

Knowledge Of Oral Cancer and Screening Practice Of Undergraduate Nursing Students - A Cross-Sectional Survey

Research Article

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Abstract

Background: Oral cancer is most common cancer amongst men in India, and continues to be a global threat. The lack of awareness, knowledge and screening practices amongst medical /dental doctors was much studied, but studies as such on nursing students are fewer in India.

Aim: To evaluate the knowledge of oral cancer and screening practice of undergraduate nursing students in Karaikal district, Puducherry.

Methods: An online cross-sectional survey was carried out on sample of 123 participants perusing undergraduate nursing. A pre-validated and pre-tested structured questionnaire consisting of 12 open ended questions was circulated via Google feedback forms. The descriptive data was represented as frequency and percentages.

Results: Around 41% (n=50) were from 3rd academic year of nursing, with a male to female ration of 1:9. The examination of oral cavity was done by 80% (n=98) of the participants. The majority (77.2%) identified tobacco as risk factor and around 84.3% (n=103) participants responded that non-healing ulcer after biting to be sign of cancer. However, the correct responses for the common sites for oral cancer occurrence in oral cavity, surfaces of tongue and lymph node examination in metastatic oral cancer were low. The need for more education for nursing students and willingness to participate in oral cancer programs was marked by 100% and 91% of students respectively.

Conclusion: The majority of the nursing students had identified tobacco to be factor associated with oral cancer. There was difficulty in most of participants in identification of common sites for oral cancer, examination tongue and cervical lymph nodes. Provision of further education and certified courses for undergraduate nursing students may contribute in reduction of raising numbers of oral cancer in India.

Keywords: Awareness; Oral Cancer; Mouth Cancer; Nursing; Screening.

Introduction

The cancers of the oral cavity and the pharynx or oro-pharyngeal cancers are established to be global burden [1]. In India, it is the 1st or most common among men and 3rd most common cancer

among women, accounting for over 30% of all cancers reported in the country [2]. Also, the carcinoma of oral mucosa lining is almost always (nearly 90%-95% times) is of the squamous cell carcinoma (SCC). The International Agency for Research on Cancer (a World Health Organisations affiliate centre) had predicted

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that India's incidence of cancer to attain more than 1.7 million cases by the year 2035 [3]. The oral squamous cell carcinoma (OSCC) invariably is associated with tobacco and alcohol use approximately 75% times [1-3].

The oral cancer is asymptomatic when in precancerous stage (also termed as potentially malignant disorders or PMDs) and so 50-60% of oral cancer cases are detected in late stages (III and IV). The late stage cancers may be having neural involvement or secondary infected when pain arises leading to a doctor's consultation [4]. It is essential to mention that despite therapeutic advances in recent years, the OSCC has very poor survival rates worldwide with an average of 5-year survival rate of 50% [5]. The oral cancers in locally advanced stages often need extensive surgery with reconstruction compromising the aesthetics, functionality (speech and mastication) and general psychological health of the patients. Also, radiotherapy and chemotherapy given for advanced stage diseases often caused considerable morbidity and drop in quality of life [2-5].

The oral cancer given its high incidence and poor survival is also one of the most preventable cancers considering early detection [4]. However, the early detection needs knowledge and awareness among healthcare providers (HCPs) and front line workers. These HCPs include the medical doctors, dental surgeons and nursing care providers. The awareness about oral cancer among the undergraduate dental students has been well documented in literature [6-8]. However, a study had quoted that medical and dental practitioners needed to increase awareness and to strengthen their abilities to diagnose potentially cancerous intra-oral lesions [9]. The scenario is very less explored in nursing providers, even though they are posted as primary HCPs under medical facilities, dental offices and oncology centres. The undergraduate and post-graduate programs need oncology training aspects which greatly aid in reducing burden of cancers [10].

A study had concluded that there is a serious lack of knowledge and a need to develop and implement continuing nursing education programs on oral care for cancer treatments [11, 12]. A rec-

ommending for the inclusion of cancer patient specific oral care in the curriculum which can enhance competency of the qualified nurses in cancer wards was made [12]. The studies on nursing practitioners amongst other HCPs were noted but, nursing undergraduates students is a notable paucity. A study in southern India had shown a need for Indian nursing students which is definable research launce [11]. Thus, the current study was conducted amongst nursing undergraduates on awareness and screening practices of undergraduate of oral cancer.

Methodology

Study Settings: An online cross-sectional survey was carried out between, 2/11/2020 to 8/11/2020 on 122 nursing students in Karaikal District, Puducherry. The subjects were recruited by purposive sampling. The Inclusion criteria were - Indian nursing students who were perusing bachelor's degree in nursing sciences and willing to participate in online based survey. Those who were unwilling for participation were excluded.

Data collection tool (Questionnaire): A validated structured questionnaire was used to assess the outcome of the study. The tool was developed based on the objectives of the study title and consisted of 12 open ended questions. (See Annexure 1) Google feedback forms were employed for making an online survey which can be answered in a convenient way by all participants in pandemic time.

Testing and Validation Of Tool: The content was validated by 10 experts who were Associate professors (n=5) and Professor (n=5) in Nursing and Dentistry. They were requested to review and verify the item for adequacy, clarity, and meaningfulness. A pilot study was conducted to assess the feasibility of the study and determine the flaws in the design. The pretesting was done on 10 subjects and found that the tool was clear and feasible with no ambiguity in language.

Data Collection Method: The data was recorded by the ques-

Figure 1. Responses recorded for awareness on tongue site which is most affected by oral cancer.

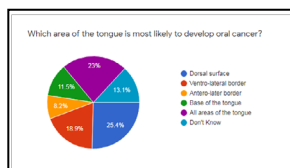


Figure 2. The responses recorded for tongue examination findings.

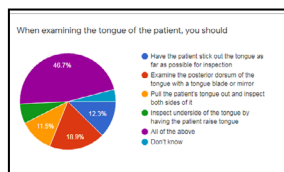
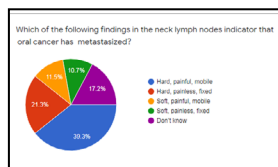


Figure 3. The responses recorded for lymphnode examination findings of metastatic oral cancer.



Annexure 1. Questionnaire for evaluating Knowledge and screening practice of undergraduate nursing students on oral cancer.

1. Do you carry out an oral health check on a patient's admission?
a) Yes b) No
2. Do you think it is important to examine a patient's mouth on admission?
a) Yes b) No
3. Do you screen patients seen during a physical examination for signs of oral cancer?
a) Yes b) No
4. Main etiology of oral cancer is
a) Heavy use of tobacco products b) Heavy alcohol use c) Old age d) Poorly fitting denture e) Sun exposure f) All of the above
5. Which area of oral cavity is most likely to develop oral cancer?
a) Buccal Mucosa b) Palate c) Tongue d) Gingiva e) Floor of the mouth
6. Which area of the tongue is most likely to develop oral cancer?
a) Dorsal surface, b) Ventro-lateral border, c) Antero-lateral border d) Base of the tongue e) All areas of tongue f) Don't know
7. When examining the tongue of the patient, you should
a) Have the patient stick out the tongue as far as possible for inspection b) Examine the posterior dorsum of the tongue with tongue blade or mirror c) Pull the patient's tongue out and inspect both sides of it d) Inspect underside of the tongue by having the patient raise tongue e) All of the above f) Don't know
8. Which of the following findings in the neck lymph nodes indicator that oral cancer has metastasized?
a) Hard, painful, mobile b) Hard, painless, fixed c) Soft, painful, mobile d) Soft, painless, fixed, e) Don't know
9. Do you feel that presence of ulceration that has not healed since the biting Incident is suspicious oral cancer lesion?
a) Yes b) No.
10. Is volume of alcohol consumption and tobacco use per day is related to oral cancer?
a) Yes b) No
11. Do you feel a nursing student needs more education about screening for oral cancer?
a) Yes b) No
12. Would you be willing to participate in a network to promote early screening for oral Cancer?
a) Yes b) No

tionnaire tool via the Google forms. The participants had to register with their email and access the Google form. One participant could give only one set of answers in designated timeline after which link was closed for answering. The responses once obtained from the stated sample and set period of time were considered for analysis.

Statistical Analysis:

The results were expressed as frequency distribution of respondents for each question and were analysed using the SPSS Version 22. Software (IBM, Chicago, USA).

Results

The descriptive data showed that majority of the participants [41% or n=50] who represented the study population were from

3rd academic year of nursing. Around 25.4% (n=30) and 36.6% (n=41) were representatives of 2nd and 1st year respectively. The participants were dominated with females at 90.2% or male to female ration of 1:9.

Around 80% (n=98) of the participants have answered that they do an oral examination, while 95% (n=116) had felt it's important to examine oral cavity and so 85.2% (n=104) consider to screen for signs oral cancer when they performed physical examination (questions 1-3). There was a mixed opinion when asked about the etiology of oral cancer, with majority answering tobacco (77.2%) while only 16.3% (n=20) had consider all listed factors to be associated with oral cancer. The common sites for oral cancer occurrence were marked for buccal mucosa (69.1%), tongue (10.6%) and gingiva (8.9%) [questions 4,5].

The area of tongue for occurrence of cancer had yielded mixed results with answering for 25.4% (n=31) for dorsal surface, 23%

(n=28) for all surfaces of tongue while 13.1% (n=16) participants had no idea on this question. Also, 47.6% (n=57) of the participants only knew about the comprehensive method of examining tongue (question 6, 7). (Figure 1 and 2).

The lymphnode examination findings in case of metastatic oral cancer were gauged by question 8, for which only 21.3% (n=26) of the participants had given the answer “hard, painless and fixed”. The majority of the participants [39.3% (n=48)] responded the metastatic cancer nodes were consistent with examination findings described as “hard, mobile and painful”. (Figure 3). An intraoral unhealed ulcer after biting was considered to be suspicious of oral cancer as per 84.3% (n=103) participants. Likewise 88.4% (n=108) believed that alcohol and tobacco volume consumed per day has association with oral cancer. (Questions 10, 9). The need for more education for nursing students on oral cancer was marked by cent present of the participants. (Question 11) while 91% (n=111) had answered they were willing to participate in network to promote early oral cancer screening. (Question 12).

Discussion

The survey was carried out as the existing literature had shown that general nurses had less knowledge in examination of the oral cavity, oral caners and related oral care and as opposed to those working in specific oncology centres. The knowledge on preventive practices and recognition of oral signs and symptoms pertaining to dental diseases was poor the practicing nurses [12]. A need for dental professionals must be encouraged to participate in the teaching program for nursing schools to address this gap [13]. The descriptive data of the current study showed that majority of the participants (90.2%) were females. The gender inequity here is in line with exiting is historic evidence and still reported to be persisting in nursing profession [11, 14, 15]. The male to female ratio in current study was 1:9; as opposed to 1:19 in developed countries like Canada and the United States. However the number of male nurses seem to slightly rise recently in India [14]. The current evidence showed that round 80% (n=98) of the participants perform an oral examination and around 95% of participants had felt it's important to examine oral cavity. A study reported that only 16.2-41.2% of the nurses performed oral assessments as a part of examination, that too for only 50% of their inpatients. The 20.3-29.9% of the nurses had encouraged more than one inpatient to see a dentist [15]. This underscores the attitudes of nurse and lack of awareness regarding oral health needs.

The vast majority (77.2%) of participants had identified tobacco while only 16.3% could identify all listed risk factors of oral cancer. This is in line with previous study where in approximately 90% identified smoking / tobacco products as a risk factor, but very few identified other associated factors in an Indian survey on nursing students [11]. The common sites for oral cancer occurrence were marked for buccal mucosa (69.1%), tongue (10.6%) and gingiva (8.9%). This is again in line with previous Indian survey where in 55% were aware about the common site of occurrence of oral cancer and 49% recognized a non-healing ulcer to be a sign of oral cancer [11]. A slightly better amount (84.3%) of respondents from the current study had answered that intraoral unhealed ulcer after biting to be suspicious of oral cancer. The area of tongue for occurrence of oral cancer was unique to the current study. The respondents have reported that all surfaces

of tongue (23%) were specific for cancer or they were unaware (13.1%) on this site specificity. However, around 47.6% (n=57) of the participants reported that they knew about the comprehensive method of examining tongue, which needs validation as nurses examine oral cavity in only 50% of inpatients on routine basis [15].

The correct description for lymph nodes in case of metastatic oral cancer were identified by only 21.3% (n=26) of the participants as “hard, painless and fixed”. These oral cancers are known to be associated with enlarged, fixed, stony hard lymph nodes which are typical of any malignancy [16]. This highlights the severe dearth in knowledge of nursing students in general examination of cancer patients if not specifically oral cancer patients. The need for more education for nursing students on oral cancer was marked by cent present of the participants with 91% (n=111) willing to participate in network to promote early oral cancer screening. The nurses with in 3 years of qualification were significantly better at recognising risk factors for oral cancer than their colleagues [18]. However, need for additional education / training / certified programs is almost highlighted in many studies considering the issue of “nursing education and oral cancer” [11-13]. Oral cancer knowledge is not only poor amongst registered nurses, but also amongst Ayurveda/ homeopathy doctors in India [19]. There seems to improvement in the knowledge, awareness and practice attitudes of in dentists, but again in those who work in cancer affiliated centres [20].

The study had limitations such as smaller sample, inclusion of 1-3 year students under single analysis and non-inclusion of those who have completed internship. The clinical exposure and practical training pertaining may differ amongst the participants, while the lack of cancer awareness and training persisted uniformly. The survey also highlights essential points such as need for further training in oral examination, demonstrations of lymph node assessments, strict implementation of oral cavity examinations in nursing apart from oral cancer identification. The reasons for higher numbers in oral cancer in India are also attributed to lack of awareness and need of educational programmes and fortifying existing practices.

Conclusion

The study concluded that majority of the nursing students had identified tobacco but no other risk factors associated with oral cancer. There was difficulty in most of participants in identification of common sites for oral cancer with a much needed training lacunae on tongue and cervical lymph node examination. Provision of further education and certified courses for undergraduate nursing students may contribute in reduction of raising numbers of oral cancer in India.

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