Is Family History Of Alcohol Use An Important Predictor Of Its Use?
An Epidemiological Study In An Urban Slum Of North India.

Katyal R.*, Bansal R., Goel K.**, Sharma S**.**

Assistant Professor, Deptt. Of Community Medicine, *Rohilkhand Medical College ; Bareilly;(U.P.),PIN:243006,
** Subharti Medical College, Meerut

Abstract: Background and objectives: The increasing production, distribution, promotion and easy availability of alcohol coupled with the changing values of society has resulted in alcohol-related problems emerging as a major public health concern in India. The family plays a major role in terms of social, economic and cultural values. These influences can have both a positive or negative effect on developing norms and values within the family . Thus, the increasing usage of alcohol is not just due to an individual's likes or dislikes but rather due to several extraneous factors operating in respective societies. This understanding and identifying of critical factors is crucial to reduce the growing impact of alcohol use. The objective of the indexed study is to know the determinants of alcohol use in an urban slum of North India. Methods: A community based cross-sectional study was conducted in an urban slum of Meerut using a WHO questionnaire AUDIT and data was analysed in SPSS 19.0 using chi-square test and application of logistic regression to further rule out the confounding effect. Results: Association of alcohol use with age, occupation, marital status, caste and smoking habit of the respondent were statistically significant. No significant association of alcohol use was found with income of the respondent, family size, family type and socio-economic status. On applying Logistic regression, marital status, caste and family history of alcohol use remained statistically significant as independent variables. Interpretation and Conclusions: Alcohol use can be one of the disastrous health hazard because of its addicting and dependence inducing behaviour. This study is the cornerstone to produce the valid evidence of the effect of positive family history as one of the important predictor of alcohol use. [Katyal R et al NJIRM 2013; 4(2) : 63-67]

Key Words: Alcohol, AUDIT, Family history, WHO

Author for correspondence: Dr.Rashmi Katyal, Asst. Professor; Rohilkhand Medical College, Bareilly (U.P.) India., E-mail: rashmikatyal@gmail.com

Introduction: The common purpose of consuming alcohol is to get drunk [1]. Alcohol abuse is one of the main killers of young men in India today. At the individual level age, sex, social status, physiological attributes, nutritional levels, the activity being performed by them, their psychological status and awareness, determine how much a person drinks and what effect it has on them and others.

The epidemiological, social and demographic transition has significantly altered the health of Indian communities in the last two decades. There has been a gradual but significant decline of communicable, nutritional and infectious diseases. However, this has resulted in the emergence of the triple burden of communicable, non-communicable diseases and injuries, all competing for meagre available resources. The country at this point of time, is facing difficulties in addressing these emerging health problems, despite significant advances in management of patients at the hospital level [2].

Alcohol misuse wreaks a high social cost. In addition to the health costs, there are indirect costs linked to a wide variety of social costs - family disruption, marital disharmony, impact on development of children, deprivation of the family, absenteeism and industrial loss, crime and violence, etc. [3] The economic cost involved in this affair is massive. To these relatively tangible costs, must be added, the heavy toll of unhappiness represented by broken marriages, ruined careers and neglected children. Increased percentage of young people have stated that drinking alcohol in increased frequency and quantity thus constitutes serious hazards to health, welfare and life [4].

Alcohol is attributed to nearly 3.2% of all deaths and results in a loss of 4% of total DALYs (58 million) . It is acknowledged that countries which had low alcohol consumption levels are now witnessing an increasing consumption pattern. [5] Few studies have documented the pattern and profile of alcohol use and its impact in hospital- and population-based settings [6,3].

The objective of the present study is to know the determinants of alcohol use, specifically in those with a positive family history.

Material and Methods: Demographic Profile: According to 2011 census, the district Meerut has following demographic profile. The total population is 34,47,405 out of which 18,29,192 are males and 16,18,213 are females; the decadal growth (2001-2011) is 15.92%; the sex ratio is 885; density (persons per sq. Km) is 1342 and the literacy rate is 74.80% which is 82.91% in males and 65.69% in females[7].

Study design: Community based cross- sectional study.
Study Area: Urban Slum, Multan Nagar in the field practice area of the department of Community Medicine, SMC (Subharti Medical College), Meerut.
Study Population: All males aged ≥15 years residing in the study area.
Study Period: September 2010 to October 2011.
Inclusion criteria: Males aged ≥15 years who have completed 15 years of age at the time of data collection, residing in the study area have been included in the sampling universe.
Exclusion criteria: Males staying in the study area of Meerut for less than 6 months and all the mentally challenged males were excluded from the study.
Sample size: Sample size for the proposed study was calculated according to National Family Health Survey-3[8]where prevalence of alcohol use in U.P. was given as 25.3% in males, therefore the adequate sample size calculated was approximately 324 assuming 10% non-response and considering 5% absolute error.
Sampling technique: Simple Random Sampling Technique.
Methodology: First approval from the ethical committee was obtained. Written consent was obtained from each participant after explaining about the study.

The required sample was taken using Simple random sampling technique.Sampling universe was 2112 registered families in the study area and the sampling unit was a family in this study. All male members aged ≥15 years were taken from each household, where on an average there were 2 males aged ≥15 years based on the demographic profile of the area, therefore 324/2=162 households were taken in order to cover the required sample size.

Individual unit (family) constituting the sample was randomly selected by Random number table method. All the male members aged ≥15 years were taken from each family. If male aged ≥15 years was not found in a family then the next family was visited. If the selected subject was not found at the first interview, date and time was taken from their family members for revisit. Person found not oriented to time, place and person at the time of interview due to intoxication was screened for alcohol use at a later date.

Research tool: Data was collected by home visit using WHO questionnaire (AUDIT: Alcohol Use Disorder Identification Test) as study tool by interviewing each study subject[9].

Additional information was obtained on the socio-demographic and other determinants of alcohol use.

The AUDIT is a 10-question alcohol screening instrument developed by W.H.O. and validated in six-country sample from four industrialized and two developing countries. Questions included in the instrument showed reliability across a wide range of cultural settings. The AUDIT has been shown to be highly sensitive (80%) and specific (89%) screening instrument[10].

Data was analysed by using appropriate statistical tests by SPSS 19.0 version and the results were expressed in proportions. Chi-square test was used and if the cell frequency was less than 5, the result was obtained by Fischer Exact test. Logistic Regression was applied to know the association of alcohol use independent of other factors. This is an important step towards ruling out the confounding bias of all factors on each other in use of alcohol.

All the alcohol users were motivated to visit the Mental Health Clinic at Urban Health & Training Centre, Multan Nagar being run with the help of the department of Psychiatry, Subharti Medical College, Meerut.

Result: The present study was conducted to assess the prevalence, pattern of alcohol use, its association with socio-demographic determinants among 324 adult males aged ≥15 years from September 2010 to October 2011 in the Urban Slum of Multan Nagar, field practice area of Department of Community Medicine, Subharti Medical College, Meerut.

62.5% of the current drinkers had family history of alcohol use while 44.3% of the teetotallers had the history of alcohol use in the family and this difference was found to be statistically significant. (Table1). 62.5% of the alcohol users had present alcohol users in their family as compared to non-users being 44.3% . This difference of the presence of present history of alcohol use among the users and non-users was found to be statistically

significant. As far as the past history of alcohol consumption is concerned, there were 9.4% alcohol users in the family who quitted alcohol while just 7.9% among the alcohol non-users. (Table 2 and3).

On applying logistic regression, the variables that retained their significance were marital status, family history of alcohol use and caste. Looking at the O.R., individuals who were illiterate and educated below high school had 65% higher risk of alcohol use as compared to those educated above high school. Similarly, unskilled and unemployed had 80% higher risk of alcohol use as compared to the category of semi-professional and professionals. The individuals belonging to the O.B.C. category had 88% extra risk of alcohol use as compared to the category of others.

Table1: Association between alcohol use and its family history

x^2 =0.622, df =2, p-value=0.006

Family history of alcohol use	Teetotallers (Audit score-0), N=228		Current Drinkers (Audit score >0), n=96		Total n=324	
	No.	%	No.	%	No.	%
Present	101	44.3	60	62.5	161	49.7
Absent	127	55.7	36	37.5	163	50.4

Table 2: Association between teetotallers and drinkers with the family history of alcohol use

x^2 =0.622 , df=2,   pvalue=0.006

| Present Family history of alcohol use | Pattern of drinking according to AUDIT score | | | | Total n=324 | |
	Teetotallers (Audit score-0), n=228		Drinkers (Audit score >0), n=96			
	No.	%	No.	%	No.	%
Present	101	44.3	60	62.5	161	49.7
Absent	127	55.7	36	37.5	163	50.7

Table 3: Association between teetotallers and drinkers with the family history of alcohol use

x^2 =9.668 , df=2,   pvalue=0.791

| Past Family history of alcohol use | Pattern of drinking according to AUDIT score | | | | Total n=324 | |
	Teetotallers (Audit score-0), n=228		Drinkers (Audit score >0), n=96			
	No.	%	No.	%	No.	%
Present	18	7.9	9	9.4	27	8.3
Absent	210	92.1	87	90.6	297	94.2

Discussion: The presence of family history with alcohol use was found to be statistically significant in this study. The observations of Dhupdale N. et al[11] , Khosla et al [12], John A. et al [13] and Seale Paul J.

et al [10] are consistent with our results. In present study, the variables that retained their significance were marital status, family history of alcohol use and caste while in the study of Khosla et al [12],

Table 4: Distribution of in relation to their family member's reasons for leaving alcohol.

Reasons for leaving alcohol*	Family members of alcoholics	
	No	%
Spiritual causes	9	2.8
Repentance	9	2.8
Looking at the bad consequences	1	0.3
Diseases caused due to this	10	3.1
Financial reasons	2	0.6
Others	3	0.9

*Multiple choice question

occupation, pocket money and family history retained their statistical significance. On the contrary, John A. et al [13] in their study revealed that age >40 years, being married, unemployment, presence of family history of alcohol use were not significant and our finding was consistent in terms of education.

As far as the international studies were concerned, Barros M.B. et al [14] reported that the demographic and socio-economic factors retained their statistical significance. The prevalence of alcohol use was higher among those with higher income group and with less than 12 years of schooling. Balabanova D. et al [15] in their study stated that only age and financial situation retained their statistical significance.

Conclusion: The indexed study concludes that alcohol use being one of the increasing public health problem and its association with family history needs to be tackled by proper counselling of those who are indulged into it so that we can save the future generation from this deadly evil.

The role of socio-demographic determinants of alcohol use has been established through this research but the most unique part is that marital status, caste and the positive family history which stand out independently in its association with it on eliminating the confounding effect of others.

References:
1. Mohan, D. et al. Alcohol consumption in India: a cross sectional study. In: Demers A, Room R & Bourgault C. *Surveys of Drinking Patterns and Problems in Seven Developing Countries*. Geneva, World Health Organization, 2001.
2. Girish N, Kavita R, Gururaj G, Benegal V. Alcohol Use and Implication for Public Health: Patterns of Use in Four Communities. Indian Journal of Community Medicine / Vol 35 / Issue 2 / April 2010
3. Benegal V, Bajpai A, Basu D, Bohra N, Chatterji S, et al (2007) Proposal to the Indian Psychiatric Society for adopting a Specialty section on Addiction Medicine [Alcohol and other Substance Abuse] . Indian J Psychiatry 49 (4) 277-82
4.WHO Problems related to alcohol consumption.TRS1980; 650; 10-16.
 5. Global Status Report on Alcohol 2004, WHO, Department of mental health and substance abuse; Geneva.
6. Benegal V, Gururaj G, Murthy P. Project report on a WHO multicentre collaborative project on establishing and monitoring alcohol's involvement in casualties, 2000-01. Bangalore: NIMHANS; 2002.
7.Meerut. Census 2011 Available from URL: http://www.census2011.co.in/census/ district/ 509-meerut.html (Assessed on 5 .9.11)
8.Meerut. Available from URL: http://enwikipedia.org/wiki/meerut (Assessed on 5.7.11).
9.Mohan D., Chopra A., Sethi H. The co-occurrence of tobacco & alcohol in general population of Metropolis Delhi. Indian J Med Res. 2002 Oct; 116: 150-4.
10.Seagle. J. P., Seagle. J. D., Alvarado M., Robert L., Vogel, Terry B.N. Prevalence of problem drinking in a Venezuelan Native American population: Alcohol and alcoholism. 2002; 37(2) :198-204.
11.Deswal B.S., Jindal A.K., Gupta K.K. Epidemiology of alcohol use among residents of remote hills of Arunachal Pradesh: Indian Journal of Community Medicine 2006 April –June; 31(2).
12.Khosla V., Thankappan K.R., Mini G.K, P.S. Sarma Prevalence & predictors of alcohol use among college students in Ludhiana, Punjab. India Indian J Med Res. 2008 July; 128 (1): 79-81.
13.John A., Barman A., Bal D., Chandy G., Samuel J., Thokchom M., Hazardous alcohol use in rural southern India: nature, prevalence and risk factors .The National Medical Journal of India, 2009; 22(2).

14.Barros M.B.A., Botega N.J., Dalgalarrondo P., Leon L.M., Oliveria H.B. Prevalence of alcohol abuse and associated factors in a population based study: Brazilian Journal of psychiatry. 2008; 57(4): 115-127

15.Balabanova D., Martin Mackee. Patterns of alcohol consumption in Bulgaria: Alcohol and Alcoholism 1999: 34 (4): 622-628.