International Journal of Current Advanced Research
ISSN: O: 2319-6475, ISSN: P: 2319-6505, Impact Factor: SJIF: 5.995
Available Online at www.journalijcar.org
Volume 6; Issue 7; July 2017; Page No. 4995-4997
DOI: http://dx.doi.org/10.24327/ijcar.2017.4997.0630

Research Article

A CROSS SECTIONAL STUDY TO EVALUATE CORRELATION OF SMOKING IN PREVALENCE OF ORAL CANCER

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ARTICLE INFO

Article History:

Received 10th April, 2017
Received in revised form 21st May, 2017 Accepted 25th June, 2017
Published online 28th July, 2017

Key words:

Prevalence, oral cancer, smoking, tobacco.

ABSTRACT

Objective: The study was conducted to access the prevalence of oral cancer among patients with habit of smokingin various age groups.
Materials and Method: A cross sectional study was conducted to access the prevalence of oral cancer among 4200 out patients who reported to Dental OPD. The clinical diagnosis of oral cancer was made after intra-oral examination of patients showing characteristic features of oral cancer. The patients were grouped according to various age groups and type of smoking habit they pursued.
Results: The prevalence of oral cancer in the study population was 235 (5.59%). Majority of subjects were male 181 (77.02%) in comparison to females 54(22.97%). The prevalence of oral cancer was maximumin 36 to 45 years of age group 101 (42.97%). Bidi smokers 550 (44%) were in majority among all the patients with habit of smoking.
Conclusion: The observations and finding of the study clearly indicated that prevalence of oral cancer and smoking habit is on rise in younger and middle age group people. Preventive measures like awareness programs should be started as early as possible. Counselling and habit cessation program should be periodically conducted.

INTRODUCTION

Tobacco is one of the most preventable causes of oral cancer.There is strong evidence that smoking (cigarette, cigar and pipe) is associated with oral cancer [1]. In India, smoking is one of the most important public health issues and used in various forms. In addition to smoking, tobacco consumption without smoke, in different forms, is common among both men and women [2]. The use of flavored tobacco is increasing among all age group people irrespective of men or women.[3]

Smoking has been identified as the major risk factors for oral cavity pre-cancer and cancer in India. Polycyclic aromatic hydrocarbons, aldehydes, aromatic amines, nitrosamines, etc., are proved to be cancer promoting components consumed during smoking. Chewing of tobacco combined with smoking raises the amount of carcinogenic nitrosamines and reactive oxygen species in the mouth[4]. In India, smoking is responsible for half of all the cancers in men and a quarter of all cancers in women. India holds highest rates of oral cancer in the world, specifically due to high prevalence of tobacco consumption in both smoke and smokeless forms. Various forms of smoking includes cigarette smoking, Bidi smoking, cannabis, khainisnuff etc.[5]

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MATERIALS AND METHOD

A cross-sectional study was conducted and a total of 4200 patients were examined for oral cancer for time period of 3 years from 2012 to 2015.

Patients aged 25 years and above were included in the study. Subjects with any systemic diseases and any other malignancy apart from oral cancer were excluded from the study. An ethical clearance was obtained from ethical committee. Written consent was obtained from each participant prior to the study. We did a pilot study to check the authenticity of the clinical observations and based upon the results; detailed history was obtained from each patient regarding type and duration of smoking.

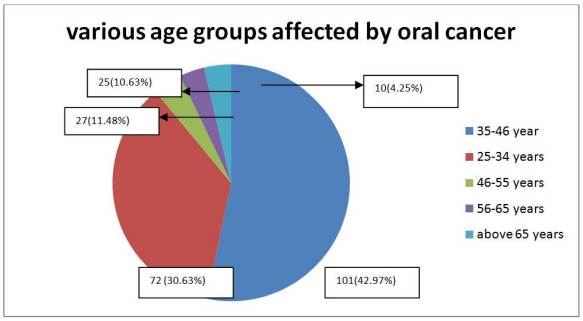
Patients were classified into five age groups: 25 to 35 years, 36 to 45 years, 46 to 55 years, 56 to 65 years, 65 years and above. The clinical diagnosis of oral cancer was made when subject showed specific characteristics features of oral cancer. Armamentarium used was sterile mouth mirror, explorer, tweezers, kidney tray, disposable surgical latex gloves, disposable mouth mask.

RESULTS

Out of 4200 subjects, 235 (5.59%) subjects presented with oral cancer (table 1). Majority of subjects 101 (42.97%) belong to 36 to 45 years age group, followed by 72(30.63%) subjects in 25 to 35 years, 27 (11.48%) subjects in 46 to 55 years, 25 (10.63%) subjects in 56 to 65 years and 10(4.25%) subjects belonging to age group of 65 years and above.

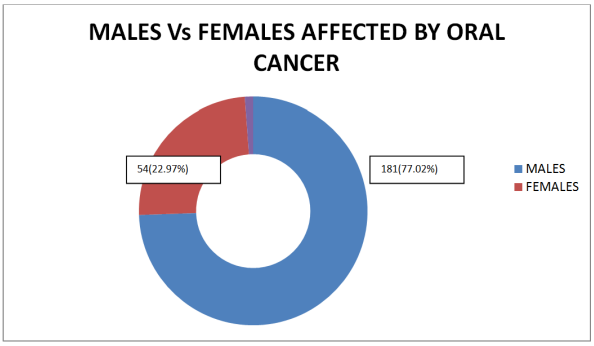
Result also showed that out of 235 patients diagnosed with oral cancer 181 (77.02 %) subjects were males in comparison to females 54 (22.97%).

Graph 1: Shows Majority of subjects 101 (42.97%) belong o 36 to 45 years age group, followed by 72(30.63%) subjects in 25 to 35 years, 27 (11.48%) subjects in 46 to 55 years, 25 (10.63%) subjects in 56 to 65 years and 10(4.25%) subjects belonging to age group of 65 years and above.



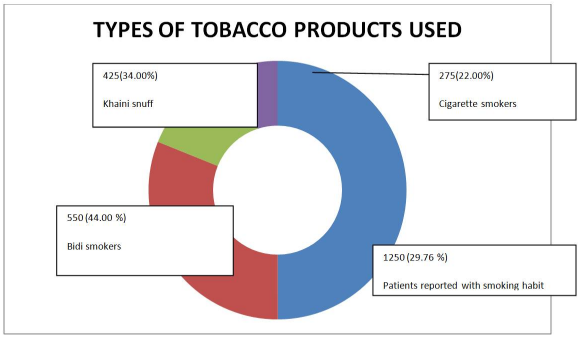
Graph 1 Various Age Groups Affected By Oral Cancer

Graph 2: Shows that out of 235 patients diagnosed with oral cancer 181 (77.02 %) subjects were males in comparison to females 54 (22.97%).



Graph 2 Various Sex Groups Affected By Oral Cancer

Graph 3:- Shows that out of 4200subjects, 1250(29.76%) subjects had different kinds of smoking habits. Majority of subjects 550 (44.00%) had Bidi smoking habit, 425(34.00%) subjects had a habit of using adulterated tobacco in form of khaini snuff , 275 subjects (22.00%) were cigarette smokers.



Graph 3 Various Types of Smoking Habits

Table 1 Shows various age groups affected by oral cancer out of total no. of patients reported

Table 1 Various Age Groups Affected By Oral Cancer

Age groups	Total no. of Patients Reported	No. of Patients With Oral Cancer
25-35 YEARS	1096 (26.09 %)	72(30.63 %)
36-45 YEARS	1452(34.57 %)	101 (42.97 %)
46-55 YEARS	786(18.71.20%)	27(11.48 %)
56-65 YEARS	520 (12.38 %)	25 (10.63 %)
ABOVE 65 YEARS	346 (08.23 %)	10 (04.25 %)
TOTAL	4200 (100 %)	235 (5.59%)

DISCUSSION

In our study we observed that Out of 4200 subjects, 235 (5.59%) subjects presented with oral cancer. Majority of subjects 101 (42.97%) belonged to 36 to 45 years age group, followed by 72(30.63%) subjects in 25 to 35 years, 27 (11.48%) subjects in 46 to 55 years, 25 (10.63%) subjects in 56 to 65 years and 10(4.25%) subjects belonging to age group of 65 years and above. Result also shows that out of 235 patients diagnosed with oral cancer 181 (77.02 %) subjects were men in comparison to women 54 (22.97%). Majority of subjects 550 (44.00%) had Bidi smoking habit, 425(34.00%) subjects had a habit of using adulterated tobacco in form of khaini snuff , 275 subjects (22.00%) had habit of cigarette smoking. In India where chewing and smoking tobacco is practiced, there is an alarming incidence of oral cancer and these cases account for approximately 50% of all cancer cases (Schulz *et al.*, 2009)[6]. As the distribution of tobacco consumption is not uniform, it is often found to be significantly higher among lower socioeconomic groups (Shankar *et al.*, 2010) [7]. Tobacco smoking is the most commonly available addictive substance which contributes significantly to premature death and long term suffering from oral cancers. In addition, one third of the global burden of oral cancer is predominantly attributed to high prevalence of tobacco consumption within India. [8]

The carcinogenicity of tobacco smoking has been established from evidence presented in many standard studies. An association between tobacco-free smoking and oral cancer has never been observed[9]. In this study we have tried to correlate the fact that how smoking (in its all forms) is chief causative factor among the cases with oral cancer.

CONCLUSION

The observations and finding of the study clearly indicate that prevalence of oral cancer and habit of smoking is on rise in younger and middle age group people. Preventive measures like awareness programs should be started as early as

possible. The public policy implications of our study are twofold. Research on tobacco use needs to be considerably systematized with use of more consistent definitions of tobacco smoking and study methodologies. More rigorous comparable prevalence studies over time are needed to establish the trends in prevalence and evaluate the effect of different public policies pursued to control smoking. In addition, future studies should investigate the prevalence rates of different tobacco products (both smoking and chewing tobacco) separately, as the economic and health effects of different products may vary considerably, and because of the potential differences in prevalence of use of different tobacco products across different socio-demographic groups.

Acknowledgment

We acknowledge all the non-authors who have contributed to the study.

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How to cite this article:

Anil Pandey *et al* (2017) 'A Cross Sectional Study to Evaluate Correlation of Smoking in Prevalence of Oral Cancer ', *International Journal of Current Advanced Research,* 06(07), pp. 4995-4997.
DOI: http://dx.doi.org/10.24327/ijcar.2017.4997.0630

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