

Original Article

BIOSOCIAL DETERMINANTS OF ALCOHOL RISK BEHAVIOUR: AN EPIDEMIOLOGICAL STUDY IN URBAN AND RURAL COMMUNITIES OF ALIGARH, UTTAR PRADESH

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ABSTRACT

Background: Alcohol use disorders are prevalent across all societies. WHO estimates that harmful use of alcohol results in 2.5 million deaths each year and Alcohol is the world's third largest risk factor for disease burden. It is also associated with many serious social and developmental issues, including violence, child neglect/abuse, and absenteeism in the workplace which necessitates information on quantum and pattern of alcohol use, for effective behavior change interventions.

Methods: The cross sectional survey was conducted over a period of one year among 848 individuals (≥ 15 years) from urban and rural field practicing areas of the department of community medicine, JNMCH, AMU, Aligarh. Door to door survey was done. Households were the primary sampling unit. Data analysis has been done using SPSS version 14.0. To test significance chi square test have been used as applicable.

Results: Prevalence for alcohol use was 13.4% (including current and ever user both). 43(5.07%) of study subjects were current alcohol users and 71(8.37%) were categorized as ever users for alcohol. Alcohol use was found significantly associated with age, sex, socio-economic status, occupation, religion, caste, parental alcohol use, and rural residence.

Conclusions: The study documented prevalence, patterns of use and determinants of alcohol risk behavior. Efforts, targeting the most vulnerable and using Health promotion, health education and behavior change communication as tools, can prove valuable for effective control of alcohol risk behavior and related mortality/morbidity.

Keywords: Alcohol, Determinants, alcohol user, risk behaviour, epidemiology

INTRODUCTION

To seek pleasure is man's innate nature. In his search for gratification, man has discovered a whole world of substances that intoxicated him. Man's innate nature and addictive quality of these substances has resulted in proverbial goliath structure of its use across the world leading to a global pandemic led by Tobacco and Alcohol. The pattern of drinking in India has undergone a change from occasional and ritualistic use to being a social event¹. Now alcohol use disorders have been prevalent across all societies. The pattern of alcohol use varies depending on age, religion, education, type of drink and other socio-demographic characteristics. Alcohol use is increasing in developing countries, 47% of developing countries in transition and 35% of developed countries have increased their consumption of absolute alcohol per adult². In India, the estimated numbers of alcohol users in 2005 were 62.5 million, with 17.4% of them (10.6 million) being dependant users³. The World Health Organization (WHO) estimates that there are about 2 billion people worldwide who consume alcoholic beverages and 76.3 million with diagnosable alcohol use disorders. From a public health perspective, the global burden related to alcohol consumption, both in terms of morbidity and mortality, is considerable in most parts of the world. Alcohol consumption has health and social consequences via intoxication (drunkenness), alcohol dependence, and other biochemical effects of alcohol. In addition to chronic diseases that may affect drinkers after many years of heavy use, alcohol contributes to traumatic outcomes that kill or disable at a relatively young age, resulting in the loss of many years of life due to death or disability⁴. These developments have raised concerns about the health and the social consequences of excessive drinking⁵. Considering all the social, economic and health repercussions associated with alcohol use and understanding the need for data collection regarding prevalence and correlates, as a must, this study is an attempt to find out the magnitude of Alcohol use, in urban and rural areas of Aligarh district.

MATERIAL AND METHODS

Sample Size and Sampling Method

This community based, cross sectional household survey was conducted during the

period of August 2008 to July 2009. The sample size was calculated using $p = 50\%$, as it will yield the biggest sample size⁶. Sample size has been calculated using the formula $n = (1.96)^2 p q / L^2$. Taking p as 50% and absolute error as 5%, the sample size was calculated to be 385. However the sample size was increased to 424, considering non response of 10% and also to undergird the validity. The study was carried out in both UHTC and RHTC registered field practicing areas. Sample size of 424 individuals was selected from both the places separately. Thus the effective sample size was 848 for the study.

Sampling procedure

A community based household survey was conducted in the registered areas of urban and rural health training centers. All the villages and areas registered under urban and rural health training centers were included in the study and equal numbers of individuals were selected from both. The sample was taken from all individuals ≥ 15 years present in the household and who gave consent for the interview. To avert selection bias in the study a maximum of two eligible individuals were selected randomly from a single household. The number of households in the UHTC and RHTC were proportionately selected according to number of households of the respective registered areas or villages respectively. Every tenth household was selected as sampling unit to carry out the study in the particular area. This method was followed till the requisite numbers of individuals were covered.

Study tool

A preformed and pre tested structured interview schedule was used for the study. The Proforma was divided into 3 sections. The first section contained baseline information about the subject and his/her family. The second section contained information about ever use of any form of alcohol. The third section had questions for assessing pattern of alcohol use.

Ethical considerations

Informed verbal consent was sought from each respondent. For adolescents aged 15-18 years, consent was obtained from both the parent and the individual. They were informed about the nature and the purpose of the survey and the procedure involved. It was explained to the subjects that the information they give us will be kept confidential. All entry forms were kept in

the custody of principal investigator and completed questionnaires were only viewed by approved study personnel.

Definitions⁷

Current alcohol user: if the respondent used the substance with in last one month period.

Ever user: If the respondent ever used the substance in life time.

Data analysis

Data analysis has been done using SPSS version 14.0 and Microsoft Office Excel 2007. To test significance of correlates of alcohol use, chi square test have been used as applicable. All p values were two tailed and values of <0.05 were considered to indicate statistical significance.

RESULTS

Prevalence for alcohol (including current and ever user both) use was 13.4%, in the present study. Out of study population only 43(5.07%) of study subjects were current alcohol users and rest 71(8.37%) were categorized as ever users for alcohol. 734 (86.6%) participants denied ever use of alcoholic beverages.

Table 1: Determinants of alcohol risk behaviour

Co-relate	Alcohol		Chi square test
	Yes	No	
Age group			
15-25	06	224	$\chi^2=14.547$
26-40	71	308	df=1
41-60	17	119	p <0.0001
>60	20	83	
Marital status			
Married	91	531	$\chi^2=5.33$
Unmarried	15	163	df=2
Widowed/Divorced/ living alone	08	40	p >0.05
Occupation			
Unemployed	27	471	$\chi^2=77.3$
Unskilled	32	121	df=4
Semi-skilled	30	86	p <0.001
Clerical/shop/farm	22	38	
Professional/ semi professional	3	18	

Maximum numbers of users were in 26-40 years age group and most of them were either illiterate or educated up to high school. Alcohol use was significantly associated with low

socioeconomic strata. Hindu religion was significantly associated with Alcohol use. Alcohol risk behaviour was found more prevalent in married individuals but this association was non-significant on statistical analysis. Likewise it was more prevalent among SC/ST/OBC castes and this association was significant too. Alcohol use was seen to be significantly associated with parental alcohol use. In the present study, gender comes out to be a strong predictor of Alcohol use (only males were alcohol users). Alcohol use was seen to be more prevalent among subjects who were unemployed, skilled or unskilled labourers as compared to subjects who were professionals or well paid and this relation comes out to be significant on statistical analysis too. Rural residence was significantly associated with alcohol use (Table-1&2).

Table 2: Determinants of alcohol risk behavior

Co-relate	Alcohol		Chi square test
	Yes	No	
Education			
Illiterate	46	345	$\chi^2(df)=5.4(3)$ p >0.05
Up to high school	56	297	
Intermediate/diploma /graduate	12	80	
Above graduate	00	12	
Religion			
Hindu	97	267	$\chi^2(df)=95.6(1)$ p <0.001
Muslim	17	467	
Parental alcohol use			
Yes	107	507	$\chi^2(df)=30.3(1)$ p <0.001
No	07	227	
Socioeconomic status			
Lower	99	604	$\chi^2(df)=1.93(1)$ p <0.001
Upper	15	130	
Gender			
Male	114	330	***
Female	0	404	
Rural-urban difference			
Rural	72	352	$\chi^2(df)=9.1(1)$ p <0.01
Urban	42	382	
Caste			
General	43	401	$\chi^2(df)=11.3(1)$ p <0.001
SC/ST/OBC	71	333	

*** Exclusively by males

55.5% alcohol users in rural and 85.7% users in urban areas started alcohol use at 21-25 yrs of age. There was no individual who started alcohol use below 15 yrs. Among the factors which led to alcoholic substances use, peer

pressure was on the top. Among alcohol users 86.1% said that they started using alcohol because of peer pressure, followed by curiosity (68.0%), social acceptance (25%), unemployment (2.8%), health benefit (2.8%) and anxiety/stress (1.4%) [multiple answers could be given]. 73 of the users told that they take any type of alcoholic drink available to them. Country made liquor, followed by whisky and beer, were types of alcohol, consumed mostly, in this order.

DISCUSSION

In the present study prevalence of current alcohol use was 5.07%. Prevalence of Alcohol use varies in different regions of the country. This figure is low when compared to national figures^{8,9}. National Family Health Survey - 2 reported a prevalence of 9.6%, while, NFHS 3 estimated the prevalence to be 13.4% among the 15 to 49 year old. 57% of study population in the present study was Muslim. Religious restrictions prevent Muslims to drink. Such large proportion of Muslims in study population resulted in a decrease in overall prevalence. Social class came out to be a strong predictor of Alcohol use. Other studies^{1,10} affirmed the same finding too. Parental Alcohol use was a strong predictor for Alcohol use. Contrary results were seen in previous studies^{10,11} in which it was found maximum users were first reported members of the family. Gender was being a very strong predictor of Alcohol use as depicted in the present study. Same findings were reported in previous epidemiological studies^{1,12}. Hindu religion was significantly associated with alcohol use (Our study population consisted of only Hindus and Muslims). In the study carried out in Goa¹⁰ it was seen that prevalence of alcohol use was maximum for Roman Catholics followed by Hindus and than other religions previous study in Bombay¹ found that least prevalence for alcohol risk behavior was there in Muslim community. In our study most alcohol users were belonging to SC/ST/OBC castes. On statistical analysis this association was significant too. Same finding was seen in other study in Tirupati¹³ too, in which it was seen that the prevalence of current use of substance was higher in scheduled castes/tribes in comparison to other forward classes. Most of the users were married but it was non-significant association. Present study evince that people who are unemployed or less paid are indulging more in Alcohol use practices. Similar finding were seen

in a study carried out in Goa¹⁰. Alcohol use is more prevalent in the individuals who are less educated, Likewise in Goa¹⁰ and in Bombay¹, it was observed that people who were illiterate or less educated were more involved in harmful drinking practices in comparison to those subjects who were well educated. In our study significant correlation was seen between rural residence and alcohol risk behavior. Previous literature¹⁴ also confirmed the same observation in which it was seen that a greater prevalence of alcohol risk behavior is there, in rural areas as compared to urban areas. In our study a possible upward trend in seen between increasing age and alcohol risk behavior, (maximum users in 26-40 year age group), and this relation was significant too. The study from Goa¹⁵ found that the proportion of heavy drinking increased with age and was maximum at 40 years of age.

CONCLUSION

The alcohol risk behavior is found prevalent in the community under study and study documented the high risk individuals prone for such risk behaviour. Study demands actions targeting the most vulnerable so that alcohol related mortality and morbidity can be minimized. Establishment of de-addiction centers, strict enforcement of laws, Health education can prove valuable tool for the desired goals. It is essential, therefore, to increase the knowledge, motivation and skills of the people through mass education, and to create strong community-level coalitions to combat alcohol use through government-supported civil society action. The media too, in its varied forms, needs to be effectively enlisted as a partner in this effort. The energy and idealism of the youth also need to be channeled into well-designed anti-alcohol campaigns to make them powerful agents of social change. Children must be sensitized in the schools, enabling them to choose healthy life style and avoiding risk behaviours.

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