



Oral Cancer and Oral Sex: Awareness and Practice among Nursing Students in Ibadan Metropolis, Nigeria

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Authors' contributions

This work was carried out in collaboration between all authors. Author KKK designed the study, wrote the protocol and collected the data. Author BAA performed the statistical analysis. Authors KKK and BAA wrote the first draft of the manuscript. Authors KKK, BAA, AES and ORA wrote the subsequent drafts. All authors read and approved the final manuscript.

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ABSTRACT

Objectives: To determine the prevalence of oral sex, and explore the level of awareness on oral cancer among nursing students in Ibadan metropolis, Nigeria.

Materials and Methods: This research was a descriptive cross-sectional questionnaire-based study carried out among 158 nursing students in 3 selected nursing schools in Ibadan, Nigeria. A self-administered questionnaire was used to obtain information on the participants' socio-demographic characteristics, sexual behaviours, and awareness of oral cancer risk factors and

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symptoms. All administered questionnaires were returned, and none was discarded because they were properly filled. Data was analysed using the SPSS Version 16 software.

Results: The majority (83.5%) of the respondents were between the age range of 15 to 25 years, and 79.1% were females. Thirty-nine (24.69%) respondents had practised sexual intercourse, 2 (1.3%) had practised sodomy, while just one (0.63%) respondent had practised oral sex. The majority of the respondents (115/158 [72.8%]) have heard of oral cancer, and their top three sources of information were books (50/115 [43.5%]), lectures (60/115 [52.2%]) and newspapers (23/115 [20.0%]). Concerning those 115 individuals that were aware of oral cancer, only 77.4% (89/115) of them knew that oral sex is an oral cancer risk factor, while only 36.5% [42/115] of them knew of other risk factors. Lastly, the top three clinical manifestations of oral cancer known by these aforementioned 115 individuals were: oral ulcer (86.1%); mouth swelling (74.8%); and soft tissue discolouration (64.3%).

Conclusion: The prevalence of oral sex among nursing students in this study is 1%. Many of them were not knowledgeable about oral cancer risk factors and symptoms. There exists the need to educate nursing students in Ibadan on oral cancer.

Keywords: Nursing; students; oral cancer; awareness; Nigeria.

1. INTRODUCTION

Cancer is one of the leading causes of death worldwide [1]. Oral cancer, which is the most common cancer of the head and neck region, ranks eighth among the most prevalent cancers globally [2,3]. This is a major public health problem, as declared by the World Health Organization in the year 2005 [4].

The incidence rate of oral cancer varies across different countries, and it ranges from 0.1 to 31.5 per 100,000 persons per year, with a higher number of new cases reported in the developing countries [1,5-7]. In Nigeria, the incidence rate of oral cancer is yet to be ascertained, due to the very high population – dentist ratio, inadequate hospital facilities, and poorly structured national cancer registries [8,9]. Nonetheless, there are some studies reporting the incidence of oral cancer cases in some parts of Nigeria [8,10]. In 2005, an average annual rate of 20 cases of oral cancer was recorded in the Maiduguri city's government hospital in North-eastern Nigeria [8]. It was also documented in 2007 that oral cancer constitutes 2.7% of all cancer cases seen at the University of Nigeria Teaching Hospital, Enugu State, South-eastern Nigeria [10].

Risky behaviours such as oral sex, cigarette smoking, consumption of smokeless tobacco, and alcoholism are known risk factors for oral cancer [11-13]. Over the years, risky behaviours like tobacco consumption, and alcoholism has been elaborately explored among Nigerians, with no much attention being paid to exploring oral sex [14-16].

Oral sex is a sexual activity that involves stimulating someone's genitals with the tongue or mouth. Oral sex is a known route of transmission of Human Papillomavirus (HPV) [15,16], a virus that is widely implicated in the pathogenesis of many emerging oral cancer cases seen among young adults [15-18].

Nursing students are reported as a high risk group for contracting sexually acquired infections due to risky sexual behaviours common among them [19-23]. Knowledge about risk factors and clinical manifestations of oral cancer is also found to be inadequate among nursing students. [24].

This study determines the prevalence of oral sexual practices, awareness of associated risk factors for oral cancer, and appraises the knowledge of common oral cancer symptoms among nursing students in the metropolitan city of Ibadan, Oyo State, South-western Nigeria.

2. MATERIALS AND METHODS

2.1 Study Design

This research was a descriptive cross-sectional study.

2.2 Study Setting

This study was conducted among nursing students in three conveniently selected nursing schools in Ibadan, Oyo state, Nigeria. The selected schools were the School of Nursing (SON), the School of Perioperative Nursing (SOPN), and the Department of Nursing Science,

University of Ibadan. The SON and the SOPN were both situated within the University College Hospital, Ibadan, while the Department of Nursing Science, University of Ibadan, was situated within the main campus of this university at Agbowo, Ibadan. The SON runs a three-year diploma programme in General Nursing, the SOPN runs a one-year diploma programme in Perioperative Nursing, while the Department of Nursing Science, University of Ibadan, runs a five-year bachelor degree program in Nursing Science.

2.3 Study Tool

The study tool used was a pre-tested, anonymous 14-item questionnaire, and it obtained information on the bio-data, sexual behaviours, awareness of oral sex and other risk factors for oral cancer, and the common clinical symptoms of oral cancer from each of the study participants using both open-ended and close-ended questions.

2.4 Sample Size Determination

The sample size for this study was calculated using the Leslie formula [25]:

$$N = \frac{Z^2 P(1 - P)}{T^2}$$

Where N is the sample size, Z is the level of significance that corresponds to the level of confidence level (that is, Z = 1.96), P is the prevalence taken as 13% [19], and T is the tolerance error (T = 0.05).

The calculated sample size equals 173.

2.5 Data Collection and Analysis

The study participants were approached in their various classrooms, and the aims and objectives of the study were clearly explained to them. They were also informed that their participation is voluntary and confidential. Only 158 nursing students volunteered to participate. All questionnaires were self-administered. No questionnaire was discarded because they were all appropriately filled; hence response rate was 91.3% (158/173). Data collected were entered into the SPSS version 16 software for analysis using descriptive statistics. The arithmetic mean, standard deviation, and frequencies were obtained and illustrated using tables and charts.

3. RESULTS

The majority (83.5%) of the respondents were ≤ 25years, 126 (79.1%) were females, 53.2% were students of the School of Nursing, University College Hospital, Ibadan, and 86.7% were Yorubas (Table 1).

Table 1. Socio-demographic information of the respondents

Variables (n = 158)	N	%
Age (years)		
15-20	68	43.0
21-25	64	40.5
26-30	14	8.9
>30	12	7.6
Gender		
Male	32	20.3
Female	126	79.7
Religion		
Christianity	141	89.2
Islam	17	10.8
Marital status		
Single	146	92.4
Married	12	7.6
School		
UI	52	32.9
SON	84	53.2
SOPN	22	13.9
Tribe		
Yoruba	137	86.7
Igbo	14	8.9
Hausa	2	1.3
Others	5	3.2

n=total number of the respondents; N= total number of the respondents in each category of variable; UI=University of Ibadan; SON=School of Nursing; SOPN=School of Perioperative Nursing

Table 2. Comparison between marital status and sexual activity of respondents

	Have you ever had sex before?			p-value	
	Yes	No	Total*		
Marital status	Single	28	110	138	<0.001
	Married	11	0	11	
	Total	39	110	149	

**Nine respondents did not disclose any information about their status regarding sexual activity*

The majority (75.3%) of the respondents in this study had never had sex (Table 2 above). Only 39/158 (24.69%) respondents had engaged in sexual practices, of which they had all (39/39)

practised sexual intercourse, while only 2/39 and 1/39 had practised sodomy and oral sex respectively. Furthermore, only 22 out of these aforementioned 39 respondents had used condom during sexual intercourse, and they used it in order to prevent sexually transmitted diseases and/or unwanted pregnancy. However, the remaining 16 out of these 39 individuals had never used condom during sex because of the following reason(s): unreachable access to condoms; need to gain their partners' trust; and/or maximum sexual pleasure.

The majority (115/158 [72.8%]) of the respondents in this study were aware of oral cancer, and their top three sources of information were: lectures (52.17%); books (42.37%); and newspapers (19.49%). (Table 3) Only 86.1% (99/115) of those respondents that were aware of oral cancer knew that HPV could be transmitted through genital fluids, 89/115 (77.4%) knew that oral sex is an oral cancer risk factor, while just 42/115 (36.5%) knew other risk factors for oral cancer.

Table 3. Source of information about oral cancer among those respondents that were aware of oral cancer

Source of information (N= 115)	Frequency	%
Books	50	43.5
Lectures	60	52.2
Newspapers	23	20.0
Radio	16	13.9
Television	21	18.3
Family & Friends	11	9.6
Dentist/Doctor	13	11.3
Internet	10	8.7

N = Total number of respondents that were aware of oral cancer

Concerning those 42 individuals that knew other oral cancer risk factors, only 33.3% (14/42) of them knew that heredity is a risk factor, 26.2% (11/42) knew of cigarette smoking, and mouth sore as risk factors, while only 2.4% (1/42) knew of bleeding and/or kissing as risk factor(s) (Table 4).

Lastly, not all those 115 respondents that were aware of oral cancer knew the common symptoms of oral cancer. The majority (86.1% [99/115]) of them knew oral ulceration as an oral cancer symptom, while less than a fourth (21.2% [25/115]) of them knew constant cough as a symptom (Fig. 1).

4. DISCUSSION

Oral cancer is a malignant neoplastic disease that is often diagnosed at its advanced stage [26]; unfortunately just about 62% of oral cancer victims survived it after 5 years of being diagnosed of this killer disease [15,26]. Adequate knowledge of oral cancer risk factors and symptoms can help in its prevention and early detection [1,15]. This present study was conducted to determine the prevalence of oral sex among nursing students in Ibadan metropolis, Nigeria, and to also explore their knowledge on oral cancer.

Table 4. The risk factors (other than oral sex) for oral cancer indicated by the respondents

Risk factors for oral cancers (N=42)	Frequency	%
Poor Oral Hygiene	7	16.7
Hereditary factors	14	33.3
Chemicals such low quality toothpaste, cosmetics	5	11.9
Cigarette smoking	11	26.2
Alcohol consumption	5	11.9
Sun exposure/Radiation	4	9.5
Halitosis	2	4.8
Oral infection	4	9.5
Mouth sore	11	26.2
Bleeding	1	2.4
Poor nutrition	3	7.1
Kissing	1	2.4

N = the total number of respondents that indicated knowledge of other risk factors for oral cancer other than oral sex

The prevalence of oral sex among the respondents in this present study is 1.0%. This is lower than that reported in studies conducted among Nigerian adolescents, where a relatively higher prevalence ($\geq 13.0\%$) was found [27,28]. However, in the developed countries like the USA and UK, the prevalence of oral sexual practices is quite high among their adolescents and young adults ($>54\%$) [29,30].

A comparison of the pattern of sexual practices among the respondents in this study shows that oral sex and sodomy are not popular sexual acts practised among them. Penetrative vaginal intercourse was found to be the most predominant sexual act among these study respondents. The generally low prevalence of sodomy and oral sexual practices among these studied respondents might be due to their cultural norms; as such practices are not encouraged in some African cultures [14].

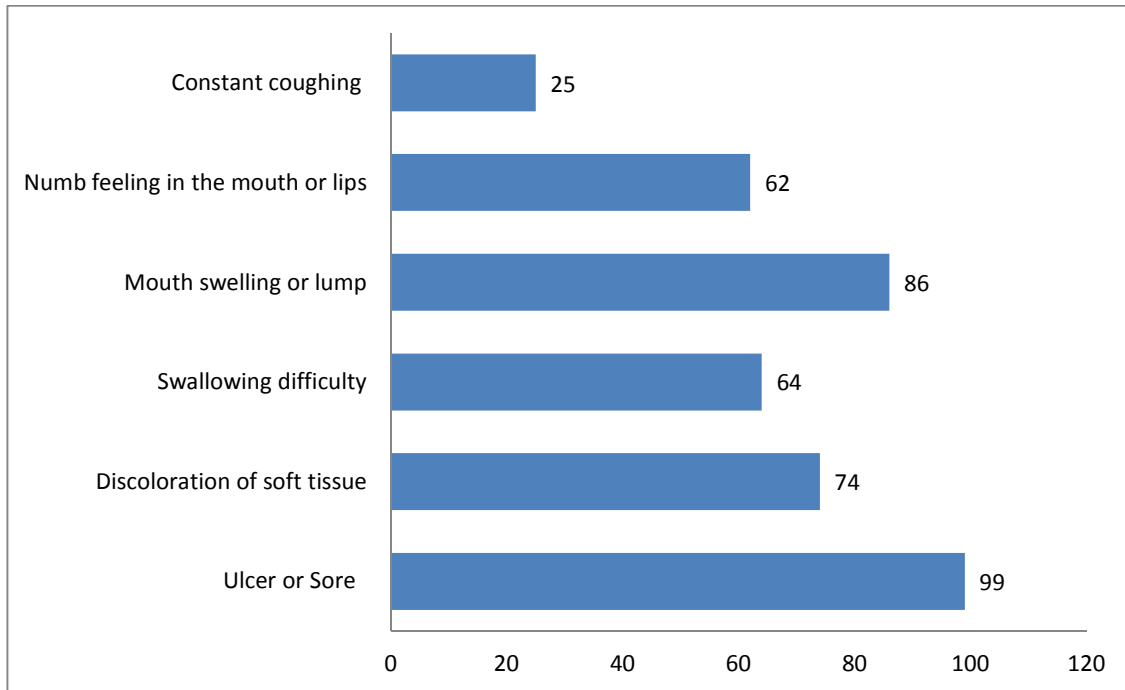


Fig. 1. Knowledge of those respondents (N=115) aware of oral cancer on the symptoms of oral cancer

Some respondents in this study practised unprotected sex; this makes them prone to contracting sexually acquired infections. Many of the respondents in this study were also not aware that HPV could be transmitted through genital fluids. Human Papillomavirus is one of the most common sexually transmitted organisms [29,30], and more than half of all sexually active women are exposed to HPV at least once in their lifetime [31]. This calls for a need to educate them on HPV infections and its prevention.

The awareness rate of oral cancer among nursing students in this study is 72.8%, and it is higher than that reported among medical students in Chennai (50.0%) and Dakshina Kannada (63.4%), India [32,33]. The top two sources of their information on oral cancer were lectures and books. Internet and doctors were the least used source of oral cancer information among the respondents assessed here (Table 2). Findings reported in this research re-affirms previous reports that use of the internet was more frequent elsewhere, and not as much by many nursing students in Ibadan [34].

There exist knowledge gaps on oral cancer risk factors among the respondents in this study, and

this calls for an urgent need to educate them on oral cancer. Many of them were not aware that oral sex is an oral cancer risk factor. Only few respondents knew that smoking is an oral cancer risk factor, and this awareness rate is very low compared to that reported among nursing students in Davangere (90%), India [24]. Only a few were also aware that alcoholism is an oral cancer risk factor; this reflects a similarly low awareness rates (0.67%) among Indian student nurses in the city of Davangere [24]. Other oral cancer risk factors such as malnutrition, heredity, poor oral hygiene, and excessive radiation exposure [9] were also not known by many of them. This is a knowledge gap that needs to be filled.

Misconceptions about oral cancer risk factors were observed among the respondents in this study (Table 4). For instance, a few respondents felt that halitosis could make an individual be at risk of oral cancer. Halitosis is a symptom of oral and some systemic diseases and not a risk factor for oral cancer. This shows that they need to be properly enlightened on what could cause oral cancer.

Many of the respondents in this study were not aware of the common symptoms of oral cancer

(Fig. 1). This corroborates other reports that nursing students, and even nursing officers, have inadequate knowledge of the clinical features of oral cancer [24,35].

5. STUDY LIMITATIONS

The authors were unable to meet the targeted sample size because many were unwilling to participate in the study. This was because they were reluctant to divulge information on their sexual behaviours.

6. CONCLUSIONS

The prevalence of oral sex among nursing students in Ibadan is very low (1.0%). Many (43.7%) of them were not aware that oral sex is a risk factor of oral cancer; many were also not aware of other oral cancer risk factors. Also, they had inadequate knowledge of the symptoms of oral cancer.

7. RECOMMENDATIONS

Oral cancer education programmes need to be organized for this studied population. The knowledge they will acquire from such education programmes will help them as future nurses in the personal prevention of oral cancer, and also in the early detection of oral cancer among patients. Nursing students in Ibadan need to be encouraged on the use of protection during sex. The sexually active nursing students need to be informed about HPV vaccines as well; early vaccination against HPV infection helps in the prevention of HPV-associated cancers [36].

CONSENT

All authors declare that informed consent was obtained from all the participants in this study.

ETHICAL APPROVAL

As per international standard, authors have obtained all necessary ethical approval from suitable Institution for the conduction of this research.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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