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Original Article

Community Medicine Section

# A Population based Study on Alcoholism among Adult Males in a Rural Area, Tamil Nadu, India

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## ABSTRACT

**Background:** India's reputation as a country with a culture of abstinence especially in matters regarding alcohol is underserved. There has been a rapid proliferation of city bars and nightclubs in recent years and people are fast shedding its inhibitions about alcohol as a lifestyle choice. This scenario has led to fears of an undocumented rise in alcohol abuse among all sections of society. Policies by the government has been laid down to regulate sales and pricing of alcohol, but not well improvised. Our aim was to find out the prevalence of alcoholism among adult males in a rural population and also to analyze its association between various factors.

**Materials and Methods:** A cross sectional study in a rural population at Kuthampakkam village, in Poonamallee block of Tiruvallur district in Tamil Nadu, India. The study population included adult male population. Simple random sampling method was adopted. A structured questionnaire was used to collect information regarding the background characteristics, history of alcoholism and certain social factors.

**Statistical Analysis:** Data entry and analysis was done using Statistical Package for Social Sciences (SPSS) version 15 software. Descriptive statistics were calculated for background variables and the prevalence of the alcoholism. Chi-square test and p-value were calculated to see the association between alcoholism and social factors.

**Results:** A total of 157 adult male were enrolled in the study. The mean age of the study participants was 37.20 years. The prevalence of alcoholism among the study participants was 35.7%. Among them only 4.5% who presented with symptoms of chronic alcoholism had taken treatment. Reasons for not taking treatment for alcoholism among study population were mainly due to their family problems (55.2%).

**Conclusion:** Although alcohol consumption has existed for many centuries, the quantity, usage pattern, and resultant problems have undergone substantial changes over the past 20 years. These developments have raised concerns about the public health and social consequences. Awareness among the population and necessary rehabilitation and self-help programs will help in bringing down the prevalence of alcoholism.

**Keywords:** Alcoholism, Awareness, Quality of life

## INTRODUCTION

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 [1]. Data from different Indian states indicate that 35% to 65% of all current drinkers meet criteria for hazardous alcohol use [2].

Alcoholism does not only impacts 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 [3,4]. Information on screening measures is critical for prevention and early intervention efforts. Therefore, in this study we have stressed on alcoholism and its related health problems and associated social factors.

## MATERIALS AND METHODS

The present study was a community based cross sectional study which was conducted in a rural population at Kuthampakkam village, in Poonamallee block of Tiruvallur district in Tamilnadu,India from September 2012 - December 2012. Kuthampakkam village has a population of 5,391, among them 2,718 are males in 1,175 households. Ethical clearance was obtained.

**Inclusion Criteria:** The study population included adult males.

**Exclusion Criteria:** Female population was not included in the study as most of the females in our social built-up are reluctant to talk on such sensitive issues which may bear consequence in their personnel lives.

**Sampling Method:** Simple random sampling method was adopted to choose 157 adult males.

**Sample Size:** Based on the anticipated prevalence of alcoholism among adult male as 38%, with an alpha error of 0.05, the limit of accuracy of 20 %, the minimum sample size required for the study was 156.7. The final sample size arrived at 157.

**Data Collection:** A structured questionnaire was developed in the local language to collect information such as background characteristics, history of alcoholism and certain social factors. Written informed consent was obtained prior to interview.

## DATA COMPILATION AND ANALYSIS

Data entry and analysis was done using SPSS version 15 software. Descriptive statistics were calculated for background variables and

the prevalence of alcoholism. Chi-square test and p-value were calculated to see the association between alcoholism and social factors.

## RESULTS

A total of 157 adult male were enrolled in the study. The mean age of the study participants was 37.20 years. The prevalence of alcoholism among the study participants was 35.7%. Only 4.5% of adult males had taken treatment for alcohol related symptoms. Reasons for not taking treatment for alcoholism among study population were mainly due to their family problems (55.7%).

Individuals suffered more from liver and gastrointestinal problems followed by cardiovascular and psychiatric problems. It was also seen that these people consulted the doctor mainly for liver and cardiovascular symptoms. The present study also showed a high prevalence for its use among Christians (56%), followed by Hindus (25%) and with the lowest prevalence among Muslims (8%). [Table/Fig-1] shows all the comparisons with different parameters.

| No. | Various factors | Total no of participants n=157 | Number of persons taking alcohol | % | Chi-Square | p-value |
|---|---|---|---|---|---|---|
| 1. | Age of the participants | | | | | |
| | ≤ 30 | 35 | 18 | 51.43% | 4.875 | 0.027 |
| | >30 | 122 | 38 | 31.15% | | |
| 2. | Standard of living | | | | | |
| | Low | 61 | 26 | 42.6% | 2.103 | 0.147 |
| | Medium and high | 96 | 30 | 31.2% | | |
| 3. | Education | | | | | |
| | Up to middle school | 109 | 43 | 39.4% | 1.755 | 0.185 |
| | More than middle school | 46 | 13 | 28.2% | | |
| 4. | Occupation | | | | | |
| | Unskilled and semiskilled | 114 | 43 | 37.72% | 0.611 | 0.435 |
| | Skilled and professional | 42 | 13 | 30.95% | | |
| 5. | Marital status | | | | | |
| | Married | 138 | 49 | 35.51% | 0.013 | 0.909 |
| | Unmarried/ widow/divorced | 19 | 7 | 36.84% | | |

**[Table/Fig-1]:** Association between various factors and alcoholism

## DISCUSSION

Alcoholism is one of the major public health problems in both developed and developing countries [5]. 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" [6]. The World Health Organization (WHO) 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 [7]. 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 [8].

The results of the present study showed that the mean age of the consumers at the initiation of consuming alcoholic beverages was 20.5±5.7 years, which is considerably low. Overall, the age-range at initiation of drinking was 20-29 years as found in different studies, despite the wide differences among regions, populations, and years of studies [9-13].

In the current study, the prevalence of alcoholism was 35.7% which was comparable to earlier studies done in parts of southern and northern India reveling the prevalence of alcohol use to be from 33% to 50% and 25% to 40% respectively [14].

Survey carried out in the city of Mumbai, which was restricted to males aged 45 years or over showed the prevalence was high among illiterates (25.6%), peaked among those with primary education (27.1%) and then declined steadily to 18.1% among those with college education [14]. Studies in the southern provinces of India have shown a higher prevalence of alcohol consumption among the lesser educated and the poor [15], while another study which was done in the same place showed that income was not associated with alcohol use [16]. The current study show a similar pattern in which most of the adults belonging to low socio-economic status showed a higher rate (46%) of alcohol consumption compared to adults belonging to medium and high socio-economic status (31%). There was also a higher consumption rate among the less educated (39%) when compared to higher educated adults (28%).

Fewer studies have assessed the prevalence among middle aged and elderly populations. Mohan et al., [13] found current use of alcohol to vary between 19.6% and 27.8% amongst the 50+ age group. Community survey carried out in Mumbai , which was restricted to males aged 45 years or over had found the use prevalence decreased rather rapidly in higher age groups (from 21.5% in the 55–59 age group to 5.7% in the 85+ age group) [14]. In the present study alcohol consumption was 51.43% among adult males aged 30 years and below and 31% among the 30 years and above age group which was found to be statistically significant (p-0.027).

The prevalence by religion showed a wide variation in the study carried out in the city of Mumbai. The highest prevalence for ever use was among Christians (61.2%) closely followed by Buddhists (58.6%). The lowest prevalence was among Muslims (9.4%) [14]. The present study showed a similar high prevalence for its use among Christians (56%), followed by Hindus (25%) and with the lowest prevalence among Muslims (8%).

## LIMITATIONS

The most important limitation is that the present study was cross-sectional in design; thus, there was no scope for follow-up of the study subjects for any change in the pattern of drinking habits and clinical signs. More analytical studies, especially of longitudinal design, are required to establish the association of different sociodemographic variables with alcohol consumption and consistency of different patterns of consumers. The advantages of

cross-sectional design are that the study was easy to conduct, relatively inexpensive, and easy to get cooperation from participants because data are collected only once.

## 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. Experts warn that drinking is on the rise in India, and that more than half of those who drink do so to a hazardous extent, so action is called for. A well-planned nationwide program for the prevention and control of this social pathology is needed. The present study was undertaken with the objectives to identify the patterns of alcohol intake among different types of alcohol consumers and to assess the clinical signs of chronic harmful alcohol-use 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.

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## REFERENCES

[1] Babor TF, de la Fuente JR, Saunders J, Grant M. The Alcohol Use Disorders Identification Test: Guidelines for use in primary health care. World Health Organization;Geneva:[accessed08/24/09].2001. http://whqlibdoc.who.int/hq/2001/WHO_MSD_MSB_01.6a.pdf.

[2] Nayak MB, Benegal V. Alcohol use patterns and problems in India. An analysis from three studies; ISBRA 2006 World Congress on Alcohol Research; Sydney, Australia. ; 2006.

[3] Neufeld KJ, Peters DH, Rani M, Bonu S, Brooner RK. Regular use of alcohol and tobacco in India and its association with age, gender, and poverty. *Drug and Alcohol Dependence*. 2005;77(3):283–91.[PubMed].

[4] Mohan D, Chopra A, Ray R, Sethi H. India. In: Demers A, Room R, Bourgault C, et al. Surveys of Drinking Patterns and Problems in Seven Developing Countries. Department of Mental Health and Substance Dependence, World Health Organization; Geneva, *Switzerland*. 2000; pp. 103–14.

[5] World Health Organization Alcohol related disabilities. Geneva: World Health Organization. 1977; pp. 3–4. (WHO offset publication no. 32).

[6] World Health Organization Problems related to alcohol consumption. Geneva: World Health Organization.1980; pp. 10–6. (WHO technical report series no. 7:650).

[7] World Health Organization The world health report 2002—reducing risks, promoting healthy life.Geneva: *World Health Organization*. 2002; p. 250.

[8] Babor TF, Higgins-Biddle JC, Saunders JB, Monteiro MG. AUDIT: the alcohol use disorders identification test: guidelines for use in primary care. 2nd ed. Geneva: Department of Mental Health and Substance Dependence, *World Health Organization*. 2001; p. 41. (WHO/MSD/MSB/01.6a).

[9] Deswal BS, Jindal AK, Gupta KK. Epidemiology of alcohol use among residents of remote hills of Arunachal Pradesh. *Indian J Community Med*. 2008;33:88–9.

[10] Neogi KS, Kandpal SD, Rawat CMS. Prevalence of alcoholism among the males in a rural and urban area of district Dehradun (Uttaranchal). *Indian J Prev Soc Med*. 2003;34:85–91.

[11] Sethi BB, Trivedi JK. Drug abuse in a rural population. *Indian J Psychiatry*. 1979;21:211–6.

[12] Gupta PC, Saxena S, Pednekar MS, Maulik PK. Alcohol consumption among middle-aged and elderly men: a community study from western India. *Alcohol & Alcoholism*. 2003;38:327–31. [PubMed].

[13] Mohan D, Chopra A, Ray R, Sethi H. Alcohol consumption in India: a cross-sectional study. Surveys of drinking patterns and problems in seven developing countries. Geneva: Department of Mental Health and Substance Dependence, *World Health Organization*. 2001;103–14. (WHO/MSD/MSB/01.8).

[14] Prakash C. Gupta, Shekhar Saxena1, Mangesh S. Pednekar, Pallab K. Maulik, et al. Alcohol Consumption Among Middle-Aged And Elderly Men:A Community Study From Western India. *Alcohol & Alcoholism*. 2003; 38(4): 327–31.

[15] John A, Barman A, Bal D, Chandy G, Samuel J, Thokchom M, et al. Hazardous alcohol use in rural southern India: nature, prevalence and risk factors. *Natl Med J India*. 2009;22:123–25.

[16] Kumar S G, K C P, L S, E S, Vinayagamoorthy, Kumar V, et al. Prevalence and Pattern of Alcohol Consumption using Alcohol Use Disorders Identification Test (AUDIT) in Rural Tamil Nadu, India. *J Clin Diagn Res*. 2013;7(8):1637-9.

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