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Knowledge, opinions, and practices about oral cancer among general medical practitioners in Lagos, Nigeria

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ABSTRACT

Objectives: To evaluate the knowledge and practices of general medical practitioners (GMPs) in Lagos on screening for oral cancer (OC).

Materials and Methods: A 43-item self-administered questionnaires was filled by each GMPs recruited into the study. Analysis was done using the SPSS version 17.5. Descriptive analyses were used and results were presented in percentages, graphs, and tables.

Results: One-hundred and twenty GMPs participated in the study, 58.7% were males and 41.3% females; their ages ranged 22-61 years (36.1 ± 7.97). While most participants answered correctly that smoked tobacco (96.1%), increasing age >45 years (97%), oral sex (99%), and patient with a previous OC (93.7%) were risk factors for OC; there was misinformation on the nonrisk factors as only 5.5%, 7.9%, and 18.9%, respectively, answered correctly that family history of cancer, dental infections, and poor oral hygiene were not identifiable risk factors associated with OC. Furthermore, although majority of subjects (81.1%) identified the floor and the tongue as the most common sites of OC and leukoplakia (75.6%) as a common precursor of OC; only 29.1% identified correctly that OC had one of the worst morbidity and mortality rates of the most common cancers due to late presentation. Only 0.8% of GMPs had a consistent high score in the indexes.

Conclusion: The knowledge and practices of GMPs in the Lagos environment on OC needs a lot of improvement for them to become significant in the screening for the disease entity.

Key words: Early detection, general physicians, oral cancer

Introduction

Oral cancers (OCs) (cancer of the oral cavity and oropharynx) represents about 2-10% of all new cases of cancers in the body worldwide, with squamous cell carcinoma accounting for about 85-90% of these cancers.^[1,2] Globally, the annual incidence exceeds 300,000 new cases and in Nigeria, it accounts for 36.8% of head and neck malignancies.^[3] The major risk factors for the development of OC are the use of tobacco and alcohol, as well as exposure to sunlight in the case of lip cancer.^[2] Individuals that use both tobacco and alcohol are at a higher risk of developing

OCs.^[4] In addition, it is reported in developed countries that approximately half of all OCs are diagnosed in individuals 65 years of age or older,^[1,2] younger age incidence have, however, been reported in Nigerian studies.^[3]

Regardless of advances in diagnosis and treatment, mortality from OC has not changed significantly in the past 50 years.^[1,2] Mortality rates remain high and approximately 50%, of patients diagnosed with OC, will ultimately die of their disease,^[1,2] thus making it the cancer with one of the highest mortality when compared to other major cancers.^[4,5] The low survival rates associated with this entity is attributed to late diagnosis, which occurs in more than half of new cases.^[6] This late presentation

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is however often avoidable as the majority of OCs arise from long-standing premalignant lesions.^[7] Early detection and appropriate treatment of cancers remain the most effective weapons against OC, as it dramatically improves cure rates and patients' quality of life by minimizing extensive, debilitating treatments.^[4] Prevention and early detection efforts, therefore, have the potential not only for decreasing the incidence, but also for improving the survival of those who develop this disease.

A comprehensive OC examination is recommended by the American Cancer Society every 3 years for those 20-39 years of age, and annually for individuals 40 years of age and over.^[4] Unfortunately, public and professional awareness and knowledge of OC are low especially in developing countries.^[8] Thus, previous researches have indicated that delayed referrals to the appropriate specialist are due to the inadequate knowledge of general health practitioners in regard to understand the risk factors for OC and recognizing the characteristic lesions.^[9] Furthermore, it is generally assumed that dental professionals are the health care practitioners of choice to conduct an OC examination because they can easily incorporate the procedure into their routine examinations.^[4] Multiple studies have, thus, focused on the assessment of both dentists and dental undergraduates with mixed results.^[10-13] Previous studies from both the United Kingdom and the United States of America, however, found that the individuals at greatest risk for OC rarely visit a dentist but do consult general medical practitioners (GMPs) and thus concluded that GMPs could play an important role in the early detection of OC.^[5,14] Anecdotal evidence suggests the same is true in the Nigerian population.

The objective of this study was to examine Lagos state GMPs'/ family physicians' knowledge of risk factors and diagnostic procedures for OC.

Materials and Methods

This study was conducted among practicing GMPs/family physicians in both public and private practice in Lagos, Nigeria. Inclusion Criteria included practicing GMPs with or without a postgraduate qualification who indicated interest in the study. All nonpracticing GMPs (either retired or those exclusively in administration), other subspecialist of medicine that are not GMPs, and medical practitioners in government hospitals who though not qualified specialists practice in special areas of medicine were excluded from the study. Approval was obtained from the ethics board of the Lagos University Teaching Hospital for the study.

Self-administered questionnaires were filled by each of the subjects. The questionnaires were taken to operating clinics of these practitioners (both public and privately owned) and also to continuing education program center (Continuing Professional Development) for the GMPs to fill. The identity of the GMPs

remained undisclosed both during and at the end of the study. The questionnaire was a 43-item questionnaire^[5] with 5 sections on; demographics and training as a GMP, knowledge of risk factors of OC, knowledge of clinical features that are relevant to the diagnosis of OC, practices related to screening of patients of OC, and training on examination for OC.

The knowledge of risk factors of OC was assessed using 14 questions. There were 7 correct and 7 incorrect questions, each correct question was received a score of one point. Those with scores ≤ 7 received a low score for knowledge of risk factors; 8-10, a medium score; and from 11 or higher a high score. The section on features relevant to diagnosis consisted of 8 questions, 5 correct, and 2 incorrect questions. Those with scores ≤ 4 received a low score; 5-6 a medium score; and from 7 or higher a high score.

In the section on practices related to screening practices in making diagnosis there were 13 questions/actions (8 questions related to the pertinent history and 5 to examination). Ten of the questions/actions were important (5 on history and 5 on examination) screening practices to make a diagnosis of OC while 3 were not. The GMPs were graded on the frequency at which they performed each important question/action on patients seen in their respective practices into either 100%, $<100\%$ - $\geq 75\%$ or $<75\%$ of times. GMPs that performed any question/action at greater $\geq 75\%$ of times scored one point for the action. GMPs were thereafter graded on the frequency at which they performed actions at $\geq 75\%$ as low when ≤ 5 ; as a medium when 6-8 as medium and high when ≥ 9 . GMPs were also required to state whether they had any training on screening for OC and when they underwent the training in the last section of the questionnaire.

Analysis was done using the SPSS Version 17.0 (SPSS Inc, Chicago). Descriptive analyses were used and results presented in percentages, graphs, and tables. This was followed by logistic regression analyses that looked at the likelihood of GMPs scoring high on each of the three knowledge and practice indexes. The independent variables were gender, number of years of practice, additional qualification, and training on screening for OC.

Results

Of the 127 participants, 58.7% were males while 41.3% were females [Table 1]. The age of participants ranged from 22 to 61 years with a mean of 36.1 ± 7.97 . Over 73% of participants were aged between 30 and 49 years. Majority (66.1%) of the participants had no postgraduate qualifications while only 9.4% had fellowships to practice as family physicians. Most (83.5%) of the participants had practiced for <15 years; and 11 (8.7%) of them had received a training on screening for OC of which only 3 had a formal workshop/seminar post qualification, all other participants received training during undergraduate studies.

Table 1: Demographics and training of GMPs (n = 127)

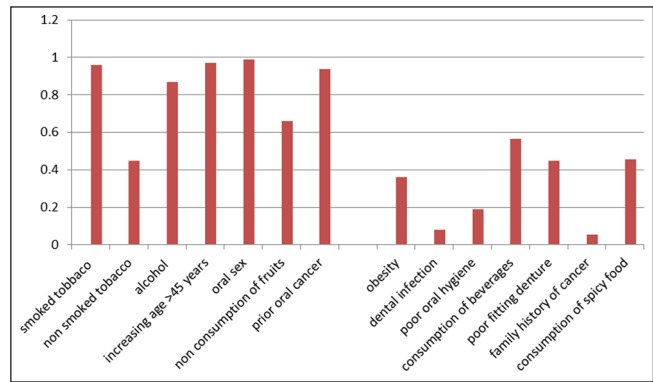
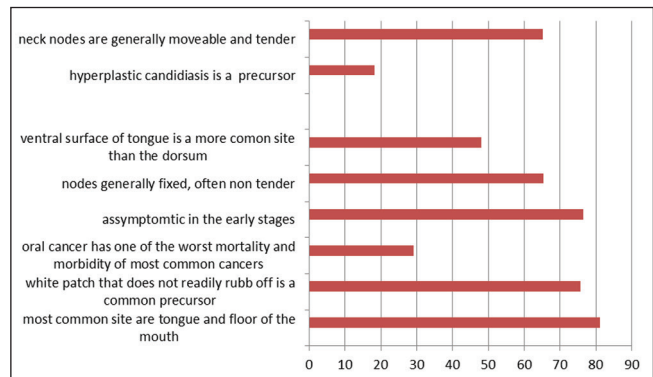
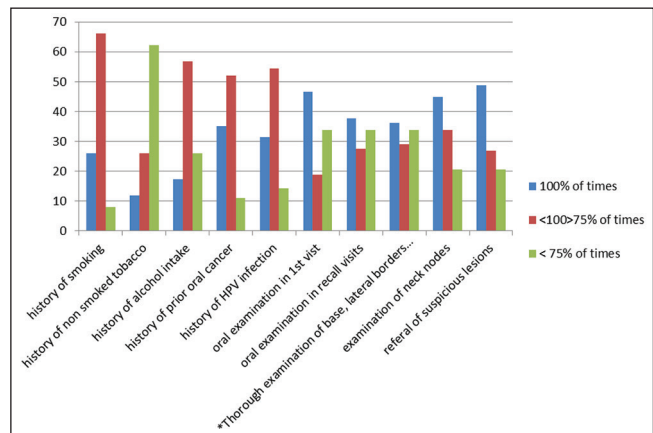
Variables	Percentages
Gender	
Male	58.7
Female	41.3
Age	
20-29	19.4
30-39	48.9
40-49	24.4
50-59	6.1
≥60	1.0
Additional qualification	
None	66.1
Master's degree	11
Residents in training	14.2
Fellowship	9.4
Years of practice	
0-5	45.6
6-10	26.8
11-15	10.2
>15	16.5
Place of practice	
Private hospital	15
General hospital	70.9
Teaching hospital	11
Military hospital	0.8
Training on OC	
Yes	8.7
No	91.3

GMPs: General medical practitioners, OC: Oral cancer

Knowledge on risk factors and clinical features associated with oral cancer

The percentages of participants who answered correctly on each question in the knowledge of risk factors are shown in Figure 1. Most participants answered correctly that smoked tobacco (96.1%), increasing age >45 years (97%), oral sex (99%), and patient with prior OC (93.7%) were risk factors for OC. Participants were, however, poor in identifying that family history of cancer (5.5%), dental infections (7.9%), and poor oral hygiene (18.9%) were not identifiable risk factors associated with OC. The floor and the tongue were identified as the most common sites of OC by 81.1% of participants and leukoplakia (white patch that does not rub off easily) was identified as a common precursor by 75.6% of participants [Figure 2], while only 29.1% identified correctly that OC, due to late presentation, had one of the worst morbidity and mortality rates of the most common cancers.

Table 2 shows the grading of the GMPs for both identifying risk factors and knowledge of clinical features in relation to OC. Only 1 (0.8%) of GMPs had a consistent high score in the 2 indexes, 43 (33.8%) and 23 (18.1%) score low and medium in the 2 indexes, respectively.

**Figure 1:** Knowledge of general medical practitioners on risk factors associated with oral cancer**Figure 2:** Knowledge of general medical practitioners on clinical features related to oral cancer**Figure 3:** Frequency of practices related to screening for oral cancer by general medical practitioners. *Thorough examination of base, lateral borders and ventral surface of tongue and floor of the mouth

Practices related to screening for diagnosis of OC

In the grading of the GMPs, based on their performance of screening activities (history and examination), 48 (35.8%) of the GMPs were graded as high while 54 (42.5%) and 25 (19.7%) were graded as medium and low, respectively. Figure 3 shows the overall result of the frequency, the GMPs performed screening procedures on patients seen by them. On history for screening of OC only 33 GMPs (26%) of general practitioners took history

Table 2: Grading of GMPs in relation to identification of risk factors and associated clinical features of OC

Knowledge of related clinical feature	Knowledge of risk factors			Total
	Low	Medium	High	
Low	43	27	2	72
Medium	22	23	5	50
High	3	1	1	5
Total	68	51	8	127

GMPs: General medical practitioners, OC: Oral cancer

concerning use of smoked tobacco 100% of times, 15 GMP's (11.8%) took history of nonsmoked tobacco, and 22 GMPs (17.3%) on alcohol intake. Basic oral examination is done on 1st and recall visits on adult patients by 59 GMP's (46.5%) and 48 (37.8%) 100% of times, respectively. Only 62 GMP (48.1%) refer suspicious lesions in the oral and oropharyngeal area to oral surgeons 100% of times.

None of the background variables (namely gender, years of practice, additional qualification or training on OC) were significantly associated ($P > 0.05$) with high scores in any of the indices examined.

Discussion

This study reports the overall ability of GMPs in a major metropolitan city in Nigeria to screen for OC. A recent publication reports that the cancer burden would increase to 20 million by 2020 with 70% occurring in developing countries, claiming that this trend is due to people in the developing countries adopting western lifestyles such as cigarette smoking, higher consumption of saturated fat and calorie-dense foods and reduced physical activity.^[15] Based on these assertions, it is clear that preventive strategies must be employed especially in the developing countries where there are limited facilities and manpower.^[15] Primary prevention of OC involves principally the avoidance of risk factors including tobacco use and alcohol abuse while secondary prevention of OC consists primarily of early detection of the disease.^[12,16] These prevention strategies can be potentially effective as typically, OCs take several years to progress to advanced stages. Thus, it is important that GMPs who are the 1st contact of the majority of patients be knowledgeable on the basic preventive strategies in the control of this disease.

Majority of the respondents in this study were able to identify the major risk factors of OC namely cigarette smoking and intake of alcohol. Previous studies in both developed and developing countries have shown similar results, indicating that tobacco and alcohol intake are well known throughout the health professions as a risk factors for OC.^[13,17,18] There was, however, misinformation concerning nonrisk factors including poor oral hygiene, dental infections, and family history of cancer. Although poor oral hygiene has been documented by

some authors to be a potential risk factor,^[19,20] a meta-analysis of published epidemiologic studies found that no significant risk for OC is conferred by poor oral.^[21] Thus, in our study, poor oral hygiene was not considered a true risk factor for OC. Over 80% of the GMPs in this study, however, thought that poor oral hygiene was a risk factor in OC; this result is similar to the findings in similar studies conducted both in a population of physicians in the United States^[5] and newly graduated doctors in a Jordanian population.^[22] Surprisingly, over 60% of GMPs in our study thought obesity was a risk factor of OC, this result is at variance from earlier studies^[5,22] where between 70% and 90% of physicians indicated correctly that obesity was a nonrisk factor for OC. The reason for this difference is not very clear, but it might not be unconnected to the curriculum of medical students on OC in the different societies. Majority (over 70%) of GMPs in our study were knowledgeable that early lesions of OCs are asymptomatic and that the most common sites of occurrence were the tongue and the floor of the mouth. However, only 29.1% identified correctly that OC, due to its frequent late presentation, has one of the worst mortality rates and morbidity of the most common cancers.^[4,5,22] This misinformation, we believe is potentially likely to affect the attitude of the GMPs to screen for OC.

Generally in the grading of GMPs on both identification of risk factors and clinical features of OC only 0.8% of the clinicians had a high score with 23% and 43% scoring medium and low, respectively. This result is similar in trend to a Jordanian study^[22] among newly graduated doctors and dentists where 8.8% of the medical respondents were graded high, 49.1% moderate, and 42.1% as poor in the knowledge of risk factors. The dentist in the said study, however, scored higher in the grading in consonance with a previous study^[18] among general dental practitioners (GDPs) Lagos, where the dentist also scored much higher in both recognition of risk factors and clinical features of OC. These findings will suggest that GDPs are more knowledgeable in the screening for OCs than GMPs. In contrast to these studies, a report of practices among physicians in Maryland, USA^[5] showed that the physicians were more knowledgeable in certain areas of OC screening than dentists in the same state, especially in identifying that most OC were diagnosed at very late stages. The difference in the knowledge base of the dentists and physician is, however, most likely due to undergraduate curriculum training and continuing education programs in the different countries.

Routine screening for early lesions of OC especially in high-risk individuals has been reported by several studies to have the potential benefit and some countries have advocated screening procedures especially for these individuals.^[4,5,14] A study in India^[23] further corroborated this; the study enrolled nearly 100,000 patients who received oral examinations and compared their outcomes with those of a similarly sized control group not given oral screening examinations. Among those screened, 205 OCs were diagnosed and 77 patients died of OC; in the

control population, 158 OCs were diagnosed and 87 patients died of OC. Screening examinations were, therefore, associated with reduced mortality among high-risk patients. A review of screening activities of the GMPs in this study revealed that 26% of GMPs took history concerning use of smoked tobacco, 11.8% took history of nonsmoked tobacco, and only 17.3% on alcohol intake all the time they reviewed adult patients. It also revealed that basic oral examination is done on 1st and recall visits on adult patients by 46.5% GMPs and 37.8% 100% of times, respectively, in patients were seen, however, only 36.2% of the GMP claimed to perform a more detailed visual examination as required for screening for OC. Referrals of suspicious lesions were also only sent to a specialist by 48.1% of the GMPs every time such lesions were seen. This findings show a low level of screening among the GMPs in the study, the findings are however similar to that among physicians in Maryland USA^[5] where only 15% said that they provided an OC examination 100% of the time to patients, 40 years of age and over at their initial appointment, and 23% of family physicians did the examination 80% or more of the time to this age group at the initial appointment. The physicians in the said study claimed their lack of training on oral examination resulted in their action. This might be the same reason for the low level of screening in our study as only about 9% of respondents had any form of training on screening for OC both at undergraduate and postgraduate level in this group of physicians. Improved training, therefore, might be needed to improve the level of screening; a study among health care providers in Puerto Rico^[24] corroborates this suggestion.

Another method of screening that has also been advocated to aid early diagnosis of OC is self-examination. A study that examined the feasibility of self-examination of the oral cavity reported that of 247 subjects presenting to the participating clinics, 6 (2.4%) had stage I OC, and only 1 individual was diagnosed with an advanced stage of disease^[25] The detection rate of OC following self-examination therefore compared favorably with examination by trained health care workers. This system might, therefore, have a significant impact on early diagnosis of OC especially in developing countries where health worker to population ratio is low. A mass media method of propagating this method may be effective in the Lagos environment as indicated in a previous study^[8] among patient with orofacial tumors in Lagos.

None of the background variables in this study improved the scores of participants in the indices statistically ($P > 0.05$). The result is similar to the one of Canto *et al.*^[5] among family physicians in Maryland USA. The reason for this is unclear in this study, it might, however, be related to the few number of respondents that had received any form of training on screening for OC.

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Conflict of interest

There are no conflicts of interest.

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