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PERCEPTIONS REGARDING ORAL CANCER AMONG MEDICAL AND NURSING GRADUATES: A CROSS SECTIONAL STUDY IN A MEDICAL COLLEGE IN SOUTH KARNATAKA

Otorhinolaryngology

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ABSTRACT

Introduction: Oral cancer ranks sixth among all types of cancer. India has the largest number of oral cancer cases and one-third of the total burden of globally.Though early detection of oral cancer provide long term survival and affordable healthcare, it still poses a significant public health problem in India due to diagnosis in advanced stages, lack of accesibility to trained healthcare professionals and economical constraints for advanced facilities **Materials and Methods:** This cross sectional, lack of accesibility based study was conducted at Mandya Institute of Medical Sciences, Mandya to assess the perceptions regarding oral cancer among 100 MBBS and 100Nursing graduates from South Karnataka. A structured proforma was used to interview the participants which included (a) General information (b) Problem statement (c) Risk factors (d) Signs & Symptoms (e) Diagnosis, and (f) Treatment & prevention. Data was entered in MS excel spreadsheet. Descriptive analysis like proportion, mean, standard deviation, etc. was used. Statistical tests to detect significant difference or association like T test, chi square test, etc was used. **Results:** The mean age of medical graduates was 25.9 ± 0.7 years and the mean age of nursing graduates was 23.1 ± 0.8 years. In this study 61.0% of the medical graduates were males whereas 86.0% of nursing graduates were female. The knowledge regarding the disease burden among medical graduates was 41.0% and that among nursing graduates was 23.0%. 86% of MBBS graduates and 84% of nursing graduates perceived smoking, chewing tobacco and tobacco with alcohol as risk factors for oral cancer. Most of the medical graduates (82.5%) and nursing graduates (87.5%) perceived white patch and weight loss as clinical features of oral cancer.Clinical examination as an aid to diagnose oral cancer was upheld by 89.0% of medical and 95.0% of nursing graduates. 95.0% of medical graduates knew that early stages could be treated with surgery and chemo-radiotherapy was preferred for advanced stage of the disease compared to 42.0% nursing graduates.

KEYWORDS

INTRODUCTION

Cancer is a disease that can start in any tissue of our body when abnormal cells grow uncontrollably and spreads unchecked within the body. It is the second leading cause of death worldwide, causing 10 million deaths annually. The cancer burden continues to grow globally, exerting tremendous physical, emotional and financial strain on individuals, families, communities and health systems. Many health systems in low- and middle-income countries are least prepared to manage this burden, and large numbers of cancer patients globally do not have access to timely quality diagnosis and treatment. Accessibility, early detection, quality treatment and care increases the survivorship and quality of life. [1]

Globally, oral cancer ranks sixth among all types of cancer and in India, it ranks among top three types of cancer and contributes one-third of the total burden of oral cancer globally. Oral cancer poses a serious health challenge to the nations undergoing economic transition. [2] In India, around 77,000 new cases and 52,000 deaths are reported annually, which is approximately one-fourth of global incidence.[3]

Though early detection of oral cancer provide long term survival and affordable healthcare, it still poses a significant public health problem in India due to diagnosis in advanced stages, lack of accessibility to trained healthcare professionals and economical constraints for advanced facilities.[4]

Lack of knowledge, variations in exposure to the environment, and behavioral risk factors indicate a wide variation in the global incidence and mortality rates. To overcome few of many shortcomings our budding healthcare professionals need to be informed about the fundamental basics of cancer including predisposing factors, causative factor, progression of the disease and the typical symptoms and necessary investigations and management to improve the quality of life. [5]

The perceptions regarding oral cancer among health care personnel and their attitude regarding the disease, their preconceived ideas regarding the disease process and their practice would bring significant impact at community level and provide the necessary information to bring the changes in training program focusing mainly to reduce the disease burden. [6]

OBJECTIVE

To determine the perceptions regarding oral cancer among medical and nursing graduates.

Methodology

This cross sectional, questionnaire based study was conducted at Mandya Institute of Medical Sciences, Mandya to assess the perceptions regarding oral cancer among MBBS and Nursing graduates from South Karnataka. Institutional Ethical Committee approval was obtained for the study (No.MIMS/IEC/551)

A total of 100 MBBS graduates and 100 BSc Nursing graduates were interviewed. The sample size was calculated using formula $4pq/d^2$ with 95% confidence interval and 10% relative error. The sample size was calculated to be 100. Informed consent was obtained from all participants included in the study.

MBBS graduates and nursing graduates who joined our institute for training from different parts of Karnataka were contacted and by using snowball sampling, the 200 study participants were interviewed.

A structured proforma was used to interview the participants. The questionnaire had 6 parts which was used to assess the following (a) General information (b) Problem statement (c) Risk factors (d) Signs & Symptoms (e) Diagnosis, and (f) Treatment & prevention.

The Data was entered in MS excel spreadsheet. Descriptive analysis like proportion, mean, standard deviation, etc. was used. Statistical tests to detect significant difference or association like T test, chi square test, etc was used to analyze the data.

RESULTS

A total of 200 graduates participated in the study, of which 100 were medical graduates and 100 were nursing graduates. The mean age of medical graduates was 25.9 ± 0.7 years and the mean age of nursing graduates was 23.1 ± 0.8 years. In this study 61.0% of the medical graduates were males whereas 86.0% of nursing graduates were female.

In this study with regard to the knowledge of the magnitude of the problem of oral cancer; 56.0% of medical graduates and 50.0% of nursing graduates knew that the annual global incidence of oral cancer cases is about 300,000.In India, 75,000 persons are diagnosed with oral cancer each year. This was known by 20.0% of medical graduates and 13.0% of nursing graduates. While 51.0% medical graduates knew that the 5 year survival rate of oral cancer cases is 50.% and only 37.0% of the nursing graduates knew this.

The fact that, in India, 75% of the oral cancer cases are reported in advanced stage was known by 41.0% of medical and 23.0% of the nursing graduates. The differences in the knowledge regarding the magnitude of oral cancer, between medical and nursing graduates was statistically significant with the p-value: 0.01 ($p<0.05$).

Table 1: Perceptions regarding risk factors of oral cancer

Risk factors	Medical	Nursing	Statistical Difference
Smoking Tobacco	87	83	0.43
Chewing Tobacco	91	89	0.64
Alcohol Consumption	54	48	0.40
Tobacco + Alcohol	82	82	1
Exposure to Sunlight	15	13	0.68
Human Papilloma Virus	57	53	0.57
Poor Oral Hygiene	51	47	0.57
Hereditary / Genetic	57	34	0.01
Immune-suppression	64	73	0.17
Increasing age	44	38	0.39

Chi-square Value ($\chi 2$) =6.25, p-value = 0.714.

In this study most of the graduates perceived smoking, chewing tobacco and tobacco with alcohol as risk factors for oral cancer. While many medical graduates attributed alcohol, HPV, poor hygiene, genetics and immune-suppression as risk factors; many nursing graduates attributed HPV and immune-suppression. Sunlight exposure and increasing age were considered risk factors by less than half of the graduates. Less than 50% nursing graduates felt that alcohol, poor hygiene and genetics were risk factors. Differences in perception was not significant.

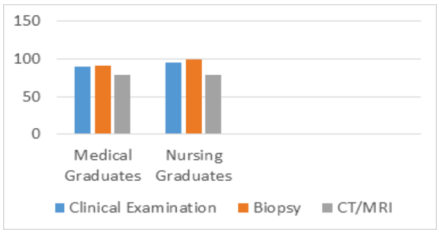
Table 2: Perceptions Regarding Signs And Symptoms Of Oral Cancer

Clinical Features	Medical	Nursing	Statistical Difference
White patch	82	80	0.72
Red patch/ulcer	65	83	0.01
Swelling in mouth	17	80	0.01
Trismus	72	94	0.01
Odynopahgia	77	87	0.06
Bleeding	67	55	0.08
Otalgia	42	56	0.04
Loss of appetite	55	79	0.01
Loss of weight	83	95	0.01

Chi-square Value ($\chi 2$) = 38.55, p-value = 0.01 ($p<0.05$).

Most of the medical and nursing graduates perceived white patch and weight loss as clinical features of oral cancer. While many medical graduates attributed red patch, trismus, odynophagia, bleeding, loss of appetite as clinical features; many nursing graduates attributed red patch, trismus, odynophagia, bleeding, loss of appetite, swelling in mouth, otalgia as clinical features. Less than 50% nursing graduates felt that swelling in mouth and otalgia as clinical features. Differences in perception was significant.

Clinical examination as an aid to diagnose oral cancer was upheld by 89.0% of medical and 95.0% of nursing graduates and 91.0% of medical and 99.0% of nursing graduates knew that biopsy & histopathology was the diagnostic test for oral cancer. The imaging modality such as Computed Tomography(CT) and Magnetic Resonance Imaging(MRI) as a diagnostic tool was supportedby 79.0% of the graduates in both fields. The difference in the responses was not statistically significant.



Chi-square Value ($\chi 2$) = 0.16, p-value = 0.92 ($p<0.05$)

Figure 1: Perception regarding diagnostic modality of oral cancer

Table 3: Perceptions regarding treatment and prevention of oral cancer

Treatment	Medical	Nursing	Statistical Difference
Chemotherapy	88	94	0.14
Radiotherapy	81	89	0.11
Surgery	95	91	0.27

Chi-square Value ($\chi 2$) = 0.47, the p-value = 0.79 ($p<0.05$).

Most of the respondents knew that the 3 modes of treatment for oral cancer were chemotherapy, radiotherapy and surgery. The difference in the responses was not statistically significant.

Among them 95.0% of medical graduates knew that early stages could be treated with surgery and chemo-radiotherapy was preferred for advanced stage of the disease. Whereas only 42.0 % of nursing graduates knew that surgery is the treatment modality of early stage of oral cancer and chemo-radiotherapy is preferred for advanced stages While 38.0% medical gradates felt that oral cancer is highly preventable, 59.0% felt that it is moderately preventable. Among nurses, 32.0% felt that it is highly preventable and 63% felt that it is moderately preventable. 59.0% medical and 49.0% nursing graduates perceived that stopping tobacco and alcohol would greatly reduce the risk of oral cancer.

DISCUSSION:

Oral cavity is an accessible area for self and clinical examination. Cancers in these area is still underdiagnosed at early stages. [6]

This study was conducted to assess perceptions regarding oral cancer among health care workers, which included a total of 200 medical and nursing graduates. Among them approximately 50.0% of them knew the problem statement globally and in India. About 10 to 20.0% of them knew about the mortality associated with the disease. Medical graduates had better knowledge regarding the incidence of advanced stage of oral cancer compared to the nursing graduates. The graduates seem to underestimate the disease burden, which might influence screening and referral practices.

Most of the medical and nursing graduates were knowledgeable regarding the major risk factors such as smoking and alcohol is associated with the oral cancer. Similar results were seen in a study conducted by Algudaibi et al. [6] The genetic factor being a risk factor for oral cancer was known by many medical graduates (57.0%) compared to fewer nursing graduates (34.0%) which was statistically significant. The exposure to sunlight though one of the common risk factor for oral cancer (lip) [7] was known only by few of the medical (15.0%) and nursing (13.0%) graduates in our study.

The clinical features such as white patch, red patch/ulcer, trismus odynophagia, bleeding as early features were known by most of the graduates. These results were consistent with a similar study done by Carter L M et al, which compared perception regarding oral cancer among medical and dental practitioner.[8] Most the nursing graduates in our study also thought that loss of appetite (79.0%), loss of weight (95.0%), swelling in mouth (80.0%) as an early presentation compared to medical graduates. This difference in perception regarding clinical presentation was statistically significant in our study, which may be due to lack of exposure among the nursing graduates and less importance to malignancy cases during their training period.

In our study most of the medical and nursing graduates knew that clinical examination, biopsy and CT/MRI as the diagnostic modality of oral cancer. 86.0% of medical graduates knew that biopsy is the

confirmatory test compared to 30.0% in nursing graduates. The difference among them was statistically significant. In a study conducted by Schnetle [9] and Scully [10] found that medical practitioners were better at referring early and suggesting malignancy as a diagnosis Among them 85.0% of medical graduates knew that early stages could be treated with surgery and chemo-radiotherapy was preferred for advanced stage of the disease. Whereas only 42.0 % of nursing graduates knew that surgery is the treatment modality of early stage of oral cancer and chemo-radiotherapy is preferred for advanced stages. Whereas in a study conducted by Greenwood M et al; showed that 32.5% of medical practitioners thought chemotherapy as primary modality of the treatment which is contradictory to our study. [11]

Though oral cancer is highly preventable disease only few of the medical graduates (38.0%) and nursing graduates (32.0%) perceived this. According to Marron M et al; cessation of smoking and alcohol had a protective effect on head & neck cancer. [12] This was thought in about 59.0% medical and 49.0% nursing graduates in our study.

CONCLUSION:

Though most of the graduates were aware of the disease burden, only few graduates had the actual gravity of associated morbidity and mortality of the disease. Majority of the graduates had high level of knowledge regarding the major risk factors of oral cancer. But there was lack of knowledge regarding the risk factor for lip cancer among both the graduates. Medical graduates had better perception regarding the early stage of presentation compared to the nursing graduates. Both of the graduates knew the overall clinical features of oral cancer. Similarly, while both graduates knew the diagnostic and treatment modalities used for oral cancer; nursing graduates lacked knowledge regarding their timely usage.

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