

EPIDEMIOLOGICAL STUDY OF ALCOHOL ABUSE- AN URBAN PERSPECTIVE

Arun Kumar Pandey¹, Sanjeev Kumar²

¹Assistant Professor, Department of Community Medicine, Katihar Medical College, Katihar, Bihar.

²Associate Professor, Department of Community Medicine, L.L.R.M. Medical College, Meerut.

ABSTRACT

BACKGROUND

In 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. Several epidemiological studies have revealed that nearly 20-40% of men in the age group of 15 to 60 years consume alcohol regularly or intermittently. Alcohol abuse or alcoholism is said to exist when two or more of the following conditions is present: a person drinks large amounts over a long time period, has difficulty cutting down, acquiring and drinking alcohol takes up a great deal of time, alcohol is strongly desired, usage results in not fulfilling responsibilities, usage results in social problems, usage results in health problems, usage results in risky situations, withdrawal occurs when stopping, and alcohol tolerance has occurred with use. Risky situations include drinking and driving or having unsafe sex among others.¹

OBJECTIVES - (1) To find out the prevalence of alcohol abuse among males above 15 years of age. (2) To assess the socio-demographic and other correlates of alcohol abuse.

METHODOLOGY

The study population included adult male population more than 15 years of age. A systemic random sample method was adopted and structured questionnaire was used to collect the desired information.

RESULTS

The prevalence of alcohol abuse was found to be 9.48%. The prevalence was more in nuclear families (10.60%), lower socio-economic status (20%), among illiterate persons (10.48%) and S.C./S.T. (21.11%). There is also an association between food habit and alcohol abuse, the prevalence of alcohol abuse was more in non-vegetarians (10.17%) as comparison to vegetarians.

CONCLUSIONS

This study shows that the prevalence of alcohol abuse is high among nuclear families, low socioeconomic status, on-vegetarians and illiterate persons.

KEYWORDS

Alcohol abuse, Socio-economic status, Literacy, Caste.

HOW TO CITE THIS ARTICLE: Pandey AK, Kumar S. Epidemiological study of alcohol abuse - An urban perspective. J. Evid. Based Med. Healthc. 2016; 3(85), 4668-4672. DOI:10.18410/jebmh/2016/983

BACKGROUND

Prolonged alcohol use can lead to physical, psychological, social and economic damage. Research has demonstrated a strong association with alcohol misuse and mood disorders particularly depression and anxiety.^{2,3}The prevalence of depression in alcohol abusing/dependent individuals range from 15 to 70%, including primary depression. Depression ranks high among mood disorders that are comorbid with excessive alcohol use.⁴Individuals with social phobia often feel a lot more comfortable in social settings if they have used alcohol.⁵

Comorbidity of social phobia in excessive alcohol users is quite common. Changes in personality such as increased irritability, impaired reasoning and poor judgment are said to be consequences of excessive alcohol use.⁴ There is also a well-established comorbidity between schizophrenia and heavy alcohol use too.⁶ Excessive use of alcohol can have adverse impact not only on the individual user, but also on the general community. Heavy alcohol use has been implicated in increased incidents of violent crime. Family units are often affected if one member of the family is a heavy alcohol user.⁴ Family issues such as marital breakup, domestic violence and spouse abuse are strongly tied to high use of alcohol.⁷ Risk behavior's such as drinking and driving and inappropriate sexual behaviours are also common practices linked to alcohol use. Alcohol is also considered to be a causal factor in most motor vehicle accidents. Financial problems and job loss are also associated with high risk alcohol use.⁸ The work force is impacted as personality and poor judgements deteriorate due to excessive use of alcohol.

Financial or Other, Competing Interest: None.

Submission 04-10-2016, Peer Review 12-10-2016,

Acceptance 22-10-2016, Published 24-10-2016.

Corresponding Author:

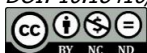
Dr. Arun Kumar Pandey,

Doctor's Quarter, Block-6, Flat No-9,

Katihar Medical College, Katihar-854106, Bihar.

E-mail: drarunpandey80@gmail.com

DOI: 10.18410/jebmh/2016/983



A study conducted in Australia found that \$437m was lost in 2001 due to alcohol related absenteeism.⁹ In the UK, a study conducted in 2001 found that alcohol related work absenteeism had an economic cost of an average 1.5bn per year.¹⁰ India's reputation as a country with a culture of abstinence especially in matters regarding alcohol is underserved. In the recent years there has been rapid proliferation of city bars and nightclubs and people are fast shedding their inhibitions about alcohol as a lifestyle choice. This has led to fears of an undocumented rise in alcohol abuse not only among poorer classes but also in other sections of the society. Having recognized the problem, the ministry of health has called for a policy that will regulate sales and the pricing of alcohol which many experts believe, may not be enough to curb the problem. The increasing use of alcohol and its drink-related problems has already emerged as a major public health concern in India and which needs to be addressed.

A large majority of male drinkers meet criteria for hazardous alcohol use, defined as patterns of use that increase risk for harmful consequences for the user or others.¹¹ Data from different Indian states indicate that 35% to 65% of all current drinkers meet criteria for hazardous alcohol use.¹² Alcoholism does not only impact the drinker but also their families and communities and making things worse, it makes it more critical to assess for prevention and intervention efforts. Despite the public health crisis and harmful consequences alcoholism represents, there is inadequate recognition of alcohol misuse as a public health issue in India.^{13,14} Information on screening measures is critical for prevention and early intervention efforts. Therefore, in this study we have stressed on alcoholism and associated social factors. The objectives of the present study were: (1) to find out the prevalence of alcohol abuse among males above 15 years of age. (2) To assess the socio-demographic and other correlates on alcohol abuse.

METHODOLOGY

The present study was conducted at the Urban Health Training Centre, Surajkund, which is the Urban Health Training Centre of the Department of Community Medicine, L.L.R.M. Medical College, Meerut from October 2008 to September 2009. The Urban Health Training Centre caters a total population of 10,000 residing in approximately 1,781 families. Appropriate simple random sample of size (n) within 95% confidence limit may be obtained by using the following formula:

$$n = \frac{Z^2 \times P \times Q \times DEFF}{d^2}$$

Where Z = (Value of Z at 95 % =1.96).
 P = Prevalence.
 q = (100-P).
 d = Probable error (absolute or relative precision).
 DEFF= Design Effect (1 for SRS).

By using 30% anticipated prevalence use among males of 15 years and above with 10% relative precision, following sample size was obtained for the study.^{15, 16}

$$n = \frac{(1.96)^2 \times 30 \times (100 - 30)}{10\% \text{ of } 30 \times 10\% \text{ of } 30}$$

$$= \frac{3.84 \times 30 \times 70}{3 \times 3}$$

n = 896.

Out of 10,000 population residing in urban field practice area, number of males above 15 years of age was 3800. Since population is large, scattered and complete list of population was available a sampling of eligible subjects was done by systematic random sampling technique, including every 4th male in study. If sampled individual was not available for study due to any reason e.g. absent, not willing to participate etc., then the next individual was included for study. The desired information was collected on a predesigned, interview schedules. Voluntary, written consent was obtained from all subjects. Data was analyzed using Epi-Info. As this study did not involve any patients or patient's records, the institutional ethical committee intimated that ethical clearance was not required.

OBSERVATION AND RESULTS

Sl. No.	Age in Years	No.	Alcohol Abuse	
			No.	%
1.	15-19	180	12	6.62
2.	20-24	176	14	7.95
3.	25-29	141	15	10.63
4.	30-39	125	15	12
5.	40-49	113	13	11.5
6.	50-59	94	11	11.7
7.	60+	66	5	7.57
Total		896	85	9.48

Table 1. Prevalence of Alcohol Abuse (Age Wise Distribution)

x² = 4.69, df = 6, p>.05

The overall prevalence of alcohol abuse in this study was 9.48%. The prevalence was generally increasing with age, minimum in 15-19 years age group (6.62%) and maximum in 30-39 years of age group. The prevalence of alcohol abuse in relation to age was found to be statistically insignificant (p>.05).

Sl. No.	Types of Families	No.	Alcohol Abuse	
			No.	%
1.	Nuclear	491	52	10.6
2.	Joint	405	33	8.15
Total		896	85	9.48

Table 2. Distribution of Study Subjects According to Type of Family

x² = 1.54, df = 1, p>.05

The prevalence of alcohol abuse was higher in nuclear family (10.60%) as compared to joint family (8.15%). The prevalence of alcohol abuse according to type of family was statistically insignificant ($p > .05$).

Sl. No.	SES	No.	Alcohol Abuse	
			No.	%
1.	Upper	31	3	9.67
2.	Upper Middle	503	51	10.13
3.	Lower Middle	179	17	9.49
4.	Upper Lower	163	10	6.13
5.	Lower	20	4	20.0
	Total	896	85	9.48

Table 3. Distribution of Study Subject According to Socio-economic Status (Kuppaswamy's Socioeconomic Status Scale)

$\chi^2 = 77.33, df = 4, p < .001$

The prevalence of alcohol abuse was maximum in lower socio-economic status (20%), followed by upper middle class (10.13%). The association was found statistically significant ($p < .05$).

Sl. No.	Education	No.	Alcohol Abuse	
			No.	%
1.	Illiterate	391	41	10.48
2.	Junior High School	271	25	9.22
3.	High School	191	16	8.37
4.	>High School	43	3	6.97
	Total	896	85	9.48

Table 4. Distribution of Study Subjects According to Education

$\chi^2 = 1.07, df = 3, p > .05$

The prevalence of alcohol abuse was maximum among illiterate persons (10.48%) and minimum in persons educated for more than high school (6.97%). The association was found statistically insignificant ($p > .05$).

Sl. No.	Occupation	No.	Alcohol Abuse	
			No.	%
1.	Unemployed	167	2	1.19
2.	Student	88	1	1.13
3.	Laborer	403	48	11.91
4.	Govt./Pvt. Service	89	5	5.61
5.	Own Business	149	29	19.46
	Total	896	85	9.48

Table 5. Distribution of Study Subjects According to Occupation

$\chi^2 = 42.09, df = 4, p < .001$

The prevalence of alcohol abuse was maximum in person doing own business (19.46%), following in labourers (11.91%), and minimum among students (1.13%).

The difference in prevalence of substance abuse in relation to occupation was statistically significant ($p < .001$).

Sl. No.	Marital Status	No.	Alcohol Abuse	
			No.	%
1.	Unmarried	349	32	9.16
2.	Ever Married	547	53	9.68
	Total	896	85	9.48

Table 6. Distribution of Study Subjects According to Marital Status

$\chi^2 = 0.07, df = 1, p > .05$

The prevalence of alcohol abuse is little higher among married subjects (9.68%) as comparison to unmarried subjects (9.16%). The difference in prevalence alcohol abuse in relation to marital status was statistically insignificant ($p > .05$).

Sl. No.	Caste	No.	Alcohol Abuse	
			No.	%
1.	General	582	37	6.35
2.	OBC	224	29	12.94
3.	SC/ST	90	19	21.11
	Total	896	85	9.48

Table 7. Distribution of Study Subjects According to Caste

$\chi^2 = 23.92, df = 2, p < .001$

The prevalence of alcohol abuse which was maximum in S.C./S.T. (21.11%) followed by other backward caste (12.94%), and minimum in general caste (6.35%). The difference in prevalence of substance abuse in relation to caste was statistically significant ($p < .05$).

DISCUSSION

Alcoholism is one of the major public health problems in both developed and developing countries¹⁷. The 32nd World Health Assembly declared that "Problems related to alcohol and particularly to its excessive consumption rank among the world's major public health problems and constitute serious hazards for human health, welfare and life".¹⁸ The World Health Organization estimated that there are about two billion consumers of alcoholic beverages and 76.3 million people with diagnosable alcohol use disorders worldwide. In addition to chronic diseases, such as cancer of the mouth, esophagus and larynx, liver cirrhosis, and pancreatitis, social consequences, such as road traffic accidents, workplace related problems, family and domestic problems, and interpersonal violence, have been receiving more public or research attention in recent years.¹⁹ Many forms of excessive drinking cause substantial risk or harm to the individual. These include high level drinking each day, repeated episodes of drinking to intoxication, and drinking that makes a person alcohol dependent.

Therefore, the identification of drinkers with various types and degrees of at risk alcohol consumption has a great potential to reduce all types of alcohol related harms.¹⁵ In this study the prevalence of alcohol abuse was 9.48 %, which was comparatively lower than the finding of Prevalence Rural Goa by Dhupdale et al¹⁵ and of Arunachal Pradesh by Deswal et al¹⁶. The lower rates of alcohol consumption in my study may be due to different study design which has included all age group of urban population and earlier period. Alcohol abuse was found to be statistically more common in nuclear family in comparison to joint family, which was almost similar to findings of WHO-SEARO report.²⁰ and NFHS-3 report.²¹

Studies in the southern provinces of India have shown a higher prevalence of alcohol consumption among the lesser educated and the poor.²² while another study which was done in the same place showed that alcohol use was not associated with income.²³ In this study the prevalence of alcohol abuse was more in lower socioeconomic status and illiterate people. Influences of occupation on substance use was also enquired and observed in this study. Bala et al²⁴ in Gujarat and NE region- annual report 1999-2000 reporting high prevalence of substance abuse among self-employed followed by employed, similar to this study. In the presented study alcohol abuse was higher in married subjects as comparison to unmarried, similar to finding of Deswal et al¹⁹ reporting alcohol users as married, followed by unmarried and remaining in widower/separated categories. The prevalence by caste showed alcohol abuse was the most common in S.C. /ST followed by O.B.C which is consistent to NFHS-3 report.²¹

CONCLUSION

One of the key arguments for restricting the consumption of alcohol, and even prohibiting it, is the harm it can cause for health: the relevant article in the Indian constitution refers to prohibition as a public health measure rather than one to do with tradition or morality. The present study was undertaken with the objectives to identify the patterns of alcohol intake among different types of alcohol consumers so that it might be beneficial in planning, implementation, and evaluation of appropriate programmes for the elimination of this social evil. Awareness among the population and necessary rehabilitation and self-help programs will help in bringing down the prevalence of alcoholism.

Strength

The strength of the study was that the sampling of eligible subjects was done by systematic random sampling technique. The sample size is large enough to avoid the biases. Based on observations an attempt was made for changing individual behaviour by providing accurate information and reducing misinformation regarding alcohol abuse.

Limitations

In spite of the best efforts to convince all the study subjects to participate in the study, some of them did not cooperate. Females were not included in this study which is another limitation, hence this study cannot be generalised to the entire reference population.

RECOMMENDATIONS

A well planned nationwide program for the prevention and control of this social pathology is needed. Multiple agencies, for example, ministries of law, industry, revenue, agriculture, customs department, law enforcement agencies, medical associations, NGOs, should lobby for a clear formulation and effective implementation of a rational, integrated and comprehensive alcohol control policy. Monitoring indicators which are linked to alcohol use need to be developed, so as to evaluate the success of policy and programme implementation.

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