

Prevalence of Tobacco Use among the males in Khusrupur, Patna, Bihar

Minti Kumari^{1*} Nirmala Kumari² Anju Singh³ Konark⁴ Sachin Sinha⁵ Amitabh Kumar Sinha⁶

¹Reader, Department of Public Health Dentistry, Patna Dental College & Hospital, Patna, Bihar, India.

²Reader, Department of Public Health Dentistry, Buddha Dental College & Hospital, Patna, Bihar, India.

³Assistant Professor, Department of Dentistry, Nalanda Medical College and Hospital, Patna, Bihar, India.

⁴Senior Lecturer, Department of Conservative Dentistry and Endodontics, Patna Dental College & Hospital, Patna, Bihar, India.

⁵Professor, Department of Periodontics, Awadh Dental College & Hospital, Jamshedpur, Bihar, India.

⁶Tutor, Department of Conservative Dentistry and Endodontics, Patna Dental College & Hospital, Patna, Bihar, India.

ABSTRACT

Background: Tobacco has emerged as the giant killer of mankind. Tobacco use is one of the major causes of oral cancer. Each year tobacco consumption leads to over 5 million death worldwide. In our country, India, nearly one million people die due to tobacco-related diseases yearly.

Materials and Methods: A cross-sectional study was designed in a rural setting at khusrupur from Jan 2019 to April 2019. Total of 250 male subjects from Khusrupur, Patna were randomly included in the study. All the demographic details and information on tobacco use was obtained by using a predesigned and pre tested questionnaire Informed consents were taken by all the subjects.

Results: A total of 250 males volunteered for this study. Majority of subjects belonged in the age group of 46 to 55 age group (33.5%) followed by 25 to 35 years age group (29%). The mean age of the subjects was 42.67 ± 9.03 Years. Majority of participants belonged to the joint family (89%) whereas 11% belonged to a nuclear family.

Conclusion: Prevalence of tobacco was demonstrated more in the educated group of people. Right time have come to make the general public aware of the ill effect of smoking or any tobacco consumption methods, and a change in government policy is urgently required.

Keywords: Tobacco, Khusropur, survey.

INTRODUCTION

Tobacco has emerged as the giant killer of mankind. Tobacco use is one of the major cause of oral cancer¹. Each year tobacco consumption leads to over 5 million death worldwide. In our country, India, nearly one million people die due to tobacco-related diseases yearly. Tobacco was introduced in South Asia in early 16th century². This area is one of the biggest exporter and consumer of all types of tobacco worldwide². Tobacco in traditional forms like betel quid and powder, tobacco with lime, is

commonly used among all age groups¹. This leads to high rate of tobacco related diseases^{3,4}.

Consumption of tobacco is also directly attributed to heart and lung disease⁵⁻⁷. It is estimated that there are approximately one billion smokers in the world. These smokers consume about 6 trillion cigarettes annually⁸. Chewable tobacco is a significant risk factor for oral cancers⁹. A study by Giovina¹⁰ reported that tobacco consumption was

Received: Apr. 10, 2019; Accepted: May. 9, 2019

*Correspondence Dr. Minti Kumari.

Department of Public Health Dentistry, Patna Dental College & Hospital, Patna, Bihar, India.

Email: Not Disclosed

frequent and more considerable in the lower socioeconomic group.

India is a hub to about 700 billion annual 'bidis' consumers. Bidi is a type filter less hand-rolled cigarette. In India, tobacco is used in different varieties and available at a various price range. India is the one of the largest producer and second-largest consumer of tobacco products across the globe¹¹. A survey undertaken by the Global Adult Tobacco Survey (GATS) showed that 52 per cent of adults in this country were exposed to passive smoking (SHS) at home. Narayana et al.¹², in his study, reported an increased role of lack of education as a predictor of smoking in men and women. Bala et al.¹³ concluded that smoking was more prevalent in illiterates than literates with less than seven years of schooling.

The present study was conducted in rural settings of Khusrupur, Patna District. Khusrupur is a rural area in Patna district. The objective of the present study was to study the consumption of tobacco in different forms and population.

MATERIALS AND METHODS

A cross-sectional study was designed in a rural setting at khusrupur from Jan 2019 to April 2019. Total of 250 male subjects from Khusrupur, Patna were randomly included in the study. The age group of the samples were from 25 years to 65 years¹⁴. To analyse the sample size, the prevalence was taken as 35% in the rural population, and formulae used was $n = 4qp/L^2$ where L was born as 15%. The calculated sample size was 200 but considering that few subjects may not respond to study, the sample size was kept at 250.

All the demographic details and information on tobacco use was obtained by using a predesigned and pre tested questionnaire Informed consents were taken by all the subjects. Data entry was done using Microsoft Excel (Microsoft office Version 2016, USA.) and analysed by SPSS (v8 for windows, IL, USA.).

RESULTS

A total of 250 males volunteered for this study. Majority of subjects belonged in the age group of 46 to 55 age group (33.5%) followed by 25 to 35 years age group (29%). The mean age of the subjects was

42.67 $\pm$ 9.03 Years. Majority of participants belonged to the joint family (89%) whereas 11% belonged to a nuclear family. Data also showed that most of the subject who were married (66%), consumed more amount of tobacco than the single ones (33). The analysis also shows that educated people (67%) consumed more tobacco than illiterate ones (33%) (Table 1).

Table 2 shows that the prevalence of smoking is much lower. When it comes to the preference, then people choose bidi (85%) on a cigarette (16%). The subjects who were currently non-smokers were divided into two groups of former smokers and never smokers. The subjects who never smoked were 52%, followed by former smokers (48%). Mean age smoking initiation was as early as 28 years.

Next data was analysed for the subjects who used smokeless tobacco products (Table 3). Most of the subjects consumed gutka (53%) followed by pan masala (27%) and tobacco with lime (21%). Among the current no user group, 48% were the former user, whereas 52% never used the smokeless tobacco product. The mean age of smokeless tobacco consumption initiation was 27 Years.

Table 4 shows the prevalence of smoking (10.61%) was highest in the age group of 56 years and above followed by 36 to 45-year age group (6.87%), 46 to 55-year age group (5.32%), and 25 to 35-Year age group (4.51%). Prevalence of smokeless tobacco consumption was highest in 36 to 45-year age group (29.21%) followed by more than 56 years age group (24.82%), 46 to 55-year age group (19.49%), and 25 to 35 Year age group (14.82%).

Table 1: Socio-demographic profile of the study population (250).

Socio-demographic Variables	N(%)
Age	
25-35	70 (29)
36-45	45 (17)
46-55	84 (33.5)
≥ 56	51 (20.5)
Type of Family	
Nuclear	28(11)
Joint	222 (89)
Marital Status	

<i>Single</i>	82 (33)
<i>Married</i>	165 (66)
<i>Widow/widower</i>	3 (1.5)
Education	
<i>Illiterate</i>	84 (33)
<i>Educated</i>	166 (67)

Table 2: Data of Tobacco smoking habits among males.

Status of smoking	N(%)
Current Smoker	33 (13)
<i>Bidi</i>	28 (85)
<i>Cigarette</i>	5 (16)
Current Non Smoker	118 (87)
<i>Former Smoker</i>	57 (48)
<i>Never Smoker</i>	61 (52)
Mean age of smoking initiation	28.23 ± 7.38 Years

Table 3: Data regarding the use of smokeless tobacco products.

Status of tobacco use type	N(%)
Current User	143 (57)
<i>Pan Masala</i>	37 (27)
<i>Gutka</i>	76 (53)
<i>Tobacco with lime</i>	30 (21)
Current Non User	113 (45)
<i>Former User</i>	54 (48)
<i>Never Used</i>	59 (52)
Mean age of initiation	27.28 ± 6.13 Years

Table 4: Prevalence of tobacco consumption in different age group.

Age Group	Current smokers (%)	Current use of smokeless tobacco (%)
25-35	5.53	14.82
36-45	7.81	29.21
46-55	4.87	19.49
≥56	9.61	24.82

DISCUSSION

The prevalence of smoking within the males of Uvarsad was 13% (table 2) which is in accordance with the study conducted by Bhagyalaxmi et al.¹⁵, in the district of Gandhinagar and Mehan et al. in Vadodara¹⁶. According to mehan et al., the prevalence of smoking in Vadodara males were 12.2%¹⁶. whereas the prevalence data by Bhagyalaxmi in Gandhinagar was 12.8%¹⁵. The study conducted by ICMR-WHO lower incidence at the national level. This can be attributed to the difference in sample variation at the national level. In one study a rural area of Sitamarhi district with 2910 male and 2586 females participants tobacco use prevalence was 74.1 and 45.0 among men and women respectively. Among professional groups too like school personnel (daily smoking 14.5%, everyday smokeless tobacco use 41.7%),¹⁷ print media personnel, (98%)¹⁷; male medical students, (43 %)¹⁸ and dental students (boys 65.9%, girls 38.5%) in Bihar tobacco use was reported high.

Tobacco consumption in the literate group of subjects was more than the illiterate group. Similar findings have been reported by Maralani V¹⁹. This study demonstrated the role of education in tobacco addiction. She stressed tobacco habits are acquired as early as 12 to 18 years, at the time of schooling long before the higher education is obtained.

Osazuwa-Peters conducted a study in which she reported that married men were less likely to consume tobacco products²⁰, but our research shows that married men consumed more amount of tobacco products than their counterparts. In his study, he found 66% of unmarried men to be smokers. When compared with our study only 33% of single men were smokers.

In this study, the mean age of tobacco initiation was recorded as 28.23 Years in smokers and 27.28 years in tobacco chewers. In another study conducted at Jamnagar, the mean age of tobacco initiation was found to be 26.5 years in smokers and 23.6 years in tobacco chewers²¹. Tobacco and gutka were the significant forms of tobacco that were consumed in the present study. This finding was in accordance with Joshi et al. who also found mawa masala was the predominant form of tobacco abuse²¹. The reason for this can be attributed to the low cost

which is preferable in the rural and low-income group.

In the current study, smoking was most prevalent in age group 56-years, and above whereas, smokeless tobacco consumption was highest in 36 to 45-year age group. The very finding of this study is very similar to the survey conducted by Dhara et al. who also reported that smoking is more prevalent in the age group of 55 years and above²². According to the study conducted by GATS-India in 2009, smoked tobacco consumption was highest in a 45-54-year group whereas, and chewable tobacco use was highest in 65-year and above group. The reason for this increase can be due to the financial affordability at the given age. Sen et al. reported a similar finding in his study. He too concluded that tobacco consumption was increased along with the increase in age²³.

CONCLUSION

India is one of the biggest consumers of tobacco products across the globe. Citizens of this region are introduced to tobacco products at an early age of 28 years. Tobacco usage increased with the progression in age and reached its highest at the age of 56 years and above. Prevalence of tobacco was demonstrated more in the educated group of people. Hence it is the right time to make the general public aware of the ill effect of smoking or any tobacco consumption methods, and a change in government policy is urgently required.

CONFLICTS OF INTEREST

The authors declare they have no potential conflict of interests regarding this article.

REFERENCES

1. Gupta B, Johnson NW. Systematic Review and Meta-Analysis of Association of Smokeless Tobacco and of Betel Quid without Tobacco with Incidence of Oral Cancer in South Asia and the Pacific. *PLoS One*. 2014;9(11). doi:10.1371/journal.pone.0113385
2. Gupta PC, Ray CS. Smokeless tobacco and health in India and South Asia. *Respirology*. 2003;8(4):419-431.
3. Chaturmohta A, Umarji HR, Kadam S, et al. Evaluation of tobacco-associated oral lesions in the police personnel from greater Mumbai: A survey with review of literature. *Advances in Human Biology*. 2018;8(2):112. doi:10.4103/AIHB.AIHB_36_17
4. Raina S, Singh M, Chander V, Raina S. Prevalence and co-relates of hypertension among Gaddi (Agro Pastoralist) tribal's at high altitude in North-West India. *Adv Hum Biol*. 2018;8(3):159. doi:10.4103/AIHB.AIHB_78_17
5. Keith RJ, Fetterman JL, Riggs DW, et al. Protocol to assess the impact of tobacco-induced volatile organic compounds on cardiovascular risk in a cross-sectional cohort: Cardiovascular Injury due to Tobacco Use study. *BMJ Open*. 2018;8(3). doi:10.1136/bmjopen-2017-019850
6. Jena S. Effect of cigarette smoking on myocardial workload in young adults. *Adv Hum Biol*. 2017;7(3):109. doi:10.4103/AIHB.AIHB_6_17
7. Darawade D, Desai K, Hasan B, Kumar S, Mansata A. Influence of aspirin on post-extraction bleeding - A clinical study. *J Int Soc Prevent Communit Dent*. 2014;4(4):63. doi:10.4103/2231-0762.144602
8. Giovino GA, Mirza SA, Samet JM, et al. Tobacco use in 3 billion individuals from 16 countries: an analysis of nationally representative cross-sectional household surveys. *Lancet*. 2012;380(9842):668-679. doi:10.1016/S0140-6736(12)61085-X
9. Critchley JA, Unal B. Health effects associated with smokeless tobacco: a systematic review. *Thorax*. 2003;58(5):435-443. doi:10.1136/thorax.58.5.435
10. Giovino GA, Henningfield JE, Tomar SL, Escobedo LG, Slade J. Epidemiology of tobacco use and dependence. *Epidemiol Rev*. 1995;17(1):48-65. doi:10.1093/oxfordjournals.epirev.a036185
11. Mohan P, Lando HA, Panneer S. Assessment of Tobacco Consumption and Control in India. *Indian Journal of Clinical Medicine*. 2018;9:1179916118759289. doi:10.1177/1179916118759289
12. Narayan KM, Chadha SL, Hanson RL, et al. Prevalence and patterns of smoking in Delhi: cross sectional study. *BMJ*. 1996;312(7046):1576-1579. doi:10.1136/bmj.312.7046.1576

13. Bala D, Bodiwala IN, Patel D, Shah P. Epidemiological Determinants of Tobacco Use In Gujarat State, India. 2006;31(3):4.
14. Life Expectancy | NITI Aayog. <https://niti.gov.in/content/life-expectancy>. Accessed September 29, 2019.
15. Bhagyalaxmi A, Atul T, Shikha J. Prevalence of risk factors of non-communicable diseases in a District of Gujarat, India. *J Health Popul Nutr*. 2013;31(1):78-85. doi:10.3329/jhpn.v31i1.14752
16. Mehan MB, Srivastava N, Pandya H. Profile of non communicable disease risk factors in an industrial setting. *Journal of Postgraduate Medicine*. 2006;52(3):167.
17. Sinha D, Gupta PC, Pednekar M. Tobacco use in a rural area of bihar, india. 28(4):167-170.
18. Sinha DN, Gupta PC. Tobacco and areca nut use in male medical students of Patna. *Natl Med J India*. 2001;14(3):176-178.
19. Maralani V. Understanding the links between education and smoking. *Soc Sci Res*. 2014;48:20-34. doi:10.1016/j.ssresearch.2014.05.007
20. Osazuwa-Peters N, Adjei Boakye E, Chen BY, Tobo BB, Varvares MA. Association Between Head and Neck Squamous Cell Carcinoma Survival, Smoking at Diagnosis, and Marital Status. *JAMA Otolaryngol Head Neck Surg*. 2018;144(1):43-50. doi:10.1001/jamaoto.2017.1880
21. Joshi U, Modi B, Yadav S. A study on prevalence of chewing form of tobacco and existing quitting patterns in urban population of Jamnagar, Gujarat. *Indian J Community Med*. 2010;35(1):105. doi:10.4103/0970-0218.62560
22. Prajapati DJ, Bavarva NR. Prevalence of Tobacco Use among Government Employees in Ahmedabad, Gujarat. 2018;9(5):322-326.
23. Sen U, Basu A. Factors Influencing Smoking Behavior Among Adolescents. *Asian Pac J Cancer Prev*. 2000;1(4):305-309.