’ their way back to an erstwhile position of dominance, supremacy, and relevance in the ‘body’ of the state. It is a feeling among doctors collectively that their status is systematically being whittled down and the struggle to restore their supremacy in the sector that explains the persistence of strikes in public health facilities. They feel that they do not have what they are legitimately entitled to receive from the government and the ‘subordinate’ health professionals.

CONCLUSION

The preponderance of research evidence indicates that while no doctor likes to go on strike, they nonetheless do if only as a means of sorting out inherent contradiction existing between the ideals of the oath which they swear to during induction into the profession and the unsavoury conditions in which they work. Though strike contradicts primacy of patient care, unsatisfactory income, feeling of frustration, deprivation, lack of employer will to meet employee demands, doctors’ rigidity and inflexibility over iron-cast patterns and established sector cultures and infighting among rival sector professionals contribute to persistence of conflict and system inefficiency. Some doctors sort out the dilemma by quitting public service and travelling abroad while some move to the private hospitals and yet a few leave the profession for politics, business or evangelisation.

Though strikes may result in meeting some demands, maximizing overall system efficiency will require more action than strikes can offer. Strikes will, at best, result in system reform but the rot in the sector is so deep and extensive that only a total transformation such as happened in China and partly in the USA are inevitable. Strikes will not heal the deep wounds in the sector neither can it sort out the inherent contradictions. Nwabueze (2014) criticized system reform while recommending a shift from doctor-centred State benevolent public health care to enterprise public health care. Like the telecommunication sub-sector, enterprise health care will open hospitals to public-private –partnership (PPP) with the private sector dominating through massive ingestion of domestic as well as foreign investment capital, boardroom management style, diverse managerial expertise, system control by owners of enterprise rather than government, that is, a new philosophy of health care administration, management and service delivery.

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Ifo AND EWEKORO LGAS, SOUTHWESTERN, NIGERIA

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ABSTRACT

The complex relationship between housing quality and human health cannot be overemphasized particular in developing countries such as Nigeria where the dimension of environmental degradation and residential squalid condition with associated housing congestion are on the increase. These problems have manifested in various health problems including, tuberculosis-the focus of this study. The study examines the synergism between emerging housing quality and tuberculosis morbidity in six selected rural communities around Ifo town and Ewekoro cement factory in Ifo and Ewekoro Local Government Areas (LGAs) respectively. Medical information/data used in this study was collected from Ewekoro Public Health Center at Obada – Oko and employed to show tuberculosis morbidity cases. The study also administered pre-tested and structured questionnaire to randomly selected residents of the six selected rural communities in the study area. The findings show that communities with high tuberculosis are Olomu and Arigbajo while the cases at Pakoto and Olapeleke are noted to be moderate compare to cases recorded at Seriki and Ago-Owu which was quite low. About 72.1% of the tuberculosis patients were below 46years. The results revealed that age groups of 20-29years and 30-39years which accounted for almost 64% appeared to suffer more from the scourge of the tuberculosis infection. The regression co-efficient revealed a significant (0.958) relationship between the tuberculosis cases and housing quality at 0.009 probability level. Finally, the study concludes that the concern for tuberculosis control should be more focused on improved housing quality rather than present chemotherapy strategies.

Keywords: Tuberculosis, Housing quality, Rural communities, Southwestern Nigeria

INTRODUCTION

Globally, respiratory diseases are growing at an alarming rate and the spread has been proved to be a function of environmental condition (Hufnagel et al., 2004; Alirol et al., 2011). Diseases have always been significantly view to be environmental determinants and as a result respiratory diseases are outstandingly related to living conditions in the environment. Tuberculosis (Tb) is a disease caused by Mycobacterium tuberculosis that can attack any part of body but the lungs are usually the most affected. TB disease commonly spreads through the air from an effected person to other people (Youmans and Paul, 1980). The scourge of TB is quite worrisome in developing world as the observed and reported cases is on the increase compared to what was reported developed world cases; where the societies have the capacity to grapple its resurgence (Lerner, 2000; Wandwalo and Mørkve, 2000; Motowo et al., 2012),. For instance, the annual reported cases of tuberculosis in were is about 10 per 100, 000 cases in the United State (Adam, 2005) where as it is about 616 per 100,000 with detection rate was put at 20% in Nigeria (WHO 2008). As reported by Adam (2005) the cases varied from one region to another and from one

residential area to another. Tuberculosis is more prevalence in urban area due to poor housing, than the rural areas (Yanagawa, Shigematsu and Fakutomi (1974). Significant disparity also exist within urban centre's particularly where housing quality is characterized with damp, dirty, camped and crowded condition that may predisposed residents to TB Infection (Iyun, 1984; Oguntoke, 1994). According to Adam (2005), high incidence of tuberculosis tends to occur among population living in the poorest areas where homelessness and congestion predominant. Tuberculosis, the little knowledge of tuberculosis pathogenesis and protection makes it remains the leading cause of death in the world as almost 3.5 million new cases of infectious tuberculosis each year (Rieder, (1999). from a single infectious disease. This is attributable to changes in the social structure in cities, the human immunodeficiency virus epidemic, and failure in certain major to improve public treatment programs in rural-urban areas.

Reported cases of tuberculosis was about 19,626 and 24,558 in 1991 and 1997 respectively (FMH/FOS, 2001), and presently, there is high synergy between HIV infection and tuberculosis which is now the global concern. Considering the high level of HIV infection in the Africa continent, the implication is very pathetic and the tuberculosis burden is further compounded as the number of people infected with both HIV and tuberculosis is rising (AIDS Action, 1996). According Strachan (2002), children living in damp and mould houses are at higher risk of having wheezing and chest problems compared to those living in dry dwellings. Some factors which include air quality and distance from local facilities; degree of community interaction and cohesion, community safety and the visual appearance of a neighborhood can also affect health and wellbeing, and therefore increase the chances of tuberculosis infection (Marsh *et.al.*1999).

Improved housing environment even without high income can reduce inequality and provide social opportunities needed to make a better life and infectious diseases free environment (Veronica, 2001). It is not ironical that crowded and cramped housing conditions facilitate the spread of air-borne infections and diseases such as measles, tuberculosis and asthma (WHO, 2005). The rapid transmission in overcrowded houses is enhanced by the frequent interactions between healthy persons and infected individuals. Consequently, there is a need to determine the risk factor responsible for ill health through poor amenities, shared facilities, overcrowding, and inadequate energy for residents use. In Ifo LGA, communities' housing generally lack the basic amenities and therefore residents are at high risk. Therefore, for improved housing quality as a preventive and control measure rather than chemotherapy, this study examines housing quality with the incidence and prevalence of tuberculosis in six selected communities - Seriki, Arigbajo, Olomu, Pakoto, Ago-Owu and Olapeleke in tuberculosis risk area of Ifo LGA.

THE STUDY AREA

The study area is located with Ifo and Ewekoro Local Government Areas (LGAs) in of Ogun state. The area lies between lat 6°40'N & 7°01'N, and long 3°04'E & 3.25'E (Fig. 1). It's bounded by Egbado South & Egbado North LGAs in the West, Abeokuta North LGA in the North, in the East by Obafemi-Owode LGA, and by Ado-Odo\Ota LGA and Lagos State (Kosofe & Ifako-Ijaiye LGAs) in the South. It covers an area of about 82,000 sq km and the terrain is generally flat with few hills and bodies of water in few places e.g. Ogun River flowing through Isheri Olofin.

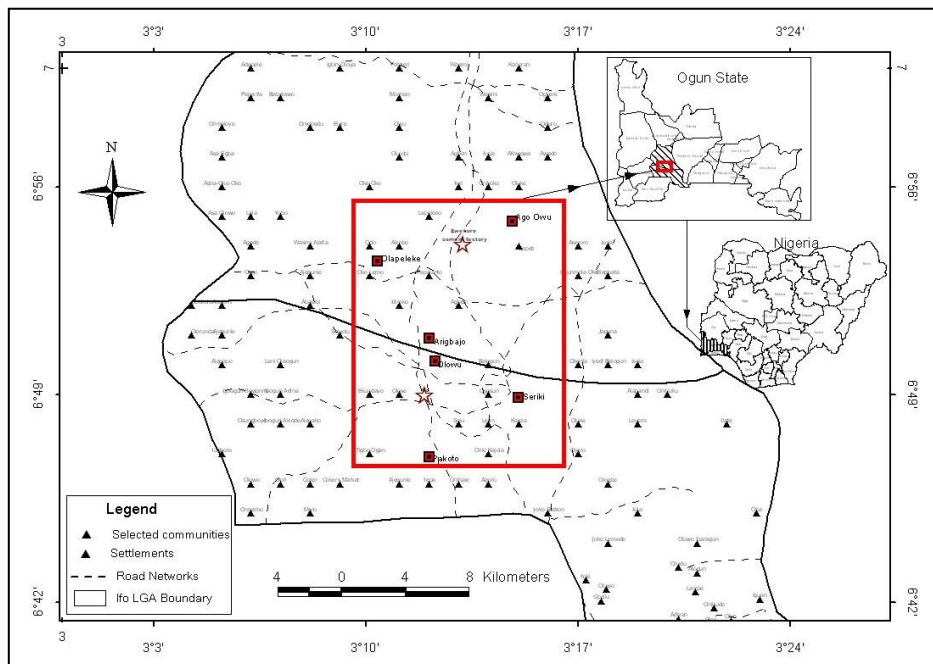


Fig. 1: Ifo LGA

Traditionally, the people in area are predominantly farmers, trader and general businesspeople but recently the area is witnessing industrial development. The main cash and food crops abundantly grown in the area are kolanut, palm kernel, sugar cane, rice (Ofada), cassava, yam, maize, plantain, vegetables and fruits. As a result of cement factory located in the area, most of the communities consequently suffer ill-health at an alarming rate. Many of these communities are living in poverty. With substantial influx in the population of the area from the city of Lagos, there has not been increase in the number of houses for human habitation in the rural area.

METHODS

Data Collection

Data were collected from the nearest Public Health Centre at Obada-Okò in Ewekoro LGA, Ogun State. Specific information was retrieved from records of tuberculosis patients from selected communities who attended the Health center between 2001 and 2006. The information includes age of patients, sex and residential addresses. Data generated from Health Center were aggregated (after excluding incomplete records) to depict the pattern of tuberculosis morbidity for the selected communities. Three areas were randomly selected from selected communities with high morbidity and three from communities with low morbidity for subsequent households' survey in the study areas. This exercise was followed by questionnaire (pre-tested and well-structured) administration to the randomly selected residents from the selected six (6) communities. A questionnaire was administered to each selected household 'Questions were asked in order to elicit information on the socio- demographic characteristics of the respondents, housing quality, status of respondents' health and health care practices. Moreover, personal observation was employed to assess the physical condition of respondents' houses (for example

crack on the walls, type of floor, wall and roof materials and the immediate environment of each respondent).

Descriptive statistics such as frequency and cross tabulation were employed to summarize the information recorded on the questionnaire. Moreover, correlation analysis was used to examine the relationship between pattern of tuberculosis morbidity and the various explanatory variables. Regression analysis was used to identify the variables that explain the spatial variation in tuberculosis morbidity in the selected villages.

RESULTS AND DISCUSSIONS

Age is an important demographic characteristic of tuberculosis patients that was well documented. Table 1 revealed that patients below 10 years accounted for 0.7 % followed by 10 – 19 years for (8.1%) while 20 – 29 years accounted for 39 %. Patients aged 30 – 39 years accounted for 25 %, 40 –49 years accounted for 13.5 %; while 50 years and above constituted 13.7 % of the patients

Table 1: Demographic Characteristics of the Respondent

Age group (Years)	Below 10	10 -19	20 - 29	30-39	40-49	50 -59	Above 60	Total
Number of Cases	6	73	352	226	122	58	66	903
%	0.7	8.1	39.0	25.0	13.5	6.4	7.3	100

There is an indication that the active age group (20-49years) carries the heaviest burden of 77.5% tuberculosis infections in the area. Earlier studies supported this age differential claiming that the higher infection among this age group can be attributed to higher frequency of mobility of the people in this age bracket perhaps due to interaction at work place (Iyun, 1984; Richter, 1991).The general pattern of tuberculosis morbidity appears to be influenced by the rural structure found in area. Coincidentally, majority of residents in the area have low income - less than N15,000 (Table 2) and live on poor diet which lead to weak immune body system and as well specialized in self-treatment and patronizes traditional medical practitioners

Table 2: Average Monthly Income of the Respondent

Average monthly income (N)	Below 3,000	3,001- 9,000	9,001- 15,000	15,001- 21,000	Above 21,000	Total
Number of Cases	77	71	14	8	10	180
%	42.8	39.4	7.7	4.5	5.6	100

Some that treated their ailment in the hospitals often abscond without completing the standard treatment and in most cases suffer a relapse, becoming complicated and as a result remains drug resistant tuberculosis treatment (WHO, 2005).

Sex characteristics of the patients shown that male accounted for 51.8% and female with 48.2% respectively (Table 3). In other words, Tuberculosis infections appear to be gender selectivity in in the area. These observations agree with the findings of Yanagawa et al, (1974), Iyun (1984) and Oguntoke (1994).

Table 3: Sex characteristics of Tuberculosis patients (2001-2006)

Sex	Male	Female	Total
Number of cases	468	435	903
%	51.8	48.2	100

About 27.2% and 7.2 % of tuberculosis patients have secondary and post secondary education respectively (Table 4). The larger proportion of the patients (42.8 %) were earning below N3, 000 per month monthly earning ranges between of the patients earn which represent the actual earning of a typical rural center in Nigeria. The low income status of tuberculosis patients become clearer, as less than 5.6 percent of the patients earns above N21, 000 monthly.

Table 4: Educational characteristics of the respondents

Level of Education	Number of cases	%
No formal Education	81	45.0
Primary Education	37	29.6
Secondary Education	49	27.2
Post Secondary	13	7.2
Total	180	100

HOUSING QUALITY AND SPATIAL DISTRIBUTION OF TUBERCULOSIS CASES

Table 5 depicted structural conditions, facility status and congestion level of the house in the selected communities. It is noteworthy that most of the houses in the communities are very based on the housing quality indices. Almost 82.39 % of the communities in in the study area (Olowu, Arigbajo, Seriki and Pakoto in particular) are built with mud, 59.20 % were without toilet, 40.80 % with pit toilet, 78.8 % are dilapidated building and 67.5 % were overcrowded.

Table 5: Housing Quality in the selected Villages

Villages Name	Olowu	Seriki	Pakoto	Lapeleke	Ago – Owu	Arigbajo
% Number of Traditional houses	13.37	0.1243	11.48	10.54	0.0959	0.0864
% Mud wall	0.1917	0.1988	0.206	0.2131	0.2202	0.2274
% Uncemented floor	0.2095	0.2217	0.2339	24.62	0.2584	0.27
% Using Pit toilet	0.054	0.00	18.40	5.40	0.338	0.17
% Living in Overcrowding home	18.30	0.2	0.175	0.217	0.108	0.117
% Living in Dilapidated building	42.30	0.212	0.115	11.50	9.60	0.038
% Number of Tuberculosis cases	0.23	0.07	0.17	0.14	0.02	0.21

The distribution of tuberculosis cases revealed a marked difference in the morbidity pattern among the selected communities. Communities such as Olowu, Pakoto, Lapeleke, and Arigbajo

are identified as (greater than 10 %) high cases of tuberculosis. On the other hand, low number of cases (below 7 %) is reported in Ago – Owu, and Seriki.

CORRELATION ANALYSIS BETWEEN TB CASES AND SELECTED VARIABLES

The result of the correlation analysis in table 6 depicted a positive relationship between number of tuberculosis cases and percentages of patients living in dilapidated building, using herbal treatment and using self-medication for treatment.

Table 6: Summary of correlation analysis

Variables	Correlation	Significant Level
TB cases versus % using Secondary education	- 0.152	0.774
TB cases versus % Earning below 3000	0.055	0.931
TB cases versus % Traditional houses	0.226	0.669
TB cases versus % Mud Wall	0.467	0.35
TB cases versus % Using Uncemented Floor	0.702	0.893
TB cases versus % Using Pit Toilet	0.139	0.669
TB cases versus % with more than 2 people in a room	0.176	0.739
TB cases versus % living in Damp Home	- 0.114	0.83
TB cases versus % living in perceived Overcrowding	-0.637	0.174
TB cases versus % living in Dilapidated Building	0.515*	0.589
TB cases versus % Using Herbal Treatment ailment	0.655*	0.158
TB cases versus % Using Self Medication Ailment	0.841*	0.036
TB cases versus % Using TB Suffered	0.184	0.728

SUMMARY OF REGRESSION ANALYSIS IF TB CASES ON SELECTED VARIABLES

The regression model employed to analyze the pattern of tuberculosis variables explained a coefficient of 0.958. The result is significant at 0.009 probability level (Table 7). The stepwise regression model shown that percentage of patients using Self-medication and people living in dilapidated building accounted for 70.7% and 25.1% respectively at 0.036 significant level.

Table 7: Summary of Regression Model

Model	Variable	R	R Square	F Value	Significance Level
1.	Percentage Using Self-Medication For Ailment	0.814	0.707	0.9665	0.036
2.	Percentage Using Self Medication For Ailment and Percentage living in Dilapidated Building.	0.979	0.958	0.3395	0.009

The worked forces in Nigerian and in majority of the world are in their early to late 20. From the

demographic respondent statistics; the scourge of tuberculosis is within the age groups of 20-29 years and 30-39 years with 51.8% being mal. This is against the back drop that the effective treatment of the disease provided by the recently introduced (Directly Observed Treatment Short Course) DOTS programme span 6 to 8 months. This period of treatment automatically translates to labor or man- hour lose coupled with financial expense incur during treatments. Hence, these can lead to reduction in the worked force as well as impact the productivity of the Nigerian negatively; especially within the study area.

The regression analysis of the pattern of reported tuberculosis cases and housing quality showed a regression co-efficient of 0.958 which is significant at 0.009 levels while the percentage of tuberculosis using self medication for aliment is showed regression co-efficient of 0.036 significant levels. the regression co-efficient shown between the percentage of patient using self-medication and people living in dilapidated houses coupled with the patronage of unorthodox medical services has result in the high Tuberculosis morbidity observed in the area. Therefore, majority of people suffering from tuberculosis within the study area uses self medication. These observations agree with the findings of World Health Organizations survey 1999-2004.

CONCLUSION

Good quality housing is a key element for ensuring a healthy community. Poor housing can lead to many health problems, and is associated with infectious diseases (such as tuberculosis), stress and depression. Therefore, everyone deserves to have access to good quality housing and a pleasant home environment that makes them happy and content. With the heightened recognition of the relationship between housing quality and human health especially respiratory diseases, the specific synergism between housing quality and tuberculosis morbidity is pertinent. Hence, tuberculosis is a multi-factorial disorder, in which environment interacts with host-related factors. This study provided useful information for the assessment of host and environmental factors of tuberculosis for the improvement of tuberculosis control.

This implies that the housing quality improvement must be an important component of tuberculosis intervention program in this part of the world. Hence, the present strategies that emphases solely drug application leave much to be desired; rather integrated approach which incorporates housing development, residential renovation, environmental awareness and education on the preventive measure, encouragement of orthodox used of drug and completion of standard treatment regimens and settlement planning would be a better option for effective tuberculosis control.

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MICRO HEALTH INSURANCE AS A STRATEGY FOR IMPROVING THE LIVING CONDITION OF THE POOR IN NIGERIA: A CASE FOR LAGOS STATE.

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ABSTRACT

The challenge of poverty pervades all economies of the world, though at varying degrees. The challenge is however more serious for a developing economy like Nigeria with her huge population currently estimated at over 170 million. To overcome this challenge and achieve some of the millennium development goals (MDGs), various options must be evaluated looked into. This study therefore evaluates the potentials of micro health insurance in solving the poverty challenge in Nigeria. The study argued that poor health status of individuals limit their production capacity and hence may force them to sell their valuables in order to meet health care and other basic household needs. Using a survey research design, data were gathered from 150 randomly selected low income earners in Lagos State, Nigeria through structured questionnaires administered by the researchers. The collected data was subjected to descriptive statistics, reliability test, ANOVA, correlation, and regression analysis to determine the relationship between the dependent and independent variables, and the explanatory power of the independent variables on the dependant variable. The results suggest that micro health insurance can be used as a strategy for improving the living condition of the poor through the elimination of catastrophic health expenditures that could otherwise crippled their earning capacity. Based on the result, it was recommended that various enlightenment programs should be employed by stakeholders in the insurance industry to popularize the benefits of micro health insurance among low income earners.

Keywords: Micro health insurance, Poverty, Low income earners, Food sufficiency.

INTRODUCTION

Poverty is a key challenge confronting the underdeveloped economies of the world. In Nigeria, an estimated population of 112,470 million out of the estimated 163 million people in 2010 lives in relative poverty (National Bureau of Statistics, NBS, 2011). These represent about 69% of the population. The statistics further reveals a yearly growth in the population of the poor people in Nigeria between 1980 and 2010. This is evidently shown in table 1.

Available evidence also indicates that majority of low income earners reside in the rural areas (Dercon, Bold, and Calvo, 2009). These categories of persons are subjected to many risks and are susceptible to economic instability (Mukhtar, 2013). Previous studies identify various risks that mostly hinder the survival of the poor (Dercon, Bold, and Calvo, 2009; Allianz Group, 2010; Mohammed and Mukhtar, 2012; Mukhtar, 2013). These risks include but are not limited to theft, fire, flood, drought, recession, terrorism, diseases, disability, unemployment and death.

The management of these risks tends to aggravate the challenges of the low income earners who aside from being poor do not have access to the state – provided social security (Dercon, 2009). Among the various risk management techniques that can be used to achieve effective risk control, the poor populace only embrace three as coping strategies. These are diversification,

mutual support networks and savings (Dercon, Bold, and Calvo, 2009). The other techniques seem to be beyond the reach of the poor as a result of the huge financial and technical requirements.

Insurance is a risk management strategy aims at spreading and sharing risks. According to Mohammed and Mukhtar (2012) insurance is an effective tool for the control of risks. Nevertheless, it is only affordable to the rich (Clarke and Dercon, 2009; Dercon, 2009). This infer that insurance might not be the best tool for the management of risks particularly in the context of poverty and considering that certain risks are excluded from the purview of insurance. This notwithstanding, recent studies have shown that insurance could play significant role in alleviating the suffering of the poor if made accessible and affordable to them that is, in the form of microinsurance (Dercon, Bold, and Calvo, 2009; Mohammed and Mukhtar, 2012; Mukhtar, 2013).

Evidence from developed economies has also confirmed that micro insurance is a prolific tool for poverty reduction (Gooch, 2005; Dercon, Bold, and Calvo, 2009; Singh and Gangal, 2011; Parvathi, 2012). This notwithstanding, the level of penetration remains very low. According to Parvathi (2012) approximately three percent of the total population of low income earners in the world's 100 poorest countries enjoys microinsurance protection. This leaves about two billion persons unprotected. Also, Srijanani (2013) argued that out of the estimated four billion people worldwide spending less than 2 dollars per day, only about 10 million could afford one form of modern insurance protection or the other.

In Nigeria, the industry's regulator, National Insurance Commission (NAICOM) attests to the capacity of microinsurance to alleviate the poverty of Nigerians if embraced (Naeche, 2012). The commission subsequently anticipates a huge market for microinsurance in Nigeria. As reported by Eshieton (2013) there are about 112 million prospective microinsurance customers in Nigeria.

This study is aimed at addressing the first of the Millennium Development Goals (MDGs) which is to reduce by half, the population of poor and hungry people by 2015 (Rom, Rahman, and Hassan, 2012). In view of this, the present study shall investigate the potentials of micro health insurance in alleviating the sufferings of the poor in Nigeria. It will also assess the level of microinsurance awareness among low income earners. The study aims at making recommendations that will be useful for policy making in the economy. In order to achieve these objectives, the study hypothesizes that micro health insurance does not significantly aid income stability among low income earners, and that micro health insurance does not significantly contribute to the sustenance of food sufficiency among the poor.

LITERATURE REVIEW

Microinsurance does not have a globally accepted definition (McCord, Steinmann, and Ingram, 2012). It is generally seen as a tool of protecting the low income earners from the financial burden likely to be created by conditions characterized by uncertainty. Aseffa (2010) viewed it as a type of insurance produced for people earning as low as 2 US dollars per day. According to Young (2006) it as an aspect of microfinance responsible for delivering insurance services to the low income earners. In the opinion of Churchill (2006) cited by Acha and Ukpong (2012) the capacity of the insurer (could be informal groups or large companies), the scope of the risk (since the risk is not 'micro' to the person facing it), and the delivery model (it could be through

community- based schemes, cooperative societies, or micro finance institutions) have nothing to do with the concept of microinsurance.

Historically, the mechanism of microinsurance forms the basis for the operation of conventional insurance. Churchill (2010) capture this in his submission that insurance in the 17 and 18 centuries began as mutual protection schemes for low income earners but today, it has become a sophisticated tool reserved for complex risks and wealthier persons. As a result, more than half of the world's population is susceptible to risks of various kinds. Aseffa (2010) reports that about 70% of the potential microinsurance customers in Africa remain uncovered. This according to Rom, Rahman, and Hassan (2012) is due to the inability of the low income earners to pay.

However, Matul (2005) cited by Rom, Rahman, and Hassan (2012) identify some factors that could influence the decision of the poor to demand microinsurance. Among these factors are: extent to which the needs for insurance are felt, ability to pay, decision making process within the household, awareness level, past experience and perception towards insurance, and level of trust in insurers. In a related study, Akotey, Osei, and Gemegah (2011) adopt the probit model to investigate the factors that influence the demand for microinsurance in Ghana. The study revealed that premium flexibility, income level, and nodal agency are the three main determinants of the demand for microinsurance. Insurance education, trust, and marital status are other factors that could affect the demand for microinsurance according to the study. The study however did not identify a direct link between formal education and the demand for microinsurance.

Mohammed and Mukhtar (2012) evaluate the prospects of microinsurance in the rural areas of Nigeria with the use of logit regression. The study revealed that the level of income of rural dwellers, type of assets owned, and their literacy level are the three major factors that could influence microinsurance acceptance among the rural poor. The study further established a direct relationship between the availability of infrastructures and microinsurance embracement. Ebitu, Ibok, and Mbum (2012) corroborate the findings of earlier studies by identifying sincerity of insurers when claim arises, insurance knowledge and awareness generally among potential insureds, degree of professionalism exhibited by insurance marketers and technicalities involve in policy documentation as the factors that affect insurance consumption among residents of Akwa Ibom state in Nigeria. These factors therefore constitute the major obstacles to the acceptance and utilization of microinsurance facilities among the poor. Despite the outcome of these studies, Akotey, Osei, and Gemegah (2011) report that microinsurance is gaining popularity among the low income earners of Ghana in particular and among the developing countries generally.

Poverty is usually measured by level of income. Oriola (2009) notes that persons whose income falls below an amount required to provide life's necessities within a defined period are poor. Recent studies agreed on spending less than two dollars per day as the yardstick for measuring poverty level (Allianz Group, 2010; Aseffa, 2010; Lagarde, 2013). However Oriola (2009) further opines that the benchmark for measuring poverty surpasses income. The others include health, food sufficiency, literacy, and access to other basic infrastructures. Mohammed and Mukhtar (2012) refer to a study conducted by Moller (2004) on quality of life in developing countries and report that income and social security (ability to provide for family, insurance against illness/death and income in old age) are key indicators of quality of life.

Jegede, Kehinde, and Akinlabi (2011) investigate the impact of microfinance on poverty alleviation in Nigeria and discovered the existence of a wide gap in terms of economic capacity and income generation, between entrepreneurs who utilize microcredit and those who do not obtain credit facilities from microfinance banks. However, Rom, Rahman, and Hassan (2012) find that 80% of low income earners in Malaysia could not afford insurance premium and hence, are not insured despite their willingness to participate in insurance programme. In addition, the study revealed that most people from rural areas could conveniently part with approximately 10.5% of their income to enjoy certain benefits including health, death, and savings.

Like regular insurance, microinsurance offers a wide range of products. Among the various microinsurance products designed to cater for the risk management needs of the poor, micro health insurance seems to be the most sought after. This is because low income earners generally accord the highest priority to their health. Jutting (2004) posits that health related risks pose the greatest challenge to the lives and livelihood of the poor. The author established a link between health condition and earning capability of the poor. Churchill (2010) corroborates this submission with a World Health Organisation (WHO) report that about 100 million people yearly fall into poverty as a result of excessive cost of health care. In a related but rather recent study, Parvathi (2012) reports that 25% of persons hospitalized in India become poorer as a result of their stay in the hospital. The study further reveals that 40% of these hospitalized persons depend on their assets or credit facilities to settle hospital bills.

The outcome of these studies place micro health insurance at the fore among different microinsurance products available to the poor. Acha and Ukpong (2012) cite the report of a survey carried out among the low income earners in two most populated states in Nigeria by the Centre for Microenterprise Development (2010) which indicates that 73.2% and 69.6% of the total respondents in Lagos and Kano states respectively preferred health among four insurance products included in the study. In support of this assertion, Allianz Group (2010) in a report submits that there is a mismatch between the demand and supply of microinsurance. As shown in figure 1 and 2 below, while low income earners place priority on health related risk, microinsurance providers find it more convenient to supply more life coverage.

Furthermore, as part of their efforts to alleviate the sufferings of their citizens, and a drastic move towards the achievement of the millennium development goals, countries of the world have shifted attention to adequate health care provision for their populace (Hassan, Jimenez, and Montoya, 2007). The study further reports that in some developing countries (like Colombia, Philippines, and Vietnam), health insurance schemes wholly financed by the government are established to cater for the health needs of poor. In contrast, countries like China and Mexico encourage their citizens to embrace subsidized public health insurance program.

These governmental efforts seem to be yielding positive result in Colombia. In a recent study carried out to investigate impact of health insurance on the demand for HIV test in antenatal care among the poor in Colombia, Ettenger, Barnighausen, and Castro (2013) show that participating in the subsidized health insurance scheme results to a reduction in HIV test during antenatal care in Colombia. This implies that women who are not enrolled in the subsidized scheme will be compelled to undergo HIV test during antenatal care. In another study, Hassan, Jimenez, and Montoya (2007) examine the impact of subsidized health insurance on the poor in Colombia using endogenous dummy models and propensity score matching. The study revealed no difference in embracing the subsidized health program between covered and uncovered persons.

However there is high tendency that individuals with self perceived poor health condition will utilize the program more. This is due to the existence of high degree of moral hazard and self selection in health care utilization among individuals in Colombia.

In a study conducted in the rural area of Kenya to investigate the impact of community – based health insurance on poor people’s access to health care, Jutting (2004) establishes that participants in the community – based health insurance are better-off than non participants. The study further shows that community – based health insurance prevents further impoverishment of the poor by eliminating catastrophic health expenditures. In a similar study carried out in Sudan, Mohamed and Osman (2011) observe that there is an increased awareness of health insurance system among the poor. This is as a result of the availability of adequate health centers in various localities. In another study by Asfaw and Jutting (2007) to find out the role of health insurance in poverty reduction among the poor in Senegal, it was revealed that though health insurance brings about reduced health expenditure, majority of the poor who resides in rural areas could not assess any health insurance plan.

METHOD

The study was carried out in Lagos state, the commercial hub and arguably the most populated state of Nigeria. The state is occupied by persons of all economic classes. The study was directed at low income earners across the formal and informal sectors of the economy. Majority of these persons earn between N10,000 and N50,000 per month. The study sample was selected from among subsistence farmers, commercial bus drivers, artisans, shop attendants, vendors, clerical staffs, personnel of private security outfits, cleaners, among others. Previous researches suggest that individuals living on an amount below two dollars per day fall below the poverty line and are as such poor (Allianz Group, 2010; Aseffa, 2010; Lagarde, 2013). This form the basis for selecting the sample.

Data were gathered through structured questionnaires design by the researchers and divided into four sections. The questionnaires were personally administered by the researchers with support of two trained assistants. A total of 150 copies of the questionnaires were administered, out of which 133 were retrieved and found useful. The researchers confronted the challenge of translating the questionnaires to local languages while gathering data for the study. This was easily overcome since the researchers were very familiar with the study area and they could understand fluently the dominant language in the area. The linear multiple regression models developed for this study is mathematically expressed as follows:

$$\text{Level}_y = \infty_0 + \infty_1 \text{MHI} + e$$

Level_y = Level of income of the respondents (poverty level).

MHI = Micro health insurance for the respondents.

These data were analysed using descriptive statistics, spearman rank and Kendall’s tau correlations, coefficient of determination (R^2), and ANOVA (F). These are in addition to linear regression and ordinary least square regression techniques. The descriptive analysis was used to describe the Socio-Demographics and Economic Characteristics of the respondents. Analysis of variance, test of correlation, and the regression analysis were used in establishing a relationship between the dependent and independent variables.

RESULT AND DISCUSSION

The data generated for this study were analysed and the hypotheses tested using statistical techniques of ANOVA, ordinary least square regression and test of correlation available on the software of Statistical Package for Social Sciences (SPSS, version 17). Two hypotheses were raised for this study and tested at 0.05 significant levels.

Hypothesis One: Micro Health Insurance does not significantly aid income stability among low income earners in Nigeria.

This section presents the test of the first hypothesis formulated for this study. The test is conducted with correlation statistics which indicates whether there is a significant relationship between Micro Health Insurance and income stability among low income earners in Nigeria. The spearman rank and Kendall's tau correlations coefficient is 0.900(*) and 0.850(**) respectively while the p value is 0.000. The H_0 that micro health insurance does not significantly aid income stability among low income earners is rejected since p value (0.000) is less than 0.05. This is affirmed by the result which was flagged with one and two asterisks showing that there is a significant relationship between micro health insurance and low income earners.

The hypothesis was further subjected to another test of F —statistics (value). These yielded the F^{val} of 483.754 and F^{tab} of 3.91 which is significant at $p < 0.05$ level of significance ($F^{val} = 483.754, p < 0.05$). However, from the statistical analysis the F^{val} is greater than the F^{tab} which means that the null hypothesis (H_0) is rejected and alternative hypothesis (H_1) is accepted. This implies that there is a significant relationship between the two variables.

This result supports the outcome of a study conducted by Jutting (2004) which established that persons who patronize community – based health insurance are better-off than non participants because insurance prevents further impoverishment of the poor by eliminating catastrophic health expenditures. The author further reports that the poor prefer the prepaid health care delivery to the pay-as-you-go type. In another study by Asfaw and Jutting (2007) it was revealed that health insurance brings about reduction in health expenditure, thereby granting health care access to the poor whenever necessary. Also, in relation to a World Health Organisation (WHO) report (Churchill, 2010), this present study shows an inverse relationship between the embracement of micro health insurance and the number of people who become poorer as a result of severe cost of health care.

Hypothesis Two: Micro health insurance does not significantly contribute to the sustenance of food sufficiency among the poor.

This section presents the test of the second hypothesis formulated for this study. The test is conducted with correlation statistics which indicates whether there is a significant relationship between Micro Health Insurance and sustenance of food sufficiency among the poor. The spearman rank and Kendall's tau correlations coefficient is 0.938(*) and 0.919(**) respectively while the p value is 0.000. The H_0 that micro health insurance does not significantly contribute to the sustenance of food sufficiency among the poor is rejected since p value (0.000) is less than 0.05. This is confirmed by the result which was flagged with one and two asterisks showing that there is significant relationship between micro health insurance and sustenance of food sufficiency among the poor.

The hypothesis was further subjected to another test of F —statistics (value) .These yielded the F^{val} of 1115.78 and F^{tab} of 3.91 which is significant at $p<0.05$ level of significance ($F^{val} = 1115.78, p<0.05$). However, from the statistical analysis the F^{val} is greater than the F^{tab} which means that the null hypothesis (H_0) is rejected and alternative hypothesis (H_1) is accepted. This implies that there is a significant relationship between the two variables.

The **model** obtained from the result of the analysis represents a simple regression model which relates the dependent variable (**Level of income stability of the respondents (poverty level)**) to the independent variable (**Micro Health Insurance**) and it is represented below as:

$$* \text{Level}_y = 2.021 + \alpha_1 0.628 + e$$

Where;

$\text{Level}_y =$ Level of income stability of the respondents (poverty level).

The regression model above shows the relationship between income stability and micro health insurance. The coefficient of the variable in the estimate is positively related to the level of income stability of the respondents with its constant term.

In assessing the coefficient of the independent variable from the regression model, the result is positive; this indicates that there is a positive relationship between level of income stability of the respondents and the embracement of micro health insurance. This means that the more the embracement of micro health insurance, the higher the income stability level of the respondents. The slope value of .628 means that for a unit change in micro health insurance, the probability of having improved on living condition of the poor increases by 62.8 percent.

The co-efficient of determination (R^2) shows that the regression equation does give a good fit to the observed data since it is able to explain only 58.4 % of total variation in the income level.

The F^* - statistics 183.623 when compared with the sig. F^* change value of 0.000 shows that the model is significant, it further justifies that the explanatory variable; micro health insurance is able to justify the trend in income stability level of the respondents.

When subjected to further test t- ratio, the result, further confirm that both the constant and the explanatory variable coefficient are significant at 5% level of significance. This further justify that the model is unbiased and could predict the influence of MHI on income stability level of the respondents which is a proxy for poverty level.

CONCLUSION AND RECOMMENDATION

The findings of this study seems to address the first of the Millennium Development Goals (MDGs) which is to reduce the population of poor and hungry people by half in 2015. Microinsurance is insurance made affordable to the low income earners in order for them to also enjoy the basic benefits of insurance. Health is an important criterion for measuring poverty. Hence the saying “health is wealth”. Only healthy individuals would work and earn income to sustain their living conditions and meet life’s basic needs. The outcome of this study has shown that with micro health insurance, the income of the poor will be stabilized. Micro health insurance has the potential of preventing the poor from fallen deeper into the poverty trap. This is because micro health insurance will eliminate or reduce health expenditure thereby making health care accessible to the poor. In addition, the study reveals that micro health insurance contributes to the sustainance of food sufficiency among low income earners. It is logical to

insinuate that excessive health expenditure will limit household spending on feeding. Low income earners without micro health insurance may be forced to sell their valuables to meet both health and household expenditures.

Base on the findings of this study, the researchers consider it necessary to suggest the following recommendations:

- Stakeholders in the insurance industry should intensify efforts to increase the level of insurance awareness among Nigerians, particularly the low income earners. This will further enhance the level of acceptability of insurance and microinsurance in Nigeria.
- The ability of micro health insurance to fight poverty should be made known to the citizenry through various enlightenment programs in order for people to understand why they should embrace it.
- Insurance services providers in Nigeria should be granted the enabling environment to include microinsurance in their line of businesses. This should include granting the appropriate regulatory framework for microinsurance to thrive in Nigeria.
- Micro health insurance seems to be a veritable alternative to the National Health Insurance Scheme (NHIS), particularly for low income earners who are not formally employed.
- Insurance services providers interested in transacting micro health insurance should consider the opportunities provided by the various community-based health facilities and trade associations to reach the rural poor.

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List of Tables and Figures

Table 1: Relative Poverty Rate Growth in Nigeria from 1980-2010

Year	Poverty Incidence (%)	Estimated Population (Million)	Population in Poverty (Million)
1980	27.2	65	17.1
1985	46.3	75	34.7
1992	42.7	91.5	39.2
1996	65.6	102.3	67.1
2004	54.4	126.3	68.7
2010	69.0	163	112.47

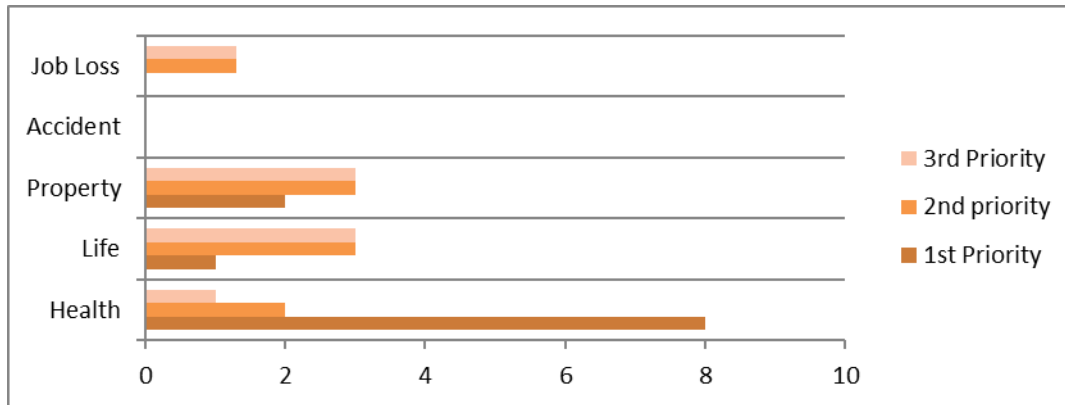
Source: National Bureau of Statistics (NBS), Nigeria (2011).

A : Summary of Hypotheses Test

Hypothesis	Variables	Spearman's rank Correlation Coefficient	Kendall's Tau correlation coefficient	F-value	F – table	Remark
H ₁	Micro health insurance and income stability among the poor	0.900(*)	0.850	483.75	3.91	Reject H ₀
H ₂	Micro health insurance and sustainance of food sufficiency among the poor	0.938(**)	0.919	1115.78	3.91	Reject H ₀

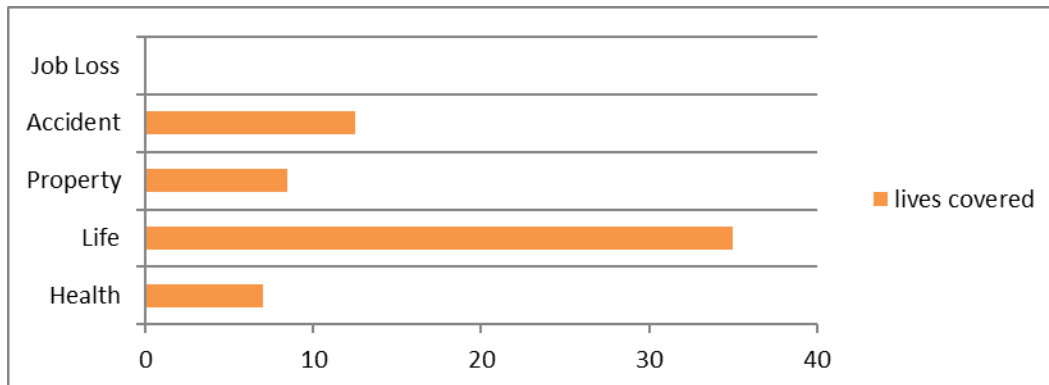
Source: Researchers' computation, 2014.

Figure 1 DEMAND: Risk management needs prioritized by low-income people in 11 countries



Source: Adopted from Allianz group (2010).

Figure 2: SUPPLY: Lives covered by micro insurance products (in millions)



Source: Adopted from Allianz group (2010).

WORKPLACE BULLYING: AN UNETHICAL BEHAVIOUR IN THE WORKPLACE

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ABSTRACT

The concern about workplace bullying has generated substantial research studies within the European society. The need to examine the phenomenon in Nigeria has become needful given the continuous enlightenment and awareness campaigns as to the health harming effect on targets and the financial implications for organisations and the general society. Using a qualitative approach, this study explores the nature of bullying behaviour in Nigeria. Considering the scarcity of literature on the subject within the African society, this research contributes to knowledge in understanding the nature of workplace bullying in the Nigerian society and peculiar weaknesses in the employment and work structure that abet the behaviour. Findings reveal the prominence of workplace bullying especially in the public sector with culture playing a significant part in its acceptability. Findings also revealed that bullying targets are not likely to report such behaviour because of the fear of retribution as such religion is employed as a coping mechanism because jobs are scarce and social benefits do not exist to cushion the impact of unemployment.

***Keywords:** Workplace bullying, Psychological trauma, Structuration theory, Conflict Management, Culture*

INTRODUCTION

The menace of workplace bullying has attracted significant studies in the modernized economies of the world resulting in decisive legislations being enacted to combat the vice. Sweden is said to have passed the first legislation against work place bullying, “Victimization at work” (1993), after Professor Heinz Leymann, a psychiatrist and psychologist established a correlation between work and trauma amongst clinical patients (WBI, 2011-2012).

The subtle nature of Workplace bullying, the resultant economic loss and the psychological trauma on targets as established by research over the years makes this study of particular significance. In Australia 2006, a 19-year-old waitress, Brodie Parlock, committed suicide jumping from a building after being the target of workplace bullying in the café where she worked for over one year. (Committee Hansard, 2012) Foxconn, the giant Taiwanese multinational electronics contract manufacturing company drew negative publicity in 2010 when its employees began to commit suicides jumping off the office complex’s high rise buildings. An expert in describing the incidents called it a case of ‘*workplace violence turned inwards*’ (WBI, 2010).

The International Labour Organization (ILO), the foremost international agency in the establishment of universal standard work practice does not expressly mention workplace bullying under the declaration of fundamental principles and rights at work (1998). However, in 2003, a tripartite body of 36 experts from government, employers and workers of member countries convened to review a draft and develop a code of practice on what it termed “violence and stress at work in services: a threat to productivity and decent work.” (MEVSW/2003/11).

The meeting established proactive guidelines which member countries could reproduce and adopt in measuring and tackling violence in their local establishments making use of Occupational Safety and Health Management systems. Under this code, ILO defined violence as, “any action, incident or behaviour that departs from reasonable conduct in which a person is assaulted, threatened, harmed, injured in the course of, or as a direct result of his or her work.” Nigeria is yet to adopt this code of practice probably because we do not expressly have an Occupational Health and Safety Act.

Work place bullying expert such as Namie (2003) argue that over more recognized illegal acts such as sexual harassment, illegal discrimination and harassment, workplace bullying is thrice wide spread. However, its non-illegal status makes it easy to ignore which is why Witheridge (2003) called for recognition of the effects of bullying in the workplace as an essential basis for legitimately challenging the vice through “*persistent effort to raise awareness of the insidious practice.*” (Namie, 2009). This paper aims to collate and assess such data.

LITERATURE REVIEW-

Workplace Bullying: An Unethical Behavior in the Workplace Explored

There is no theoretical framework, which underpins the study of workplace bullying. What previous researchers have been able to do is to utilize existing management and social theories to address and examine the phenomenon. Some of the theories that have been utilized in understanding workplace bullying are Giddens Structuration theory, Hofstede’s cultural dimension and the Global Leadership and Organizational Behavior Effectiveness (GLOBE) research program. The spate of studies and resources expended in the research of workplace bullying in recent times strongly indicate that the subject though a cross cultural phenomenon requires individual national initiatives in proffering practical solutions that take cognizance of the unique characteristics of each environment.

‘*Workplace bullying*’ is not a universal term. ‘*Escalated incivility*’ (Namie, 2003), ‘*harassment*’ (EU-OSHA, 2009), ‘*mobbing*’ (Leymann, 1996) and ‘*violence*’ (ILO, 2003) are some of the words that are being interchangeably used to describe the phenomenon. Whereas escalated incivility qualifies the buildup process that eventually culminates into workplace bullying; experts such as Cade (2009), have made a clear distinction between harassment and workplace bullying saying that harassment has a physical edge (touching, intrusion on personal space, damage to possessions), whilst workplace bullying is more subtle and not easily recognizable (Namie, 2003; Mclay, 2009; Field,2008)

Workplace Bullying Defined

A major challenge towards addressing the issue of workplace bullying is the fact that there is no universal definition of the term. However, various researchers by introducing different dimensions to the definitions have assisted in gaining helpful insights into the phenomenon. For instance, Namie (2003) defined *Workplace Bullying* as “*status-blind*” *interpersonal hostility that is deliberate, repeated and sufficiently severe as to harm the targeted person’s health or economic status. Further, it is driven by perpetrators’ need to control another individual, often undermining legitimate business interests in the process.*” Namie (2003) in this definition has brought to the forefront the salient fact that workplace-bullying actions are not spontaneous but calculated and premeditated thus emphasizing the role of intent in construing the term. The

acceptability of intent within the definition of workplace bullying is however a controversial one not generally accepted amongst bullying authors' because of the view that it provides an escape mechanism for perpetrators who might claim their intention was not to bully.

Owoyemi (2011) defined workplace bullying as *“a form of antisocial behaviour in the workplace that occurs as a result of unequal power between two individuals, or a group of people and another individual and/or a group of people in the workplace, which can cause distress, discomfort, physical and/or psychological harm”*. Namie (2003) draws attention to the fact that workplace bullying is borne out of the need of the bully to control suggesting a deeper-rooted psychological dysfunction on the part of the bully manifesting itself in a compulsive disorder to manipulate. The two traits, anti-social behaviour and histrionic (superficial charm, insincerity, egocentricity, manipulation) characteristics are generally associated with psychopathic personality disorders.

Adams (1994) in an earlier report defined workplace bullying as *offensive behaviour through vindictive, cruel, malicious or humiliating attempts to undermine an individual or groups of employees. And these persistently negative attacks on their personal and professional performance are typically unpredictable, irrational and often unfair. This abuse of power or position can cause such chronic stress and anxiety that the employees gradually lose belief in themselves, suffering physical ill-health and mental distress as a result.*” (Adams, 1994: text of speech given at a conference sponsored by the British Trade Union Manufacturing, Science and Finance)

Adams (1994) and Owoyemi (2011) postulate that power imbalance is responsible for workplace bullying with Einarsen (2003) stressing that a conflict situation cannot be called bullying if the dissenting parties are of equal strength. There is a consensus amongst all the authors that workplace bullying impairs organizational capacity and has negative physical and psychological impact on the targets. It is very unlikely that a universal definition of workplace bullying would suffice or emerge given the peculiarities of nations and cultural diversities, however general consensus is needful as to the acceptability or otherwise of certain behaviours within the confines of a work environment given increased diversified workforce and expanding business circumference across the globe.

Workplace Bullying In the Nigerian Context

Nigeria has very few literatures that have explored workplace bullying. The workplace is central to the growth of any economy hence the need to draw urgent attention to issues which might impede overall productivity. Fajana, Owoyemi, Shadare, Elegbede & Gbajumo-Sheriff (2011) in their pioneer study on workplace bullying in Nigeria looked at differences in bullying experienced as a factor of gender amongst 313 human resource practitioners in Nigeria, gender emerged as an antecedent of bullying with Nigerian women targeted the more at work through verbal abuse, administrative bullying and social exclusion.

In introducing the concept of workplace bullying as a research topic amongst other organizational behaviours in Nigeria, Owoyemi (2010) described bullying as an undiagnosed social problem within the Nigerian workplace depicting the level of ignorance still existing on the subject in our work community. When workplace bullying is incorrectly diagnosed, Leymann (1996) established from clinical studies that targets are labeled as difficult and unjustly expelled

from the organization; Namie (2003) projected 70% likelihood that bullied targets would either voluntarily loose or be discharged from their duties. The significance of these findings cannot be lost on an economy like ours where the regulatory labour body cannot be described as proactive; brain drain, premature termination of careers and potentials, low work morale and likely reprisal attacks from aggrieved parties who cannot afford legal redress are the implications. Nigeria needs to establish credibility in upholding fundamental human rights especially in the work place through awareness, correct diagnosis and curative measures against organizational deviant behaviours.

Research findings reveal differences in the acceptability of workplace bullying across nations based on cultural and social orientation. "Culture may relate to whether employees who are bullied seek assistance, publicize their plight, or suffer in silence. Differences within victims' behaviors across cultures are also a very important issue because of the implications for potential interventions." (Power et al, 2011) The reference to cultural orientation in addressing contemporary societal issues is rooted in the belief that behavioral patterns and responses emanate from cultural values.

Causes of Workplace Bullying

A significant number of researchers agree that interplay of factors within the organization structure aid and abet the existence of work place bullying. Factors cited include poorly executed conflict management, socio economic and organizational changes, poor psychosocial work environment, deficiencies in work design, socially exposed position of the victim, low moral standards, organizational division into uniformed and non-uniformed staff, power relations, management style, witnessing bullying. (Leymann, 1996; Einarsen & Hoel, 2001; Harvey et al., 2009; Owoyemi, 2011). Consequently for bullying to occur, Salin (2003) argues that there must be structures and processes that enable it. Given all these arguments, this qualitative study focuses on the following:

Research Aims and Objectives

1. Investigate the prevalence of workplace bullying within the Nigerian workplace environment.
2. Examine the factors that aid and abet the phenomenon.
3. Proffer solutions that would challenge the status quo of silence that exists on the subject in our workplace.

METHODS

This study utilizes the qualitative research method which brings the researcher into direct contact with respondents in their natural settings. The use of a qualitative approach assists in exploring a subjective term such as workplace bullying (following Saunders *et al.*, 2007). This method of data collection suits exploratory or explanatory research and according to Robson (2002) helps to understand how things happen and why it happens. Semi-structured interviews were conducted with thirty participants across public and private sector organizations in Nigeria. The flexibility and semi-formal nature of the interviews allowed maximum exploration of the employees' accounts of their workplace bullying experiences. Researchers such as Salin (2003), Lewis and Gun (2006), Rayner and McIvor (2006) have all utilized this approach. The interview questions were crafted around the research theme.

Participants

The sample was evenly drawn from a working class population to avoid a skewed sample (see Table 1 and Table 2). Thirty participants in all were drawn comprising fifteen men and fifteen women; all had the minimum qualification of being a graduate. Given the consistency in most of the answers given by the respondents, the sample size could therefore be considered adequate for this research (following Glaser & Strauas, 1969).

Findings

The interview began trying to ascertain the familiarity of participants with the ‘workplace bullying’ terminology. It was obvious that the term was not a particularly familiar concept, one participant remarked that there was nothing as workplace bullying as bullies existed only in schools. She said what obtains in the office is simply ‘*bosses being bossy*’.

Respondents were then asked if they had encountered negative behaviours in the workplace, majority responded in the affirmative giving illustrations. After enlightening the participants that some of the behaviours they cited actually constitute workplace bullying, the tone of the interview perked up with participants responding dryly that workplace bullying was part of the everyday work culture in their establishments. Participants in their own terms referred to workplace bullying as ‘victimization’, ‘intimidation’, ‘oppression’ and ‘harassment’. Those who used phrases viewed it as,

“Your superior officer trying to lord it over you; superior officer uses his power and position to suppress the intelligence and capability of the junior officer (just do what I want you to do, who is the oga¹ here?); Using authority to get people to do duties outside their official schedule; taking advantage of a junior worker, people using their influence and superiority to harass subordinates and peers; people in position banging and screaming at subordinates.”

Power misuse as an explanatory factor for workplace bullying is consistent with existing research literature that identifies power relations as a precursor to bullying behaviour. Owoyemi and Shadare (2010) expounding on the sources of power and the authority conferred by such powers to control resources and modify behaviour through punishments and rewards in organizations warned as to the potential misuse or inadequate use of such powers if not properly harnessed.

Twenty-one of the participants interviewed said they had experienced workplace bullying, two admitted to being the bully, seven said they had never been bullied. Two distinct personality types emerged from the group that said they had never experienced workplace bullying; self-assured individual types who consistently stood for their rights and peacemakers who went out of their way to avoid conflicts and confrontations. According to Namie & Namie, (2009) when bullying perpetrators try out their tactics on targets, the targets that refuse to fight back or immediately confront the bully open themselves up to subsequent mistreatments.

Literature research suggests that bullying perpetrators zone in on targets who display some degree of vulnerability; employees who have not learnt to establish appropriate emotional boundaries (WBI, 2013), those who by the nature of their upbringing have not developed assertive skills or are naïve (White, 2013) and conflict avoiders who are submissive and non-controversial (Coyne, Seigne & Randall 2000).

Respondents highlighted the bullying behaviours they had encountered as: Sexual harassment, Verbal abuse, Foul language, Shouting and yelling, Intellectual bullying, Financial bullying, Threats and intimidations, Denial of due promotion, Allocation of belittling tasks not related to job functions, Arbitrary change of duty roasters, Physical assaults, Peddling of rumours and lies,

Undue work pressure, Unreasonable targets, Unreasonable work hours, Being sent on fool's errand, Not being allowed to express an opinion and lastly, somebody taking credit for another's work.

By frequency of recounts, shouting and yelling seemed the most dominant bullying behaviour followed by verbal abuse, threats and intimidations. Many of the respondents said shouting had become an office norm that they had gotten used to. Researchers contend that when bullying behaviour is not checked within organizations, it becomes an office norm that is imbibed by employees who become perpetrators themselves in order to avoid being bullied. Thus a vicious circle begins.

Physical assaults in form of slaps appeared rampant within the public sector and although this was more likely to occur between drivers and their bosses because of the power distance, participants cited instances of physical altercations even amongst white-collar workers. Bullying literature observed that employees in the lower cadre experienced more bullying behaviours than managerial staff probably because of the low level of education and inability to communicate. (Salin, 2003; Notelaers, 2010; Cunniff & Moster, 2012)

Participants from the public sector described sexual harassment, as being very prominent in public institutions with young, inexperienced female staff being the most vulnerable group. This is consistent with research literature that tag female employees as 'at risk' groups in workplace bullying situations. Fajana et al, (2011) reported more female targets in an earlier Nigerian research study of workplace bullying. A young male participant in the public sector said '*his female supervisors making regular sexual advances at him*' was one of the reasons why he resigned from the establishment.

Participants from the private sector cited more of downwards bullying even though bullying in the sector was found to be all round from even clients. A corporate culture of workplace bullying seemed to exist in the financial services industry, particularly in the banks where employees have little or no work life balance contending with unreasonable work hours, undue work pressures and unreasonable deposit targets. The pressure to perform creates an emotional strain which enhances bullying behaviour as confirmed by a participant who said he would do whatever it takes to achieve results because he reports to the board. So when they pressurize him, he passes it to his subordinates. Einarsen & Hoel (2001) contend that people might bully at work to protect their interests. Another participant said having to work late hours on a regular basis constituted a security risk especially to the female workers and not getting enough rest from the previous day's work increased the likely hood of costly mistakes.

Stress plays a dual role in workplace bullying acting as both a causative agent and aftermath. Research findings have established higher stress levels in bullying perpetrators and targets (Einarsen, 2006). Hoel, Spark & Cooper (2001) in an ILO sponsored research studies into the cost of stress and benefits of a stress less work environment suggested stress intervention programmes.

Participants in response to why bullying behaviour occur adduced the following reasons: stress, diverse work force, undefined roles, none rotation of employees, resilient nature of Nigerians, ignorance of the law and individual rights, the respect culture, promotion guidelines that confine appraisal issues to line managers, lack of communication and transparency on the part of the management of an organization. Some equally suggested that personal characteristics account for workplace bullying with arguments that people with personal challenges in their individual lives transferred aggression to cover up feelings of inadequacies. Research literature has not been able

to specifically nail the characteristics of bullying perpetrators or targets but it is becoming glaring from studies that bullying behaviour emanates from the various influences that have helped to shape an individual.

Women in positions of authority were found to exhibit more bullying behaviour probably in misplaced assumptions that it proved they were just as capable as the men. Female participants agreed that they had more personality clashes working with female bosses than the male bosses. In the WBI (2014) online survey of 1,000 adults in the United States, 69% of bullies were men who preferred to target women 57% over men whilst 60% of bullied targets were women who chose women targets 68% of the time. The tendency of the female gender to pick on one another in the workplace is explained in the Queen Bee theory. The Queen bee is the fertile female bee in a hive, her glory and honor emanates from her productivity, any attempt by another female bee to usurp her position or authority brings about a conflict situation in which the Queen bee tries to squash the threat she feels.

Of interest also were some respondents' arguments that incompetent and lazy employees attract and deserve workplace bullying for not pulling their weights on the job but when asked if bullying behaviour was acceptable as a standard work norm, majority conceded that under all circumstance decorum ought to be observed in the workplace.

Respondents who encountered bullying situations as targets or observers claimed, 'it altered the work routine', 'created unnecessary agitations', 'destabilized everyone in the immediate vicinity', 'reduced productivity and creativity' and 'killed the team spirit as everyone began to fight for their personal interests.' Some others expressed feelings of frustrations, depressions, loss of respect, de-motivation and demoralization. Two respondents experienced psychosomatic conditions in form of heart palpitations, constant fevers and chills. Research literatures worldwide have consistently established psychological and psychosomatic disturbances in bullying targets. (Leymann, 1996; Matthiesen & Einarsen 2001; Einarsen, Hoel & Nielsen, 2003)

[The advent of globalization has increased labour mobility with labour converging in industrialized cities leading to a more diversified workforce. As such, employers and leaders must prepare to handle conflicts and bullying. (Einarsen, Hoel & Nielsen, 2003) Research study in South Africa revealed that employees able to appreciate racial and ethnic diversity, experience lower levels of workplace bullying. (Cunniff & Mostert, 2012)

DISCUSSION

Targets of bullies are more likely to absorb bullying situations than report them. Many participants responded that reporting was not likely to resolve the issue as their human resource personnel were not empowered to act on major issues or tended to side with management for fear of losing their jobs. Consequently, they coped with bullying situations by being subservient and praying about it.

Culture plays a significant role in the silence that pervades work place bullying in Nigeria. Apart from being generally religious, Nigerians as a matter of tradition do not confront or challenge authority; there is a cultural demand for respect that makes the younger ones submissive and subservient. Nigerians equally have a resilient nature. The allusion to cultural inclinations of Nigerians as factors that enhance bullying behaviour is consistent with research findings that establish correlation between bullying behaviour and national orientations. (Moreno-Jiménez, Muñoz, Salin & Benadero 2006; Einarsen, Hoel & Nielsen, 2003)

For as long as targets of workplace bullying continue to fold their hands in resignation praying about bullying situations, they enable the perpetrators because the law courts and employment processes in the world in which business organizations reside rely on substantiated evidence. Nigerians pray about everything leaving God to provide the solutions. Whilst the omnipotence of God in any situation cannot be overruled, Nigerians go overboard with religion waiting for God to take decisions in practical situations where the application of common sense would provide solutions. Years of military dictatorship too has taken its toll upon the citizenry. Lack of veritable employment options and social security has left people trapped in deplorable employment situations. Many respondents said they put up with bullying in their workplaces because of economic obligations, which left them with no choice than to survive.

CONCLUSION

Power distance is a major issue that needs to be tackled in handling workplace bullying within the Nigerian society. It begins with enlightenment and training, people understanding their rights and speaking up. Ignorance of the law needs to be eradicated, replaced by intelligent appreciation of the fundamental right of every individual to exist and interact whilst upholding the dignity, and respect of others. Stopping bullying in the Nigerian workplaces can be achieved through education, introducing the national constitution into school curriculum through all levels of education.

Apart from the above a collective responsibility lies on the part of all, the organization as a reckoning force in imbibing culture and modifying behaviour ensuring that recruitment and appointment exercises emphasize behavioural skills alongside technical skills. Trade unions engaging their members in continuous education as to acceptable work conduct, law enforcement agents on ground to uphold the rule of law without prejudice and the legislative and regulatory arm in charge of labour issues bracing up to the responsibility of making the workplace competitive and conducive to attract the world's best technocrats. Until these multifaceted approaches are adopted, any workplace bullying intervention programme would only be scratching the problem on the surface, not attacking the root causes of the endemic.

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TABLE 1: DEMOGRAPHIC FEATURES OF PARTICIPANTS (PUBLIC SECTOR)

NO	GENDER	AGE BRACKET	ACADEMIC QUALIFICATION	DESIGNATION	INDUSTRY	WORK EXPERIENCE (YEARS)	PROFESSION
1	M	55	POST GRADUATE	DIRECTOR	PUBLIC/DISTRICT EDUCATION	33	TEACHER
2	F	50	GRADUATE	DEPUTY DIRECTOR	PUBLIC/REGULATORY	25	LAWYER
3	M	49	POST GRADUATE	DEPUTY DIRECTOR	PUBLIC/DISTRICT EDUCATION	27	TEACHER
4	M	48	POST GRADUATE	ASST. DIRECTOR	PUBLIC/DISTRICT EDUCATION	23	PSYCHOLOGIST
5	M	48	DOCTORATE	SENIOR LECTURER	PUBLIC/ UNIVERSITY	20	ACADEMICS
6	F	45	GRADUATE	ASST.PRINCIPAL EDUC. OFFICER	PUBLIC/DISTRICT EDUCATION	27	POLITICAL SCIENTIST
7	F	42	GRADUATE	HR OFFICER	PUBLIC/LOCAL GOVERNMENT	15	HR
8	M	39	GRADUATE	SECTIONAL HEAD	PUBLIC/HEALTH	10	MEDICAL
9	M	40	DOCTORATE	CONSULTANT	PUBLIC/UNIVERSITY	11	MEDICAL
10	F	38	GRADUATE	ADMIN. OFFICER	PUBLIC/UNIVERSITY	7	ADMIN
11	F	38	GRADUATE	CHIEF STATE COUNSEL	PUBLIC/MINISTRY	14	LAWYER
12	F	38	GRADUATE	CHIEF STATE COUNSEL	PUBLIC/MINISTRY	14	LAWYER
13	F	35	GRADUATE	ASST. CHIEF STATE COUNSEL	PUBLIC/MINISTRY	13	LAWYER
14	M	28	GRADUATE	ADMIN OFFICER	PUBLIC/MINISTRY	2	ARTS
15	M	30	POST GRADUATE	PROGRAMME OFFICER	PUBLIC/UNIVERSITY	5	ADMIN

TABLE 2: DEMOGRAPHIC FEATURES OF PARTICIPANTS (PRIVATE SECTOR)

NO	GENDER	AGE BRACKET	ACADEMIC QUALIFICATION	DESIGNATION	INDUSTRY	WORK EXPERIENCE (YEARS)	PROFESSION
16	M	60	POST GRADUATE	CEO	TELECOMMUNICATIONS	35	ENGINEER
17	M	42	GRADUATE	CEO	FINANCIAL SERVICES	20	LEGAL
18	F	41	POST GRADUATE	GM	OIL & GAS	11	HR
19	M	38	GRADUATE	MANAGER	FINANCIAL SERVICES	10	ACCOUNTING
20	F	36	POST GRADUATE	IT MANAGER	LOGISTICS	8	IT
21	F	35	GRADUATE	MANAGER	MANUFACTURING	8	ACCOUNTING
22	M	35	GRADUATE	MANAGER	POWER & ENERGY	10	ENGINEERING
23	F	34	POST GRADUATE	CEO	PRIVATE PRACTICE	5	HR
24	M	33	POST GRADUATE	BANKING OFFICER	FINANCIAL SERVICES	4	BANKING
25	F	32	GRADUATE	HR MANAGER	HEALTH	4	HR
26	M	34	GRADUATE	HR MANAGER	POWER & ENERGY	8	HR
27	M	30	GRADUATE	OFFICER	FINANCIAL SERVICES	2	BANKER
28	F	26	POST GRADUATE	EXECUTIVE	OIL & GAS	2	ENGINEER
29	F	27	GRADUATE	SECURITY SPECIALIST	PRIVATE PRACTICE	3	CRIMINAL INVESTIGATION
30	F	29	GRADUATE	EXECUTIVE ASSISTANT	FINANCIAL SERVICES	6	BANKING

INFORMATION SYSTEMS IN HEALTH CARE DELIVERY SERVICES AND NATION BUILDING: A CASE STUDY OF ACADEMIC MEDICAL CENTRES IN LAGOS STATE, NIGERIA

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ABSTRACT

Information systems play a major role in the overall healthcare management. It has much to offer in managing healthcare costs and improving the quality of care. However, Information systems cannot be discussed outside the concept of information technology (IT). This is because of the embedded role of information technology in clinical and diagnostics equipment through which information systems are uniquely positioned to capture, store process and communicate timely information to decision makers for better coordination of healthcare at both the individual and corporate levels. This study examined the role play by Information Systems (IS) in healthcare delivery services in 3 academic medical centres in Lagos State, Nigeria. Descriptive survey research design was used for the study. Total enumeration technique was adopted in administering questionnaire on resident doctors, nurses, laboratory technologists, pharmacists, and administrative staff. The study revealed that majority of respondents are aware of IS. Though, some of IS resources are available, computer and internet are the most used. Clinical services require the use of IS even though there are challenges such as lack of skills on how to use IS, lack of financial supports, inexperience on the part of IS suppliers by not being able to supply the required specification, and use of faulty IS by medical personnel in the course of their duties. These have hitherto affected their job productivity in the area of capturing, processing, and delivery of healthcare services.

Keywords: Information Systems, Healthcare Delivery, Academic Medical Centres, Nation Building, ICT.

INTRODUCTION

Information has been identified as an essential commodity that affects all aspects of human endeavour either positively or negatively. It is an acceptable fact that no individual can perform beyond the measure of information at his/her disposal. Importantly, information has been described as a driver for change, resulting from and contributing to both globalization and devolution (Nuffield Trust Series, 1999). If information has been so described as an indispensable commodity to human lives, then to conclude that information is central to healthcare delivery and essential for health care delivery processes can only be an understatement.

Sapirie (2000 cited in Lungo, 2003) affirms that for effective management and development of health services, meaningful, reliable, accurate and timely information plays a major role, therefore, health system managers need to 'keep an eye' on information systems and their performance.

All over the world, there has been a strong agitation on the mode of healthcare delivery services and its direct implication on people living longer and enjoying sound health. This agitation which espouses the importance of healthcare to both individuals and governments and its growing costs to the economy have contributed to the emergence of healthcare as an important area of research for scholars (Informs, 2011). This same author established that healthcare does

not only influence the quality of lives and how human beings function within the society, but can also affect our ability to carry out social and productive endeavours if mistakes are made. To this extent, information systems (IS) have much to offer in managing healthcare costs and in improving the quality of care (Kolodner et al, 2008). However, the concept of information systems (IS) cannot be discussed outside information technology (IT). This is because of the embedded role of information technology in clinical and diagnostics equipment through which information systems are uniquely positioned to capture, store, process and communicate timely information to decision makers for better coordination of healthcare at both the individual and population levels (Informs, 2011). This, probably explains why Wilson describes information systems as ‘a set of tools and procedures that a health programme uses to collect, process, transmit and use data for monitoring, evaluation and control in a health system (Wilson et al, 2001 cited in Lungo, 2003).

Specifically, for Academic Medical Centers (AMC) as an arm of the nation’s health sector, they cannot shy away from using the various information systems in existence to manage health information. In fact, they are ideally positioned to implement meaningful health care reform because they have the requisite infrastructure, intellectual capital and networks to spearhead efforts to develop, pilot and disseminate new patient-focused measures and care models all of which is achievable through the use of health information systems (AHC health Reform Working Group, n.d). This study intends to assess the various hospital diagnostic equipments used in capturing and processing information for managing healthcare delivery.

Statement of Problem

Study has established that health information systems evolved as a result of the new role assumed by changing demands to healthcare and healthcare information, which is supported by the possibility to apply new technological advances to healthcare organizations. However, it is not certain if this evolution has been embraced in this part of the world. Hence, this study intends to access the rate of adoption of information systems in delivering healthcare services vis-a-vis the effect on national development.

Objectives of the Study

The main objective of this study is to identify the role of information systems in health care delivery services and its effect on nation building. The specific objectives are to:

- (1) identify the level of awareness of information systems among health personnel in selected Academic Medical Centers
- (2) establish the rate of availability of information systems in the Medical Centres
- (3) determine the various clinical services that require the use of information systems.
- (4) identify challenges facing health managers in their bid to use information systems in the selected Medical Centers, and
- (5) evaluate the impact of these challenges on personnel’s job productivity and national development

LITERATURE REVIEW

In considering the role of healthcare sector in assuring a nation’s health, the people as individuals and as a population must have the benefit of high quality healthcare services that are effectively coordinated within a strong public health system (The Future of Public’s Health in the 21st

Century, 2003). The Institute of Medicine (IOM) (2001:6 cited In *The Future of Public's Health in the 21st Century*, 2003) in its report summarizes this by affirming that 'All healthcare organizations, professional groups, and private and public purchasers should adopt as their explicit purpose to continually reduce the burden of illness, injury, and disability, and to improve the health functioning of the people'. These, supposedly are important to achieving national development in any nation.

In these days of information technology, adequate and proper management of healthcare is obtainable through the use of information systems. Research has established that information systems (IS) have great potential to reduce healthcare costs and improve outcomes (Informs, 2011). Also, mistakes in healthcare can have serious repercussions that can affect man's ability to carry out social and productive endeavours and may even result in death. Medical errors which are a leading cause of adverse events and other ills are expensive, and they increase patient's length of stay in the hospital, and may even cost human lives (Classen et al 1997 In Fichman et al, 2011). Failure to manage infectious diseases can cause serious public health challenge which may have serious negative implication on nation building. Information systems can play vital roles in monitoring, controlling, and even sensing dangerous health challenges before outbreaks. Diseases such as high blood pressure, cancer, diabetes, coronary diseases, and even infectious ones like HIV/AIDS, sexually transmitted diseases, hepatitis, the current rampaging Ebola Virus Disease (EVD), and others to mention a few can be sensed, monitored and controlled through information systems.

It is therefore pertinent that medical personnel embrace information technology and be versed in the usage especially those that are valuable for managing healthcare. Decision makers in Academic Medical Centres should as a matter of priority procure modern day facilities that have to do with healthcare management while medical personnel avail themselves of the use. This is because health information systems enable decision makers to "integrate data collection, processing, reporting, and use of the information necessary for improving health service effectiveness and efficiency through better management at all levels of health services" (Lippeveld, Sauerborn, & Bodart, 2000). In conclusion, generation of data on hospital operations such as administrative records, service records, health and disease records are better managed using information systems (IS).

METHODS

Descriptive survey design was used in this study with quantitative questionnaire to explore and analyze the role of information system in health care delivery services and nation building. The study population consisted of 3 Academic Medical Centres in Lagos State, Nigeria. These are: University of Lagos medical centre, Yaba College of Technology medical centre and Federal College of Education (Technical) medical centre. Total enumeration technique was adopted in drawing sample covering resident doctors, nurses, laboratory technologists pharmacists and administrative officers in these medical centres. All health workers were used because the concept of IS involves more than just the computer and Internet. It is assumed that almost all aspect of healthcare delivery involves the use of one form of IS or the other hence none of them could be exempted since they are all professionals in their own right

In all, 75 copies of the questionnaire were distributed. 55 were filled and returned, representing 73.3% response rate. Data was analyzed using frequencies, percentages, and standard deviation.

DATA ANALYSES AND DISCUSSION OF RESULTS

Descriptive data revealed that 41.8% of the respondents are from the University of Lagos Medical Centre, 32.7% from Federal College of Education (Technical) Medical Centre while the rest 25.5% are from the Yaba College of Technology Medical Centre. In addition, the gender distribution of the respondents revealed that 60% are female while 40% are male. The age distribution shows that many of the respondents (38.2%) are between the age of 35years and 44years old, 27.3% are between 25 years and 34 years old, 25.5% are between 45years and 54year old while the remaining 9.1% are between 55 years and 64years old. The employment status shows that most of the respondents - 30.9% are administrative officers, 23.6% are medical doctors, 12.7% are laboratory technologists, 25.4% are Nurses, while 7.2% are Pharmacists. Demographic data further revealed that 34.5% of the respondents had between 1 and 5 years work experience, 30.9% had between 16 years and 20 years, 18.2% had between 11years and 15 years, 12.7% between 21 years and 25 years while the remaining 3.6% had 31years and above work experience.

Table 1: Awareness of Information Systems Used in Managing Health Care in Hospital

Awareness	Frequency	Percentage
Yes	41	74.5%
No	14	25.5%

Sources: Field study 2014.

Table 1 indicates that 74.5% of the respondents are aware of the information system used in managing health care in hospitals.

Table 2: Availability of Information Systems in Academic Medical Centers

Information system	Not Available	Available	Mean	Std.dev
Computer systems	6 (10.9%)	49 (89.1%)	1.89	0.315
Internet	6 (10.9%)	49 (89.1%)	1.89	0.315
Electronic gadgets devices	27(49.1%)	28(50.9%)	1.51	0.51
Software	12 (21.00%)	43(78.2%)	1.78	0.42
Diagnostics devices	10(18.2%)	45(81.8%)	1.82	0.38
Information databases	37(67.3%)	18(32.7%)	1.33	0.77

Sources: Field study 2014.

Table 2 shows that many of the respondents (89.1%) agree that computer system and internet are available for use in their organization, so also electronic gadget devices such as Ipad, Iphone etc. (50.9%). In the same sequence, medical software (78.2%) and diagnostic devices (81.8%) are also available as indicated by respondents. However, most of the respondents (67.3%) indicate non availability of information database (e.g Medline) in their medical centre.

Table 3: Use of Information Systems in Academic Medical Centers

	Not use	Use	Mean	Std. dev
Computer systems	4(7.3%)	51(92.7%)	1.93	0.26
Internet	2(3.6%)	53(96.4)	1.96	0.29
Electronic gadgets devices	44(80%)	11(20%)	1.20	0.40
Software	49(89.1%)	6(10.9%)	1.11	0.31
Diagnostics devices	45 (81.8%)	10(18.2%)	1.82	0.38
Information databases	49(89.1%)	6(18.2%)	1.82	0.38

Sources: Field study 2014.

A cursory look at table 3 reveals that most of the respondents (92.7%) agree that computer system is being used in their organization. Similarly, 96.4% indicate that they make use of internet services in the course of their jobs. On the other hand, 80% agree that electronic gadget devices are not in use in their medical centre, so also medical software as indicated by 89.1%. Diagnostic devices (81.8%) and information databases e.g. Medline (89.1%).

Table 4: Adequacy of information system

Information Systems	Rate of Adequacy					Means	Std.dev
	5	4	3	2	1		
Computer systems	16 (29.1%)	18 (32.7%)	9 (16.4%)	8 (14.5%)	4 (7.3%)	3.62	1.25
Internet	12 (21.8%)	21 (38.2%)	17 (30.9%)	2 (3.6%)	3 (5.5%)	3.67	1.03
Electronic gadgets devices (Ipad, Iphones, android, BB, Self adhesive wireless electronic devices)	3 (5.5%)	30 (54.5%)	8 (14.5%)	2 (3.6%)	12 (21.8%)	3.18	1.29
Software	2 (3.6%)	27 (49.1%)	8 (14.5%)	4 (7.3%)	14 (25.5%)	2.98	1.33
Diagnostics devices e.g. (Imaging diagnostic laboratory equipments)	9 (16.4)	19 (34.5%)	10 (18.2%)	9 (16.4%)	8 (14.5%)	3.22	1.32
Information databases e.g. Medline	3 (5.5%)	23 (41.8%)	11 (20%)	6 (10.9%)	12 (21.8%)	2.98	1.28

Sources: Field study 2014.

Table 4 indicates that many of the respondents with a mean score of 3.62 consider computer system as adequate in their organization. Similarly, most of the respondents with a mean score of 3.67 also agreed that an internet facility is adequate for use in their organization. However, most of the respondents consider electronic gadget devices (mean = 3.18) as fairly adequate in their organization. In the same vein, software with a mean score of 2.98 is also considered fairly

adequate in their organization. Diagnostic device (Mean= 1.32) and Information database (Mean=1.28) are rated not adequate by most of the respondents.

Table 5: Clinical Services that require the Use of Information Systems

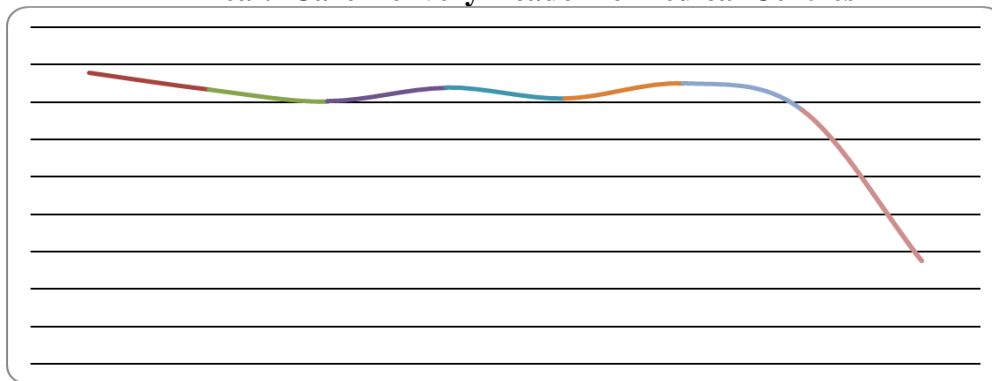
	Not Require	Require	Mean	Std.dev
Patient care information	5(9.1%)	50(90.9%)	1.91	0.29
Pharmacological (drug) information				
	10(18.2%)	45(81.8%)	1.82	0.38
Medical-Legal Information	20(36.4%)	35(63.6%)	1.64	0.49
Recent advances in medicine	10(18.2%)	45(81.8%)	1.82	0.38
Clinical trials and case reports	25(45.5%)	30(54.5%)	1.55	0.50
E-medicine alerts and updates	10(18.2%)	45(81.8%)	1.82	0.39
Modern approach to treatment modalities				
	10(18.2%)	45(81.8%)	1.82	0.39
Latest information on current practices in medicine				
	5(9.1%)	50(90.9%)	1.91	0.29
E-journal alert service	10(18.2%)	45(81.8%)	1.82	0.39

Average mean = 1.79

Sources: Field study 2014.

Statistics shown in table 5 reveals an average mean of 1.79. However, the most required clinical service that make use of Information Systems is patient care information (Mean = 1.91) and latest information on current practice in medicine (Mean= 1.91) than any other type of information. Next to these are information on Pharmacological drugs (Mean = 1.82), Information on recent advances in medicine (Mean= 1.82), E-medicine alerts and updates (Mean = 1.82), modern approach to treatment modalities (Mean= 1.82), and E-journals alert service information (Mean = 1.82). The least required information are Medical-legal information (Mean = 1.64) and Clinical trials and case reports (1.55).

Figure 1: Challenges faced in the course of using Information Systems to manage HealthCare Delivery Academic Medical Centres



Sources: Field study 2014.

Evidence from figure 1 reveals that many of the respondents do not know how to use any of the information systems (Mean= 3.89) and this has affected them much. In addition, most of the respondents indicate inadequacy of information systems (Mean= 3.67) as the challenge facing them. Lack of training on how to use information systems (Mean = 3.51) faulty information system (Mean= 3.69) and non procurement of modern information systems (Mean = 3.55) has fairly affected their use of information systems. Most respondents consider lack of experience on the part of information systems supplier (Mean = 3.75), lack of financial support for information systems (Mean= 3.40) and ingenuity of sources of information systems (Mean =3.42) as major challenges which has affected them much in the use of information system in their routine work

Table 6: How Challenges of Information Systems Affect Productivity in AMC's

	Challenges	SA	A	NA	U	Mean	Std.dev
1	Access to patient medical records during consultation	26(47.3%)	14(25.5%)	13(23.6%)	2(3.6%)	3.16	0.92
2	Management of patients medical records	22(40%)	19(34.5%)	12(21.8%)	2(3.6%)	3.11	0.87
3	Faulty diagnosis as a result of lack of functional information systems	22(40%)	11(20%)	17(30.9%)	5(9.1%)	2.91	1.04
4	Wasting of patients time in case of emergency	20(36.4%)	13(23.6%)	17(30.9%)	5(9.1%)	2.87	1.01
5	Misleading/ inappropriate handling of information systems	19(34.5%)	19(34.5%)	13(23.6%)	4(7.3%)	2.96	0.94
6	Lack of experience on the part of the hospital personnel	25(45.5%)	11(20%)	18(32.7%)	1(1.8%)	3.09	0.93
7	Lack of modern information systems equipments	27(49.1%)	15(27.3%)	8(14.5%)	5(9.1%)	3.16	0.99
8	Lack of funds to procure information systems	30(54.5%)	14(25.5%)	7(12.7%)	4(7.3%)	3.27	0.96
9	Sustainability of information systems	22(40.0%)	17(30.9%)	9(16.4%)	7(12.7%)	2.98	1.05
10	Lack of cooperation on the part of the patient	21(38.2%)	9(16.4%)	18(32.7%)	7(12.7%)	2.80	1.09
11	High cost of some information systems technologies	27(49.1%)	17(30.9%)	7(12.7%)	4(7.3%)	3.22	0.94

Sources: Field study 2014.

A cursory look at table 6 shows that all the variables measured under how the challenges in Figure 2 affect respondents' job productivity in table 5 indicate that on the average, more than 50% respondents agree that their job productivity is affected by all the challenges.

DISCUSSION OF RESULTS

The initial part of the questionnaire consisted of demographic information such as specialties, age, gender, and years of service in the Academic Medical Centers.

Observation from the result of the study shows that medical personnel are highly aware of the various information systems used in managing healthcare delivery. Also, the study found that all the variables of Information Systems under study are available except Information databases. However, their rate of use differs. The study found that four out of six variables are merely used as against just two which are computer system and internet that enjoy high level usage. On adequacy of Information systems, the study found that computer system and internet are the most adequate in terms of usage. This is not surprising since the two are the mostly used. Next to these are diagnostic devices and electronic gadgets devices.

A significant finding of the study shows that all the variables under clinical services actually require the use of Information systems which implies that (IS) has a great potential in harnessing and managing health information for service delivery. However, figure 2 shows that there are challenges that could mar the effective use of Information systems in managing healthcare. The major challenge is how to use IS by health personnel. Majority of the respondents lack the necessary skills in using IS and this has affected their job performance. This finding is in agreement with Gatero (2010) who affirms that there are inadequate ICT skills among the medical professionals. Also, lack of financial support and inadequacy of information systems are found to be part of the challenges of using IS in Academic Medical Centers. Table 4 of this study further reveals that diagnostic devices are not adequate for use in these medical centres while, table 6 and figure 1 state that there is lack of modern information systems in the hospitals. This discovery has further buttressed the affirmation made recently at a workshop by Professor Akin Oshibogun, the Chief Medical Director of the Lagos Teaching Hospital, Idi Araba that the use of obsolete and poor medical diagnostic tools has further compounded the problem of misdiagnosis in hospitals in Nigeria (Newswatch: September, 2014)

These challenges hitherto have significantly affected the productivity of health workers under study in the area of access to and management of patients' medical records, accurate diagnosis, timely treatment of patients, and so on.

CONCLUSION AND RECOMMENDATION

Information has been identified as a critical tool to providing healthcare, and Information Systems have a major role to play in achieving this especially in these days of information technologies where almost all aspects of healthcare services can be managed using technology. However, inadequate funding to procure modern equipments and lack of ICT skills on the part of medical professionals can hinder effective capturing, processing and delivery of healthcare services. In view of this, the study recommends that:

- there should be national policy framework that will encourage and promote the use of information systems as tools for health information access and dissemination
- development of ICT skills and training for medical professionals should be seen as vital tools needed for service delivery and essential for improving the quality of healthcare. Hospital managements should organize in house training on ICT for health personnel from time to time in order to enhance their capacity building.
- adequate budgetary allocation should be provided for the procurement of appropriate IT hardware, software and other accessories, cost of installation and maintenance by respective institution management.

- hospital managements budget should make provision for e-resources (databases like Medline) in a way that will allow for accessibility of e-journals across medical personnel.
- respective institutions should put in place technological infrastructure through which the use of information systems could thrive. This will enhance research and free flow of research output for decision making vis-a-vis national development.

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AN INTRODUCTION TO HEALTH CARE PROCUREMENT IN NIGERIA AND ITS RELATIONSHIP TO DEVELOPMENT

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ABSTRACT

Public procurement may be described, as the process through which a government purchases the goods, services and 'works' it requires to function and maximize public welfare. Public procurement covers a wide range of activities from the purchase of everyday items such as pens and paper to the construction of dams, hospitals, schools and to contracts for services such as financial and legal services and even research and development contracts

Procurement accounts for a large measure of government spending, especially in developing countries where infrastructure and social needs remain unmet for the vast majority of the population. Despite the importance of procurement to development, there is little academic information on public procurement, especially in relation to health care procurement and its relationship and importance to development. Health care procurement has thus received little attention in Nigeria, either from policy makers or academics despite its importance to the attainment or the non-attainment of the MDGs.

This paper adopts a doctrinal analysis of the healthcare procurement law and framework in Nigeria, and using the UK as a case study, illustrates that a holistic approach to healthcare procurement in Nigeria can serve to accelerate our development.

Keywords: *Public Procurement, Healthcare Procurement, Development, Law.*

INTRODUCTION

Public procurement in Nigeria has had a somewhat checkered history, and the formal regulation of public procurement did not begin until after 1999 and before 1999, there was no formal or coordinated approach to public procurement, which was regulated by means of financial circulars issued by the Minister of Finance. In practice, these circulars were often disregarded as there was no mechanism for ensuring compliance.²³⁵

The absence of formal legal regulation of procurement meant that government contracts were used and abused as a form of patronage for government officials and their cronies. The vast sums of money involved in government contracts presents a temptation for unscrupulous and unethical behavior in the procurement space.²³⁶ The kinds of inappropriate, illegal and unethical conduct in Nigerian public procurement ranges from abuse of power and conflicts of interest, to bribery and illicit payments to fraud and misrepresentation.²³⁷

The consequence of this was that the government did not always get value for money, leading to a waste of public funds. In addition, it meant that with contracts that were intended to produce a

²³⁵ Sope Williams-Elegbe, *The Reform and Regulation of Public Procurement in Nigeria* (2012) 41 (2) *Public Contract Law Journal* 339, 341.

²³⁶ William Sims Curry, *Government Contracting: Promises and Perils* (2010, Taylor & Francis), Ch. 1.

²³⁷ Sims, *ibid.*

social good, such as in relation to health care, communities were often left bereft as the victims of inappropriate procurement.

This paper examines the current legislative approach to healthcare procurement in Nigeria and makes suggestions for how Nigeria's procurement in healthcare can be improved to meet our developmental aspirations. The paper reviews the current changes to healthcare procurement in the UK as a model for Nigeria.

PUBLIC PROCUREMENT REGULATION IN NIGERIA

In 1999, at the behest of the Obasanjo administration, the World Bank conducted a Country Procurement Assessment on Nigeria and found several weaknesses. The assessment led to a Country Procurement Assessment Report (CPAR), which criticized the transient and superficial nature of the financial regulations; the lack of a coordinating supervisory body for public procurement as well as the absence of a review mechanism where irregularities in the procurement process are alleged.²³⁸

The CPAR made several recommendations for the reform of the Nigerian procurement regime, many of which were implemented.

To counter the perceived shortcomings in the procurement system, CPAR first recommended that Nigeria enact a public procurement law based on the UNCITRAL Model Law on the Procurement of Goods, Construction and Services. This was done as the Public Procurement Act (PPA) was passed in June 2007. The CPAR also suggested that the Nigerian Government establish an independent oversight body to provide policy direction on public procurement and improve the efficiency and effectiveness of public procurement. This was also done by the passage of the PPA, which established the Bureau of Public Procurement (BPP). The establishment of the BPP addresses the earlier issues surrounding the insufficiency of the financial regulations and the lack of coherence, organization, and policy direction on procurement.

The second recommendation in the CPAR was aimed at improving procurement procedures and practices and introducing best practices into the procurement process by requiring advertisements for contracts over a certain threshold; increasing clarity in bid evaluation criteria; eliminating conflicts of interest; developing uniform registration processes for contractors; developing uniform standard bidding documents; improving contract management and oversight; and improving the systems of record keeping. This recommendation was to meet the fragmented and haphazard manner in which procurement was carried out by most procuring authorities and the inadequacies in the methods of contract management and record keeping. This recommendation was again addressed by the passage of the PPA, which provides extensive rules on the procedures governing the award of public contracts.

The third recommendation addressed the organization of tender boards and the capacity of procurement personnel. The CPAR recommended that politicians should not be involved in the procurement function, which should be left to the civil servants, and that a trained procurement cadre should be established in all government ministries, departments and agencies. Capacity building is of course both a short to long-term goal and the Bureau of Public Procurement in

²³⁸ Williams-Elegbe, note 1, 342.

conjunction with the Public Procurement Research Centre at the Federal University of Technology, Owerri regularly conducts training for procurement officials.²³⁹

At present, the Nigerian procurement system is still emerging and the reform process is by no means over. Much is being done and still needs to be done in relation to capacity building; developing supporting ICT infrastructure, a functional enforcement system and strengthening the Bureau of Public Procurement.²⁴⁰

Public Procurement And Development

It was mentioned in the introduction to this paper that procurement is intricately connected with a nation's development, given that it is through engaging in procurement that a government is able to maximize public welfare and meet its developmental goals. It may be noted at this juncture that the value of government procurement ranges from millions to billions of naira depending of the functions and the budget of the government department in question. There have been studies that illustrate the potential size of the global public procurement market and the impact it can have on development and socio-economic welfare and growth where procurement funds are properly deployed.²⁴¹

According to Evenett and Hoekman, procurement is important to development as it will be difficult for a state to meet the needs of its citizens without a public expenditure system that includes effective public procurement.²⁴²

According to the OECD, "good public procurement practices are a major determinant of the effectiveness of public expenditure. On behalf of their citizens, governments typically spend as much as 5–20 percent of their gross domestic product on procurement of goods and services, and effective procurement policies enable better use of government budgets".²⁴³ Good national procurement practices are therefore an essential element of the poverty reduction initiatives in developing countries.²⁴⁴

Effective procurement in the World Bank has also been associated with better development outcomes.²⁴⁵ An analysis of World Bank procurement found a positive correlation between procurement performance and project success. Thus in projects where there were unresolved procurement problems at closing the likelihood of unsatisfactory outcomes is more than three times as high as for projects with satisfactory performance at completion.²⁴⁶

Although similar data does not currently exist on Nigerian procurement, given that Africa is one of the largest Bank borrowers by region, one may allude that Nigeria faces similar situation. In

²³⁹ Sope Williams-Elegbe, *Beyond UNCITRAL: The Challenges of Procurement Reform Implementation in Africa* (2014) 25 (1) Stellenbosch Law Review, 209, 214.

²⁴⁰ Williams-Elegbe, *ibid* 210-223.

²⁴¹ Christopher McCrudden, *Buying Social Justice: Equality, Government Procurement and Legal Change* (2007, Oxford University Press); Sue Arrowsmith and Peter Kunzlik (eds.), *Social and Environmental Policies in EC Procurement Law: New Directives and New Directions* (2009, Cambridge University Press); Sope Williams-Elegbe, *Fighting Corruption in Public Procurement* (2012, Hart Publishing).

²⁴² Simon J. Evenett and Bernard M. Hoekman, 'International Cooperation and the Reform of Public Procurement Policies' Research Working Paper, August 2005, 21-25.

²⁴³ OECD, *A Practical Guide for Transforming Procurement Systems*. Paris: OECD, 2011)

²⁴⁴ World Bank, *The World Bank and Public Procurement: An Independent Evaluation* (2014), 1

²⁴⁵ *ibid.*

²⁴⁶ *ibid.*, 2.

2013, Bank lending to Africa stood at \$8.245 billion, in comparison with the \$4.474 billion loaned to South Asia during the same time frame.²⁴⁷ Thus, it can be inferred that information on development outcomes and procurement performance will apply to African countries including Nigeria.

Health Care Procurement In Nigeria

It should be noted that although Nigeria now has in place an Act regulating public procurement, health care procurement is not treated as a distinct or special category of procurement and health care procurement in Nigeria is governed and regulated by the PPA 2007.

This approach of regulating health care according to general procurement rules, without providing a specialized policy or approach for health procurement is at odds with the practice in developed nations and has implications for the efficacy of health care procurement, given that some rules which apply to generalized procurement are unsuitable for health care procurement.²⁴⁸

It should be noted that efficient procurement in the health sector requires “specialized knowledge of and expertise in essential medicines and consumables, and the markets where quality products can be obtained.”²⁴⁹ This is even more so in a county with a limited manufacturing base in relation to health care products. Thus, at a minimum, health care procurement ought to be designed to take into account the complexity of healthcare procurement, which involves coordination between multiple agencies, decentralized agencies, international and local health polices and multiple health financiers.

As mentioned above, the PPA 2007 applies to the procurement of healthcare. The PPA is a comprehensive statute which created new institutions- the National Council on Public Procurement and the Bureau of Public Procurement; strengthened new and existing obligations on procuring authorities in relation to the procurement function; provided for the use of competitive procurement procedures; created a system of supplier remedies; created a debarment (disqualification) mechanism and created several procurement related offences. The PPA governs the procurement of goods, construction works and services and also applies to the disposal of state assets.

To fill in the gaps in the PPA and clarify any areas of ambiguity,²⁵⁰ the Bureau of Public Procurement also issued a set of regulations, which provide more detail on the regulation and management of the procurement function.

i. Application of the PPA

The PPA applies to all procurements carried out by the Federal Government of Nigeria and all procuring authorities.²⁵¹ A procuring entity is defined to mean any public body engaged in procurement and includes a Ministry, Extra-Ministerial office, government agency, parastatal and corporation. The PPA also applies to entities outside this definition, which derive at least

²⁴⁷ The World Bank Annual Report, 2013.

²⁴⁸ See generally, Rao Raja, Peter Mellon and David Sarley, *Procurement Strategies for Health Commodities: An Examination of options and mechanisms within the commodity security context* (2006, USAID); Department of Health, UK, *Better Procurement, Better Value, Better Care: A Procurement Development Programme for the NHS* (2013).

²⁴⁹ Rao Raja, Peter Mellon and David Sarley, *Procurement Strategies for Health Commodities: An Examination of options and mechanisms within the commodity security context* (2006, USAID).

²⁵⁰ Public Procurement (Goods and Works) Regulations, Official Gazette No. 109 Vol. 94, 31 December 2007.

²⁵¹ Section 15 (1) PPA.

35% of the funds appropriated or proposed to be appropriated for the procurement from the Federation share of Consolidated Revenue Fund.²⁵² From the above provisions, it can be seen that health care procurement comes within the ambit of the PPA.

Although health care is governed by the PPA, defence procurement is excluded from the ambit of the PPA and the PPA accordingly provides that it does not apply to the procurement of “special goods, works and services involving national defense or national security unless the President's express approval has been first sought and obtained.”²⁵³

The PPA also applies to the disposal of “public property”²⁵⁴ and as is the case with procurements, requires open competitive bidding as the method by which a government agency shall receive offers for the purchase of public property.²⁵⁵

ii. Procurement procedures

The PPA for the first time introduced mandatory procedures to be used in the procurement process. As discussed earlier, the CPAR recommended that Nigeria adopt a procurement law based on the UNCITRAL Model Law. The PPA as eventually adopted contains elements of the UNCITRAL Model Law and the World Bank Procurement Guidelines.²⁵⁶

There are five procurement procedures provided by the PPA, which may be used by government agencies in all procurements including healthcare procurement. These are open competition, two-stage tendering, restricted tendering, request for quotations and sole-source procurement.

- (a) Open competitive bidding: This is the primary procurement method to be used by procuring entities under the PPA. It may take the form of national or international competitive bidding and is described in the PPA as “the process by which a procuring entity based on previously defined criteria, effects public procurements by offering to every interested bidder, equal simultaneous information and opportunity to offer the goods and works needed.”²⁵⁷ Where open competition is used, the winning tender shall be the lowest evaluated responsive bid.²⁵⁸ Under the PPA, where open competition is used, the contract opportunity shall be advertised in national (and international, where international competitive bidding is used) newspapers for a period of six weeks.²⁵⁹

(b)

For open competitive bidding, bids are required to be submitted in English, in writing and are required to be deposited in a tamper-proof box before the deadline specified in the tender documents.²⁶⁰ No communication is permitted between the procuring agency and the bidder once

²⁵² The Consolidated Revenue Fund was created by the 1999 Constitution and is comprised of all revenues received or raised by the Federation. See section 80, 1999 Constitution.

²⁵³ S 15 (2) PPA. The Director-General of the Bureau of Public Procurement stated in the Fourth National Procurement Forum 25-26th July 2011, Abuja, Nigeria, that the President of the Federal Republic of Nigeria, Goodluck Jonathan routinely acquiesces in the use of competitive procurement procedures for defence contracts.

²⁵⁴ Section 55 PPA.

²⁵⁵ Section 55 (3) PPA.

²⁵⁶ WORLD BANK, GUIDELINES: PROCUREMENT FOR GOODS, WORKS AND NON-CONSULTING SERVICES UNDER IBRD LOANS AND IDA CREDITS AND GRANTS BY WORLD BANK BORROWERS (JANUARY 2011).

²⁵⁷ Section 24 (2) PPA.

²⁵⁸ Section 24 (3) PPA.

²⁵⁹ Section 25 (2) PPA.

²⁶⁰ Section 27 PPA.

a contract opportunity is advertised. Received bids are required to be opened in public in the presence of bidders or their representatives and interested members of the public.²⁶¹ As a matter of course, procuring agencies are provided with a list of interested Civil Society Organizations (CSOs) who are invited to be present at bid openings to ensure transparency and fairness in the procurement process.

(b) Two-stage tendering: Under the PPA, two-stage tendering shall be used in a number of situations.²⁶² These are: (i) where it is not feasible for the procuring entity to formulate detailed specifications for the procurement and it seeks proposals on various ways of meeting its needs; or (ii) where the nature of the goods or works are subject to rapid technological changes; or (iii) where the procuring entity seeks to enter into a contract for research, experiment, study or development; or (iv) where national security concerns mean that two-stage tendering is the most appropriate method of procurement; or (v) where open competitive procurement procedures have been utilized but were not successful.

The procedures for two-stage tendering under the PPA are the same for open competitive bidding, except that the invitation to bid shall require suppliers in the first stage to submit proposals without a price.²⁶³ Such proposals may relate to the technical, and other characteristics of the goods, works or services in question. Such proposals may also include contractual terms and conditions of supply and stipulate the professional competence and technical qualifications of suppliers. At the first stage, a procuring authority may also engage in negotiations with suppliers on the merits on their bid.²⁶⁴

At the second stage, the procuring entity shall invite suppliers whose tenders have not been rejected to submit final tenders with prices on a single set of specifications.²⁶⁵ The final tenders shall be evaluated and compared in order to ascertain the successful tender and the successful bidder shall be that with the lowest evaluated tender as is the case in the open competitive procedure.²⁶⁶

(c) Restricted tendering: The PPA also provides for restricted tendering as a method of procurement.²⁶⁷ The use of this procedure is however subject to the approval by the BPP and a procuring entity may engage in procurement by means of restricted tendering where the goods, works or services are available only from a limited number of suppliers or contractors; or the time and cost required to examine and evaluate a large number of tenders is disproportionate to the value of the goods, works or services to be procured; or the procedure is used as an exception rather than norm.²⁶⁸

Where a procuring entity engages in restricted tendering on the basis that the goods, works or services are available only from a limited number of suppliers, it shall invite tenders from all the

²⁶¹ Section 30 PPA.

²⁶² Section 39 (2) PPA.

²⁶³ Section 39 (4) PPA.

²⁶⁴ Section 39 (5) PPA.

²⁶⁵ Section 39 (6) PPA.

²⁶⁶ Section 39 (7) PPA.

²⁶⁷ Section 40 PPA.

²⁶⁸ Section 40 (1) PPA.

suppliers who can provide the goods, works or services.²⁶⁹ Where restricted tendering is used on the basis that the time and cost required to examine and evaluate a large number of tenders is disproportionate to the value of the goods, works or services, it shall select in a non-discriminatory manner, a number of suppliers or contractors to ensure effective competition.²⁷⁰ In either case, the contract opportunity shall be advertised and the provisions of the PPA in relation to open competitive bidding shall be utilized once the selected bidders have been nominated.²⁷¹ In other words, the bids shall be opened in public and the lowest evaluated responsive tender selected.

(d) Request for quotations: Under section 41 of the PPA, a procuring entity may carry out procurements by requesting for quotations from suppliers where the value of the goods or works to be procured does not exceed a sum that shall be set in the procurement regulations.²⁷² Where this method of procurement is used, quotations shall be obtained from at least three unrelated suppliers,²⁷³ who shall give only one quotation and shall not be allowed to change or vary the quotation. In addition, no negotiation shall take place between a procuring entity and a supplier with respect to a quotation.²⁷⁴ As is the case with open competitive bidding, the contract shall be awarded to the qualified supplier that gives the lowest priced responsive quotation.²⁷⁵

(e) Sole source procurement: Section 42 of the PPA provides the conditions for the use of sole source procurement, referred to in the PPA as “direct” and “emergency” procurement. Under the PPA, a procuring entity may carry out sole source procurement in the following situations: (i) where the goods, works or services are only available from a particular supplier, or (ii) if a particular supplier has exclusive rights in respect of the goods, works-or services and no reasonable alternative or substitute exists; or (iii) there is an urgent need for the goods, works or services, which is not the result of dilatory conduct on the part of the procuring entity; or (iv) owing to a catastrophic event, there is an urgent need for the goods, works or services, making it impractical to use other methods of procurement; or (v) where a procuring entity has procured goods, equipment, technology or services from a supplier and determines that additional supplies need to be procured from that supplier because of standardization or the need for compatibility with existing goods, equipment, technology or services or (vi) where the procuring entity seeks to enter into a contract with the supplier for research, experiment, study or development, except where the contract includes the production of goods in quantities to establish commercial viability or recover research and development costs or (vii) national security concerns mean sole source procurement is the most appropriate method of procurement. Subject to the approval of the BPP, the Procurement Regulations also authorize the use of sole source procurement when buying “small of off-the-shelf items of small value.”²⁷⁶

The PPA by s 43 also permits the use of sole source procurement in situations of emergency.

²⁶⁹ Section 40 (2) (a) PPA.

²⁷⁰ Section 40 (2) (b) PPA.

²⁷¹ Section 40 (4) PPA.

²⁷² The Public Procurement Regulations, however omitted to specify a sum for the use of the Request for quotations procedure.

²⁷³ Section 41 (2) PPA.

²⁷⁴ Section 41 (4) PPA.

²⁷⁵ Section 41 (5) PPA.

²⁷⁶ Regulation 62 (d).

Thus (i) where the country is either threatened or confronted with a disaster, catastrophe, war, insurrection or Act of God or the condition or (ii) the quality of goods, equipment, building or publicly owned capital goods may seriously deteriorate unless action is urgently and necessarily taken to maintain them in their actual value or usefulness; or (iii) a public project may be seriously delayed for want of an item of a minor value, a procuring authority is permitted to use sole source procurement.

Where sole source procurement is used, the procuring entity may procure the goods, works or services by inviting a proposal or price quotation from a single supplier²⁷⁷ and shall include in the record of procurement proceedings a statement of the grounds for its decision and the circumstances in justification of sole source procurement.²⁷⁸ Furthermore, where the procurement relates to an emergency, and the emergency has ceased, the procuring authority shall file a detailed report with the BPP, which shall verify the report and if appropriate (if the contract is above the relevant threshold) provide a “Certificate of No-Objection” for the completed contract.²⁷⁹

A New Approach To Health Care Procurement In Nigeria: The Case Of The Uk National Health Service (NHS)

As was mentioned above, many jurisdictions adopt a specialized approach to health care procurement, given the sensitive, specialized nature and importance of the health sector. This is an approach that ought to be considered by Nigeria, given our health development indicators,²⁸⁰ which illustrate that our health sector is facing severe challenges. Some of these challenges are expressed in our high infant and maternal mortality rate, low vaccine penetration and continued prevalence of diseases such as malaria and HIV/AIDS. Thus, in 2013, Nigeria’s HDI rank was 153 out of 187 countries. According to the UNDP, life expectancy is 52.3 years.

In recognition of the potential benefits and savings of a coordinated approach to health care procurement, in 2013, the UK Department of Health developed a Procurement Development Programme (PDP) for the NHS. The objectives of the PDP are to better manage the vast resources spent on healthcare procurement which is around £20 billion, to bring coherence into health procurement, improve procurement capabilities across the NHS and increase transparency in health procurement. The PDP intends to maximize care, whilst also maximizing value for money, by achieving economies of scale.

Some of the salient aspects of the PDP include:

- a. Contribution to economic growth: The NHS intends to ensure that it can contribute to economic growth by ensuring that SMEs have access to NHS procurements. In addition, the NHS intends to develop a more collaborative relationship with suppliers and manufacturers to foster innovation.
- b. Reducing expenditure: Collaborative procurement between hospitals and primary care providers can dramatically reduce costs as will increased reliance on generic (non-brand) products. An investigation revealed that if hospitals switched from the known brand of

²⁷⁷ Section 42 (2) (a) PPA.

²⁷⁸ Section 42 (2) (b) PPA.

²⁷⁹ Section 43 (4) PPA.

²⁸⁰ UNDP, Human Development Report 2013: Nigeria.

medical gloves to another lesser known product, the NHS would save £5 million. These kinds of savings can affect front-line delivery of medical services and cause savings to be used in other areas. Other identified ways of reducing expenditure are to offer suppliers of high value medical equipment a commitment in exchange for lower prices.

- c. Investing in procurement capability and the sharing of best practices.
- d. The creation of a NHS Procurement Development Oversight Board and the appointment of a private sector procurement champion, whose role is to drive the modernization of procurement and greater accountability.
- e. The PDP will achieve these through (i) the delivery of efficiency and productivity gains (ii) improving data, information and transparency (iii) action to improve patient outcomes through clinical procurement review partnerships (iv) A longer term partnership to improve procurement leadership and capability.

From the above, it can be seen that the UK is undergoing significant reform of its approach to health care procurement. It may be noted that similar to Nigeria, health care procurement is not exempted from the general laws regulating UK procurement, however, within the ambit of those laws, the Department of Health intends to leverage on partnerships, collaborative procurement, better information sharing and transparency to maximize value and improve patient outcomes.

This is definitely an approach that can be adopted by Nigeria, both at the federal and state level. As a start, health agencies within a state can collaborate to buy common or off the shelf items in bulk as a way of driving down prices. Improving relationships with key suppliers and better market research can also assist to help to promote innovations in the health sector. In addition, and similar to the approach in the UK, increasing transparency and data on prices paid can also help to maximize value.

CONCLUSION

This paper has presented the current legal approach to procurement in the health sector in Nigeria and shown through an analysis of the trends in the UK that Nigeria needs to adopt a specialized approach to health care procurement in order to maximize value and improve patient outcomes, in the light of our poor human development indicators especially as they relate to health.

PERSONAL CHARACTERISTICS, PROFESSIONAL DEVELOPMENT, AND WORK HABITS AS DETERMINANTS OF HUMAN CAPITAL DEVELOPMENT OF SCIENCE AND TECHNOLOGY TEACHERS

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ABSTRACT

The paper examined the determinants of human capital development of science and technology teachers. Purposive and random sampling techniques were used to select a sample of 135 science and technology teachers. Human capital inventory (HCI) was the instrument used for the study. HCI is componential of three main sections: personal characteristics, professional development as well as work habits. One research question was raised and two hypotheses generated in the study. The research question showed that more than half of the sampled teachers were qualified while more than half of the teachers attended less than two conferences in the last three years. Also, more than half of the sampled teachers did not have more than ten years of teaching experience. Personal characteristics of science and technology teachers, professional development as well as work habits and values were positively related with human capital development. Work habits and values was the most reliable predictor of human capital development while professional development of science and technology teachers was the least influential in the prediction. It is recommended that government and private organization should collaborate more to invest in the professional development of science and technology teachers in our secondary schools

Keywords: Personal Characteristics, Professional Development, Work Habits, Human Capital, Science and Technology teachers

INTRODUCTION

The eight Millennium Development Goals was conceived to make the world a better place to live in as well as to improve the quality of life. The goals are to: (1) eradicate extreme poverty and hunger (2) achieve universal primary education (3) Promote gender equality and empower women (4) reduce child mortality (5) improve maternal health (6) Combat HIV/AIDS, malaria and other diseases (7) ensure environmental sustainability (8) develop a global partnership for development. In order to meet the Millennium Development Goal related to education, (Goal 2), part of the policy options is to train enough teachers and improve their working conditions (Mohammed, 2006). One of the strategies of achieving the Millennium Development Goals (MDGs) is through the Universal Basic Education (UBE) programme (Babatunde, 2013). She further observed that at the end of nine-year basic education, the product would have acquired adequate knowledge, skills, attitudes and values necessary for functioning effectively in the society, and, for those pursuing further studies, a strong foundation. However, this strategy might be somehow limited because it might not focus more than

Goal 2 which is to achieve universal primary education and this might probably yield insignificant contributions to the actualization of other Millennium Development Goals.

Another strategy that seems to be gaining more attention is to use Science, Technology Engineering and Mathematics Education in the actualization of some of the MDG's. STEM education is an acronym for the fields of study in the categories of science, technology, engineering, and mathematics. The acronym has been used regarding access to United States work visas for immigrants who are skilled in these fields. It has also become commonplace in education discussions as a reference to the shortage of skilled workers and inadequate education in these areas (Michiko, 2011). It is thus possible to advance a greater actualization of Millennium Development Goals through Science, Technology, Engineering and Mathematics education which embraces different fields of human endeavour. These include but are not limited to: Acoustical engineering, Aerospace engineering, Atmospheric engineering, Bioinformatics, Computational science, Educational/Instructional technology, Geographic Information Systems, Nanotechnology, Neurobiology, Nuclear physics, Optics and Robotics.

LITERATURE REVIEW

The application of scientific knowledge, skills and attitudes in diverse fields of Science and Technology education specifically could help to fast-track the actualization of these Millennium Development Goals. However, this study is streamlining it to include Science and Technology teachers in our secondary schools with a view to ascertaining their human capital development in relation to their contribution to the actualization of MDG with more focus on education and equality of gender. There is a growing concern that major countries of the world are not preparing a sufficient number of students, teachers and practitioners in the areas of Science and Technology (Kuenzi, 2008; National Centre for Education Statistics, 2004; Oke, Yewande, Okunuga & Ojo, 2011). In addition, legislations are being passed in countries like United States of America to help them achieve a lot in Science and Technology education and to have a framework in which they can operate. When will Nigeria think of enacting laws on Science and Technology education?

A relatively recent development in the area of academic assessment has been the emergence by a number of nations to produce reliable cross-national comparison. Trends in International Mathematics and Scientific Study (TIMSS) assess achievement in these subject areas at grades 4 and 8 among students in several countries around the world. TIMSS have been administered to 4th grade students on two occasions (1995 & 2003) and to 8th grade students on three occasions: 1995, 1999 and 2003 (National Centre for Education Statistics NCES, 2006). The 2003 administration as reported by NCES (2006) indicated that 25 countries participated in assessments of their 4th grade students and 45 countries in assessment of their 8th grade students. Nigeria was not listed at all while Tunisia and Morocco were listed for both 4th and 8th grade students. On the other hand, Egypt, Ghana and South Africa were listed only for the 8th grade category.

Program for International Student Assessment (PISA) is another STEM related programme though limited to science and mathematics. It was conceived under the umbrella of Organisation for Economic Cooperation and Development (OECD) to measure among other things mathematics and scientific literacy among students 15 years of age who are roughly at the end of their secondary education. The 2003 Assessment consisted of 29 OECD member states and 11 non-OECD countries. Only Tunisia was the only country listed in Africa. Nigeria is not showing any international presence in these Science and Technology related assessment programmes as it relates to the students. Another dimension to Science and Technology education is to assess the teachers with regard to the stock of their competencies for labour termed human capital.

Human capital refers to the stock of competencies, knowledge and personality attributes in the ability to perform labour so as to produce economic value (Sheffrin, 2003). It can be inferred to be attributes acquired or gained by a worker based on education and experience. Olaniyan and Okemakinde (2008) view human capital as investment people make in themselves that enhance their economic productivity. Becker (1964, 1993) popularised the concept of Human capital. Becker (1993) observes that education, skills and other knowledge have become crucial determinants of a person's and a nation's productivity. He further notes that the twentieth century can even be called the Age of human capital in the sense that primary determinant of a country's productivity is how well it succeeds in developing and utilizing the skills, knowledge, health and habits of its population. Babalola (2003), note that the rationality behind investment in human capital is based on three arguments:

- i. that the new generation must be given the appropriate parts of the knowledge which has already been accumulated by previous generations;
- ii. that new generation should be taught how existing knowledge should be used to develop new products, to introduce new processes and production methods and social services; and
- iii. that people must be encouraged to develop entirely new ideas, products, processes and methods through creative approaches.

Two of these arguments rest on the fact that the society is dynamic with new knowledge and skills which must be acquired to make an individual function effectively within the society. It is not however fitting to note that Nigeria's rating in human development index is rather very low as shown in

Table1: List of Some Countries and their 2012 Human Development Index Ranking

S/N	Country	HDI	Ranking	Status
1	Norway	0.955	1	Very High Human Development
2	Australia	0.938	2	Very High Human Development
3	United States	0.937	3	Very High Human Development
4	Mauritius	0.737	80	High Human Development
5	Algeria	0.713	93	High Human Development
6	Tunisia	0.712	94	High Human Development
7	Gabon	0.683	106	Medium Human Development
8	Egypt	0.662	112	Medium Human Development
9	South Africa	0.629	121	Medium Human Development
10	Kenya	0.519	145	Low Human Development
11	Cameroun	0.495	150	Low Human Development
12	Nigeria	0.471	153	Low Human Development

Source: UNDP 2012

Table 1 show that Norway was the most rated country with the highest human development in the world in 187 countries surveyed while Nigeria was ranked 153 climbing three steps higher when compared to UNDP 2011 of 156. The status of Nigeria in this ranking was in the category of low human development. Less endowed countries such as Kenya, Gabon, and Cameroun were even rated above Nigeria. The functionality of Science and Technology education is hinged on the Human capital of the teachers at all levels. The review of empirical test of Human Capital by Garba (2002) show that cross-country regressions have shown positive correlation between educational attainment as well as economic growth and development. Odekunle (2001) affirms that investment in human capital has positive effects on the supply of entrepreneurial activity and technological innovation. Ayeni (2003) asserts that education as an investment has future benefits of creation of status, job security and other benefits in cash and in kind. However, Ayara (2002) reports that education has not had the expected positive growth impact on economic growth in Nigeria. Hence, he proposes three possibilities that could account for such results, which are:

- Educational capital has gone into privately remunerative but socially unproductive activities;
- There has been slow growth in the demand for educated labour;
- The education system has failed, such that schooling provides few (or no) skills

The second and third bullets are reasonably linked with human capital whether in the supply of high level of human capital or the level of human capital on the part of the teachers is not adequate to facilitate acquisition of skills on the part of the learners. The significance of human capital as it applies to education particularly STEM education lies in the fact that if properly developed, harnessed and utilized, it can lead to the entrenchment of the culture of STEM development, economic prosperity as a result of increased productivity and reduction of inequality of income.

CONCEPTUAL FRAMEWORK

Human Capital theories of Sakamota and Powers (1995) as well as Psacharopoulos and Woodhall (1997) are founded on the assumptions that formal education is very crucial to production capacity of a population. These theories argue that education increases the productivity and efficiency of workers by increasing the level of cognitive stock of economically productive human capabilities which is a function of innate abilities and investment in human beings. The provision of formal education is being viewed as a productive investment in human capital that is even considered more worthwhile than that of physical capital. This study conceptualizes human capital to be componential of personal characteristics (measured in terms of qualification and years of work experience), teachers' professional development and work habits. Professional development in terms of trainings, exposures, specific experiences enables people to learn new knowledge and skills and to transfer these into practice (Bruce & Showers, 2003). More importantly, they stress that professional development should help people to become more effective learners. They identified four targeted outcomes of professional development and these are:

(i) Knowledge and awareness of educational theories and practices, new curricula on academic content (ii) Positive attitude changes for example towards their own role, different groups of children and aspects of the curriculum (iii) Development of skills (iv) Transfer of training and executive control-generate consistent and appropriate use of the new skills and strategies in classroom practice

This study views the teachers' personal characteristics as the starting point in the model with a direct link to their professional development which comprises number of conferences attended in the last three years, number of professional associations belonged to, number of workshops in ICT, marking experience at NECO, WAEC, JSSCE, supervision of external exams, involvement in Junior Engineers Technician Scientist (JETS)

Statement of the Problem

One of the ways by which Millennium development goals can be achieved is through investment and development in Science and Technology education. Science and Technology education and its application provides an avenue for the development of culture of science and technology, and also serves as the cornerstone of economic prosperity, job creation and has the potential of reducing income inequality. Nevertheless, the applicability of its potential among practitioners and policy implementers is at its lowest level in this part of the world. This is evidenced in the non-participation of Nigeria in relevant programs and assessment at the global level and this might be attributable to human capital development with Nigeria being classified as low on the human development index (UNDP, 2012). Human capital development is a vital tool for the actualization of whatever goals that must be achieved in Science and Technology education. Teachers are probably the most important element in the development of any educational system in the world. The extent of development of

human capital among science and technology teachers who are implementers of the various policies of the government in science and technology education at the level of secondary school education remains unclear as well as what actually constitute determinants of human capital index. It is against this background that the study examined the determinants of human capital development from the perspectives of teachers' personal characteristics, their professional development as well as their work habits.

Purpose of the Study

The study sought to determine the components of human capital index from teachers' characteristics, their professional development as well as their work habits. Specifically, it achieved the following objectives:

- (i) To determine the profiles of science and technology teachers in terms of: qualification, years of teaching experience, number of conferences attended in the last three years and number of professional associations belonged to
- (ii) To determine the interrelationships among personal characteristics of the teachers, their professional development, work habits and values with human capital development among science and technology teachers
- (iii) To determine the contributions of personal characteristics of the teachers, their professional development, work habits to human capital development among science and technology teachers.

Research Questions

- (i) What the profiles of science and technology teachers in terms of: qualification, years of teaching experience, number of conferences attended in the last three years?
- (ii) What are the distributions in terms of mean scores among personal characteristics of the teachers, their professional development, work habits in relation to human capital development of science and technology teachers?

Hypotheses

- (1) There will be no significant relationship among personal characteristics of science and technology teachers, their personal professional development, work habits and values and human capital development
- (2) The three predictor variables (personal characteristics of science and technology teachers, their personal professional development, work habits and values) will not reliably contribute significantly to the prediction model of human capital development

METHODS

The design used was a non-experimental design of the correlational survey type. The population used comprises all science and technology teachers in the eight educational zones in Oyo state and six educational districts in Lagos state.

The study used purposive and random sampling techniques to select science and technology teachers in Lagos and Oyo states. There are six educational districts and eight educational zones in Lagos and Oyo states respectively. Two educational zones and two educational districts were randomly selected from Oyo and Lagos respectively. Seven secondary schools were randomly selected from each of the two educational districts/zones making a total of twenty-eight secondary schools used for the study. Five teachers teaching physics, chemistry, biology, basic science and basic technology were selected from each of the schools used. A total sample of one hundred and forty was expected for the study but 135 copies were returned as at the time of writing the report making a return rate of 96.4%.

The instrument used for the study was termed Science Teachers' Human Capital Inventory (STHCI). It consists of three parts: the personal characteristics of the teachers componential of their qualifications which ranged from N.C.E to Ph.D. and years of teaching experience at three levels which are: 1-10yrs, 11-20yrs and 20yrs and above. Gender was measured at two levels: male and female and subject taught in school. The teachers' professional development was measured in terms of: conferences attended, number of professional association belonged to, marking and supervision experience in external examinations, teaching of examination class, involvement in Junior Engineer Technician Scientist (JETS). The third section consists of fifteen items on work habits and values in which teachers are expected to rate themselves. Teachers were urged to show some measures of objectivity at this section as they were encouraged to be factual and it was purely an academic exercise. The response formats are: Excellent, Very good, Good, Fair and Poor. Some of the items are indicated as follows: (2) Loyalty to constituted authority (4) Punctuality to class (10) Willingness to share ideas (13) Possession of critical and analytical mind (14) Reliability in terms of trust and confidence. The instrument was subjected to face validity and the reliability determined using internal consistency of Cronbach alpha which gave a value of 0.836 which is an indication of its validity.

Data were analysed along the lines of research questions and hypotheses. The research questions were analysed using frequency count, percentages and bar charts. Hypothesis 1 was analysed using Pearson moment correlation coefficient while hypothesis 2 was analysed using multiple regression analysis. Statistical Package for Social Scientist version 16.0 was used in analyzing the data. In the case of regression, data was converted into percentage to make the components of human capital index comparable.

RESULTS AND DISCUSSION

Research Question 1

(i) What are the profiles of science and technology teachers in terms of: qualification, years of teaching experience, number of workshops and conferences attended in the last three years?

Table 1 shows that six (4.44%) out of the sampled teachers have N.C.E while thirty nine (29.00%) possess B.Sc certificate. Sixty-nine (51.11%) science and technology teachers possess a first degree in Education science and technical while eighteen (13.00%) possess masters' degree in science without having an education degree. Three of the sampled teachers possess masters' degree in education or masters in science plus a P.G.D.E.

Table 2 and Fig. 2 shows that seventy eight (57.78%) of the sampled teachers have between 1-10yrs of teaching experience while thirty (22.22%) have between 11-20yrs of teaching experience with twenty-seven (20.00%) teachers having over twenty years of teaching experience

Table 3 indicates that thirty-one (23.00%) science and technology teachers had not attended any conference in the last three years while one-hundred and four (77.04%) had attended at least a conference in the last three years.

Research Question 2

What are the distributions in terms of percentage mean scores among personal characteristics of the teachers, their professional development, work habits in relation to human capital development of science and technology teachers?

Table 4 shows that on a percentage score expressed in mean, science and technology teachers had the lowest score in professional development (\bar{x} =34.95, SD=12.36) while work habits had the highest score (\bar{x} =79.94, SD=18.84). Human Development Index was the dependent variable score in the study.

Hypothesis 1

There will be no significant relationship among personal characteristics of science and technology teachers, their personal professional development, work habits and human capital development.

WH-Work Habits PD- Professional Development PC- Personal Characteristics

Table 5 shows that there was a significant positive relationship between work habits and values, a predictor of human capital development of science and technology teachers ($r=0.707$, $N=135$, $p=.00$) Similarly, there were significant positive relationships personal characteristics of science and technology teachers between professional development with human capital development on one hand as well as personal characteristics and human development index of teachers used respectively in the study ($r=0.595$, $N=135$, $p=.000$; $r=0.527$, $N=135$, $p=.000$). However, there was a significant positive relationship between a pair of the predictor variables which are also the independent variables in this study and this exists between professional development and personal characteristics of science and technology teachers study ($r=0.601$, $N=135$, $p=.000$). Thus there were significant relationships among the independent variables (predictor variables- personal characteristics, professional development, work habits and human capital development) and the null hypothesis stating that there will be no significant relationship among predictor variables and human capital development is therefore rejected and it is concluded that there exist a significant relationship among the predictor variables and human capital development

Hypothesis 2

The three predictor variables (personal characteristics of science and technology teachers, their personal professional development and work habits) will not reliably contribute significantly to the prediction of human capital development model of human capital development.

Table 6 shows that the multiple correlation coefficient among predictor variables and the dependent variable is 0.900. The multiple correlation coefficient squared when adjusted is 0.795. This implies that the predictor variables contributed 79.5% to the prediction model and therefore, personal characteristics, professional development and work habits are reliable predictors of human capital index. Regression results on Table 6 shows that the overall model significantly predict human capital development of science and technology teachers in our secondary schools. ($F_{(3,131)} = 56.562, p = .000$).

Table 7 shows the various contributions of the predictor variables to human capital development. Work habits was the most influential variable in reliably predicting human capital development of science and technology teachers in secondary school teachers ($\beta = .653, t = 9.271, p = .000$). Human capital development of science and technology teachers increase positively by 0.673 unit when work habits and values increases by one unit. Personal characteristics of science and technology teachers was the next most significant variable in reliably predicting human capital development ($\beta = .349, t = 4.019, p = .000$). Beta value indicates that the human capital development change positively by 0.172 when there was an increase of one unit in personal characteristics of science and technology teachers. Professional development of teachers though significant was the least contributor to the prediction of the human capital development model. ($\beta = .275, t = 3.121, p = .003$). Beta value shows that the human capital development increased positively by 0.153 when there was an increase of one unit in professional development of science and technology teachers.

DISCUSSION

Research question 1 shows that 59.3% of science and technology teachers used in the study were qualified to teach at the secondary school level. This is inclusive of six technology teachers who are teaching basic technology at the junior secondary schools and are deemed to be qualified to teach at that level. This finding is supported by the work of Oke et al (2011) who found out that science, technology, engineering and mathematics teachers were moderately qualified. 57.78% of the science and technology teachers in this study are not very experienced. They do not have more than ten years of teaching experience. In the same vein, not up to 50% of the sampled teachers had attended two or more conferences and workshops in the last three years. This finding is well supported by UNDP (2012) statistics that ranked Nigeria as being low in human development index.

Hypothesis 1 shows that personal characteristics, personal development as well as work habits were positively correlated with human capital development of science and technology teachers. This finding further establishes that there is a link between continuous professional training often measured as professional development and human capital development. This study also shows that personal characteristics of science and technology teachers can be positively related with human capital development. Work habits in this study were not statistically related with professional development though the two variables are predictor variables. This can be explained from the viewpoint that science and technology teachers have not undergone sufficient

professional development to enable them acquire and imbibe appropriate work habits as required of them. The lack of significant positive correlation of professional development with work habits as well as personal characteristics and work habits is a testament of inadequate education as expounded by Michiko (2011).

Hypothesis two shows that work habits was the most influential predictor of human capital development. When science and technology teachers acquire and imbibe the required work ethics or work habits, there is bound to be some measures of productivity that can be best captured by human capital development. This study has also shown that despite all the three predictors being significant contributors to the prediction model, professional development contributed least to the prediction of human capital development. This implies that teachers of science and technology are still some way behind in their professional development. This is well supported in literature especially in the areas of STEM education (Kuenzi, 2008; National Centre for Education Statistics, 2004).

CONCLUSION

It has been established in this study that science and technology teachers are more than averagely qualified to teach in our secondary schools. Also, science and technology teachers had not attended a conference on the average per year. Science and technology teachers as shown in this study are not sufficiently experienced as more than 50 % of them do not have experience of more than 10 years of teaching experience. Personal characteristics, professional development and work habits are reliable predictors of human capital development of science and technology teachers. Work habits were the most influential predictor while professional development was the least predictor of human capital development of science and technology teachers.

RECOMMENDATION

Based on the findings of this study, the following are recommended:

- (i) Science and technology teachers should be more motivated to stay long in the service so as to bring wealth of experience to bear especially when they are considered productive.
- (ii) Government and private organization should collaborate more to invest in the professional development of science and technology teachers in our secondary schools
- (iii) There is need to carry out survival analyses of the rate at which science and technology teachers leave the employ of Teaching Service Commission and factors responsible for that.
- (iv) Attendance of conferences could be used as part of promotion policy of science and technology teachers. Science and technology teachers are to be encouraged to attend at least a conference/training/workshop relevant to their field in a year.

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Table 1: Frequency Count and Percentages of Qualification of Teachers

Qualification	Frequency	Percentage
N.C.E	6	4.44
B.Sc.	39	28.89
B.Sc. Ed/ B.Sc+PGDE	69	51.11
M.Sc	18	13.33
M.Ed/M.Sc+P.G.D.E	3	2.22
Total	135	99.99

Table 2: Frequency Count and Percentages of Years of Teaching Experience of Science and Technology Teachers

Years of Teaching Experience	Frequency	Percentage
1-10yrs	78	57.78
11-20yrs	30	22.22
Above 20yrs	27	20.00
Total	135	100.00

Table 3: Frequency Count and Percentages of Number of Conferences Attended by Science and Technology Teachers in the Last Three Years

Number of Conferences	Frequency	Percentage
Nil	31	22.96
1	44	32.59
2	34	25.18
3	15	11.11
4 and above	11	8.15
Total	135	100.00

Table 4: Mean and Standard Deviation of Variables in the Study

Variables of the Study	N	Mean	Standard Deviation
Personal Characteristics Score	135	52.97	18.57
Professional Development Score	135	34.95	12.36
Work Habits Score	135	79.91	18.84
Human Development Index	135	59.85	7.23

Table 5: Pearson Correlation Coefficient among Measures of Human Capital Development

	HCD	WH	PD	PC	N=135
HCD	1.000 ^{***}	.707 ^{^^^}	.595 ^{**8}	.527 ^{***}	
WH	.707 ^{***}	1.000 ^{***}	.170	.019	
PD	.595 ^{***}	.170	1.000 ^{***}	.601 ^{***}	
PC	.527 ^{***}	.019	.601 ^{***}	1.000 ^{***}	

^{***} Sig. at 0.00 ^{^^} Sig. at < .01 ^{*} Sig. at <.05 HDI-Human Capital Development

Table 6: Model Summary-Analysis of Variance Table of Human Capital Development

Model	R	R ²	R ² Adj.	F _(3,131)	Sig. of P
1	0.900	0.809	0.795	56.562	.000

Significant at p < 0.05

Table 7: Coefficient of Human Capital Development

	Unstandardized Coefficient		Standardized Coefficient		Sig
	B	Std. Error	Beta	t	
Constant	1.877	5.168	.363	.718	
Work Habits	.534	.058	.653	9.271	.000
Professional Development	.153	.049	.275	3.121	.003
Personal Characteristics	.172	.043	.349	4.019	.000

Significant at p<0.05