

Prevalence of Oral Cancer Screening Practices and Awareness among the Nursing Staff of Karad City, India

¹Kondlahalli M Shivakumar, ²Snehal Patil, ³Vidya Kadashetti, ⁴Kandagal V Suresh

ABSTRACT

Introduction: Oral cancer is one among the leading causes of mortality and morbidity in India. It has emerged as a major global public health problem in Southeast Asian countries. The common potentially malignant disorders of oral cavity can be easily detected by clinical examination. Nurses, being the largest group of health care workers, have an important role in prevention and early diagnosis of oral cancer.

Aim: To evaluate the risk factors and screening practice of oral cancer. To determine the self-assessed adequacy to undertake oral cancer screening and early detection among the nursing faculty and students of Karad city.

Materials and methods: A descriptive cross-sectional study was conducted among the 400 nurses. List of nursing schools and hospitals of Karad city was obtained. Sample of nurses was randomly selected from the hospitals and nursing schools in Karad city. A set of 10 closed-ended questionnaire regarding the sociodemographics, oral cancer knowledge, and proficiency was administered. These questionnaire were pretested and validated before administering.

Results: Out of 400 nursing staff, 300 were females and 100 were males. Over 30% nursing staff thought oral health checkups were important, however, only 70% performed oral examination regularly; 35 to 42.5% of nursing staff identified smoking and use of tobacco products as a risk factor but very few identified other associated factors, such as alcohol. Only 37.5% recognized a nonhealing ulcer as a sign of oral cancer. Over 87.5% nursing staff felt that a nursing they need more education about screening for oral cancer and were willing to participate in a network to promote early screening for oral cancer.

Conclusion: Educational programs and campaigns should be organized to improve and/or enhance the nursing staff awareness on oral health. Also continuing educational programs need

to be conducted to the nurses regarding the oral cancer for prevention and early detection. This training may decrease the incidence and prevalence of oral cancer and increase professional and public awareness.

Keywords: Nurses, Oral cancer, Practices, Prevalence, Screening.

How to cite this article: Shivakumar KM, Patil S, Kadashetti V, Suresh KV. Prevalence of Oral Cancer Screening Practices and Awareness among the Nursing Staff of Karad City, India. *Int J Oral Care Res* 2017;5(3):170-173.

Source of support: Nil

Conflict of interest: None

INTRODUCTION

Oral cancer is a public health problem affecting majority of population leading to high morbidity and mortality worldwide. It accounts for 50% of all the cancer cases detected in the country. Among the Southeast Asian region India has a very high prevalence of oral cancer. Most common oral cancer is oral squamous cell carcinoma. Majority of oral cancers are detected advanced stage which has poor prognosis.^{1,2} Tobacco is one of the major risk factor for oral cancer. Hence, it is said that all medical health care workers should have adequate knowledge on risk factor, clinical presentation, and various screening methods of diagnosis of oral cancer. Nursing staff needs to be educated in providing oral screening examinations to high-risk individuals, such as the elderly during routine care so, many oral cancer cases could be prevented or diagnosed in early stages.^{3,4} If the nursing staff were proficient in providing a 5 minute, comprehensive oral screening examination during routine care, many cases could be prevented or detected early. This training may decrease the incidence and prevalence of oral cancer and increase professional and public awareness. Since very limited information was available in literature regarding the awareness of nurses on oral cancer. Hence, in this study, an attempt has been made to evaluate the knowledge regarding the risk factors of oral cancer and screening procedures among the nurses.

MATERIALS AND METHODS

A descriptive cross-sectional study was conducted among 400 nurses of Karad city, India. List of nursing schools

¹Associate Professor and Head, ^{2,3}Assistant Professor, ⁴Lecturer

^{1,2}Department of Public Health Dentistry, School of Dental Sciences, Krishna Institute of Medical Sciences Deemed University, Karad, Maharashtra, India

³Department of Oral Pathology and Microbiology, Forensic Odontology, School of Dental Sciences, Krishna Institute of Medical Sciences Deemed University, Karad, Maharashtra, India

⁴Faculty of Dentistry, SEGi University & Colleges, Kota Damansara, Kuala Lumpur, Malaysia

Corresponding Author: Kondlahalli M Shivakumar, Associate Professor and Head, Department of Public Health Dentistry School of Dental Sciences, Krishna Institute of Medical Sciences Deemed University, Karad, Maharashtra, India, Phone: +918055161736, e-mail: shivakumarm1@gmail.com.

and hospitals of Karad city was obtained. From this list schools and hospitals were selected using a systematic random sampling technique. Sample of nurses was randomly selected from the hospitals and nursing schools. Questionnaire regarding the sociodemographics, oral cancer knowledge, and proficiency were administered. Permissions to conduct the study was obtained from the concerned authorities. Ethical approval was obtained from the Institutional Ethics Committee. Informed consent was obtained from the study subjects. Inclusion criteria constitute nursing staff who are willing to participate in the study. Those who are not willing to participate in the study were excluded from the study. The predesigned questionnaire consisted of 10 questions which assessed; oral examination habits, knowledge of oral cancer; its clinical appearance, and risk factors. All the questions used were close-ended. Face and content validity of the questionnaire was done amongst expert faculties. The collected data was analyzed using Statistical Package for the Social Sciences version 17.0 software. Descriptive statistics was used to assess the knowledge and prevalence of screening procedures.

RESULTS

Table 1 shows the distribution of nurses by specialty, out of 400 nurses approached, all 400 agreed to complete the questionnaire. Medical specialties included: Medicine for the elderly, gastroenterology, hematology, general medicine, pediatrics, respiratory medicine, rheumatology, and stroke medicine. Surgical specialties included:

Table 1: Specialty wise distribution of nursing faculty

Specialty of service	Number	Percent
Medical specialty	200	50
Surgical specialty	100	25
Accident and emergency	50	12.5
Critical care	50	12.5
Total	400	100

Maxillofacial surgery, general surgery, otorhinolaryngology, neurosurgery, orthopedics, pediatric surgery, plastic surgery, vascular surgery, urology, and gynecology. All the nurses posted in the accident and emergency unit were all involved. The critical care group included nurses from Adult and Pediatric Intensive Care and High Dependency Units. The duration of the nursing practice were asked and it was found that 50% graduated from nursing college 3 or more years ago, 18% were between 1 and 3 years postgraduation, and 12% nurses graduated less than 1 year ago. The 20% were auxiliary nurses. About 74% of nurses questioned reported that they were regular dental attendees.

It was found that 30% of nurses carried out an oral health check upon admission and 70% reported that they did not perform any oral health check. Over 75% of nurses agreed that it is important to examine a patient's mouth on admission, however, only 35% perform this task regularly. About 50% nurses responded that ward have a mouth care protocol, 50% of the nurses said that they are aware of risk factors for oral cancer, 75% of the nurses said that they have not received oral health care training during their study period, 87.5% of the nurses willing to participate in oral health screening and training (Table 2).

Table 3 shows the percentage of nurses identifying oral changes associated with oral cancer. In general, less than 20% of nurses identified oral changes, however, in particular, redness was identified poorly with only 15% of respondents identifying this oral change. There was no significant statistical difference in the mean number of oral changes identified by nurses from the different specialty groups or from different years from graduation ($p > 0.05$ respectively).

Table 4 shows the percentage of nurses identifying risk factors associated with oral cancer. Smoking and alcohol use were the most commonly identified risk factors with 42.5% of nurses identifying smoking, 35% smokeless tobacco, 7.5% with dental factors, and 5% of

Table 2: Responses to the questionnaire

Questions	Responses (%)	
	Yes	No
Do you carry out an oral health check on a patient's admission?	120 (30%)	280 (70%)
Do you think it is important to examine a patient's mouth on admission?	300 (75%)	100 (25%)
Does your ward have a mouth care protocol?	200 (50%)	200 (50%)
What percentage of patients on your ward requires nursing assistance with oral hygiene maintenance? (Please specify)	225 (56.3%)	175 (43.7%)
Do you have any practical difficulties in carrying out regular oral health care for patients on your ward?	250 (62.5%)	150 (37.5%)
What risk factors for oral cancer are you aware of?	200 (50%)	200 (50%)
Do you regularly advise patients about risk factors for oral cancer?	180 (45%)	220 (55%)
Have you received any oral health care at nursing school?	100 (25%)	300 (75%)
What training have you had on oral health care since starting work on your ward?	75 (18.8%)	325 (81.2%)
Would you like further training in oral health care?	350 (87.5%)	50 (12.5%)

Table 3: Percentage of nurses identifying oral cavity changes associated with oral cancer

Risk factor	Number	Percent
Redness	60	15
Swelling	50	12.5
White patch	50	12.5
Ulcer	150	37.5
Bleeding	40	10
Altered sensation	10	2.5
Others	10	2.5
No answer	30	7.5

Table 4: Percentage of nurses identifying risk factors associated with oral cancer

Risk factor	Number	Percent
Smoking	170	42.5
Smokeless tobacco	140	35
Alcohol	20	5
Dental factors	30	7.5
Occupation	10	2.5
Dietary factors	10	2.5
Others	10	2.5
No answer	10	2.5

nurses identifying alcohol as risk factors. The remaining risk factors were poorly identified. The mean number of risk factors identified by surgical and critical care nurses was greater than their accident and emergency medical ($p < 0.05$). The mean number of risk factors identified by nurses 1 to 3 years from graduation was significantly more than their colleagues ($p < 0.05$). Only 180 nurses reported regularly advising patients about risk factors for oral cancer and 220 nurses reported that they did not advise patients regarding risk factors for oral cancer. With regards to formal training on oral health care at nursing school and upon starting work after graduation: 25% of nurses received formal training on oral health care at nursing school, however only 18.8% received any formal training on oral health care upon starting work. Auxiliary nurses were excluded from this question as they did not attend nursing school. Including auxiliary nurses, 87.5% of nurses reported that they would like further training in oral health care.

DISCUSSION

Oral cancer is the 6th most common cancer worldwide and India has a very high prevalence of oral cancer in Southeast Asia region. It is considered to be preventable and a key aspect of its prevention is the detection of the premalignant form by oral screening; it is also one type of cancer that can be prevented and cured if detected early enough. Past two decades there is paradigm shift in the nursing field. Nurses are expected to triage, diagnose, and treat minor injuries. Nursing staff have the opportunity to be fundamental in changing the outcome of patients with undiagnosed oral cancer by recognizing the early signs of the disease. The significance of their role in oral cancer detection has been previously outlined. Interaction with nurses may allow high risk patients to increase their level of awareness and confidence to seek help when required.¹

In our study, 30% of the nurses carried out oral health check on patients admissions and nearly 50% of the nurses knows the risk factors for oral cancer. In a study conducted a by Carter et al,¹ it was observed that though the awareness about the risk factors was about 60 to

70%, however, only 49% conducted oral cancer screening among their patients.

In a study conducted by Meng et al² adapted a questionnaire to measure 448 Florida nurse practitioners knowledge, attitudes, and practices about oral cancer. They found that a multidisciplinary approach, involving all relevant health care providers, would be more effective than relying only on dental professionals to improve oral cancer survival rates. This is important because survivors may suffer from facial disfigurement, speech dysfunction, dysphagia, and social isolation. The 5-year survival rate is 81.3% for patients diagnosed with localized lesions, compared to 26.4% at 5 years for patients with lymph node involvement.

In another study conducted by Siriphant et al³ to determine nurses knowledge of oral cancer risk factors, diagnostic procedures, and related opinions. Information was obtained through a pretested, 40 item, self-administered mail questionnaire of 389 nurse practitioners. Most nurse practitioners identified the use of tobacco, alcohol, and prior oral cancer lesions as real risk factors. However, only 35% identified exposure to the sun as a risk for lip cancer. Respondents were not overly knowledgeable about the early signs of oral cancer, most common forms, or sites for oral cancer. Only 19% believed that their knowledge of oral cancer was current. Nurse practitioners who reported having a continuing education course on oral cancer within the past 2 to 5 years were 3.1 times more likely to have a high score on knowledge of risk factors and 2.9 times more likely to have a high score on knowledge of both risk factors and of diagnostic procedures than were those who had never had a continuing education course. The reported knowledge of oral cancer, in conjunction with opinions about level of knowledge and training, point to a need for systematic educational updates in oral cancer prevention and early detection.⁴

In our study, 30% of the respondents thought oral health checkups were important, out of which only 70% performed this task regularly. 35 to 42.5% of the respondents identified smoking and use of tobacco products as a risk factor, however, very few identified other associated factors,

such as alcohol, poorly fitting denture, sun exposure, and old age as other risk factors. These findings were nearly consistent with the study conducted by Carter et al.⁵

About 87.5% of the nurses felt that they need more education about screening for oral cancer and were willing to participate in a network to promote early screening for oral cancer. This highlights a need for continuing medical education, supported by Wardh et al⁶ who used a questionnaire to test nursing and auxiliary nursing staff on oral health care. The two groups underwent a 4 hour teaching program and repeated the questionnaire 2 years later. It was apparent from these results that specific knowledge was not retained thus demonstrating the key to continuous use of the new skill and this aspect should be covered in teaching for reinforcement. In addition, the results in the study reflect those obtained in a previous study by Carter et al⁵ involving general practitioners that identified the need for improved education.

Lack of awareness of oral cancer risk and clinical signs may also prohibit nurses from delivering preventive advice to patients.^{7,8} The results of this study indicate that whilst there is desire to increase patient's total care, teaching is required to enhance awareness of oral cancer risk factors and signs. In a study conducted by Patton et al⁹ where less than 40% of nurse practitioners felt that adequately trained to examine patients of oral cancer.

Although nurses do receive dental health care training as part of their curriculum, this is most often not taught by a dentists in that area. Hence, it is appropriate that medical or dental staff that have specialist interests in this area; plastic surgeons, dental surgeons, otorhinolaryngologists, specialist nurses in these areas, specialist oncology nurses, dental hygienists, dental therapists, etc., could in future train the nursing staff on oral health care including oral cancer awareness. It is essential to include adequate training in the nursing curriculum as clinical observation and oral examination by nurses may prove effective in improving survival rates for oral cancer. A large number of studies have shown that effective oral cancer screening programs could have significantly reduce the incidence of oral cancer in developed countries. Early detection is important in the management of oral cancer, however, most of the women in developing nations present with advanced disease when nothing can be done for them.¹⁰

The present survey thus indicates that educational programs and campaigns should be organized to improve and/or enhance the nursing staff awareness on oral

health. Hopefully, more emphasis would be laid on oral cancer risk factors and screening in the nursing curriculum. As early diagnosis can make a big difference in oral cancer prevention and management.

CONCLUSION

Nursing faculty constitute the major portion of health care system in India. The results of this study help to understand the commonly used practices in oral cancer screening, and also helps in further planning of services to enhance their proficiency in early detection and diagnosis of oral cancer among nursing staffs and students. Continuing educational programs need to be conducted to the nurses regarding the oral cancer topic. This training may decrease the incidence and prevalence, enhance the prevention and early detection, and increase professional and public awareness of oral cancer.

REFERENCES

1. Carter LM, Harris AT, Kavi VP, Johnson S, Kanatas A. Oral cancer awareness amongst hospital nursing staff: a pilot study. *BMC Oral Health* 2009 Jan 28;9:4.
2. Meng X, Duncan RP, Porter CK, Li Q, Tomar SL. Florida nurse practitioners' attitudes and practices regarding oral cancer prevention and early detection. *J Am Acad Nurse Pract* 2007 Dec;19(12):668-675.
3. Siriphant P, Drury TF, Horowitz AM, Harris RM. Oral cancer knowledge and opinions among maryland nurse practitioners. *J Public Health Dent* 2001 Summer;6 1(3):138-144.
4. Haumschild MS, Haumschild RJ, Holloway PL. Importance of oral cancer screenings by nurse practitioners. *J Nurs Prac* 2012;8(2):117-122.
5. Carter LM, Ogden GR. Oral cancer awareness of undergraduate medical and dental students. *BMC Med Educ* 2007 Nov 15;7:44.
6. Wårdh I, Paulsson G, Fridlund B. Nursing staff's understanding of oral health care for patients with cancer diagnoses: an intervention study. *J Clin Nurs* 2009 Mar;18(6):799-806.
7. Haughney MG, Devennie JC, Macpherson LM, Mason DK. Integration of primary care dental and medical services: a three-year study. *Br Dent J* 1998 Apr 11;184(7):343-347.
8. Frank-Stromborg M. The role of the nurse in cancer detection and screening. *Sem Oncol Nurs* 1986 Aug;2(3):191-199.
9. Patton LL, Ashe TE, Elter JR, Southerland JH, Strauss RP. Adequacy of training in oral cancer prevention and screening as self-assessed by physicians, nurse practitioners, and dental health professionals. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2006 Dec;102(6):758-764.
10. Adams R. Qualified nurses lack adequate knowledge related to oral health, resulting in inadequate oral care of patients on medical wards. *J Adv Nurs* 1996 Sep;24(3):552-560.