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Original Research Article

A study on prevalence of alcohol consumption among higher secondary school students in Theni district, Tamil Nadu

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ABSTRACT

Background: Studies show that in India, the health loss from alcohol will grow larger, unless effective interventions are implemented. Initiation of alcohol intake starts from a very early age and is higher in rural areas. The best way to reduce alcoholism is prevention rather than curing the already addicted persons. For this we need to know the magnitude of this problem. This study is aimed at estimating the prevalence, identifying the causative and contributing factors of alcoholism among higher secondary school children of Theni district.

Methods: A self-administered validated questionnaire was given to the male school students of 15 to 17 years (XI and XII students) to assess the prevalence and pattern of alcohol use among them. The questionnaire was prepared with reference from the global school-based student health survey (GSHS), the alcohol use disorders identification test (AUDIT) questionnaire and the cut-annoyed-guilty-eye (CAGE) questionnaire. Data analysis was done using software OpenEpi, Version 3.

Results: A total of 500 students were analyzed with a response rate of 94% (n=470). The overall prevalence of alcohol use was found to be 31.06%. Nearly 70% had the possibility of alcoholism and should be investigated further for severity of alcohol use, 30% had impaired control over drinking almost daily and 17% had injury or injured someone because of drinking.

Conclusions: The mean age of initiation of alcohol consumption is decreasing and the number of alcohol consumers is increasing.

Keywords: Prevalence, Alcoholism, School children

INTRODUCTION

India, a country highly reputed for its culture of abstinence especially regarding matters of alcohol, is now experiencing increasing number of people getting addicted to liquor. Alcohol consumption has led to 5.9% of premature deaths and 10% of disease burden globally.¹ A recent study highlighted that in India, health loss from alcohol will grow even larger, unless effective

interventions and policies are implemented to reduce these habits.²

Thirty percent of Indian population above 15 years age has the habit of alcohol consumption. Previous studies have focused mainly on alcohol use in college students, but it is also important to know the alcohol use among higher secondary school children since initiation of alcohol intake starts from a very early age and is higher in rural areas.

The best way to reduce alcoholism is prevention by creating awareness about the ill effects of alcohol consumption among school students, which is more effective than curing the already addicted persons. For this we need to know the magnitude of this problem.

This study is aimed at estimating the prevalence of alcohol consumption among male school students aged 15 to 17 years and also to identify the causative and contributing factors of alcoholism.

METHODS

Study setting

The study was done in higher secondary schools in Theni district, Tamil Nadu. Theni district is situated in the south-western part of Tamil Nadu. It is predominantly rural with a large number of people practicing agriculture and daily wage workers.

Study type

It is a cross-sectional, descriptive study. A self-administered questionnaire was given to the school students to assess the prevalence of alcohol use among them.

Time frame

The study was done during the period of two months from August 2016 to September 2016.

Sample size

500 students across the district, was chosen by random sampling method.

Inclusion criteria

Male students aged between 15 to 17 years (XI and XII students) were included.

Exclusion criteria

Female students were excluded from this study.

Data collection

A pilot study was conducted before the actual study to check the quality of the questionnaire. After obtaining informed consent, a self-administered questionnaire in vernacular language was given to the students. Data collection was conducted in the classrooms, after giving a detailed description about the purpose of the study. To reduce the fear of inhibition due to disclosure of the student's identity, the students were asked not to mention their name or any other personal information.

Study variables

The questionnaire was prepared with reference from the global school based student Health Survey (GSHS), the alcohol use disorders identification test (AUDIT) questionnaire and the CAGE (cut-annoyed-guilty- eye) questionnaire.³⁻⁵

Data analysis

Data analysis was done using software OpenEpi, Version 3. Chi square, mean, percentages and 'p' values were calculated. A 'p' value less than 0.05 is taken to denote significant relationship. A univariate analysis was carried out to test the association between socio-demographic and other associated factors and alcohol use.

RESULTS

A total of 500 students in the age group of 15 to 17 years were analyzed with a response rate of 94% (n=470). All the participants were males. The average age of the study participants was 16.26±0.94 years.

The overall prevalence of alcohol use was found to be 31.06%. Out of 470, 146 have given the history of alcohol consumption. The prevalence of this study was quite high compared to the results of previous studies which shows the prevalence of 4% to 9.4%

Nearly 50% of the study participants had had their first alcoholic drink at the age of 15 to 17 years. For nearly 60%, the place of their first drink was a public place and the most common reason for first drink was any function or festival (Table 1).

Home or hostel, urban or rural, nuclear or joint family, parents' education and occupation, amount of pocket money were not found to be significantly associated with alcohol use on univariate analysis.

Drinking habits of parents, siblings and friends, discussion about the ill effects of alcohol at school or home and tobacco use were found to be significantly associated with alcohol use by univariate analysis (Table 2).

More than half (57%) of the study population had a preference for beer and the most usual place of alcohol consumption seems to be public place (70%). Forty five percent of students drink alcohol at the frequency of monthly once or less and the usual amount of consumption is 1 or 2 drink per day [1 drink=180 ml] (Table 3).

Eighty percent of students' company for drinking alcohol is friends and the most usual way (42%) of getting alcohol is through friends. This explains the role of friends (peer pressure) in developing the habit of alcohol consumption.

Table 1: Prevalence and contributing factors for first drink.

Factors	Number	Percentage (%)
Have you ever consumed alcohol?		
Yes	146	31.06
No	324	68.93
Age of first drink (years)		
≤7	7	4.79
8–10	4	2.74
11–14	18	12.33
15–17	75	51.37
≥17	42	28.77
Place of first drink		
Home	11	7.59
Friends home	29	19.86
Hostel	3	2.07
Bar	6	4.14
Public place like park	97	66.43
Reason for first drink		
Out of own interest	15	10.27
Compulsion by friends	16	10.96
Stress	22	15.07
Festival/ function	90	61.64
Others (mixed)	3	2.04

Table 2: Sociodemographic data and associated factors.

Associated factors	Total no. of subjects	No. of subjects with alcohol use N (%)	χ^2 , p value
Residence			
Home	442	137 (30.99)	0.1619, p>0.05
Hostel	28	9 (32.14)	
Location			
Urban	58	17 (29.31)	0.095, p>0.05
Rural	412	129 (31.31)	
Type of family			
Nuclear	339	111 (32.74)	1.602 p>0.05
Joint	131	35 (26.71)	
Literacy of father			
Educated	253	80 (31.62)	0.07931 p>0.05
Uneducated	217	66 (30.41)	
Literacy of mother			
Educated	301	96 (31.89)	0.2692 p>0.05
Uneducated	169	50 (29.58)	
Employment status of father			
Employed	217	66 (30.41)	0.07931 p>0.05
Unemployed	253	80 (31.62)	
Employment status of mother			
Employed	319	96 (30.09)	0.4361 p>0.05
Unemployed	151	50 (33.11)	
Pocket money/month in INR			
<300	342	97 (28.36)	6.364 p>0.05
300–500	71	30 (42.25)	
500–1000	28	11 (39.28)	
>1000	29	8 (27.58)	

Continued.

Associated factors	Total no. of subjects	No. of subjects with alcohol use N (%)	χ^2 , p value
Drinking habit of parents			
Yes	170	68 (40)	10.54 p<0.05
No	70	22 (31.42)	
Don't know	228	56 (24.56)	
Drinking habit among siblings/ friends			
Yes	117	50 (42.73)	16.38 p<0.05
No	250	70 (28)	
I don't have siblings	18	9 (50)	
I don't know	81	16 (19.75)	
Discussion about ill effects of alcohol at school or home			
Yes	294	100 (34.01)	3.19 p<0.05
No	176	46 (29.13)	
Tobacco use			
Yes	62	42 (67.74)	44.87 p<0.001
No	408	104 (25.49)	

Table 3: Pattern of alcohol use.

Characteristics	Number	Percentage (%)
Type of alcohol preference		
Beer	84	57.53
Brandy	9	6.1
Whiskey	4	2.74
Rum	13	8.9
Vodka	8	5.4
Others (mixed)	28	19.16
Usual place of alcohol consumption		
Home	12	8.22
Friends home	30	20.55
School	2	1.37
Public place	102	69.86
Usual company for drinking		
Friends, Family	4	2.74
New friends	9	6.16
I don't drink as a routine	12	8.22
Frequency of alcohol use		
Monthly once	66	45.52
less than 2-4 times a month	26	17.93
2-3 times a week	7	4.83
4 or more times a week	11	7.59
None of the above	35	24.14
No. of drinks		
1 or 2	103	70.55
3 or 4	25	17.12
5 or 6	6	3.42
7 or 9	4	2.74
10 or more	8	5.48
Procurement of alcohol		
Buy it myself	47	32.19
Give money and ask someone to buy	34	23.29
Get it from friends	62	42.47
Get it from family	1	0.68
Stealing	1	0.68

Problem drinking identification

On analysis, as per the CAGE Questionnaire, the screening test for problem drinking and potential alcohol problems, 104 out of 146 (71.23%) gets a score of 2 and above. These are the students who have the possibility of alcoholism and should be investigated further for severity of alcohol use (Table 4). For the questions from AUDIT questionnaire, nearly 30% of the participants had impaired control over drinking almost daily and 17% had injury or injured someone because of drinking (Table 5).

Apart from CAGE and AUDIT questionnaire, questions were asked to identify problem drinking among the study participants. It showed that 71.92% (n=105) got into trouble with family or friends, missed school or got into fights >10 times in the past 30 days, 35% (n=50) had lost interest in their hobbies, 22% (n=33) felt irritated at the usual drinking time especially if alcohol is not available, 30% (n=43) had the habit of hiding alcohol in unusual places, 17% (n=25) had withdrawal symptoms and 25% had developed tolerance.

Table 4: CAGE questionnaire.

Question	Number		Percentage (%)	
	Yes	No	Yes	No
Have you ever felt the need to cut down on your drinking	112	34	76.21	23.29
Have people annoyed you by criticizing your drinking?	77	67	53.47	46.53
Have you felt bad or guilty about your drinking?	13	43	70.54	29.45
Have you ever had a drink first thing in the morning to steady your nerves or get rid of hangover?	10	136	6.85	93.15

Table 5: AUDIT questionnaire.

Question	Number	Percentage (%)
Frequency of impaired control over drinking		
Never	42	28.77
Less than monthly	12	8.22
Monthly	10	6.85
Weekly	35	23.97
Daily or almost daily	47	32.19
Failure to do what expected because of drinking		
Never	90	61.64
Less than monthly	18	12.33
Monthly	10	6.85
Weekly	28	19.18
Daily or almost daily	0	0
Unable to remember what happened night before		
Never	104	71.23
Less than monthly	21	14.38
Monthly	9	6.16
Weekly	12	8.22
Daily or almost daily	0	0
Injured because of drinking		
No	113	77.4
Yes, but not in the last year	8	5.48
Yes, during the last year	25	17.12

DISCUSSION

The objective of this study is to find the prevalence of alcoholism among higher secondary school children and to get an idea about the causative and contributing factors and pattern of alcohol use among them.

The prevalence of alcohol use in this study is 31% which is quite higher than the previous studies. Most of the available studies on the prevalence of alcoholism were

conducted in general population or among college students. Out of the few studies available for school children, the prevalence varies from 4 to 14%. Gunjal et al study of tobacco and alcohol use among students in tribal schools in central India shows the prevalence of alcohol consumption to be 4.07%, which is comparatively lower than our study.⁶ This shows the trend of increase in alcohol consumption which starts even in a younger age group. And this is of serious concern to the society.

A study conducted in North India by Sorab et al to assess the prevalence of substance use among male college students revealed a prevalence of alcohol consumption as 53.5%.⁷ This shows that the prevalence further increases in college students and in the general population.

The mean age group during which alcohol was first tried was 16.26 in our study. A study conducted in Karnataka showed the average age as 16.82 years by Padma et al, whereas another study conducted in central India produced the average age as 9.5 years by Sorab et al.^{7,6} The age of initiation of drinking is going down and more young children are getting the habit of alcohol consumption at a very early age.

The reason for first drinking is family occasions and festivals for 66.43% of the participants while stress is for 15.07% of them. This is comparable with Dr Tumge Loyi's study in Arunachal Pradesh and Kerala where the reason for first drink was family and religious occasions (74%) and compulsion by family and friends (31.1%) respectively.⁹

Either of the parents was having the habit of alcoholism in 40% of the participants, which is significant since parental alcoholism plays a major role in the child's habit. However, this is low when compared to 54.5% parental habit as reported by Padma et al study in Karnataka and 57.4% parental habit by Sorab et al study in Chandigarh.^{8,7}

Alcohol consumption among siblings have been noted in 42.73% which is higher than the response got by Tumge study in Kerala where 10.2% of the participants had alcohol consuming siblings.⁹

Eighty two percent of students' company for drinking alcohol is friends and the most usual way (42%) of getting alcohol is through friends. This explains the role of peer pressure in developing the habit of alcohol consumption.

The usual place of alcohol consumption was any public place in ~70% of the participants, which imply that many children are drinking without the knowledge of their parents. This implies the lack of parental surveillance. It has also been noted that there is less alcohol use in hostel students who had alcoholic parents, due to less accessibility of procuring alcohol as compared to home. This points out the need for strict vigilance to reduce incidence of alcohol usage.

Of the study population, 57% of the respondents had a preference for beer. 45% of students drink alcohol at the frequency of monthly once or less and the usual amount of consumption is 1 or 2 drink per day.

Tobacco use was found among 14.28% (n=62) of the participants. 67% of the tobacco consumers also consume alcohol which depicts the close association between tobacco and alcohol.

On assessing the problematic drinking, 71.23% of the students who have scored 2 and above is the sample of the students who needs immediate intervention. About 30% of the respondents had impaired control over drinking, 17% had injured someone or had been injured due to the effect of alcohol, ~70% got into trouble with family or friends, missed school or got into fights more than 10 times in the past 30 days. This clearly shows the social ill effects of alcohol and its impact on children.

Also 35% had lost interest in their hobbies, 22% felt irritated at the usual drinking time especially if alcohol is not available, 30% had the habit of hiding alcohol in unusual places, 17% had withdrawal symptoms and 25% had developed tolerance. All these factors prove impending alcoholism. If not educated and treated immediately possibilities of chronic alcoholism and addiction are more likely.

CONCLUSION

The mean age of initiation of alcohol consumption is decreasing and the number of alcohol consumers is increasing. Steps should be taken to create awareness about alcohol abuse and motivate children to overcome peer group pressure. They need to be distracted to healthy way of lifestyle and trained in stress management.

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