



Epidemiological study of alcohol and tobacco consumption among adults in a rural Population of Barabanki, Uttar Pradesh, India

Community Medicine

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ABSTRACT

Background: The increasing consumption of tobacco and alcohol is leading to a surge in prevalence of cardiovascular diseases as well as hepatic morbidities in India. Also, high consumption of alcohol and tobacco has harmful social and economic consequences.

Objectives: The present cross-sectional study was therefore undertaken to estimate the prevalence of tobacco and alcohol consumption among adults in a rural population and ascertain the factors associated with it.

Materials & Methods: A cross-sectional study was conducted in field practice area of Rural Health and Training Centre (RHTC) Satrik, Barabanki and a total 796 study subjects were enrolled via multistage sampling. Details about personal habits like smoking, consumption of smokeless tobacco and alcohol intake was collected using a pre-designed, pre-tested semi structured questionnaire. Data about basic socio-demographic information was collected and cross checked with the data base available at RHTC.

Results: The proportion of individuals with smoking, tobacco chewing, alcohol consumption & combined use of smoking and alcohol were 6.7%, 22.8%, 4.02% and 13.5% respectively. The association between type of addiction with age-group, gender, religion, caste, type of family, marital status, educational status, type of occupation and socio-economic status was found to be statistically significant ($p < 0.05$).

Conclusion: Low prevalence of tobacco and alcohol was found in the present study. But in spite of that community based comprehensive strategies must be implemented so as to keep a check over it and prevent its transformation into an epidemic.

KEYWORDS:

Alcohol consumption, Tobacco chewing, Smoking, Rural.

Introduction

As per WHO (World Health Organisation) report, a minimum ten thousand million people throughout the world regularly consume alcohol. [1] Alcohol consumption accounts for 3.2% of all global deaths and about 4% of all global burdens of diseases and 3.5% of all DALYs lost due to all causes. About 62.5 million alcohol users are estimated in India with per capita consumption of alcohol increased by 106.7% over the 15-year period from 1970 to 1996. [2] Excessive use of tobacco may lead to long-term morbidity as well as premature deaths. [4] The World Health Organization predicts that tobacco deaths in India may exceed 1.5 million annually by 2020. [3] Globally, many studies reported that alcohol drinking is often combined with tobacco use and this co-use resulted in further drug abuse. [5, 6] Habitual consumption of alcohol and tobacco is one of the major lifestyle factor associated with non-communicable diseases. Very few community-based studies have been conducted to estimate the prevalence of alcohol and tobacco consumption in India. The present cross-sectional study was therefore undertaken to estimate the prevalence of tobacco and alcohol consumption among adults in a rural population and ascertain the factors associated with it.

Materials and Methods

The present cross-sectional study was conducted among individuals aged ≥ 18 years (both sexes) in catchment area of Rural Health Training Centre (RHTC), Satrik, Hind Institute of Medical Sciences, Barabanki, Uttar Pradesh from December 2015 to May 2016. The sample size for the present study was calculated using formula $4pq/l^2$ for estimation of proportion taking into account the prevalence (p) of smoking as 21.9% [7], with q being equal to 100 minus p and l as the permissible margin of error in the estimated value, which is taken as 15% with 95% confidence limit and considering the non-response rate of 10% the required minimum sample size was calculated to be about 796. The study participants were enrolled using multistage sampling from 16 villages under RHTC.

Data Collection:

Details about age, sex, marital status, religion, caste, socio-economic status of the family etc. personal habits like smoking, consumption of

smokeless tobacco; alcohol intake was collected using a pre-designed, pre-tested semi structured questionnaire. The data collected was entered in MS-Excel and then analysed using Epi-Info. Association between various factors and addiction habits were studied by applying appropriate statistical test (Chi-square test) and $p < 0.05$ was considered as statistically significant.

Results:

Biosocial Characteristics of Study Population:

Out of 796 subjects, males were more in number than females, in all age groups. About 14.9% of the respondents were illiterate and 367 (46.1%) were educated up to secondary school followed by 25.1% educated up to primary school. About half of the respondents were unskilled workers and 44.2% of the respondents belonged to lower socio-economic status (SES).

Association between type of addiction and biosocial variables

Out of 796 subjects surveyed 47.2% had one or more type of addiction. The proportion of individual with smoking, tobacco chewing, alcohol consumption & combined use of smoking and alcohol were 6.7%, 22.8%, 4.02% and 13.5% respectively. Significant association was observed between type of addiction with age-group, gender, religion, caste, type of family, marital status, educational status, type of occupation and socio-economic status. Any type of addiction was seen more in age group 50-59 year, among males, those belonging to Hindu religion, general category, and joint families, married subjects, among illiterates and those who belonged to lower middle and below socio-economic status and among unskilled workers. Both the consumption of smokeless tobacco and alcohol was higher in age-group 50-59 years while smoking was more prevalent among study subjects 30-39 years. None of the females used to consume alcohol. Consumer of any form of tobacco and alcohol were comparatively higher among Hindus and general category as well as those who belonged to joint families and who were married. Consumption of alcohol was reported quite higher among those educated up to primary level and socio-economic status lower middle & below. Smoking, Tobacco chewing and alcohol consumption was reported higher among unskilled smokers.

Discussion

The study aimed to estimate the prevalence of tobacco and alcohol consumption among adults which are well-known risk factors of non-communicable diseases. The prevalence of smoking in present study was found to be 6.7% which was much lower as compared to other Indian studies. [8,9,10,11,12,13] However the prevalence of smoking was more as compared to that reported by Krishnan A et al., and Chaya et al.[14,15]. A part from that the findings regarding tobacco chewing were more or less similar like other Indian studies. [8, 16]; but much less as reported by Umesh et al.,& Mahanta et al., who in there study reported prevalence of tobacco chewing about 48.3% and 78.14% respectively. [13,17] A major finding regarding the consumption of alcohol alone was reported quite low in present study. However, the combined consumption of tobacco products and alcohol was quite high (13.5%). Similar to the findings reported were by Umesh et al. The consumption of tobacco and its products among females was much less as compared to males.They opined that the finding might be attributed to the fact that social acceptability of those products is less among females. [13] However the study has some limitations as the study was conducted in catchment area of RHTC, the result can't be generalized. Alsoas the study was cross-sectional, causal relationship could not be established as the study was cross-sectional.

Conclusions

In the present study, low prevalence of use to tobacco & alcohol consumption was reported as compared to studies in other part of India. But in spite of that adequate strategies should be adopted before the slow consumption of these items transform to the epidemic. A part from that proper IEC (Information education Communication) based activities regarding hazards of these type of addictions should be established at grass-root community level by integrating them to primary health care services.

Table No. 1 Association between age-group with type of addiction (N=796)

Age Group	Addiction Type					χ^2 p value
	None (408)	Smoking (54)	Tobacco Chewing (182)	Alcohol (32)	Smoking and Alcohol (108)	
18 - 29	166 (40.7%)	0 (0.0%)	8 (4.4%)	8 (25.0%)	7 (6.5%)	277.41 0.00
30 - 39	124 (30.4%)	23(42.6%)	24(13.2%)	8 (25.0%)	24(22.2%)	
40 - 49	71 (17.4%)	8 (14.8%)	39(21.4%)	0 (0.0%)	31(28.7%)	
50 - 59	24 (5.9%)	15 (27.8%)	56(30.8%)	16(50.0%)	31(28.7%)	
≥60	23 (5.6%)	8 (14.8%)	55(30.2%)	0 (0.0%)	15(13.9%)	

Table No. 2 Association between gender with type of addiction (N=796)

Gender	Addiction Type					χ^2 p value
	None (408)	Smoking (54)	Tobacco Chewing (182)	Alcohol (32)	Smoking and Alcohol (108)	
Male	148 (36.3%)	46 (85.2%)	166 (91.2%)	32 (100.0%)	108 (100.0%)	283.09 0.00
Female	260 (63.7%)	8 (14.8%)	16 (8.8%)	0 (0.0%)	0 (0.0%)	

Table No. 3 Association between religion with type of addiction (N=796)

Religion	Addiction Type					χ^2 p value
	None (408)	Smoking (54)	Tobacco Chewing (182)	Alcohol (32)	Smoking and Alcohol (108)	
Hindu	352(86.3%)	54(100.0%)	158(86.8%)	32(100.0%)	100(92.6%)	15.17 0.00
Muslim	56 (13.7%)	0 (0.0%)	24 (13.2%)	0 (0.0%)	8 (7.4%)	

Table No. 4 Association between caste with type of addiction (N=796)

Category	Addiction Type					χ^2 p value
	None (408)	Smoking (54)	Tobacco Chewing (182)	Alcohol (32)	Smoking and Alcohol (108)	
General	58 (14.2%)	31 (57.4%)	72 (39.6%)	8 (25.0%)	62 (57.4%)	143.32 0.00
OBC	236 (57.8%)	16 (29.6%)	95 (52.2%)	16 (50.0%)	46 (42.6%)	
SC / ST	114 (27.9%)	7 (13.0%)	15 (8.2%)	8 (25.0%)	0 (0.0%)	

Table No. 5 Association between type of family with type of addiction (N=796)

Type of family	Addiction Type					χ^2 p value
	None (408)	Smoking (54)	Tobacco Chewing (182)	Alcohol (32)	Smoking and Alcohol (108)	
Joint	323 (79.2%)	47 (87.0%)	174 (95.6%)	32 (100.0%)	93 (86.1%)	33.41 0.00
Nuclear	85 (20.8%)	7 (13.0%)	8 (4.4%)	0 (0.0%)	15 (13.9%)	

Table No. 6 Association between marital status with type of addiction (N=796)

Marital Status	Addiction Type					χ^2 p value
	None (408)	Smoking (54)	Tobacco Chewing (182)	Alcohol (32)	Smoking and Alcohol (108)	
Married	376 (92.2%)	54 (100.0%)	174 (95.6%)	32 (100.0%)	108(100.0%)	16.94 0.00
Unmarried	32 (7.8%)	0 (0.0%)	8 (4.4%)	0 (0.0%)	0 (0.0%)	

Table No. 7 Association between education with type of addiction (N=796)

Education	Addiction Type					χ^2 p value
	None (408)	Smoking (54)	Tobacco Chewing (182)	Alcohol (32)	Smoking and Alcohol (108)	
Illiterate	39 (9.6%)	15 (27.8%)	55 (30.2%)	0 (0.0%)	8 (7.4%)	135.74 0.00
1 ^o School	96 (23.5%)	0 (0.0%)	40 (22.0%)	16 (50.0%)	54 (50.0%)	
2 ^o School	209 (51.2%)	39 (72.2%)	71 (39.0%)	8 (25.0%)	31 (28.7%)	
Graduate and above	64 (15.7%)	0 (0.0%)	16 (8.8%)	8 (25.0%)	15 (13.9%)	

Table No.8 Association between socioeconomic status with type of addiction (N=796)

Socioeconomic Status#	Addiction Type					χ^2 p value
	None (408)	Smoking (54)	Tobacco Chewing (182)	Alcohol (32)	Smoking and Alcohol (108)	
Upper Class	16 (3.9%)	0 (0.0%)	8 (4.4%)	0 (0.0%)	8 (7.4%)	120.19 0.00
Upper Middle	46 (11.3%)	8 (14.8%)	8 (4.4%)	8 (25.0%)	0 (0.0%)	
Middle	156 (38.2%)	7 (13.0%)	47 (25.8%)	0 (0.0%)	15 (13.9%)	

Lower Middle	55 (13.5%)	24 (44.4%)	47 (25.8%)	16 (50.0%)	30 (27.8%)
Lower Class	135 (33.1%)	15 (27.8%)	72 (39.6%)	8 (25.0%)	55 (50.9%)

#Modified B G Prasad Socioeconomic Scale 2015

Type of Occupation	Addiction Type					χ ² p value
	None (408)	Smoking (54)	Tobacco Chewing (182)	Alcohol (32)	Smoking and Alcohol (108)	
Professional	8 (2.0%)	0 (0.0%)	8 (4.4%)	0 (0.0%)	8 (7.4%)	120.19 0.00
Skilled	63 (15.4%)	0 (0.0%)	0 (0.0%)	8 (25.0%)	0 (0.0%)	
Semi-Skilled	78 (19.1%)	8 (14.8%)	23 (12.6%)	0 (0.0%)	15 (13.9%)	
Unskilled	111 (27.2%)	38 (70.4%)	135 (74.2%)	24 (75.0%)	85 (78.7%)	
Housewife	148 (36.3%)	8 (14.8%)	16 (8.8%)	0 (0.0%)	0 (0.0%)	

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