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Experience and Knowledge of Child Abuse and Neglect: A Survey among a Group of Resident Doctors in Nigeria

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Abstract

Background: Child abuse and neglect (CAN) is a significant public health problem. Dentists are in good position to identify and report cases of CAN. **Aim:** The aim of this study was to determine the experience and knowledge of CAN among a group of Nigerian dental residents. **Materials and Methods:** This was a cross-sectional study carried out among dentists attending a postgraduate update course. Data were collected to assess the knowledge of respondents on the forms of CAN, indicators and risk factors. Respondents' professional experiences were also assessed as well as actions taken and possible barriers to reporting suspected cases. **Results:** Data were collected from 179 respondents, with a mean age of 33.1 ± 5.2 years. The respondents demonstrated good knowledge of the forms of child abuse, with an average score of 95.2%. The risk factors for CAN were correctly identified by 153 (85.5%) respondents as children with physical/mental disabilities, 151 (84.4%) as products of unwanted pregnancies, 128 (71.5%) as children from polygamous families and 122 (68.2%) as children from low socioeconomic families. Physical, sexual and emotional abuse and neglect were majorly identified as bruises behind the ears, 162 (90.5%); oral warts, 114 (63.7%); poor self-esteem, 158 (88.3%) and untreated rampant caries, 137 (76.5%), respectively. Seventy-four (46.5%) of the respondents did not evaluate children for CAN and only 12 (14.1%) of those who observed suspected cases of CAN reported to the social service. Lack of knowledge of referral procedures and concerns about confidentiality were the major barriers to reporting cases of CAN. **Conclusion:** The dentists had good theoretical knowledge of the indicators, risk factors and signs of CAN but lagged in clinical detection and reporting of such suspected cases. There is a need for continuing education and advancement of the postgraduate dental curriculum to improve the educational experiences with regard to CAN.

Keywords: Abuse, child, dentists, knowledge, neglect

INTRODUCTION

Child abuse and neglect (CAN) has been recognised as a major public health problem impairing the health and welfare of children and adolescents worldwide.^[1] Although the terms 'maltreatment and abuse' are often used interchangeably in literature, the Centers for Disease Control and Prevention uses child maltreatment in a general term that includes both abuse and neglect. It is defined as any act or series of acts of commission or omission by parents or other caregiver that results in harm, potential for harm or threat of harm to a child.^[2] The World Health Organization (WHO) defines CAN as 'Every kind of physical, sexual, emotional abuse, neglect or negligent treatment, commercial or other exploitation resulting in actual or potential harm to the child's health, survival, development, or dignity in the context of a relationship of responsibility, trust or power'.^[2] The act of commission (child abuse) is deliberate

and intentional acts which may include physical, sexual and psychological abuse, and the act of omission (child neglect) is the failure to provide for a child's basic needs such as physical, emotional, medical/dental and educational needs and failure to supervise and protect a child from harm or potential harm.^[2] Abused or neglected children have been reported to have cognitive impairment,^[3] developmental delays,^[4] eating and sleeping disorders,^[5] poor performance at school,^[6] poor relationships, post-traumatic stress disorder,^[7] depression, suicidal behaviour^[8] and may themselves become abusive.^[8]

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According to the WHO in the year 2002, an estimated 31,000 deaths were attributed to homicide among children <15 years of age.^[9] Millions of children have been victims of CAN, many of which have resulted to death, but have gone unnoticed because children's death is not routinely investigated or autopsied; therefore, it is difficult to know the degree of the problem.^[9] Infants and pre-schoolchildren are at the greatest risk of fatal maltreatment because of their dependency, vulnerability and relative social invisibility.^[9]

Children in West and Central Africa are susceptible to a wide range of hazards from which they have a right to protection, including child labour, sexual exploitation, trafficking, conflict and other emergencies, female genital mutilation/cutting and child marriage.^[10] About 35% of the children of West and Central Africa are estimated to be engaged in child labour.^[10] There are, however, wide variations between individual countries in the region.

In Nigeria, CAN is beginning to receive attention unlike in the past where the awareness was low, and emphasis placed on prevalent childhood problems such as malnutrition and infection.^[11] Despite the attention being received by CAN, Nigerian society is still plagued with incidences of child labour, child maltreatment, child marriage, child trafficking, neglect and child prostitution.^[12,13] According to the United Nations, it is estimated that there are 15 million working Nigerian children under the age of 14. These children have been exposed on the street and forced into long hours of dangerous situations that are not developmentally appropriate. Although this situation has been attributed to economic necessity, the risk of accidents, violence, sexual exploitation and human immunodeficiency virus infection due to child labour have been reported.^[14,15]

In recent times, there has been increase in reports of abuse and kidnapping of children in the school environment, the most popular one being the kidnapping of 276 Nigerian girls by the Boko Haram terrorist group where the girls were subjected to sexual abuse; physical and psychological abuse; forced labour; forced participation in military operations and forced marriages.^[16,17] Domestic workers in Nigeria are often referred to as 'house helps', most of which are girls who are denied education and subjected to long hours of work with little or no pay, these girls are vulnerable to physical, sexual, emotional abuse and neglect.^[18]

da Fonseca *et al.* reported that abusive caretakers rarely take a child to the same physician but are not mindful of the dentist, often, the abuser may delay bringing a child to the hospital because he or she feels watched over by the medical personnel and the same caution is not often used with dentists who are believed to only provide technical service.^[19] da Fonseca *et al.* also noted in their study that despite the high frequency of injuries in their study population, no dentists examined children at the time of the hospital intake or referred children for suspicion of maltreatment.^[19] About 50%–70% of physical abuse of children manifest in the orofacial region.^[20] Therefore, dentists are in good position to detect and report suspected

cases of CAN. Despite this opportunity, dentists do not often report suspected cases of CAN. While it is the responsibility of the dentist to identify dental neglect, other forms of CAN such as physical, sexual and emotional abuse may present at the dental clinic. It is important for the dentist to be able to detect these other forms of abuse and work together with physicians to protect the child.

Resident doctors who are undergoing training are usually the first port of call for patients in most clinics and hospitals, and it is imperative that these doctors are well trained to identify and report suspected cases of CAN. Therefore, this study aimed at determining the experience and knowledge of Nigerian dental resident doctors with regard to the identification and reporting of cases of CAN.

MATERIALS AND METHODS

The study was approved by the Health Research and Ethics Committee of the Lagos University Teaching Hospital, Idi-Araba, Lagos, Nigeria. Approval was obtained on 18th March 2016 (Protocol Number: ADM/DCST/HREC/APP/771).

This was a cross-sectional study carried out among dentists from several training institutions and hospitals in Nigeria that attended the 2016 update refresher course, organised by Dental Surgery Faculty of the National Postgraduate Medical College of Nigeria. There are two update courses in a year organised by the faculty. This course is a prerequisite to qualify dentists for the postgraduate examinations. All the respondents invited to participate in this study were residents and intending residents who were attending the update course.

Convenience sampling was used, all participants who attended the course were included, except for those who declined to participate in the study. self-administered questionnaires were given to the doctors during their break times and retrieved after about 7 min. Items for questionnaire were pooled from similar studies encountered in the review of the literature.^[21,22] The questionnaire which was used to elicit information was anonymous with no identifiers and was divided into four sections: Section A: respondents' age, training institution/place of practice, years of practice and field of specialisation or interest; Section B: respondents' knowledge on the forms of CAN (4 items), indicators of an abusive adult (9 items), risk factors of CAN (9 items) and signs of physical, sexual and emotional abuse and neglect (22 items); Section C: respondents' professional experience with CAN and Section D: respondents' attitude towards CAN, importance of CAN protocols and continuous training in the identification and reporting of CAN cases. The scoring criteria for assessing the knowledge of the respondents on CAN were based on a score of 1 for each correct answer and a score 0 for each wrong answer with total score (maximum of 50).^[23]

The data were analysed using the IBM Statistical Package for Social Sciences version 20.0 software (IBM Corp., Armonk,

NY, USA). Continuous variables were expressed as means with standard deviation while categorical variables were expressed as frequencies with accompanying percentages. Differences between groups were compared using Chi-square test for categorical variables or Fisher's exact test and *t*-test for continuous variables. A score of $\geq 50\%$ was described as adequate knowledge while a score of $\leq 50\%$ was described as inadequate knowledge. $P < 0.05$ was considered statistically significant.^[23]

RESULTS

Table 1 shows the sociodemographic characteristics of the participants. A total of 179 dentists participated in the study with their mean age and years of practice being 33.1 ± 5.2 years and 6.6 ± 4.3 years, respectively. One hundred and forty-seven (82.1%) of the respondents practised in the teaching hospitals while 26 (14.5%) practised in the general hospitals and 6 (3.4%) in private hospitals. The participants were grouped according to their field of speciality. Fifty-eight (32.4%) of the participants were those practising as general dentists (they are those dentists preparing for their primary examination and were yet to specialise), followed by those specialising in oral and maxillofacial surgery 33 (18.4%) and conservative dentistry 20 (11.2%).

Table 1: Characteristics of respondents in the study population

Variable	Frequency, <i>n</i> (%)
Age (years)	
21-25	13 (7.3)
26-30	39 (21.8)
31-35	76 (42.5)
36-40	37 (20.7)
41-45	14 (7.8)
Mean age	33.1 ± 5.2
Years of experience	
1-5	68 (38.0)
6-10	86 (48.0)
11-15	18 (10.1)
16-20	7 (3.9)
Mean years of experience	6.6 ± 4.3
Place of practice	
General hospital	26 (14.5)
Private hospital	6 (3.4)
Teaching hospital	147 (82.1)
Specialty	
Dental public health	5 (2.8)
General dentistry	58 (32.4)
Maxillofacial surgery	33 (18.4)
Oral and maxillofacial pathology	13 (7.3)
Oral medicine	6 (3.4)
Orthodontics	13 (7.3)
Paediatric dentistry	15 (8.4)
Periodontics	12 (6.7)
Prosthodontics	4 (2.2)
Conservative dentistry	20 (11.2)

The average score for the correct responses of the respondents when asked to identify the forms of CAN was 95.2%. Almost all the participants were able to identify the different forms of CAN with 179 (100%) correctly identifying sexual abuse followed by physical abuse, 178 (99.4%); child trafficking, 177 (98.9%); psychological abuse, 176 (98.3%) and neglect, 142 (79.3%).

In Figure 1, the percentages of agreement of the respondents to the question on the indicators of an abusive adult are shown. A high proportion of the respondents (161, 89.9%) agreed that a person with poorly controlled aggressive character may have the tendency to be abusive, followed by an emotionally immature person (145, 81.0%), and one who has been abused as a child (144, 80.4%). About half (90, 50.3%) of the respondents agreed that an economically disadvantaged adult may have the tendency towards CAN.

The percentage of the respondents who correctly identified the different risk factors for CAN is shown in Figure 2. Most of the respondents (153, 85.5%) identified correctly that children with physical/mental disabilities are at risk of being abused and neglected, followed by children who are products of unwanted pregnancies (151, 84.4%), children from polygamous families (128, 71.5%) and children from low socioeconomic families (122, 68.2%).

Figure 3 shows barriers to reporting suspected cases of CAN among the respondents. One hundred and seventeen (65.4%) of the respondents reported the lack of knowledge in referral procedures, 106 (59.2%) had concerns about confidentiality and 103 (57.5%) were afraid of the consequences to the child.

Table 2 shows the knowledge of the respondents on signs of physical, sexual and emotional abuse and neglect. On head and orofacial physical signs of abuse, 162 (90.5%) agreed on bruise behind the ears and 161 (89.9%) to bite marks. On orofacial manifestation of sexual abuse, 114 (63.7%) and 113 (63.1%) agreed on oral warts and syphilis, respectively. On the indicators of neglect, 155 (86.6%) agreed to unattended medical needs and 137 (76.5%) to untreated rampant caries. One hundred and fifty-eight (88.3%) of the respondents reported lack of self-esteem and 146 (81.6%) of them reported pronounced nervousness as indicators of emotional abuse. The overall knowledge of the respondents on the forms, risk factors and signs of CAN and indicators of an abusive adult was good 89.9%, but when singled out, their knowledge on the clinical of signs of CAN was poor.

Table 3 shows the experiences and the attitudes of the respondents with regard to CAN. A greater proportion (159, 88.8%) of the respondents reported that they treat children. Among those who reported that they treat children, 74 (46.5%) of them do not evaluate children for abuse or neglect. When the respondents were asked about their response to suspected cases of CAN, only 22 (25.9%) document signs of suspected cases of CAN in patients' records, and 12 (14.1%) contacted

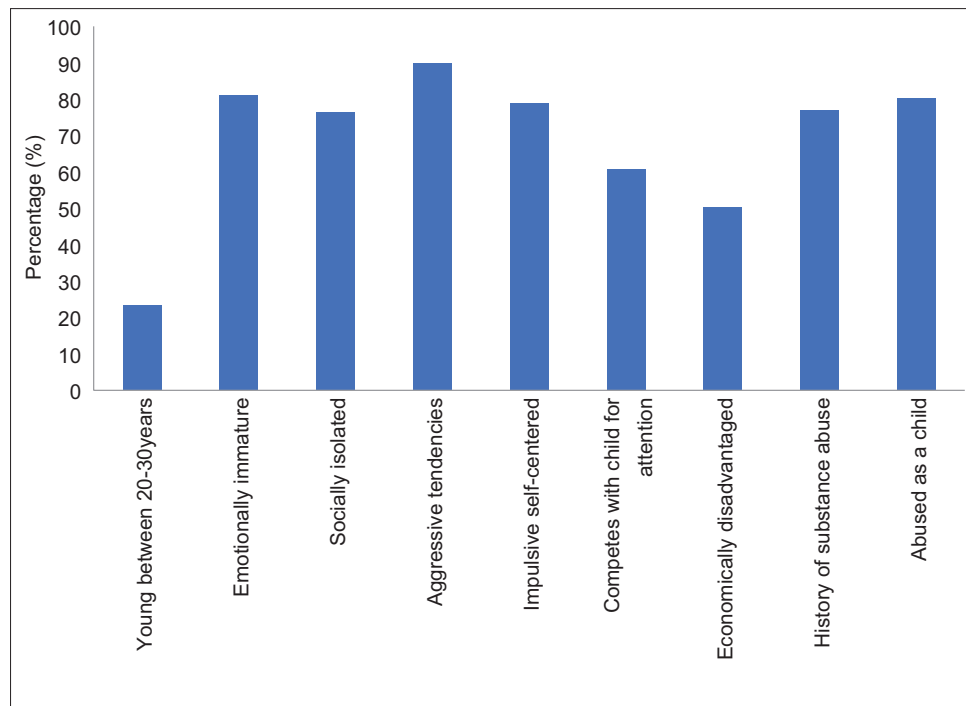


Figure 1: Percentage of agreement of respondents regarding indicators of an abusive adult

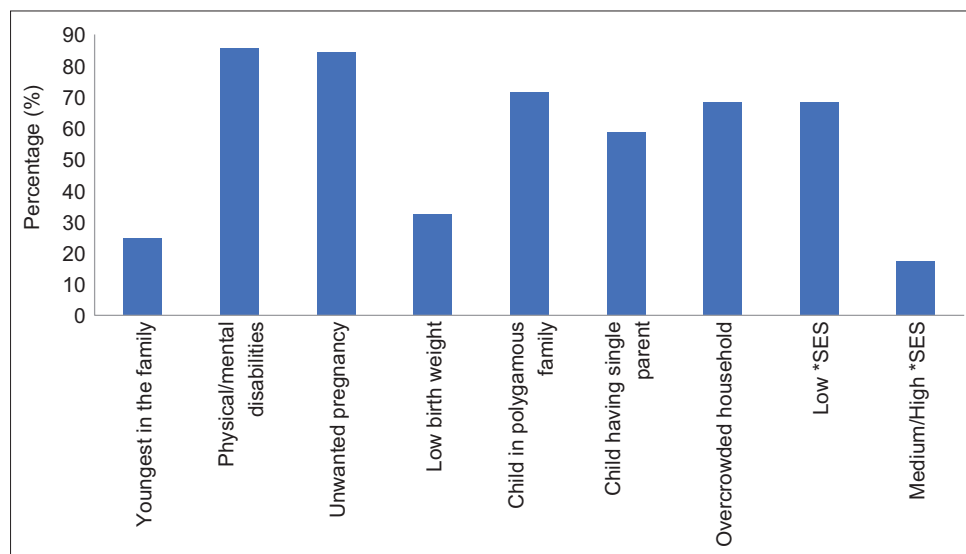


Figure 2: Percentage of respondents that identified the risk factors for child abuse and neglect. *SES: Socioeconomic status

the social welfare. Almost all the participants (177, 98.9%) agreed that the knowledge of child protection protocol is important, and 170 (95%) reported that they needed more training on CAN.

The relationship between the training-related attributes of the participants and their knowledge of CAN is seen in Table 4. There was no significant association between the participants' knowledge of CAN and place of practice, years of experience and specialty. Although not significant ($P > 0.05$), those who were specialising in paediatric dentistry, orthodontics, dental public health and prosthodontics seem to have more knowledge

of CAN than those training in other dental specialties based on the percentage of those with good knowledge.

DISCUSSION

Dentists are well positioned to detect CAN, and this is because injuries to the head, face, neck and mouth are very common among children who have been physically abused.^[19,24] da Fonseca *et al.*^[19] in their study reported 75.5% of children who were physically abused sustained injuries to the head, face, mouth and neck, and this is similar to other studies where at least half of the children were found with injuries to the head

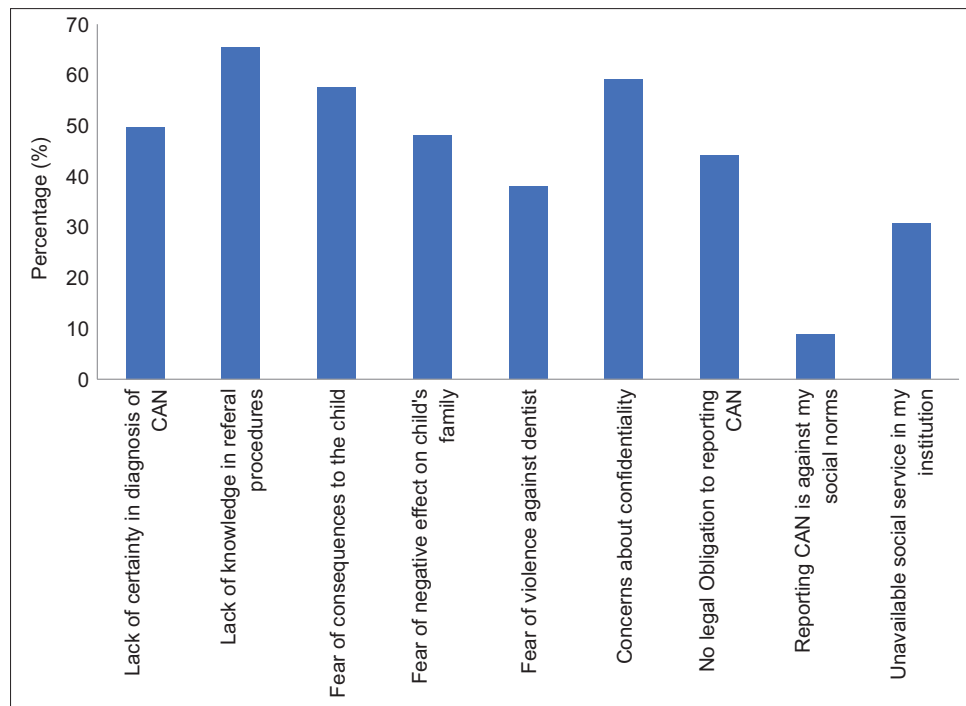


Figure 3: Barriers to reporting suspected cases of child abuse and neglect

Table 2: Knowledge of respondents to physical, sexual and emotional signs of abuse and neglect

Variables	Frequency, n (%)
Head and orofacial indicators of physical abuse	
Labial/lingual fraenum tear	139 (77.7)
Laceration/burns to the lips	153 (85.5)
Fracture of the condyle, ramus/symphysis of the mandible	120 (67.0)
Bite marks	161 (89.9)
Bruises behind the ears	162 (90.5)
Nasal fracture/clotted nostrils	155 (86.6)
Orofacial manifestation of sexual abuse	
Erythema at the junction of the hard and soft palate	98 (54.7)
Oral warts	113 (63.1)
Syphilis	114 (63.7)
Herpes	94 (52.5)
Neglect	
Untreated rampant caries	137 (76.5)
Untreated pain, infection or trauma of the orofacial region	154 (86.0)
History of lack of continuity of care in the presence of identified pathology	152 (84.9)
Unattended medical needs	155 (86.6)
Poor personal hygiene	147 (82.1)
Lack of supervision	143 (79.9)
Emotional abuse	
Pronounced nervousness	146 (81.6)
Self-inflicted injuries	129 (72.1)
Lack of self-esteem	158 (88.3)
Developmental delay	108 (60.3)
Being aggressive	120 (67.0)
Being passive	127 (70.9)

and neck region.^[25-27] As written by Sanger and Bross, ‘the identification of oral facial injuries *per se* should present little difficulty to the astute dental clinician.’^[28] Despite the unique position of dentists with regards to diagnosing CAN, studies from different parts of the world show reporting of suspected cases of CAN is still very low among dentists and dental care providers, and this has been attributed to many factors such as lack of certainty about diagnosis of CAN, lack of knowledge of reporting suspected cases and concerns about confidentiality.^[21,22,24,29-31]

Our study assessed the experience, knowledge and attitude of dentists with regard to CAN. The results provide valuable information which can help to improve the training of dentists particularly in the identification and reporting of suspected cases of CAN. Most of the respondents from our study had good theoretical knowledge of the different forms of CAN, with an average score of 95.2%. Findings from the present study are comparable to previous similar studies where the dentists had adequate knowledge of the different forms of CAN.^[22,31] In a study conducted by Owais *et al.*^[31] among Jordanian dentists, similar findings were reported, and 97% of the dentists identified physical abuse, 92% sexual abuse and 84% identified emotional abuse and neglect. The average knowledge score of the respondents from our study (95.2%) was higher than that reported by Al-Dabaan *et al.*^[22] in a similar study conducted among dentists in Saudi Arabia (84.2%); these findings may be attributed to the fact that these are trainee dentists who were preparing for their fellowship examinations and therefore may have access to current literature on CAN. When we compared our study with a previous Nigerian study conducted by Bankole *et al.*,^[30] a decade ago in which they reported that physical abuse, neglect and emotional abuse were identified by 61.7%,

Table 3: Respondents' experiences and attitude with regard to child abuse and neglect

	Frequency, n (%)
Do you treat children?	
Yes	159 (88.8)
No	20 (11.2)
Total	179 (100.0)
How often do you see suspected cases of CAN?	
One case a day	2 (1.3)
More than two cases a day	6 (3.8)
One case per week	15 (9.4)
One case per month	27 (17.0)
One case every 6 months	25 (15.7)
One case per year	10 (6.3)
Others...Children are not evaluated for CAN	74 (46.5)
Response to suspected case	
No action taken	48 (56.5)
Documented signs of abuse in patients' records	22 (25.9)
Contacted the social service	12 (14.1)
Contacted the police	3 (3.5)
Attitude towards CAN	
Knowledge about child protection protocol is important	
Agree	177 (98.9)
Neutral	2 (1.1)
Total	179 (100.0)
More training is needed for dentists in this field	
Agree	170 (95.0)
Disagree	2 (1.1)
Neutral	7 (3.9)
Total	179 (100.0)
I can confidently recognise signs of child abuse	
Agree	102 (57.0)
Disagree	17 (9.5)
Neutral	60 (33.5)
Total	179 (100.0)
CAN: Child abuse and neglect	

53.1% and 33.1% of the respondents, respectively, as forms of abuse and only 6.9% reported suspected cases of CAN, these findings suggested that there has been an improvement in the awareness over the years with regard to identifying the forms of CAN, but there is still a gap with clinical identification and reporting of suspected cases.

For abuse or neglect to occur, some certain factors must be in place: an adult who has the potential to maltreat, the presence of a susceptible child and an environment or situation that promotes the abusive or neglectful behaviour.^[32] Abusive parents often have experienced abuse during their childhoods. Data from a longitudinal study of adolescent health showed that girls who experience childhood physical abuse were 1%–7% more likely to become perpetrators of youth violence and 8%–10% more likely to be perpetrators of interpersonal violence and boys who experienced childhood sexual violence were 3%–12% more likely to commit youth violence.^[33] Respondents in this study identified abusive adults mainly as

persons with poorly controlled aggressive character and those with a history of child abuse and these findings are similar to other studies.^[22,33]

In our study, we also asked about the risk factors and what makes a child susceptible to CAN. Children with physical/mental disabilities, products of unwanted pregnancies and children from polygamous and low socioeconomic families were identified to be at risk of CAN. Girls have a higher risk of sexual abuse than boys, in low-income countries, girls are at a higher risk of infanticide, sexual abuse and neglect, while boys are at a higher risk of physical punishment.^[32,34] Children with disabilities have been reported to be at risk of CAN. A study in the US showed the prevalence of maltreatment in 31% of disabled children and 9% in non-disabled children.^[35] Furthermore, parental and environmental factors such as poverty, mental health problems, low educational achievement, alcohol and drug misuse exposure to abuse as a child are strongly associated with parents maltreating their children.^[32] Most of the respondents identified children from polygamous families as risk factors for CAN; this agrees with a Nigerian study which reported that students from polygamous home and those from large families (where marital conflicts, unhealthy rivalry, fighting, quarrelling abound), experienced significant abuse and neglect than their counterparts from monogamous homes.^[36,37] In a study conducted in Saudi Arabia, 74.6% of the dentists reported that CAN occurred mostly in low socioeconomic classes.^[22] This is in agreement with our study; 68.2% of the respondents conveyed that CAN is more common in low socioeconomic classes. In addition, other previous studies have shown that there is a link between low socioeconomic status, poverty, parental unemployment and risk of CAN.^[38,39] Despite these findings, Al-Dabaan *et al.* in their study stated that dentists and other healthcare providers should not confine CAN to poverty and low socioeconomic status.^[22]

Several studies have reported that at least half of the injuries to children were found on the head and neck.^[19,25,26] Adelson stated that blows to a child's head produced extensive skull fractures because children have fragile osseous structures.^[26] Cameron *et al.* in their study of 29 fatal cases of abuse showed that 79.0% of the injuries were inflicted on the scalp, 52.0% on the forehead, 49.0% on the cheek and 48.0% on the mandible.^[25] The respondents in the present study indicated bruises behind the ears and bite marks as indicators of physical abuse, and this is in agreement with other similar studies as reported by Owais *et al.*,^[31] where 68% of Jordanian dentists indicated bruises on a toddler's forehead as indicators of child abuse. Similarly, Al-Dabaan *et al.*^[22] reported that 81% of the dentists in their study indicated that bruises on the soft tissue of the cheek and neck were indicators of CAN; in addition, 79.2% of dental students in a study conducted by Hashim and Al-Ani^[40] indicated that physical abuse occurs in areas overlying bony prominences. da Fonseca *et al.*, in their analysis of 1248 cases of all types of abuse, attributed 41.0% of the cases to physical abuse followed by sexual abuse (35.4%) and neglect episodes (23.6%). The face was more harmed than

Table 4: Relationship between participants' training-related attributes and knowledge of child abuse and neglect

Variables	Good, n (%)	Poor, n (%)	Fisher's exact	P
Years of experience				
1-5	60 (88.2)	8 (11.8)	5.436	0.113
6-10	81 (94.2)	5 (5.8)		
11-15	14 (77.8)	4 (22.2)		
16-20	6 (85.7)	1 (14.3)		
Place of practice				
General hospital	24 (92.3)	2 (7.7)	0.240	1.000
Private hospital	6 (100.0)	0 (0.0)		
Teaching hospital	131 (89.1)	16 (10.9)		
Specialty				
Dental public health	5 (100.0)	0 (0.0)	5.742	0.714
General dentistry	51 (87.9)	7 (12.1)		
Oral and maxillofacial surgery	27 (81.8)	6 (18.2)		
Oral and maxillofacial pathology	12 (92.3)	1 (7.7)		
Oral medicine	5 (83.3)	1 (16.7)		
Orthodontics	13 (100.0)	0 (0.0)		
Paediatric dentistry	15 (100.0)	0 (0.0)		
Periodontics	11 (91.7)	1 (8.3)		
Prosthodontics	4 (100.0)	0 (0.0)		
Conservative dentistry	18 (90.0)	2 (10.0)		

any part of the body.^[19] Abusers often target the head and face region; this may be because of the accessibility to these areas and the psychological importance attached them, a possible explanation for the high number of injuries seen in these parts of the body.^[19,41] Some authors consider bruises to the ears (especially if present on both earlobes), scarring of the lips, presence of blood clot or deviation of the nasal septum of the nose, neck bruises and ecchymoses as important findings in the head and face region and should be viewed with suspicion and reported for further evaluation.^[25,42,43]

An effective public health strategy for CAN requires primary, secondary and tertiary prevention. Primary prevention includes education and health promotion among groups at risk, while secondary prevention seeks to detect maltreatment at early stage, when the effect on the child is more limited and reversible, tertiary prevention targets children already damaged by abuse and neglect; these are children in long-term foster care, kinship placements and adoptive families.^[1] Early and accurate diagnosis of suspected cases of CAN, with proper documentation and report of suspected cases to the appropriate agency, can protect a child from further harm.

The result from the present study showed that there is a gap in suspecting and reporting of suspected cases of CAN among the respondents. Most of the dentists (47%) do not evaluate children for abuse and neglect; among those who have experienced suspected cases of CAN, only 14% of them contacted the social welfare department/unit. These findings are similar to other studies where they reported gaps between suspected cases of CAN and the reporting of such suspected cases.^[22,24,31,44] For legal purposes, it is important to keep good clinical records such as photographs and radiographs

with consent from parent/caregiver, especially if CAN is suspected.^[22,45] The barriers preventing the reporting of suspected cases of CAN from the present study include lack of knowledge in referral procedures (65.4%), concerns about confidentiality (59.2%) and fears of the consequences to the child (57.5%). Some of the common barriers preventing the reporting of suspected cases of CAN include lack of confidence in child protection services, lack of certainty about diagnosis, lack of knowledge of referral procedure and fear of negative effect on child's family.^[22,29,31]

A previous study reported that the probability of a dentist reporting a suspected case of child abuse is associated with the 'dentist's exposure to continuing education, having seen suspected cases in practice and having filed at least one maltreatment in the previous 5 years'.^[46] The quality of dental education is one of the major factors that can contribute to an increase in the identification/detection and reporting of CAN by dental care providers and students.^[24,44] A study which investigated dental students' educational experience and knowledge regarding child abuse concluded that dental curriculum has to be revisited to adequately prepare students to undertake their expected role in protecting children from abuse.^[35] In Nigerian dental schools, CAN is often mentioned, but not all schools have it as a standalone topic in their paediatric dentistry curriculum. We recommend that topics on CAN should be part of the paediatric dentistry curriculum for undergraduate and postgraduate dental students.

The findings from this study show though most of the respondents had knowledge of CAN but were lacking in the clinical application of CAN. These findings support reports from other studies that show that CAN is mostly taught in

classroom setting using the traditional lecture-based learning system but may not be reinforced in the clinical settings. The traditional lecture-based learning has its shortcomings in that it can result in learners studying and memorising for the purpose of passing examinations.^[24,47] Learner-centred models which give the learner the ability to apply knowledge have been proposed.^[24,27] The present study is limited in that convenience sampling was used which included only residents attending the update course and may not be representative of other dental residents and dentists.

CONCLUSION

Our study indicated that dentists have good theoretical knowledge of the indicators, risk factors and signs of CAN but lagged in the clinical detection and reporting of suspected cases of CAN. There is a need to advance both undergraduate and postgraduate dental curricular by providing students with more knowledge and skills on detecting and reporting cases of CAN with emphasis on problem-based learning.

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Conflicts of interest

There are no conflicts of interest.

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