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Oral Cancer Awareness and Screening of Smokers, Non-smokers and formerly smokers

[1]Dr. Saurabh Kumar Roy, Lecturer Nobel Medical College, Biratnagar, Nepal.

[2]Dr. Karnika Yadav, Assistant Professor, Peoples Dental College, Kathmandu, Nepal.

[3]Dr. Pritam Raj, General Dental Practitioner, Patna.

[4]Dr. Parbhakar Kumar, Associate Professor, Azamgargh Dental College, Uttar Pradesh.

Corresponding Author: Dr. Saurabh Kumar Roy, Lecturer Nobel Medical College, Biratnagar, Nepal.

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Abstract

Context: Cancer affects almost all the communities worldwide. Although arises de novo a significant proportion of Oral Cancer develop from potentially malignant lesions. Lifestyle choices, oral hygiene practices, infections, and genetics contribute elevation of individual's risk of OSSC. The two most frequent lifestyle culprits implicated in the etiology of OSCC are tobacco and heavy alcohol consumption, with smoking identified as the primary risk factor.

Aims: To screen oral cancer among smokers and non-smokers and formerly smokers among the patients visiting Nobel Medical College and teaching hospital

Methods and Material: The Descriptive cross-sectional study was conducted in Outpatient Department of Dental department at Nobel Medical College Teaching Hospital in Biratnagar. A total number of 400 participants both male and female above 18 years of age were participants in the study, consisting of smoker and non-smokers and formerly smokers.

Statistical analysis: Data samples were analysed by descriptive statistics like mean and percentage with the use of using spss software version 16.

Results:240(60%) majority were females and males consisted of 160(40%). Majority of non-smokers were females 225 (74%) while non-smokers males were 80 (26%). While smokers consisted of 7 (11.7%) of females and 51 (88.3%) of male participants, formerly smokers consisted of 8 (21%) of females and 29 (79%) respectively.

Conclusion: the current study emphasizes on continuous screening of Oral Malignant Lesions in Medical facilities as well as remote areas and further examinations in quitters, to assess the development of cancer from potentially malignant disorders.

Keywords: Oral squamous cell carcinoma, potentially malignant disorders, Screening, Smokers.

Introduction

Oral cancer is currently the most frequent cause of cancer related deaths among In men in southeast asia, mainly indian subcontinent.[1] Oral cancers are predominant forms of head and neck squamous cell carcinoma in India, Pakistan, and other Southeast Asian countries; oropharyngeal and tongue cancers are common in the Western world.[2]

Most oral cancers are squamous cell carcinoma, and some oral carcinomas are preceded by precursor lesions that can present as leukoplakia, erythroplakia, or erythroleukoplakia. Microscopically, these lesions may exhibit oral epithelial dysplasias (OED), a histological diagnosis characterised by cellular changes and maturation disturbances indicative of developing malignancy.[3]

The OED is an important risk factor in predicting subsequent development of invasive carcinoma.[4]

World Health Organisation (1978) proposed that clinical presentations of the oral cavity that are recognized as precancer be classified into two broad groups, as lesions and conditions. Precancerous lesions comprise of leukoplakia, erythroplakia and palatal lesions in reverse smokers. Precancerous condition includes Oral submucous fibrosis, Actinic keratosis, Lichen planus, Discoid lupus erythematosus.[5]

In a recently held workshop, a recommendation to abandon the distinction between potentially malignant lesions and conditions and to use the term potentially malignant disorders was proposed, as it conveys that not all lesions and conditions described under this term may transform into cancer.[6]

Oral leukoplakia is the best-known precursor lesion.[7] The clinical type of leukoplakia has a bearing on the prognosis, since the non-homogeneous leukoplakias containing an erythematous, nodular, and/or verrucous component have a predisposition for hyphal invasion and higher malignant potential than the homogeneous ones.[8] Oral submucous fibrosis (OSMF) is a high-risk precancerous condition that predominantly affects Indian youngsters due to the habit of gutkha chewing..[9] Another potentially malignant disorder is Oral Lichen Planus (OLP) which is an immunologically mediated mucocutaneous disease.[10]

Smoke form of tobacco involves drawing into the mouth, and is inhaled, smoke is produced by burning tobacco.[11] Cigarette is most commonly used smoke form of tobacco, and also includes other forms such as cigarillos, cigars, pipes or water pipes. [12] Apart from smoke form ‘smokeless’ tobacco is also popular. Smokeless form typically involves chewing, sniffing or quid placement. Both smoke and smokeless forms of tobacco have similar adversities. [11,12]

Oral mucosal screening is most beneficial for improving 5-year survival rate among patients who are considered most at risk from their tobacco and alcohol consumption habits. [13,14]. This study aimed to describe the prevalence of OC screenings within the general public. The differences in screening between smokers and non-smokers were evaluated. The main aim of the study was to determine demographic and lifestyle factors which predict OC screening behaviour among smokers and non-smokers and former smokers.

Materials and Methods

The Descriptive cross-sectional study was conducted in Outpatient Department of Dental department at Nobel Medical College Teaching Hospital in Biratnagar from January 2021 to December 2021.

A total number of 400 participants participated in the study, consisting of smoker’s non-smokers and former

smokers [males and females]. The sample size was calculated by the formula $N=Z^2pq/d^2$ where Z is the standard normal deviation (usually set as 1.96), d= degree of accuracy required (we take 10% error), p=proportion in the targeted population estimated to have a particular characteristics and q= 1-p They were examined by single examiner to control the examiner variability. Prior consent for the study was obtained from Nobel medical college and teaching hospital. The Clinical examination was carried out in OPD of Nobel Medical College, Biratnagar. Presence of Oral Potentially Malignant lesions and OSCC was evaluated in patients of 18 to 55 years and above age range. All the included individuals were briefed about the procedure, and signed informed consent was obtained. All the data was filled in a case history Performa.

Statistical Methods

Statistical analysis was carried out by using SPSS software version 16 with use of descriptive statistics like mean and percentage. All the data thus obtained were computed on Microsoft excel sheet.

Results

Table 1 shows the Gender wise distribution of study subjects and consists of smokers, Non-smokers (NS) and formerly smokers. Out of 400 subjects 240(60%) majority were females and males consisted of 160(40%). Majority of non-smokers were females 225 (74%) while non-smokers males were 80 (26%). While smokers consisted of 7 (11.7%) of females and 51 (88.3%) of male participants, formerly smokers consisted of 8 (21%) of females and 29 (79%) respectively.

Table 2

Depicts age wise distribution of subjects among smokers, non-smokers, and former smokers. Study consisted of various age ranges in all the above-mentioned study groups. A total of 101 (24%) were of 18-24 years of age and among these 80 (27%) were non-smokers and 14 (22%) were smokers and 6 (12%) were former smokers. 25-34 years age range consisted of 120 (34%) participants and out of these 100(32%) were non-smokers, 15 (30%) smokers and 5 (15%) were formerly smokers.

Table3

Depicts the educational status of the subjects. 80 % subjects were of university levels and highlights the importance of education regarding awareness of oral cancer and pre-cancerous lesions.

Table 1: Shows gender wise distribution of subjects among smokers, non-smokers and former smokers.

Gender	All n (%)	N.S n (%)	Smokers n (%)	F.S n (%)
Female	240 (60%)	225 (74%)	7 (11.7%)	8 (21%)
Male	160 (40%)	80 (26%)	51 (88.3%)	29 (79%)

Graph 1

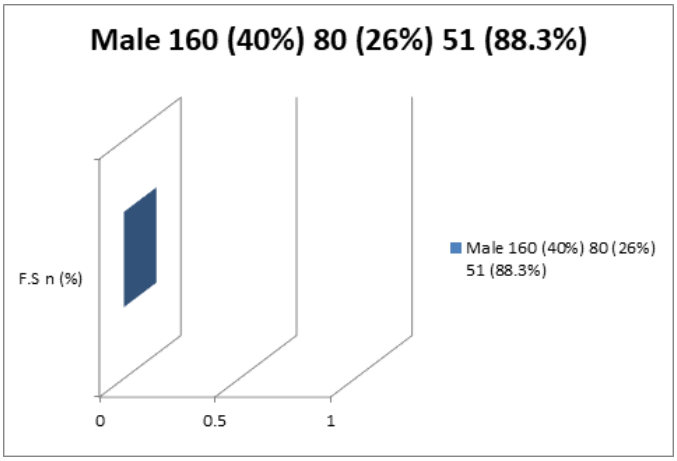


Table 2: Depicts age wise distribution of subjects among smokers, non-smokers, and former smokers.

Age Group (years)	All n (%)	N.S n (%)	Smokers n (%)	F.S n (%)
18-24	101	80 (27%)	14 (22%)	6

years	(24%)			(12%)
25-34 years	120 (34%)	100(32%)	15 (30%)	5 (15%)
35-44 years	87 (22%)	60 (19%)	12 (23%)	5 (40%)
45-54 years	57 (14%)	45 (14%)	8 (15%)	6 (18%)
55+ years	35 (8%)	24 (8%)	6 (10%)	5 (15%)

Graph 2

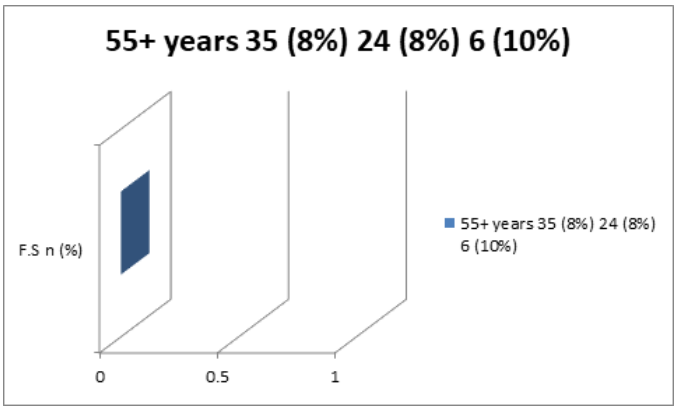
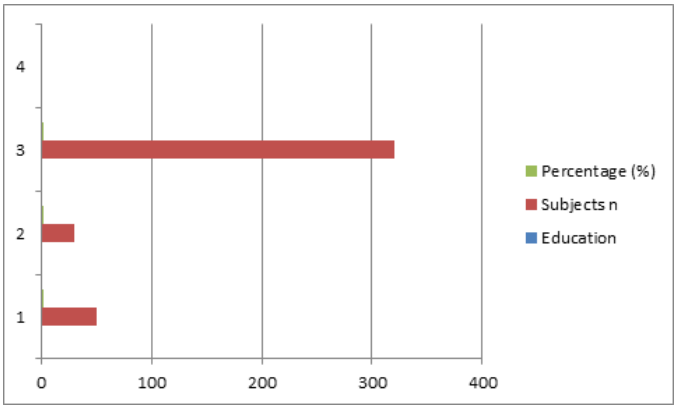


Table 3: Depicts education status of the study subjects

Education	Subjects n	Percentage (%)
Higher School or Below	50	12%
Vocational diploma	30	8%
College/university	320	80%

Graph 3



Discussion

The present study emphasizes on oral cancer screening and awareness among non-smokers, smokers' and former smokers. This is one of the kind of study that highlights the screening in former smokers also. [4] Considering the fact there is high rise in incidences of oral cancer and smoking tobacco holds the key attribution.[1]

This is highly significant in a disease where identification at early stages improves prognosis. [4,7]. The prevalence of smoking was reported higher in males 88% as compared to females 12%. [4,13]. In the present study 79 % participants were male and 21% females respectively and males participant were in larger numbers than female participants, more efforts and social awareness is required especially in remote populations were medical amenities is very less and also different types of chewing and smoking patterns have been practised [4,8,9,14].80% of the subjects were of university level imparting the need of education for awareness and eradication of oral cancer among the society.[7,8,15,16] Maximum smokers were of age range of 25 - 34 years of age range comprising of 30% of study subjects with contrast with older literature attributing oral cancer in 4th to 5th decade of life.[9,10,14] In the present study former smokers were also included in all the study groups, 79% were males and 21% females respectively and 40% quitters were of middle age range 35-44[4,11,12,14]

The objective is to motivate the participants for quitting of deleterious habits, because quitting minimizes the risk of cancer significantly. [13,17,18.] In the Present study most of the subjects reported that their main reason for visiting a dentist was in case of a dental emergency and majority of the population goes to a private dentist where they pay fee for services.[4,19] Furtherly, another

key finding of the current study is the fact that women visit dentists more frequently than men and women in all age groups are more frequent users of dental services than men, that is in accordance with the study performed by Charalambous C, et al.[20] Finally, psychosocial factors such as lack of social support or perception that health is not within the control of the individual may be intermediate factors in the association of education and socioeconomic status and oral premalignant and malignant lesions.[13]

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