

## Original Research Article

# A cross sectional study on alcoholism and its comorbidity patterns among urban adult population in Salem Tamil Nadu

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## ABSTRACT

**Background:** Alcohol use is associated with serious public health problems thereby raising the global morbidity and mortality. The main aim of this study is to estimate the prevalence of alcoholism and its co morbidity pattern among urban adult population in Salem district, Tamil Nadu.

**Methods:** A community based cross-sectional study was carried out among urban adult population in Salem district involving 493 participants. Convenient sampling method was used. Informed consent was obtained from each participant and information was collected by using a predesigned structured questionnaire. Microsoft Excel 2007 was used for data entry and SPSS version 24 was used for data analysis.

**Results:** It was found from the study that the prevalence of alcoholism was high. Alcohol use in any form was found in 38% of the study participants. 8% of the participants confessed that alcohol is an eye opener to them. 6% of the participants lost their job and 15% of the participants were hospitalised due to alcohol.

**Conclusions:** The study showed higher prevalence of alcohol use among urban adult population in Salem district. Awareness about the ill effects of alcoholism among the population and necessary rehabilitation will help to reduce alcoholism consumption and its related disorders.

**Keywords:** Alcoholism, Co-morbidities, Unemployment, Hospitalisation

## INTRODUCTION

Alcoholism is one of the major public health problems in both developed and the developing countries.<sup>1</sup> Alcohol abuse is defined as a 'maladaptive pattern of alcohol use indicated by continuous use, despite a persistent or recurrent social, occupational, psychological, or physical problem that was caused or exacerbated by alcohol use or by its recurrent use in physically hazardous situations'.<sup>2,3</sup> The level of alcohol consumption which could prove harmful is referred to as hazardous drinking (Edwards et al). Data collected from different Indian states indicate that 35%-65% of all current drinkers meet the criteria for hazardous drinking.<sup>4</sup> The 32<sup>nd</sup> World Health Assembly

declared that 'alcohol related problems rank among the world's major public health problems and constitute serious hazard for human health, welfare and life' (World Health Organization, 2007).

India, with its large population, has become one of the largest markets for alcohol beverages in the world. The prevalence of alcohol use disorders seem to be gradually increasing in the Indian population in the recent few decades (Benegal, Murthy). Alcohol use disorders are associated with severe medical co morbidities (Stein, 1997) affecting various systems in the body. Globally, mortality rate due to alcohol use disorders is around 3.3

million deaths every year (5.9% of all deaths) and attributes to 5.1% of the global burden of the disease.<sup>5,6</sup>

The developing countries still show increasing alcohol consumption trend. In India, alcohol consumption has increased alarmingly by 106.7% between 1970-1972 and 1994-1996.<sup>5,7</sup> According to the World Health Organization report on Global status of Alcohol and Health 2014, 30% of the total population of India consumed alcohol in the year 2010.<sup>8</sup> In Southern India, the prevalence of alcohol use has varied between 33% and 50%.<sup>9</sup> Changing social norms, urbanization, increased availability, high-intensity mass marketing and relaxation of overseas trade rules, along with the poor levels of awareness, have contributed to increased alcohol consumption found that unless effective interventions and policies are implemented, the health losses in India from alcohol will continue to grow.

The problem with alcoholism is that it not only affects the individual but also the family members and the community. This makes it necessary to assess for prevention and proper intervention. Despite the public health crisis and consequences alcohol represents that there is inadequate recognition of alcohol misuse as a public health issue in India.<sup>10,11</sup>

Hence, this study was conducted to estimate the prevalence of alcoholism and its co morbidities among urban adult population in Salem district.

### **Aims and objectives**

- To estimate the prevalence of alcoholism in urban adult population in Salem district, Tamil Nadu.
- To find out the determinants of alcoholism among the same adult population
- To assess the co morbidity pattern among the identified population.

## **METHODS**

### **Study area**

A community based cross-sectional study was carried out among adult population in the field practice area of Urban Health Centre, Annapoorna Medical College and Hospital, Salem district, Tamil Nadu.

### **Study period**

The study was carried out between 16<sup>th</sup> June 2015 and 15<sup>th</sup> July 2015.

### **Study population**

Adult population residing in urban areas of Salem district.

**Study sample:** 493 adult participants.

**Sampling method:** Convenient sampling technique.

**Study design:** Cross-sectional study.

**Study tool:** Predesigned structured questionnaire.

### **Inclusion criteria**

Married men and women above 18 years were included for the study.

### **Data collection**

A house to house survey was conducted in the field practice area of Urban Health Centre, Annapoorna Medical College and Hospital, Salem district, Tamil Nadu over a period of one month, with the help of 30 III MBBS Students, who were posted in Community Medicine Block Postings. The participants were first explained about the purpose of the study and their informed consent was obtained and information on alcohol was collected, using the Predesigned Performa

### **Operational definition**

- **Alcoholic:** any individual who has consumed alcohol during the period of last 12 months from the date of survey.
- **Ex-alcoholic:** any individual who has consumed alcoholic before 12 months from the date of survey.
- **One drink:** branded liquor (brandy-90 ml, arrack – 100 ml, beer-270 ml).
- **Light user:** <5 drinks in one sitting.
- **Heavy user:** >5 drinks in one sitting.
- **Frequent user:** consumption of alcohol daily/ weekly on regular basis.
- **Infrequent user:** consumption of alcohol monthly once or on any special occasion.
- **Eye opener:** feels need of alcohol as first thing in the morning to steady oneself.

### **Statistical analysis**

Data entry was made in Microsoft Excel 2007 and data analysis with SPSS version 24. Chi-square test was used to test the significance.

### **Ethical approval**

Approval given by the Scientific review Committee, AMCH, Salem. Ref: IEC/ATCC/Proc.No: 41, dated 13.12.2013

## **RESULTS**

The study included 493 participants of which 186 (38%) participants, have the history of alcohol consumption (Table 1). Of all the participants who consume alcohol, 42 (23%) participants have started drinking alcohol

before 18 years of age, 109 (59%) participants between 18 years and 25 years of their age (Table 4). 92 (49%) study participants revealed that they were introduced to alcohol for the first time by their friends and 35 (19%) participants started alcohol consumption on their own (Table 2). 85 (46%) study participants reasoned out alcohol consumption for their failures, while 41 (22%) participants accepted that they started drinking alcohol because of their curiosity to try alcohol (Table 3). 83 (45%) participants used branded liquor, while 67 (36%) participants consumed beer (Table 5). 97 (52%) participants consumed less than 100 ml of alcohol in one sitting, while 24 (13%) participants consumed more than 500 ml of alcohol (Table 6). 122 (66%) study participants confessed that they consume more alcohol, when they are away from their family (Table 8). 118 (63%) study participants revealed that they spend nearly Rs.200 to Rs.500 per week for alcohol consumption and 49 (26%) participants spend more than Rs.500 per week for alcohol (Table 7). 27 (15%) participants accepted that they were hospitalized because of alcohol abuse (Table 8). 12 (6%) participants revealed that they lost their jobs because of drinking alcohol (Table 8). Alcohol is an eye opener for 14 (8%) of the total study participants (Table 8). Among the study population, 62 (33%) wished to quit alcohol (Table 8). Only 2 (1%) participants have undergone de-addiction counselling (Table 8). 6 (3%) participants accepted that they were separated from their families because of drinking (Table 8). Of total participants who drink alcohol, 86 (43%) participants had complaints of vomiting, 89 (44%) had abdomen pain, 12 (6%) had Hemetemesis, 9 (4%) had Malena and 6 (3%) had jaundice because of alcohol intake (Table 9). Among the 186 alcoholic participants, 48 had the following comorbidities; -13 (27%) participants had diabetes mellitus, 12 (25%) participants had hypertension, 9 (19%) had CVD and 2 (4%) had stroke/neurological disease (Table 10). 32 (17%) participants accepted that they have taken medications for alcohol related problems (Table 8).

**Table 1: Consumption alcohol (n=493).**

Alcohol consumption	Frequency	Percentage (%)
Yes	186	38
No	307	62
Total	493	100

**Table 2: Person introduced alcohol for the first time (n=186).**

Person introduced	Frequency	Percentage (%)
Self	35	19
Friend	92	49
Influenced by a family member	31	17
Influenced by media	28	15
Total	186	100

**Table 3: Reason for alcohol consumption for the first time (n=186).**

Reason	Frequency	Percentage (%)
Curiosity	41	22
Compulsion	18	10
Fun	38	20
Failures	85	46
Others	4	2
Total	186	100

**Table 4: Age at which alcohol consumption started (n=186).**

Age (in years)	Frequency	Percentage (%)
Before 18	42	23
18–25	109	59
25–35	31	17
After 35	4	2
Total	186	100

**Table 5: Type of alcohol used (n=186).**

Alcohol type	Frequency	Percentage (%)
Branded liquor	83	45
Beer	67	36
Arrack	0	0
Toddy	0	0
Anything	36	19
Total	186	100

**Table 6: Number of drinks of alcohol consumption in one sitting (n=186).**

Quantity	Frequency	Percentage (%)
Less than 100 ml	97	52
100 – 200 ml	38	20
250 – 500 ml	27	15
More than 500 ml	24	13
Total	186	100

**Table 7: Expenditure on alcohol (n=186).**

Expenditure (Rs)	Frequency	Percentage (%)
Consume when offered free	4	2
Less than 200 / week	15	8
200 – 500 / week	118	63
More than 500/ week	49	26
Total	186	100

**Table 8: Alcohol consumption when staying away from family (n=186).**

Conditions	Yes (%)	No (%)
Consume more alcohol when away from family	122 (66)	64 (34)
Hospitalised due to alcohol	27 (15)	159 (85)
Separated from family due to alcoholism	6 (3)	180 (97)
Taken medication for alcohol related problems	32 (17)	154 (83)
Lost Job due to drinking	12 (6)	174 (94)
Alcohol - an eye opener	14 (8)	172 (92)
Wish to quit alcohol	62 (33)	124 (67)
Went to de-addiction counselling to stop alcohol consumption	2 (1)	184 (99)

**Table 9: Health effects of alcohol intake (n=202).**

Morbidity	Frequency	Percentage (%)
Vomiting	86	43
Hemetemesis	12	6
Abdomen Pain	89	44
Malena	9	4
Jaundice	6	3
Total	202	100

**Table 10: Associated life style diseases (n=48).**

	Frequency	Percentage (%)
Diabetes	13	27
Hypertension	12	25
CVD	9	19
Stroke/Neurological diseases	2	4
Others	12	25
Total	48	100

## DISCUSSION

Alcoholism is one of the major public health problems in both developed and developing countries.<sup>1</sup> Alcohol is available in number of forms. Cultural differences influence the drinking patterns among people. In the study done by Ramanan and Singh, 7.7% of the total study participants drink alcohol, which is much lower than our study.<sup>12</sup> 92.2% of the alcohol users started drinking alcohol between 16 and 35 years of age which is more similar to our study; most of the participants were drinking to relieve pain or tiredness whereas in our study most of the participants (46%) consume alcohol to overcome failure. 86% of the participants who consume alcohol were suffering chronic illness like diabetes mellitus, hypertension, acid dyspepsia, which is higher when compared to our study.

In the study done by Silva et al, 68.6% of the study participants drink alcohol whereas in our study, 38% of the total participants drink alcohol which is much lower when compared to the above study.<sup>13</sup> Also, 2.9% of the study participants consider alcohol as an eye opener whereas in our study, it accounts to 8% of the total participants who drink alcohol.

Some studies from India, Nepal, Thailand, and Sri Lanka have reported 1 year prevalence of alcohol consumption between 21.2% and 38.4%.<sup>14-19</sup>

In another study done by Barik, Rai et al, 21.8% of the total participants consume alcohol which includes 19.4% male, 2.4% female participants which is lower than our study.<sup>20</sup>

In the study done by Dutta et al, the prevalence of alcoholism was 35.7% and it is 38% in this study. Most of them drink alcohol because of family problems.<sup>21</sup> The World Health Organization estimated that there are about two billion people who consume alcohol and nearly 76.3 million people with alcohol use disorders worldwide.<sup>15</sup> Alcohol use in heavy amount can lead to acute intoxication, social problems such as strained relationship with family members, road traffic accidents; while prolonged use of alcohol in moderate quantity leads to a number of health problems such as epilepsy, numbness in the limbs, and anxiety and depression, dependence, chronic conditions such as diabetes, hypertension, peptic ulcers, and communicable diseases such as pulmonary tuberculosis.<sup>20</sup>

The prevalence of NCD's in chronic alcoholics is around 26% in our study which is slightly higher. Ramanan et al reported 20% of prevalence of NCD's in South India.

Many people with alcohol use disorders mainly in the developing countries like India remain untreated (the median treatment gap is 78.1%). This is so because alcohol use related problems begin to be addressed when they are already severe and difficult to treat.<sup>22</sup> This could be prevented by creating awareness about alcohol use related disorders and also by early identification and proper intervention of the alcohol use disorder. Education, by increasing awareness about harms of alcohol plays a major role in alcohol abstinence.<sup>12</sup>

## CONCLUSION

From the study conducted, it was observed that there was a higher prevalence of alcoholism among the urban adult population, Salem district, Tamil Nadu. The prevention of alcohol use disorders can be achieved by developing special health awareness programs focusing mainly on harmful effects of alcohol and with early identification and proper intervention.

The awareness programs would be a success if it focuses more on the areas where people are unaware about the alcoholism, alcohol use related disorders and their association with various chronic illness.

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