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Pattern and Prevalence of Smoking in Urban and Rural Areas of Aligarh

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ABSTRACT

The present community based study was conducted in the field practice area of the Department of Community Medicine, JNMC, Aligarh, Uttar Pradesh. The aim was to estimate the prevalence of smoking and its pattern in urban and rural areas of Aligarh. Six hundred and fourty individuals were selected by systematic random sampling. Data analyzed with SPSS 17 version. Percentages, and Chi Square Test used. The overall prevalence of smoking was found to be 20.2%. Smoking prevalence was found to be more in rural areas (24.7%) than in urban areas (13.2%). Gender was important predictor of smoking with prevalence more in males than females. Sociodemographic correlates like occupation, education and religion came out to be significantly associated with smoking (P value <0.05). Smoked tobacco prevalence was found to be more in lower socioeconomic class (24.1%) than upper class (2.6%).

KEYWORDS: Smoking, Socioeconomic class, Prevalence

Introduction:

Smoking is one of the most important preventable risk factor for non-communicable disease. The total number of premature deaths caused by tobacco during twentieth century has been estimated at about 100 million and, if current trends of tobacco use continue during twenty-first century, the death toll is projected to go up to one billion (WHO 2008). Its association with heart disease is well established (MRFIT 1982, Kannel et al 1961). Tobacco in any form is associated with multiple cancers in human body, lung cancer being the most closely related (Keith et al 2001). In India, cancers of the oral cavity constitute an important group of cancers related to smoking. Smoking is listed as most common cause of COPD from all over the world (Doll et al 1980). However, in many developed countries, smoking prevalence has started to show a promising decline (Pierce et al 1989), but in a study carried out by Gupta et al. 1990 noticed that in developing countries like India, tobacco is a flourishing business and its use, a serious problem. Considering the burden of this evil on health and economic aspects, this study is carried out based on felt need to know the pattern and prevalence of smoking in urban and rural areas of Aligarh.

Materials & Methods:

This community based cross sectional study was conducted (during the period of August 2009 to June 2010) in the field practice areas of the Department of Community Medicine, J N Medical College, Aligarh. The urban health training centre has four registered peri-urban localities with registered population of 10,250. The rural health training center has seven registered villages catering services to population of 14,600.

The estimated sample size was calculated according to the formula: N=4pq/d^2 where p is the prevalence of smoking, q=1-p and d is absolute error. Taking the prevalence of tobacco use as 34% World Health Survey, 2003, and 4% allowable error, the sample size was calculated to be 640. The sample included all individuals aged between 18 to 65 years. Systematic random sampling was done in the respective areas and sample was drawn from each area. We drew 60% and 40 % of the sample size from the rural population and urban population respectively. Proportionate to population size we had a sample of 340 subjects from the RHTC and 256 subjects from the UHTC.

A house to house visit was made to till 640 subjects were enrolled in the study. A preformed proforma on smoking was drawn from WHO STEPwise questionnaire (2002), was used for the study. According to definition given by World Health Organization (2008), current smoker is a one who smokes at the time survey, whether daily or occasionally. The social class of the subject was determined using the Modified Prasad Scale. Social classes I and II were categorized into upper class, class III as middle class and class IV and V of Modified Prasad's classification (Kumar et al 1993) were categorized into lower class. Data entry and analysis were carried out using software SPSS version 17. P-value was calculated using chi-square test and One way ANOVA was applier wherever necessary and difference was accepted significant at more than 95% (p-value <0.05).

Results:

Out of 640 individuals interviewed, 300 were males and 340 females. In rural areas, 27.1% respondents were from younger age group (18-25 years), whereas in urban areas majority (27.3%) of respondents was of 26-35 years age group. Also, the study group comprised of higher percentage of females (53%) compared to males (47%). Majority of the subjects (65%) were Hindus and were from rural areas, compared to 53.9% of the subjects in urban areas having joint families and belonged to Muslim religion. With regard to social classification, 85.9% and 52.4% of the subjects belonged to lower class in rural and urban areas respectively. Very few, 2.3% in rural areas and 23.7% in urban areas belonged to upper class.

The overall prevalence of smoking was found to be 20.2%, 129 subjects out of 640 were found to be current smokers. Majority of smokers were males and females constituted only 1.3%. The highest prevalence of smoking was found in 56-65 years age group. The mean age of starting smoking was early adulthood and different for all age groups, the difference between groups was statistically significant (P value < 0.05) (Table 1).

Smoking prevalence was found to be comparatively high in rural areas, found to be 23.6% in males and 1.1% in females whereas in urban areas it was 13.2% in males. The prevalence of smoking habit was almost nil in females in urban areas (Fig.1)

Table 1. Patterns of smoking among study subjects in different age groups

Category	18-25 (n=138)	26-35 (n=138)	36-45 (n=126)	46-55 (n=110)	56-65 (n=128)	Total (640)
Current smokers	10 (7.2)	19 (13.8)	32 (25.4)	20 (18.2)	48 (37.5)	129 (20.2)
Never smokers	128 (92.8)	119 (86.2)	94 (74.6)	90 (81.8)	80 (62.5)	511 (79.8)
χ^2=64.9,df=4, P value <0.05						
Mean age of starting smoking	19.1 ± 2.2	19.6 ± 3.6	20.3 ±3.7	25.4 ± 9.5	26.0 ± 8.7	23.2 ± 7.5
One way ANOVA F(4,135)=13.01, P value<0.05						

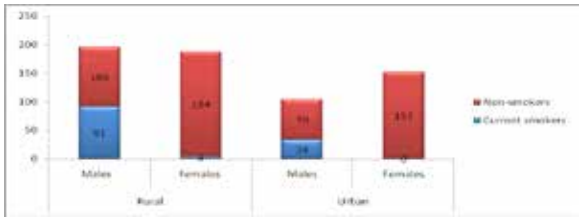

Fig 1. Distribution of smoking by sex and locality

Sociodemographic and economic correlates were significantly associated with smoking (Table 2). Smoking was seen to be more prevalent among semiskilled/skilled (52%) and clerical subjects (46.3%) and was less educated than compared to subjects who were professionals (10.7%) and highly educated. Religion was significantly associated smoking, with prevalence more among Hindus (25.8%) compared to Muslims (15.4%). Type of family was found to be less significant predictor for smoking, as prevalence of smoking as almost similar between joint and nuclear families. Smoking had inverse relation with respect to socioeconomic class with high prevalence lower socioeconomic class (24.1%) than upper class (2.6%).

Table 2. Physical inactivity with respect to sociodemographic profile

Criteria (n)	smokers	%	χ^2, p-value
Occupation			
Unemployed (61)	16	26.2	χ^2=148.4, df=7, P value <0.05
Unskilled (121)	36	29.7	
Semiskilled/Skilled (48)	25	52.0	
Clerical (69)	32	46.3	
Semiprofessional/Professional (56)	6	10.7	
Housewife (285)	8	3.1	
Education			
No formal education (252)	51	20.2	χ^2=13.74, df=6, P value <0.05
Primary/Middle (82)	23	28.0	
High / Intermediate (204)	37	18.1	
Graduate/above graduate (102)	12	11.7	
Religion			
Hindu (240)	62	25.8	χ^2=11.42, df=2, P value <0.05
Muslim (396)	61	15.4	
Christian (4)	0	0.0	
Family type			
Nuclear (252)	48	19.0	χ^2=0.008, df=6, P value <0.05
Joint (388)	75	19.3	
Social class			
Upper (78)	2	2.6	χ^2=27.5, df=2, P value <0.05
Middle (98)	9	9.2	
Lower (464)	112	24.1	

The prevalence of smoking in India, from various community based studies conducted by Narayan (1996), Gupta (1995), and Sugathan et al (2008) in varied age groups has been found to be ranging from 8.9% to 55%. Also the prevalence has invariably been more in men than women and in rural areas than in urban areas (Chadha et al 1997). Most of the studies reported higher prevalence compared to our study. It may be because of the inclusion of younger age group of 18-25 years. It is shown that the prevalence of tobacco use in younger age groups is comparatively lower (Mohan et al 2001).

In accordance with the literature consulted (Pierce et al 1989, Mohan et al 2001), present study too, found highest prevalence of tobacco use in groups with lower education. Narayan et al (1996) reported the highest prevalence of smoking in occupational class IV i.e, skilled and unskilled workers, who belonged to lower socioeconomic status. High prevalence of smoking in lower socioeconomic class as seen in our study is corroborated by Gold et al. 1990. Similar inverse relationship between smoking and socioeconomic class was also found in studies carried out by Narayan et al (1996) and Kaplan et al (1993).

Conclusion: Smoking has emerged as fairly important risk factor for major noncommunicable diseases. There is a urgent need to address the increasing trend in burden of smoking which is going hand in hand with double burden of diseases, especially in developing countries. Establishment of deaddiction centers, strict enforcement of law, mass awareness generation campaign, focused educational intervention at institutional level and personal communication through counseling and behavior therapy can be effective tools for desired goals. The anti-tobacco campaign should be further intensified and newer innovative approaches should be tried for reduction smoking.

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REFERENCES

1. Chadha SL, Gopinath N, Shekhawat S et al. Urban rural differences in the prevalence of coronary heart disease and its risk factors in Delhi. WHO Bull 1997; 75: 31-8. | 2. Doll R, Gray R, Hafnes B et al. Mortality in relation to smoking: 22 years observation in female British doctors. BMJ 1980; 280: 967. | 3. Gold MR, Franks P. The social origin of cardiovascular risk: An investigation in a rural community. Int J Health Services 1990; 20: 405-16. | 4. Gupta PC, Ball K. India: Tobacco tragedy (letter). Lancet 1990; 335: 594-5. | 5. Gupta R, Prakash H, Majumdar S et al. Prevalence of coronary heart disease and coronary risk factors in an urban population of Rajasthan. Indian Heart J 1995; 47: 331-8. | 6. Kannel WB, Danbe TR, Kagan A et al. Factors of risk in the development of coronary heart disease. Six years follow up experience. The Framingham Study. Anna Int Med 1961; 55: 33-50. | 7. Kaplan GA, Keil JE. Socioeconomic factors in cardiovascular disease. Circulation 1993; 88: 1973-98. | 8. Keith W, Gapstur SM. Alcohol and breast cancer. JAMA 2001; 286: 2143-51. | 9. Kumar P. Social classification-need for constant updating. Ind J Comm Med 1993;8: 59-61. | 10. MRFIT Research Group. MRFIT: Risk factor changes and mortality results. JAMA 1982; 248: 1465-77. | 11. Mohan D, Chopra A, Sethi H. A rapid assessment study on prevalence of substance abuse disorders in metropolis Delhi. Indian J Med Res 2001; 114: 107-14. | 12. Narayan KMV, Chadha SL, Hanson RL et al. Prevalence and patterns of smoking in Delhi: Cross sectional study. BMJ 1996; 312: 1576-9. | 13. Pierce JP. International comparisons of trends in cigarette smoking prevalence. Am J Pub Health 1989; 79:152-7. | 14. Sugathan TN, Soman CR, Sankarnarayanan K. Behavioural risk factors for non-communicable diseases among adults in Kerala, India. Indian J Med Res 2008; 127: 555-63. | 15. World Health Survey, 2003, Uttar Pradesh. Health system assessment; 2006: 20-23. | 16. WHO STEPSwise Approach, Surveillance of risk factors for noncommunicable diseases, framework (draft) 2002; WHO, Geneva. | 17. WHO report on Global Tobacco Epidemic. The MPOWER Package, 2008.