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KNOWLEDGE, ATTITUDE AND PRACTICES ON RISK FACTORS FOR ORAL CANCER AMONG PATIENTS VISITING UNIVERSITY OF NAIROBI DENTAL HOSPITAL ORAL DIAGNOSIS CLINIC

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ABSTRACT:

Background: Oral cancer is a malignant disease which affects different sites of the oral cavity such as the lips, tongue, buccal mucosa, floor of the mouth and the palate. It is associated with various risk factors which include habits like tobacco smoking, betel nut chewing, excessive alcohol consumption and eating highly spiced foods.

Setting: The study was carried out at University of Nairobi Dental Hospital Oral Diagnosis Clinic.The study was carried out on 120 adult patients above 18 years visiting the clinic. This was a descriptive cross sectional study. A systematic random sampling method was used in the selection of the study population. Interviewer administered questionnaires were used. Data wasanalyzed using SPSS (statistical program for social studies) and Microsoft Excel software. Means of the data obtained were calculated and the results presented in form of tables and charts.

Results: A total of 120 participants were recruited into the study of which (65) 54.2% were males and (55) 45.8% females. Those aware of the existence of oral cancer were (62) 51.7% and the major source of information was the media (42%). Majority of the participants 90.3% agreed that oral cancer was preventable. The risk factor of which majority of the respondents engaged in was alcohol (26.7%). Males engaged more in alcohol, tobacco use and chewing miraa compared to females who engaged more in eating highly spiced foods.

Discussion: Over 50% had knowledge about oral cancer. This coincides with a study done in Britain whereby 56% were aware. This could be due to sensitization of the public through the media and other sources. The attitude towards prevention and treatment of oral cancer was good but still there are those who engaged in risk practices despite their awareness of the effects. The variation in practices across gender could be due to restrictions by religions, cultural norms, taboos and personal principles.

Conclusion: Individuals are not well informed about the disease. The attitude towards prevention and treatment of the disease was good. Males engage more in risk practices which make them vulnerable to the disease compared to females.

Recommendation: oral health education programs should be designed aimed at educating and training general public on existence and risk factors of oral cancer.

Key words: oral cancer, risk factors

INTRODUCTION

Oral cancer is a subtype of head and neck malignancies. [1] It is a cancerous tissue growth that occurs in the oral cavity which may arise as a primary lesion originating in any site of the oral tissues, by metastasis from a distant site

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of origin, or by extension from the neighboring anatomic structures like the nasal cavity. It may occur on any site in the oral cavity like the tongue, palate, floor of the mouth, buccal mucosa, and the lips.[1] Histologically, squamous cell carcinoma accounts for 90% of all the malignancies.[2] In Kenya, a study which was done from 1978-1997 at Kenyatta National Hospital indicated that of the 22,780 malignancies that were diagnosed, 3.6% were oral cancer with the common site being the tongue [3].Globally, 300,000 new cases are reported annually as per the year 2005, of which two thirds are in the developing world, most commonly in males than females.[4] 145,000 deaths occur globally primarily due to late presentation. It has a dismal5 year survival rate of 20-50%. In Africa, highest frequency of 17% is reported from Sudan, due to extensive use of snuff, locally called toombak.[5] Toombak use has spread to Kenya, Uganda, and Ethiopia, leading to a progressive increase in incidence of oral cancer.[5]

Risk factors are elements associated with an increased probability of disease development in a given individual. The risk factor like tobacco use in various forms (smoking cigars or pipes, chewing and snuffing) is associated with exposure to toxins like tobacco specific nitrosamines and aromatic hydrocarbons. It accounts for 80-90% of the oral cancer occurrences.[6] [W.H.O 1984]Alcohol consumption acts synergistically by increasing permeability of the oral mucosa to other carcinogens like tobacco. Areca nut chewing releases a product called arecolin which is carcinogenic, and can also cause oral submucous fibrosis which also appears to be premalignant.[7] Excessive exposure to U.V radiations causes cancer of the lips in pale skinned people. Dietary deficiency of vitamins A, C, and E, which act as antioxidants may contribute to its etiology due to accumulations of carcinogenic toxins. Chronic irritation of the oral mucosa for example due to ill fitting dentures and other prosthesis may lead to an increased likelihood of oral cancer development. Genetic predisposition is an associated factor which cannot be modified.Viruses like HPV 16, 18 have been linked to oral cancer.[7] Also highly spiced foods have been linked to this condition especially among the Indian population.

Numerous advancements towards oral cancer management have not succeeded in reversing the trends. The patient`s knowledge of contributing habits towards oral cancer is fundamental in the prevention of the disease. Modification of such habits significantly reduces risk of developing precancerous lesions within 5-10 years [Johnson and Bain 2000].[8] The aim of this study is to determine the knowledge and practices on risk factors for oral cancer among patients visiting University of Nairobi Dental Hospital (U.O.N.D.H) oral diagnosis clinic. Findings from this study could be used by planners to develop oral health education programs to improve the awareness and knowledge

on the risk factors associated with oral cancer.

Oral cancer is ranked among the top six most common malignancies in the world.[9] In developing countries, this disease ranks third for males and fourth for females, which is 2.5 times of the malignancies in males, and 4 times that in females compared to industrialized countries.[9] It accountsfor 40% of all cancers in India as compared to 4% in the U.K. this is due to cultural practices like chewing betel, pan, and areca nut among the Indians, which are the known strong risk factors of oral cancer.[10] In Africa, the second highest relative frequency (17%) of oral cancer in non-Asiatic countries is reported from Sudan, which is strongly attributable to extensive use of toombak.[11] In many of the developing countries, oral cancer is strongly related to oral habits, especially use of tobacco.[12] In these countries, tobacco is either, chewed in combination with other ingredients such as areca nuts and betel leaves, slaked lime and aromatic flavorings, smoked as cigarette, sucked as a smokeless tobacco packet and sniffed or dipped.[12] In the USA, it accounts for about 8% of all malignancies. Men are twice often affected as women especially those above 40 years of age. [13] The cancerous lesion may progress to locally invade other tissues leading to various complications like difficulty in swallowing, breathing, speech and facial paralysis. Also complications of various treatment modalities may occur, like neuropathy, nausea, vomiting, alopecia, and bone marrow suppression.

Studies in Australia, Brazil, and Germany indicate that alcohol containing mouthwashes are also etiological agents of oral cancer.[14] Recent research from John Hopkins indicates that Human Papilloma Virus(HPV) is a primary risk factor of oral cancer (Gilsion et al). HPV16 (along with HPV18) is the same virus responsible for cervical cancer as well. According to the article by Gustavo D. Cruz and colleagues, several population based studies indicate that oral cancer screening services are underused in the USA.[15] For example based on responses to 1992 National Health Interview Survey, Horowitz found that only 15% of the respondents reported ever having had an oral cancer examination. Most of the participants in the study were not well informed on the risk factors associated with oral cancer. This lead to the initiation of community-based training centers to teach people on the risk factors and the importance of frequent oral diagnosis.

A study done in Britain indicated fair awareness of oral cancer whereby 56% of the adult respondents were aware of it. 80% of the respondents had good knowledge on the association of betel nut chewing and oral cancer. However, the respondents linked tobacco and alcohol consumption habits as risk factors.[13]

A study which was conducted at University of Paradeniya dental hospital

in Sri-Lanka on patients seeking treatment aged 18 to 43 years indicated that 95% of the respondents were aware of it. 80% of the population also linked the disease to use of betel nut and tobacco. However, there was poor knowledge on oral precancerous lesions. Only 44% of the respondents knew of the existence of such lesions. Association of excessive alcohol consumption to cancer was as low as 17% among the participants.[16] The sample was not representative enough because respondents were chosen from a dental hospital and the age group limitation.

Lawoyin et al in Nigeria carried out a study and found out that about 72% of the study population was aware of oral cancer. 50% of the respondents were informed by the media while the others were informed by health care givers. There was low prevalence of alcohol and tobacco use as well as lack of association between oral cancer and the habits. [17]

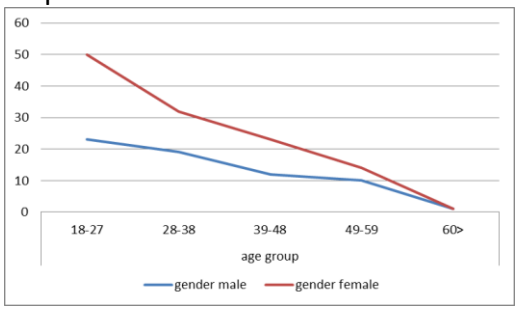
MATERIALS AND METHODS

Self administered questionnaires were used to collect data. Demographic data of the participants was taken. This included age sex and educational level. They were asked whether they knew oral cancer and the associated risk factors. The source of their knowledge on cancer was also recorded. Ability to identify precancerous lesions was assed as well as indulgence on risky activities by participant like smoking and alcohol consumption. Their attitude towards the risk factors was evaluated.

RESULTS:

DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS: The total number of respondents was 120. Of these (65) 54.3% were males and (55) 45.8% were females. The age range was 18-62 with a mean age 33.23± 11.405 standard deviation. The males were older(35.37 ± 11.836 SD) than females (30.71± 10.422). The difference was not significant (t=2.269, p=0.025) [*figure 1 shows age and gender distribution of the respondents*]. The participants aged 18-27 were (50) 41.7%, 28-38(32)26.7%, 39-48(23)19.2%, 49-59(14)11.7%, above 60 years (1) 0.8%.there was a progressive decrease in number of respondents with increase in age. Those who had no formal education were (2) 1.7% while who had the highest form of education as primary, secondary, college, university were (8)6.7%, (25)20.8%, (31)25.8%, and (54)45.0% respectively.

Fig 1. Age and gender distribution of respondents

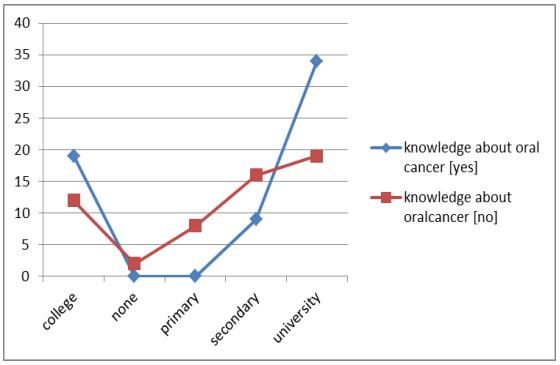


KNOWLEDGE

Oral cancer awareness: The respondents aware of the existence of oral cancer thus had knowledge on the disease were (62)51.7% whereas those unaware were (57)47.5%. Among the ones who had knowledge, females were more (33)

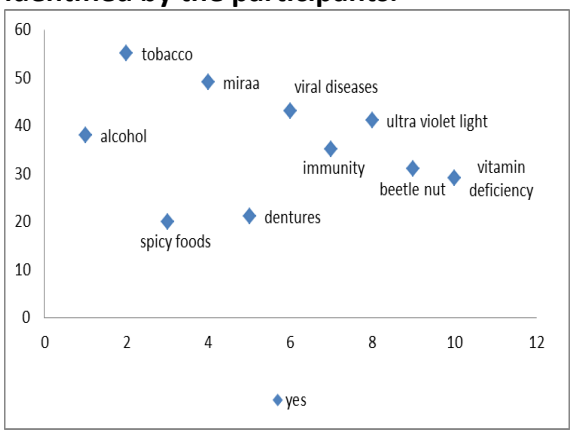
accounting for 53.2% than males who were 29 accounting for 46.8%. Among the females who participated in the study 60% were aware of oral cancer while for the males 45.3% were aware. The mean value of males who had knowledge on oral cancer was high (1.547± 0.502 SD) than females (1.4000± 0.494 SD). However there was no significant difference (t=1.603, p=0.112). Knowledge in percentage within the age groups was(18-27) 25.2 %,(28-38) 9.2%, (39-48) 13.4%, (49-59) 4.2%. However there was none in the age of 60 years and above. Individuals in the age bracket of 18-27 showed highest awareness while those above 60 years showed the least. Based on level of education, awareness on oral cancer varied as, college (19), secondary (9) 7.6%, and university (34) 28.6%. There was none in the primary level and those with no formal education. *[Figure 2 shows knowledge about oral cancer and level of education].*

Fig 2.**Knowledge about oral cancer and level of education**



(38) 61.3% of the participants aware of oral cancer identified excessive consumption of alcohol as a risk factor, (55) 88.7% linked tobacco use, (20) 32.3% associated use of spicy foods, whereas (49) 79.0%, (21) 33.9%, (43) 69.4%, (35) 56.5%, (41) 66.1%, (31) 50%, and (29) 46.8% linked chewing miraa, ill fitting dentures, viral diseases, low body immunity, exposure to UV light, beetle nut chewing, and vitamins deficiency respectively [*figure 3 shows distribution of risk factors as identified by the participants*]. Majority linked tobacco use (88.7%) as the major risk factor for oral cancer.On the basis that the risk of developing oral cancer increases with the combination of two or more risk factors, (41) 66.1% participants were aware of which the females were the majority (25) compared to males (16). (20) 32.2% were not aware if risk of developing oral cancer is associated with combination of the risk factors.

Fig 3. Distribution of risk factors as identified by the participants.



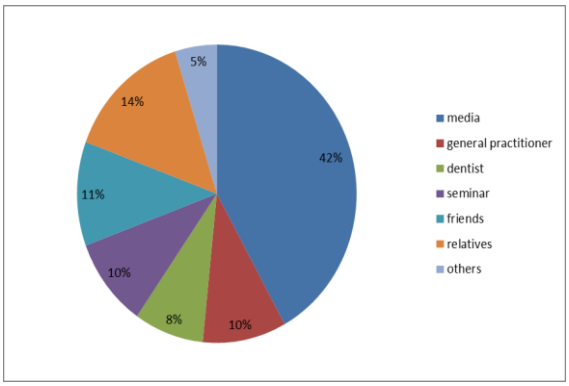
Majority (47) 75.8% agreed that the risk of developing oral cancer varied with the duration of tobacco use whereas (36) 58.1% agreed that the risk varied with amount and type of alcohol use.

Source of information on oral cancer.

The sources of information were media (26)42%, general practitioners (6) 10%,

dentists (5) 8%, seminars (6)10%, friends (7)11%, relatives (9)14%, and other sources like published journals (3) 5%. Majority of the participants got the information from the media in both genders [females (16)48.5%, males (10)34.5%]. (*figure 4 shows the sources of information.)*

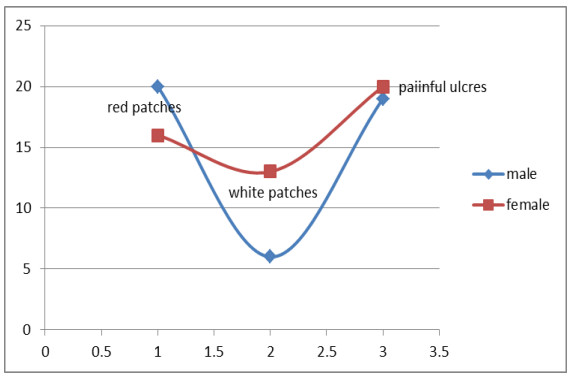
Fig 4.**Sources of information on oral cancer**



Precancer awareness.

Majority of the respondents (47)75.8%% were able to identify any one or more of the precancerous lesions. Those who were able to pick out red patches as pre cancerous were (36) 76.6% whereas those who identified white patches and small raised painful ulcers were(19) 40.4% and(42) 89.4% respectively.Majority associated small raised painful ulcers (89.4%) as early signs indicative of oral cancer in early stages. The number of females who identified white patches (13) 68.4% and painful ulcers (23) 54.8% as early signs was higher compared to males (6) 31.6% and (19) 45.2% respectively. Figure 3 shows precancer awareness and gender distribution.*[figure 5 shows pre cancer awareness and gender distribution]*

Fig 5. **Precancer awareness and gender distribution**



ATTITUDE TOWARDS RISK FACTORS:

Majority of the participants (56) 90.3% believed that oral cancer can be prevented by modifying some risk factors unlike (4) 6.5% who believed that whoever developed oral cancer was a matter of chance and there is nothing one can do to avoid it.More females (32) 57.1% believed that oral can be prevented than males (24) 42.9%. Only males believed that developing oral cancer was a matter of chance.

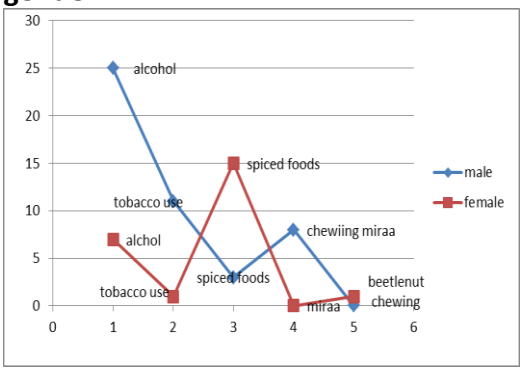
Regarding treatment, (56) 90.3% of the participants who had knowledge on oral cancer had a positive attitude towards treatment as they stated that they would visit a dentist if they noted any of the early signs of oral cancer. (5) 8.1% of them said that they would leave the lesions undisturbed whereas (1) 1.6% would use painkillers for pain relief. Among the (38) 61.3% that associated excessive alcohol consumption as a risk factor (9) 23.7% of them still consumed the product. Of the (55) repondents who associated tobacco to cancer (3) 5.5% disclosed that they smoked, chewed or sniffed tobacco. Those who chewed miraa and ate highly spiced food despite

the risk were (6) 12.2% and (3) 15% respectively.

PRACTICES:

The commonest risk practices which the participants engaged in order of decreasing frequency were excessive alcohol consumption (32) 26.7%, eating highly spiced foods (18) 15%, tobacco use (12) 10%, chewing miraa (8) 6.7%, and beetlenut chewing (1) 0.83%. there were more males engaging in a number of risk factors compared to females. Males engaging in alcohol consumption, tobacco use, chewing miraa were (25) 78.1%, (11) 91.7%, and (8) 100% whereas famales who engaged in these risk factors were (7) 21.9%, (1) 8.3% respectively. Majority of female engaged in eating highly spiced foods (15) 83.3% than males (3) 16.7%.[*figure 6 shows risk practices in variation with gender.*]

Fig6. **risk practices in variation with gender.**



There were more individuals engaging in a number of risk practices and unaware of the existence of oral cancer than those who knew of its existence. Among those who were involved in alcohol consumption and tobacco use and unaware of existence of oral cancer were (18) 56.25% and (9) 75%. Those who were aware and yet involved in these practices were (14) 43.75% and (3) 25%. There were more individuals aware of oral cancer and still engaged in eating highly spiced foods (12) 66.7%, and chewing miraa (7) 87.5% than those who were unaware.

DISCUSSION

The participants who were aware of oral cancer were (62) 51.7%. Awareness within the female gender was higher (33) 53.2% than (29) 46.8% in males. This could be due to increased concern among females about their oral health as compared to males. This coincides with a study which was done in Britain by C.K. Harris[13], in which the level of awareness was 56% but differs with a Sri Lankan hospital based study whereby 95% of the respondents were aware.[16] This could be due to high prevalence of the disease in Sri Lanka resulting from beetle nut chewing. Those who linked excessive alcohol consumption, tobacco, and beetle nut chewing were(38)61.3 %, (55) 88.7%, and (31)50% respectively compared to 17%, 47%, and 80% established in a study in Britain[13]. This could be due to enlightment of the public through the media about the existence of the disease and the factors commonly associated with it. The difference awareness on beetle nut as a risk between the two studies could be due to increased popularity and use of it in Britain than Kenya. Analysis that over 50% of the participants were aware of oral cancer hence knowledgeable resulted in accepting of the hypothesis

that stated that 50% of the participants had knowledge about oral cancer.

The media was found to be the main source of information (42%). This concurs with a study done in Nigeria where the media's contribution was 50%[17]. This could be because majority of them seemed to have heard the disease being mentioned from the media compared to other sources. The media, friends, relatives, and published journals contributed 72% as sources of information compared to factual information acquired from dentists, general practitioners, and seminars contributing towards 28%. This could be due to poor seeking of medical and dental services among many individuals.

Majority (47) 90.3% agreed that the disease was preventable by modifying some practiced risk factors. This could be due to increased awareness of the disease among the individuals because of its inclusion in teaching programs in different institutions as majority of the participants were from secondary, college, and university levels educationally. Majority who believed were female (27) 57.1% than males (20) 42.9%. This could be because of good attention to oral health among females than males. Attitude towards treatment was good as (47) 90.3% said they would seek dental treatment if they observed any of the signs they identified as pre cancerous. This differed with a discussion-based study done in Britain by Zakrzewska among smokers and drinkers which indicated that there was profound ignorance among the population group at risk.[13] They had a dismissive approach that the disease was fatal and an attempt to prevent the disease was not important. The difference could be due to the tendency of the respondents to select the choice that was ideal and not necessarily what they would do as (4) 6.7% strongly believed that developing the disease was a matter of chance quoting friends and relatives who fell sick yet did not engage in any of the risk practices. They could not link any of those as by their observation many more people indulged heavily yet not diseased.

Majority of the participants (71) 59.2% reported that they were not involved in any of the risk practices that is alcohol consumption, tobacco use, eating of highly spiced foods, chewing miraa and beetle nut. There were more males (11) 91.7% than females (1) 8.3% who engaged in tobacco use. This coincides with WHO African studies that indicated higher prevalence of smoking in males 29% and 7% in females. The difference in prevalence between genders could be due to restrictions in religion, socio-cultural norms, taboos, personal principles and beliefs. Others out of unexplained fear could deliberately avoid the truth especially after positively identifying the above as risk factors.

CONCLUSION:

Over 50% of the participants had knowledge about the existence of oral cancer. The attitude regarding

prevention and treatment of the disease was good as majority of those aware of it agreed that it was preventable. There are more people at risk by engaging in habits that make them vulnerable to the disease than those who do not engage in any. The media was the main source of information concerning the existence of oral cancer and its associated risk factors compared to other sources.

Recommendations: Oral health education programs should be designed to educate and further train the public on the existence and risk factors for oral cancer. Also the importance of avoiding the associated risk factors should be emphasized. The public should be sensitized further on the importance of early screening for the disease more especially if they notice any early signs pointing towards cancer development.There is need to conduct a study to establish reasons why some were still engaging in some practices despite knowledge on the risk exposed to.

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