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**EDITOR**  
**B. O. OSOTIMEHIN**

**ASSISTANT EDITOR**  
**A. O. UWAIFO**

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## Oral cancer awareness and prevalence of risk behaviours among dental patients in south-western Nigeria

\*JO Lawoyin, GA Aderinokun, B Kolude, SM Adekoya, and OT Ogundipe

\* Department of Oral Pathology and Department of Preventive Dentistry, College of Medicine, University of Ibadan, Nigeria

### Summary

The present study, based in a tertiary hospital in South western Nigeria, assessed cancer awareness among patients seeking dental treatment. A specially designed questionnaire was used to collect information on the knowledge, beliefs and habits of those attending the dental hospital within a designated period of the year. Almost 61% of the respondents had post-secondary education. The level of oral cancer awareness was remarkably high (72%), but this was low compared to awareness about occurrence of cancer in other parts of the body (89.9%). Awareness was found to be closely associated with educational status. The study also revealed that 50% had previous information on oral cancers from mass media as against 20.1% who were informed through health care professionals. Almost half of the study sample recalled episodes of previous oral ulceration and of these, greater than 50% indulged in either self medication (38.1%) or no medication at all (18.4%). The prevalence of alcohol consumption and smoking habits among the respondents was low being, 16.3% and 4.2% respectively. The lack of association, in this study, between oral cancer incidence and the known risk behaviours, is an obvious indication for investigation into other predisposing factors such as nutrients, genetic predisposition and the role of chronic infections. Perhaps one or more of these might be more relevant in this environment.

**Keywords:** Oral cancer, awareness, oral health, smoking, alcohol.

### Résumé

L'étude présente, dans un hôpital tertiaire du Sud-ouest de Nigeria, a examiné la conscience du cancer parmi les malades qui cherchent le traitement dental. Un questionnaire spécialement conçu a été utilisé pour rassembler de l'information sur la connaissance, croyances et habitudes de ce qui assistent à l'hôpital dental dans

une période désignée de l'année. Presque 61% des défendeurs avaient l'éducation poteau secondaire. Le niveau de conscience du cancer orale était remarquablement haut (72%), mais c'était plus moins que la conscience au sujet d'événement de cancer dans autres parties du corps (89.9%). La Conscience a été trouvée d'être associée a une situation pédagogique. L'étude a aussi révélé que 50% avaient de l'information antérieure sur les cancers oraux de mass média tel que contre 20.1% qui ont été informés à travers la professionnels du soin de la santé. Presque demi de l'échantillon de l'étude a rappelé des épisodes d'ulcération orale antérieure et de ceux-ci, plus grand que 50% ont gâté dans l'un et l'autre médicament du moi (38.1%) ou aucun médicament à tout (18.4%). La prédominance de consommation de l'alcool et d'habitudes fumeur parmi les défendeurs était existence basse, 16.3% et 4.2% respectivement. Dans cette étude, le manque d'association entre la fréquence du cancer orale et l'aspect du risque connu, est une indication évidente pour une enquête d'autres facteurs prédisposant tel qu'éléments nutritifs, prédisposition génétique et le rôle d'infections chroniques. Peut-être un ou plus de ceux-ci peuvent être plus pertinents dans cet environnement.

### Introduction

Cancers of the mouth and surrounding tissues result in considerable mortality and morbidity in many parts of the world [1]. Even though the exact cause of oral cancer is unknown, it is well known that smoking, chewing tobacco and alcohol consumption play a significant role in its aetiology [2,3].

Despite the advances made in diagnostic and therapeutic modalities, the prognosis of oral cancers remain poor [4]. Barasch *et al.* (1998) [5] noted that approximately 50% of oral carcinomas diagnosed yearly in the United States of America had fatal outcome. Scala *et al.* (1997)[6] similarly remarked that early detection of oral cancers allows for a 90% 5-year survival rate. Unfortunately, about 60% of these tumours are detected in advanced stages thus reducing the corresponding survival to 20%. Creating awareness about the identified risk factors and recognition of early lesions appears to be

Correspondence: Dr. JO Lawoyin, Department of Oral Pathology, College of Medicine, University of Ibadan, Ibadan  
Email: sesikuto@skannet.com

of crucial importance in the prevention and long-term patient survival.

It is known that oral cancers constitute about 2.3% of all cancers in Nigeria [7]. In virtually all cases, the patients present late [8,9]. Yet there is no record of any investigation into the risk factors and awareness of the public on this devastating disease. This study was therefore undertaken to assess the knowledge, beliefs and habits associated with oral cancers among patients attending one of the biggest tertiary dental hospitals in south-western Nigeria.

### Materials and methods

All patients attending the dental outpatients' department of the University College Hospital, Ibadan, within a period of three months in the year 2000, were included in the study. Based on the pattern of attendance of patients, the selected months, which were randomly chosen, were considered representative of the attendance throughout the year.

The participants were interviewed by two of the authors, having been trained to do so in a standardized manner. The information obtained was to assess their awareness on the occurrence of cancer in different parts of the body, with particular emphasis on the oral cavity. Other parameters measured as possible influences of patients' perception included the age, sex, educational level, smoking, drinking and tobacco chewing habits. The interview also investigated the sources of patients'

**Table 1:** Cancer awareness of dental patients by their educational backgrounds.

Cancers (general)			
Educational level	Awareness		Total
	Yes	No	
No education	10(62.5%)	6(27.5%)	16(100%)
Primary & secondary	81(78%)	23(22%)	104(100%)
Post secondary	33(97%)	1(3%)	34(100%)
Polytechnic	40(100%)	0(0%)	40(100%)
University	112(99.1%)	1(0.9%)	113(100%)
Total	276(89.9%)	31(10.1%)	307(100%)

$$\chi^2 = 46.57$$

$$df = 2$$

### Oral cancers

$$P < 0.05$$

	Awareness		Total
	Yes	No	
No education	7(44%)	9(56%)	16(100%)
Primary & secondary	61(58.6%)	43(41.4%)	104(100%)
Post-secondary	29(85%)	5(15%)	34(100%)
Polytechnic	32(80%)	8(20%)	40(100%)
University	92(81%)	21(19%)	113(100%)
Total	221(72.0%)	86(28.0%)	307(100%)

$$\chi^2 = 11.56$$

$$df = 2$$

$$P < 0.05$$

16.06 and a mode in the age group 21-30 years.

One hundred and eighty seven (60.8%) of the respondents had some form of post-secondary education,

**Table 2:** Reasons for attending the dental clinic by the educational level of respondents

Educational level	Treatment being sought					Total
	Check-up	Extraction	Prophylaxi	Filling	Others	
No education	-	8	-	-	8	16
1°/2°	8	46	13	5	32	104
Post 2°	4	13	4	3	10	34
Polytechnic	3	17	3	11	6	40
University	9	40	9	29	26	113
Total	24(7.8%)	124(40.4%)	29(9.4%)	48(15.6)	82(26.7)	307(100)

information and the relative roles of the different sources in creating awareness.

Data collected were analysed to determine frequencies of responses and association between variables.

### Results

A total of 307 respondents participated in the study. Of these, 149 were males and 158 were females. Their ages ranged between 18 and 78 years with a mean of 36.06 +

63(20.5%) were educated only to secondary school level and 16(5.2%) had no formal education.

While 276(89.9%) of the respondents were aware of the occurrence of cancer in other parts of the body, a lower proportion (72%) knew that it could also occur in the mouth. The level of awareness was not influenced by age nor sex, but was significantly determined by the educational status of the respondents (Table 1). On the question on oral cancer starting as a painless sore in the mouth, very few (23%) indicated an awareness.



An analysis of the reasons for attendance showed that 124(40.4%) were requesting extractions for painful teeth, 48(15.6%) were for fillings, 29(9.4%) for prophylaxis, and 24(7.8%) for routine check-up. The reason for attendance was closely related to the educational status of the patients (Table 2). Those with limited or no education sought more extractions.

**Table 3:** Prevalence of alcohol and tobacco use among dental patients in south-western Nigeria

Current practice	Positive			Negative
	Light	Moderate	Heavy	
Alcohol	38	11	1	257(83.7%)
Tobacco smoking	8	4	1	294(95.8%)
Tobacco chewing	7	-	-	300(97.7%)
Previous habit				
Alcohol	52	9	3	243(79.2%)
Tobacco smoking	30	5	2	270(87.9%)

One hundred and thirty six (44.4%) of the participants gave a positive history of mouth ulcers sometime in the past. Of the many episodes experienced, 59 (43.5%) were treated by the physician or dentist, 48(38.1%) were treated by self-medication, while in 25(18.4%) of the occasions, no treatment was given.

Among the respondents, only 50(16.3%) drank alcohol (Table 3). Those who smoked, chewed tobacco or snuff

On the question of where respondents got warning messages on the dangers of smoking in the causation of cancer, 101(45.7%) claimed that they received such warnings from the media. Twenty-five(11.3%) of the study sample claimed that they were informed by health professionals and 22(10.0%) by friends and family. (Table 5) In only 8(3.6%) was the oral health team involved in providing the information.

With respect to participants' perception on the possible link between oral cancer, alcohol consumption and tobacco use, 214(70.7%) believed they could be related, whereas, 88(26.1%) could not imagine the association, hence they attributed oral cancer to chance which could hardly be avoided.

## Discussion

Results of this study have shown a fairly high level of awareness of cancers in general (89.9%) and a remarkably high level of awareness of the occurrence of cancers in the mouth (72%). The awareness on oral cancer, as compared to the 56% awareness level obtained in the National Opinion Poll results in Great Britain in 1995 [10], is considered high. Even though the level of awareness on several health issues such as diet, cardiovascular disease and cancer can be assumed to be higher in Great Britain than in Nigeria, the results of this study may be

**Table 4:** Motivating factors in smoking/drinking cessation

Habit	Reasons for quitting				
	Health problems	Religion	Medical counsel	Finance	Spouse
Alcohol consumption	12	13	8	1	13
Tobacco smoking	9	11	8	8	-
Total	20.8%	41.6%	15.8%	8.9%	12.9%

**Table 5:** Sources from which respondents received information on the risk of smoking and drinking on the occurrence of oral cancer.

Sources of Information	Frequency of responses
Mass Media	101(64.7%)
Health Professionals	25(16.0%)
Family/Peers	22(14.1%)
Oral health team	8(5.1%)

were 13(4.2%) and 7(2.3%) respectively. Those who had quit drinking and smoking, accounted for 63(20.8%) and 37(12.1%) respectively. The most frequently given reasons for cessation of the habits included religion 42(41.6%), ill health 19(20.8%), counselling by health professionals 16(15.8%) and family/peer pressure 13(12.9%) (Table 4).

attributed to the composition of the study population, which in this case comprises mostly educated persons, attending a tertiary dental institution. It is particularly interesting that the majority (75.2%) reported having visited the dental clinic on previous occasions. This perhaps contributes to the better state of knowledge on oral health. The association of awareness with educational status is similar to the report of Fabian et al. (1996) [11] with the highly educated being better informed. It might be informative to know what the equivalent awareness would be among the generality of the people, especially the uneducated in the rural area.

Regardless of the awareness that cancers can also occur in the mouth, only a few of the respondents knew that a malignant lesion often starts as a painless ulcer. To



further buttress this low level of awareness, a good number of those who had experienced mouth ulcers did not seek professional assessment and treatment. Rather, they employed self medication or applied no treatment. Tobacco smoking has been found to be the most significant variable in the aetiology of oral leukoplakia.

Van der Waal (1997)[12] noted that cessation of smoking habit effectively reduced the incidence of leukoplakia. Similarly, a recent study classified 40% of head and neck cancers as occurring in alcoholics [13]. A notable finding in this study is the low prevalence of the recognised risk factors for oral cancers among the respondents. Although the incidence of oral cancers in Nigeria as compared to South Asian countries [2,14] is low, nevertheless, the mortality resulting from the disease is of the magnitude that should arouse great concern. It is worthy of mention that during the study period, five of the respondents were found to have different carcinomas of the mouth, yet hardly any of these engaged in any of the risk behaviours. This finding has therefore opened an interesting perspective for other aetiological factors for this environment.

Dietary factors have an established and quantifiable role in oral carcinogenesis. About one in six oral cancers in European populations can be attributed to dietary deficiencies or imbalances [15]. The results of a Chinese study [16] have further suggested that protein and fat intake are related to a decreased risk of oral cancer while carbohydrates showed a moderate increase. In the same study, carotenes and vitamin C intake were found to be protective against oral cancer. Consumption of fresh meat, chicken and sea foods were significantly associated with a reduction in risk [16]. Evaluation of the food consumption pattern in oral cancer patients as compared to a control group will be useful in order to establish the risk factors for this community. Results of this should enable the citizens to make food choices that may be protective against oral cancer.

The relative roles of the different bodies responsible for the dissemination of information on health matters has been highlighted by this study. The important position held by the media is recognised. It appears however that the strong link between oral cancer and tobacco and alcohol use has not been adequately promoted. Even though the prevalence of the deleterious habits as recorded in this particular population group are still low, there is an unprecedented emergence of aggressive advertising of cigarettes and alcohol in Nigeria. Since the nation's health care system is least able to cope with the effects of the consequential increases in disease incidence, there could be no better time than now

to institute an equally aggressive drive at educating the public about the dangers of these items. In addition, pressure groups should come together in mobilising public policy against increasing the prevalence of the harmful habits through advertising. Oral health care providers should be seen to take a leading role in this advocacy. They should be in the vanguard of providing scientific facts, which have the potential of reducing morbidity and mortality from oral cancers.

Late-stage presentation is the pathetic feature of oral cancer patients seen especially in Nigeria [8,9]. This has been largely blamed on poor level of awareness, lack of skilled manpower for early detection and financial constraints. In order to facilitate early detection and improved prognosis, apart from educating the public, there is the need to equip health care providers with the skills required in detecting cancer at the very early stages as recommended by the National Centre for Diseases Control (CDC) in 1996 [17,18,19].

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