Introduction

Cancer is considered as a serious health problem in public with an increasing number of cancer patients reported every year hence public health awareness/knowledge on oral cancers oral potentially malignant disorders (OPMDs) and their risk factors is crucial for prevention and early detection of OPMD and it is important to prevent transformation of oral cancer.

Materials and Methods: A cross-sectional survey with an interviewer-administered questionnaire was conducted. The questionnaire consists of relevant questions to ascertain sociodemographic information, awareness, and knowledge of Oral cancer and OPMDs, and their associated risk factors, and participants exposure to risk factors. Subjects above the age of 20 years (n = 200) were randomly selected, and the questionnaires were administered by the interviewer while they were waiting for treatment. Results: Results showed lack of awareness for OPMDs based on the evaluation of the questionnaires for sociodemographic data. Conclusion: Awareness about oral cancer is relatively significant; however, for OPMDs, awareness is low in our study and the subjects were unaware of the risk factors. So a high level of public awareness and knowledge of OPMDs should be brought to people via mass media as it is a very effective source of information. Early detection of oral cancer is the most effective means to improve survival and to reduce morbidity.

Keywords: Oral cancer, oral potentially malignant disorders, premalignant lesions, tobacco
which is a benign lesion with morphologically altered tissue with greater than normal risk of transforming into malignancy and precancerous condition, a disease or patient’s habit that does not necessarily alter the clinical appearance of local tissues but is associated with a greater than normal risk of precancerous lesion or cancer development in that tissue. Overall OPMD can be detected in ~2.5% of the general population. Multiple conditions fall under OPMDs including oral submucous fibrosis, leukoplakia, and erythroplakia. Most of the oral cancer cases are still investigated only in the advanced stages, due to lack of public awareness about the signs, symptoms, and risk factors, along with negligence by patients themselves because of these lesions in initial stage not interrupt in normal masticatory functions or the absence of knowledge for early detection by healthcare providers are believed to be responsible for the delay in identifying the potentially malignant oral disorders. As most of oral cancer arises from premalignant lesions and is usually asymptomatic, routine dental screening is essential for early diagnosis. Therefore, the aim of present study is to assess the Awareness and Knowledge of tobacco associated risk of development of Oral Cancer and OPMD among patients visiting a dental college to provide an overview of the effectiveness of interventions aimed at raising cancer awareness and promoting early presentation with cancer symptoms. Proposes that awareness interventions should be based on longer-term, acknowledging the social determinants of the disease and health behaviour practices.

Materials and Methods

In order to assess the awareness of oral cancer, OPMD and their associated risk factors, a self-administered questionnaire was designed. The questionnaire consisted of three sections with relevant questions to with sociodemographic information, awareness and knowledge of oral cancer, OPMD and risk factors and questions on participant’s exposure to risk factors and dietary history were also included. Prior permission from Institutional ethical committee was taken before starting the study. The oral examination was carried out at the Dental Clinic OPD of the dental college. Subjects who are willingly participated were randomly selected during the period from one year. Questionnaires were distributed among study populations by the authors to complete while they are waiting for treatment. Verbal consent was obtained from all participants prior to the administration of the questionnaire and an information sheet was also provided. The questionnaire was translated to the patient’s vernacular language by the interviewer to assure better understanding. The study was carried out at Dental college and two hundred (n = 200) subjects were randomly selected among patient’s reporting to the Department of Oral Medicine and Radiology. Patients not willing to participate and with cognitive impairment were excluded from the study. DMIMSU/IEC/2008-09/148 dated 24th Feb. 2009.

Results

A total of 200 questionnaires were analyzed. The study consisted of 82 females and 118 males with a median age of 24–60 years. Sociodemographic data are summarized in Table 1 in terms of the level of education. In terms of education, almost all the subjects (84.86%) had some form of education, of these only 14.16% subjects had no education. More than half of the subjects (80%) were aware of oral cancer and 20% were not aware of oral cancer in study population. In Oral potentially malignant disorders 79% were not aware about the lesions in study group and 21% of study population aware about Oral potentially malignant disorders [Table 2]. In our study, out of 200 study population, Knowledge of tobacco associated risk of development of Oral Cancer and OPMD [Table 3] 68% of study population not aware of Signs and symptoms related to Oral cancer, 22% of subjects aware about only oral cancer and 10% cases were aware about both oral cancer and OPMD. Awareness of risk factors related to Betel quid chewing 32% not aware and

| Table 1: Distribution of sociodemographic status index data of subjects (n=200) |
|------------------------------------|----------------------------------|
| **Gender**                        | **Level of education (n)**       |
| Male (118)                         | No school education 20           |
|                                   | Primary school 52               |
|                                   | Secondary school 12             |
|                                   | Diploma/Training 18             |
|                                   | Bachelors degree 6              |
| Female (82)                        | No school education 12          |
|                                   | Primary school 32               |
|                                   | Secondary school 20             |
|                                   | Diploma/Training 12             |
|                                   | Bachelors degree 06             |

| Table 2: Awareness of tobacco associated risk of oral cancer and OPMD |
|------------------------------------|-------------------|
|                                    | **Aware** | **Not aware** |
| Oral cancer                        | 80%      | 20%            |
| PMDs                               | 21%      | 79%            |

| Table 3: Knowledge of tobacco associated risk of development of oral cancer and OPMD |
|------------------------------------|---------------------------------|
| **Awareness of risk factors**      | **% Not aware** | **% Aware** |
| Oral cancer only                   |                   |
| Both oral cancer and OPMD          |                   |
| Awareness of symptoms              | 68                 | 22          | 10           |
| Awareness of risk factors          | 32                 | 58          | 10           |
| Betel quid chewing                 | 64                 | 29          | 7            |
| Smoking                            | 82                 | 14          | 4            |
| Alcohol                            | 84                 | 12          | 4            |
| Nutritional deficiency             | 80                 | 16          | 4            |
| Betel leaves                       | 23                 | 68          | 9            |
| Areca nut 75.8 20.3 3.9            | 86                 | 13          | 1            |
| Lime added                         | 64                 | 30          | 6            |
| Awareness above related risk factors and OPMD | 93 | — | 7 |
58% aware about Oral cancer and 10% of Subjects aware about both oral cancer and OPMD. Most of the study population not aware about related risk of development of oral cancer and OPMD with smoking, alcohol consumptions, betel leaves, areca nut, and due to nutritional deficiency. In total 68% of subjects were aware about tobacco chewing is risk of development of oral cancer, 9% aware about both oral cancer and OPMD. A total of 23% cases were not aware about risk of associated with tobacco chewing, 68% of subjects known about risk associated with tobacco and oral cancer. In total 93% of subjects not aware of related risk factors and knowledge of OPMD and only 7% were aware about the risk factors and OPMD. In our study, all the subjects had habit of chewing or smoking it may be tobacco, betel leaf, areca nut or tobacco. In total 34% of subjects have habit of chewing or smokingfrom 510 years, 29% of subjects from 1020 years, 24% from 35 years, and 23% have habit since more than 20 years [Table 4].

Discussion

Health education initiatives are necessary to increase population awareness of potentially malignant oral lesions and improve early diagnosis and recognition of the dentist as a qualified professional for diagnosis of the disease. Both OPMD and oral cancer histopathological termed as oral squamous cell carcinoma have common epigenetic risk factors such as chewing tobacco in the different forms, betel-nut, alcohol, with smoking of tobacco chronic exposure to ultraviolet radiation, genetic abnormalities and human papillomavirus infection. Early stages of OSCC are typically managed with surgery and radiotherapy. Whereas in advanced stages, chemotherapy can be added. Oral Potentially malignant disorders’ to reflect their wide spread anatomical distribution. Accordingly, the term potentially malignant disorders were recommended to refer to precancers as it conveys that not all disorders described under this term may transform into oral cancer.[12] These days the world is heading towards epidemics of various types of noncommunicable diseases, which are also known as modern epidemics. Among these modern epidemics cancer is the second commonest cause of mortality in developed countries. In developing countries cancer is the 10th most common cause of mortality. Oral cancer represents ~13% of all cancer thereby translating into 30,000 new cases every year.[10]

In the present study, we have conducted the cross sectional study to analyze the awareness and knowledge tobacco associated risk factors playing a role in development of oral potentially malignant disorders and oral cancer. The development of oral cancer and OPMD has been well entrenched by investigator that essentially all oral cancer is anticipated by clinically visible changes in the mucous membrane of oral cavity usually in the form of the grayish, white or red patch.[8,12] Oral cancers are still diagnosed in advanced stages only. As most of oral cancer arises from premalignant lesions and is usually asymptomatic, routine dental screening is essential for early diagnosis. The mean age for initiation of any habit was between 16 and 18 years, a critical period for developing behaviors and responses and a prime time to actively prevent the habits. The occurrence of potentially malignant disorder (PMD) cases at an earlier age as compared with oral cancer cases points to the time lag apparently present when PMD may convert into oral cancer.[8,13] OSMF is a potentially malignant condition of the oral cavity associated with areca nut usage in different forms. It is more common in men of Indian subcontinent and South Eastern Asia. Its clinical presentation includes palpable, fibrous bands and changes in the oral mucosa, combined with burning sensation and less frequently ulceration. Oral leukoplakia is another OPMD entity defined by the WHO as “a white plaque of questionable risk having excluded other known disease or disorders that carry no increased risk for cancer.” Oral leukoplakia is more prevalent in men and presents clinically as white, hyperkeratotic and well-defined plaques which could be homogeneous or nonhomogeneous.[14] Lack of awareness in public about the signs, symptoms and tobacco associated risk factors, along with the absence of knowledge for early identification by healthcare workers are consider to be amenable for the detection delay in identifying the oral potentially malignant disorders. Early detection of oral cancer is the most effective means to better survival and to decrease morbidity, disfigurement, early treatment, and related costs. Lag in detection has been contemplated in the recent past as an important factor, which arbitrate the survival and worsens the treatment outcome and multiple treatment plans are required.[1,13] The delayed diagnosis has been considered as the lapsed time from the early symptom until the definitive diagnosis is established. The present study showed an frightening lack of awareness for oral potentially malignant diseases symptoms of it and more than half of the subjects were aware of oral cancer, these findings also found in the study by Yasmeen et al.[14] Sociodemographic data are summarized in Table 1 in terms of the level of education. In terms of education, almost all the subjects (8486%) had some form of education, of these only 1416% subjects had no education. The study conducted by Yasmeen[14] also shows similar results. In our study, Awareness of Tobacco associated risk of oral cancer and Oral potentially malignant disorders. More than half of the subjects (80%) were aware of oral cancer and 20% were not aware of oral cancer in study population. In Oral potentially malignant disorders 79% were not aware about the lesions in study group and 21% of study population aware about OPMD [Table 2]. Greatest awareness was found among of oral cancer increases. These findings concordance with study conducted by Amara et al. and Yasmeen[14,17] Most of the subjects were not aware of the risk

| Table 4: Distribution of duration of tobacco quid/betel quid chewing habits among study population |
|---------------------------------------------------------------|-----------------|
| Duration of tobacco/betel quid chewing and smoking habits in years | Study population |
| 13                              | 4 (2%)          |
| 35                              | 24 (12%)        |
| 510                             | 68 (34%)        |
| 1020                            | 58 (29%)        |
| ≥20                             | 46 (23%)        |
| Total                           | 200 (100%)      |
factors like tobacco chewing with areca nut, areca nut chewing, alcohol, and will have cancer [Table 3] and clinical presentation of oral cancer which is in concordance with the study by Amara et al., Ariyawardana, et al.14,17 who participated in this study had a good understanding of the etiological agents of OPMD and oral cancer. However, identification of tobacco and other related risk factors are as a potential risk for development of oral cancer and there was low awareness about risk factors in development of OPMD in present study and it is important of emphasizing the role of tobacco and related risk factors in causation of oral cancer and OPMD by creating public awareness.

Conclusion

The use of awareness campaigns to promote earlier diagnosis OPMDs and oral cancer is also explored from both a patient perspective. The findings of the overview suggest that while awareness raising campaigns can increase knowledge of the disease and attendance at health services in the short-term, those at lesser risk often respond, and evidence of longer-term impact is very limited. Awareness of the study population about oral cancer is relatively significant. However, the awareness about oral potentially malignant disorders is low according to present study and the subjects were unaware of the risk factors and clinical signs and symptoms. Therefore, a high level of public awareness and knowledge of OPMDs should be brought to people via mass media as it is a very effective source of information, especially among our subjects. In a country where OPMD and oral cancers are common, this emphasizes the need for a change in the medical curriculum to incorporate this important area. Education materials such as leaflets and posters depicting clinical features of oral cancer and oral potentially malignant disorders should be given to the patient waiting for his/her treatment. Early detection of oral cancer is the most effective means to improve survival and to reduce morbidity, disfigurement, treatment duration, and associated costs. The lack of knowledge and awareness of public about the signs, symptoms, and risk factors is responsible for the diagnostic delay in identifying the PMDs. The prevention and early detection of such OPMDs have the potential of not only decreasing the incidence but also in improving the survival of those who develop oral cancer.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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