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. 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.

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.

**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 (%) | χ², 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.
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).

Table 4: CAGE questionnaire.

| Question                                                                 | Number | Percentage (%) |
|--------------------------------------------------------------------------|--------|----------------|
| Have you ever felt the need to cut down on your drinking                 | 112    | 76.21          |
| Have people annoyed you by criticizing your drinking?                    | 77     | 53.47          |
| Have you felt bad or guilty about your drinking?                         | 13     | 70.54          |
| Have you ever had a drink first thing in the morning to steady your nerves or get rid of hangover? | 10     | 6.85           |

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. 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%. 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. 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.

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.

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.

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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