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Do College Freshmen Know about Head and Neck Cancer and its Risk Factors? Experience from Gwadabawa, Nigeria

Kehinde Kazeem Kanmodi[1-4]*, Mike Eghosa Ogbeide[2], Omotayo Francis Fagbule[1,3,5], Semeeh Akinwale Omoleke[4], Taiwo Oyebamiji Isola[1] and Precious Ayomide Ogundipe[1,6]

[1] Cephas Health Research Initiative Inc, Ibadan, Nigeria

[2] Department of Dental and Maxillofacial Surgery, Usmanu Danfodiyo University Teaching Hospital, Sokoto, Nigeria

[3] Mental and Oral Health Development Organization, Kalgo, Nigeria

[4] World Health Organization Kebbi State Field Office, Birnin Kebbi, Nigeria

[5] Department of Periodontology and Community Dentistry, University of Ibadan, Ibadan, Nigeria

[6] Department of Statistics, Federal University of Technology, Akure, Nigeria

**Corresponding e-mail: kanmodikehinde@yahoo.com*

ABSTRACT

Background: *Head and neck cancer (HNC) is a notorious killer disease. Globally, more than 55,000 people are newly diagnosed to have the disease. Knowledge of disease among the public goes a long way in its prevention in society. Hence, this study aimed to explore the knowledge level of college freshmen on HNC disease and its risk factors.* ***Methods:*** *This study surveyed 224 college freshmen of the Sultan Abdur-Rahaman School of Health Technology, Gwadabawa, Sokoto State, Nigeria, on HNC disease and its risk factors, using an anonymous questionnaire. Data collected were analyzed using the SPSS version 20 software.* ***Results:*** *The mean (± SD) age of the respondents was 22.04 (± 3.42) years. Only one-third (68/224, 30.4%) of the respondents were aware of HNC disease. However, amidst other findings, less than four-tenth of these respondents, who categorically claimed awareness of HNC, actually knew the: risk factors; commonly affected age and gender; commonly affected anatomical site and prognosis of the disease.* ***Conclusion:*** *The surveyed freshmen lacked adequate knowledge of HNC disease. This reveals the urgent need to educate them, and by extension, the entire population on HNC disease. Through effective HNC education programs, the incidence rate of HNC can be brought down to the barest minimum, as more people will be made knowledgeable about how they can prevent the disease from developing.*

Keywords: Head and neck cancer, Awareness, Risk factors, Pattern, Manifestations, Prognosis, College students, Youth

INTRODUCTION

Head and neck cancer (HNC) is a notorious killer disease affecting the mucosa of the upper aero-digestive tract [1-4]. This disease is known to be a killer of about 300,000 people every year [5]. Globally, more than 55,000 people are newly diagnosed to have HNC disease; hence the disease is of global health importance [5]. The major risk factors of HNC include tobacco use, alcohol use, and oral sex [6-10]. In Nigeria, the prevalence of these risk factors is on the rise, especially among young people [11-23]. Despite the rising prevalence rate of HNC risk factors among young people in Nigeria, only very few of them are aware of the disease [20,21,24]. Unfortunately, there is a rising incidence rate of HNC among young Nigerian people [25,26], however, the disease is most common among those in their 5th decade and upwards. Also, the cases of HNC in Nigeria are commoner among males than in females, and the most commonly affected anatomical site is the nasopharynx [26].

Furthermore, the majority of the studies exploring Nigerians' knowledge of HNC risk factors were done either in

secondary schools or out-of-school [20-24,27]. Hence, there is a need to conduct a study to explore the knowledge of tertiary school students in Nigeria on HNC risk factors. Conducting this kind of study is of high significance to the body of scientific knowledge. First, such study will provide data on the knowledge of HNC and its risk factors among tertiary school students in Nigeria. Second, the study will provide insightful information to the government, the school, and other concerned stakeholders on how they can strategize on educating this population group on HNC disease and its risk factors.

Based on the above, the authors of this study, under the aegis of the Cephas Health Research Initiative Inc, Nigeria, aimed to conduct a study to explore the knowledge of freshmen of the Sultan Abdur-Rahman School of Health Technology, Gwadabawa, Sokoto State, Nigeria, on HNC disease and its risk factors.

MATERIALS AND METHODS

This study was a descriptive cross-sectional study of freshmen attending the Sultan Abdur-Rahman School of Health Technology, Gwadabawa, Sokoto State, Nigeria, which was conducted under the strict compliance with the 1964 Helsinki Declaration on health research involving human subjects. The study tool was a validated paper questionnaire which was developed through an extensive literature review [6-26]. The questionnaire obtained information about the participants': socio-demographic characteristics, and knowledge of HNC as a disease as well as its risk factors.

The surveyed institution had a total of about 800 freshmen as in 2017. Based on estimation, a sample size of 220 students was used as the minimum sample size for the study. A total of 250 randomly selected freshmen were approached for the study in the month of April 2017. They were informed about the purpose of the study. They were also informed that their participation is completely voluntary and strictly confidential. Only 240 consented to participate in the study. All consenting participants were issued a questionnaire to fill. All questionnaires were self-administered. However, only 231 out of the recruited 240 freshmen had their questionnaire returned. After data cleaning, seven questionnaires were discarded because they were largely incompletely filled, hence, the data of 224 respondents were used in this study. The cleaned data were computed and analyzed using the SPSS version 20 software. The frequency distribution of all variables was determined, and test of association (bivariate analysis) between variables was done using the Chi-square test. A p-value of <0.05 was set to determine the level of statistical significance in the bivariate analysis. Our findings were presented in words, tables, and charts.

RESULTS

The mean (± SD) age of the 224 respondents was 22.04 (± 3.42) years. The majority of them were males (76.3%), Hausas (90.6%), and Muslims (95.1%) (Table 1).

Table 1 Socio-demographic characteristics of the respondents

Characteristics	Frequency (%) (n=224)
Gender	
Male	171 (76.3%)
Female	44 (19.6%)
No response	9 (4.0%)
Age in years*	
Mean	22.04
SD	3.42
Tribe	
Hausa	203 (90.6%)
Yoruba	12 (5.4%)
Igbo	1 (0.4%)
Others	5 (2.2%)
No response	3 (1.3%)
Religion	
Islam	213 (95.1%)
Christianity	10 (4.5%)
No response	1 (0.4%)
n: Total number of respondents; SD: Standard deviation; *: 61 respondents did not declare their age	

About one-third (68/224, 30.4%) of the respondents had ever heard of HNC (Figure 1). Furthermore, smoking (16/68, 23.5%) and poor tooth brushing (16/68, 23.5%) were the top two HNC etiological/risk factors known to these respondents (Figure 2). However, only 42.6% (29/68) of them had ever received health education on HNC self-examination (Table 2).

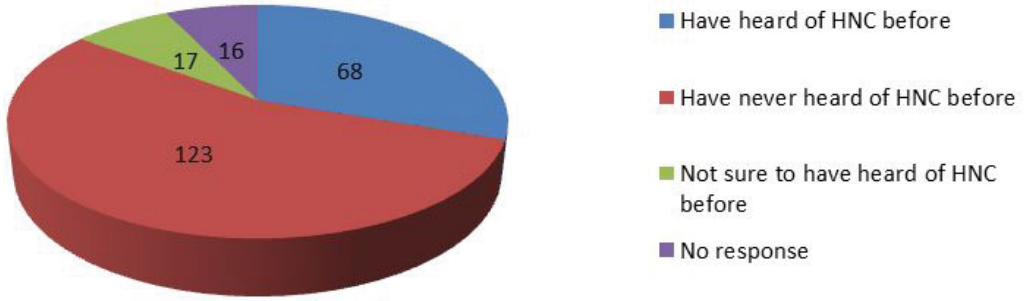

Figure 1 Awareness of respondents on HNC

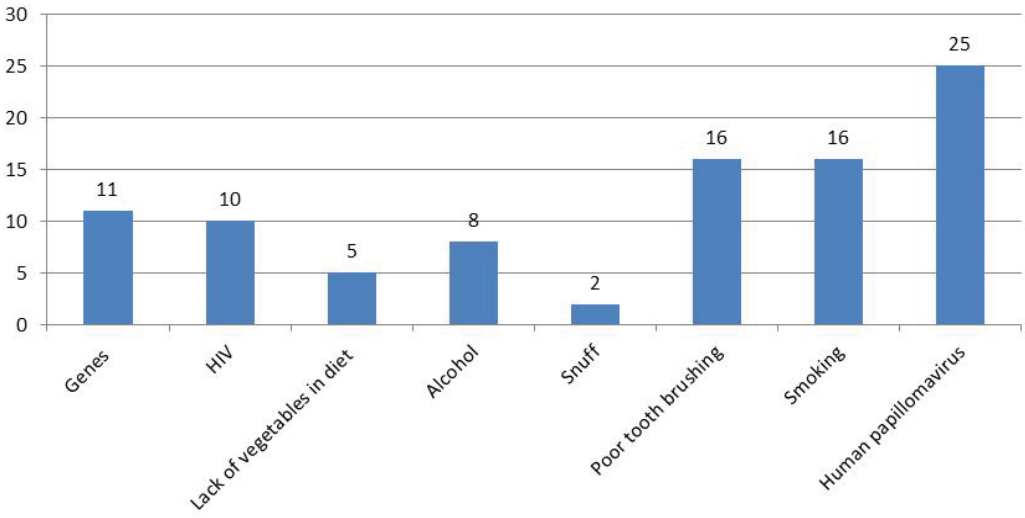

Figure 2 Knowledge of causes of HNC among those respondents who claimed awareness of HNC disease [N=68]

Table 2 Comparing awareness of HNC with history of education on HNC self-examination among respondents

	Have you ever been educated on HNC self-examination?*				**p-value**
		Yes (%)	**No (%)**	**Not sure (%)**	
Have you ever had of HNC?*	Yes (N=68)	29 (42.6%)	29 (42.6%)	4 (5.9%)	<0.0001
	No (%) (N=123)	0 (0.0%)	115 (93.5%)	8 (6.5%)	
	Not sure (%) (N=17)	0 (0.0%)	8 (47.1%)	9 (52.9%)	
N: Number of respondents in each category; *: All percentages were calculated based on the value of "N" for each rows and only those that responded to the two cross-tabulated variables were computed in this statistics					

Those respondents (N=68) who claimed awareness of HNC disease were furthered grouped into 3 age groups [i.e. "those within the age bracket of 16-19 years (N=14)", "those within the age bracket of 20-24 years" (N=26), and "those within the age bracket of 25 years and above" (N=6)], and based on this grouping, their knowledge on the manifestation, pattern of occurrence, risk factors, and prognosis of HNC were also explored (Table 3). In this comparison, it was found that those respondents within the age group of ≥ 25 years who claimed awareness of HNC disease had the highest proportion of those that knew the age group (1/6, 16.7%) and gender (2/6, 33.3%) which HNC disease is more common, according to each concerned age category. Also, a higher proportion (4/6, 66.7%) of them (i.e. those in age of ≥ 25 years who were aware of HNC) knew that early diagnosis can improve recovery from

HNC when compared with the other compared age groups. However, none of these respondents knew that pharynx is the most commonly affected site of HNC lesion in the human body (Table 3). Other interesting findings were also presented in the table.

Table 3 Comparison among age groups of respondents and their knowledge of HNC

Variables*		Age group of respondents that claimed awareness on HNC		
		16-19 (%) (N=14)	20-24 (%) (N=26)	≥ 25 (%) (N=6)
HNC is more common in which age group?	All age groups	5 (35.7%)	11 (42.3%)	2 (33.3%)
	<19 years	2 (14.3%)	4 (15.4%)	0 (0.0%)
	20-40 years	2 (14.3%)	3 (11.5%)	3 (50.0v)
	41 years and older#	2 (14.3%)	2 (7.7%)	1 (16.7%)
	I don't know	3 (21.4%)	6 (23.1%)	0 (0.0%)
In which gender is HNC more common?	Men#	3 (21.4%)	6 (23.1%)	2 (33.3%)
	Women	4 (28.6%)	8 (30.8%)	1 (16.7%)
	Both men and women equally	6 (42.9%)	10 (38.5%)	3 (50.0%)
	I don't know	0 (0.0%)	2 (7.7%)	0 (0.0%)
Where is the most likely location of HNC?	Lips	0 (0.0%)	12 (46.2%)	2 (33.3%)
	Gums	4 (28.6%)	10 (38.5%)	2 (33.3%)
	Tongue	5 (35.7%)	3 (11.5%)	1 (16.7%)
	Pharynx#	0 (0.0%)	0 (0.0%)	0 (0.0%)
	Floor of the mouth	0 (0.0%)	0 (0.0%)	0 (0.0%)
	Jaws	0 (0.0%)	1 (3.9%)	1 (16.7%)
	Anywhere in the mouth	1 (7.1%)	0 (0.0%)	0 (0.0%)
	I don't know	1 (7.1%)	0 (0.0%)	0 (0.0%)
Can HNC manifest without initial complain, pain or symptom?	Yes#	7 (50.0%)	8 (30.8%)	2 (33.3%)
	No	3 (21.4%)	10 (38.5%)	3 (50.0%)
	I don't know	2 (14.3%)	7 (26.9%)	1 (16.7%)
Does early diagnosis improve recovery from HNC?	Yes#	7 (50.0%)	13 (50.0%)	4 (66.7%)
	No	0 (0.0%)	9 (34.6%)	2 (33.3%)
	I don't know	5 (35.7%)	3 (11.5%)	0 (0.0%)
Is head and neck cancer a contagious disease?	Yes	7 (50.0%)	16 (61.5%)	4 (66.7%)
	No#	0 (0.0%)	3 (11.5%)	0 (0.0%)
	I don't know	4 (28.6%)	6 (23.1%)	1 (16.7%)

N: Number of respondents in each category; *: All percentages were calculated based on the value of "N" for each columns and only those that responded to the two cross-tabulated variables were computed in this statistics, #: Correct answers

DISCUSSION

This study surveyed a sample of college freshmen attending the Sultan Abdur-Rahman School of Health Technology, Gwadabawa, Sokoto State, Nigeria. The analysis of the data obtained in this study yielded very interesting results which are of public health significance. To start with, we recorded a lopsided distribution in the gender, religion, and tribe of our respondents. However, the reason for the lopsidedness is not far-fetched- the study was conducted in an environment where the majority of the inhabitants are Muslims and are from the Hausa ethnic group [28]. Also, in this environment, there is less enrolment of females in schools; hence the majority of the students in the survey were males [29].

Furthermore, a very low awareness rate was recorded among our respondents. About a third of them had ever heard of the HNC in their lifetime. This finding is relatively lower than that the reported 49% by Kanmodi, et al. in a cross-country study conducted among Nigerian and Canadian youth [21]. Tobacco use, alcohol use, and oral sex are the top three known HNC risk factors [6-10]. However, the majority of our study respondents were not aware of this information. This showed a huge lack of knowledge on HNC risk factors among the surveyed respondents.

It is also noteworthy that many of those respondents in this study who claimed awareness of HNC disease generally

lacked adequate knowledge on the manifestation, the pattern of occurrence, risk factors, and prognosis of the disease, and this observation was found to cut across all age groups of these respondents. The above finding corroborates with other studies where a poor awareness level on HNC disease was also reported among other Nigerian sub-populations [20,21].

However, this study has some limitations. This study was a single-institution study; students in higher academic levels and other academic institutions were not recruited in this study, hence, it may be difficult to make some generalizations based on the findings made in this study. In addition, based on the findings made in this study, we recommend that the student community in the surveyed school should be well-educated on HNC and its risk factors. By conducting HNC education programs among this sub-population-group, many of them will become more knowledgeable about the disease, and this may go a long way in helping them in preventing HNC among them [30].

CONCLUSION

This study reported a very low awareness rate of HNC disease among the surveyed college freshmen. This study revealed the urgent need to educate the surveyed population group, and possibly the entire student population, on HNC disease. Through this education, the incidence rate of HNC can be brought down to the barest minimum.

DECLARATIONS

Conflict of Interest

The authors declared there are no known conflicts of interest associated with this publication.

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