

Prevalence of Alcohol Intake and Illegal Drugs among the Students at English Medium Private Schools of Tripura, India (North Eastern States of India)

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Abstract

Background: Early initiation of alcohol use among adolescents can provide a useful indication of the potential future burden among adults including increased risk for academic failure, mental health problems, antisocial behavior, physical illness, risky sexual behavior, sexually transmitted diseases, early onset dementia, and the development of alcohol use disorders. The objective of this study is to measure the prevalence of alcohol consumption and illegal drug use among adolescent students studying in class ninth to eleventh standard in English medium private schools in Tripura, India. **Methods:** A cross sectional descriptive study was carried out in faith based English medium private schools of two selected subdivisions of Tripura, India. Students of class ninth to eleventh standard were selected for this current study. A validated questionnaire was used to find out the prevalence of alcohol and illegal drug intake. **Results:** A total of 565 (boys = 308, girls = 257) students participated in this study from four schools. The prevalence of alcohol intake (ever) among adolescent students was 28.2% [95% confidence interval (CI) 24.6–32.1]. The adolescent students of 1.7% (95% CI 0.9–3.1) consumed alcohol once a week in the past 6 months. It was observed that 4.2% (95% CI 2.8–6.3) of adolescents use illegal drugs. The study participants of 12.7% (95% CI 10.2–15.8) reported having close friends who were using illegal drugs. **Conclusions:** Significant percentages of adolescent students were involved in alcohol intake (ever) and use of illegal drugs.

Keywords: Adolescents, alcohol, illegal drugs, school students

INTRODUCTION

India has the largest population of adolescents globally (253 million people aged 10–19 years), constituting 21% of the population. It is alarming that adolescents as young as 13–15 years of age have started consuming alcohol in India.^[1] The World Health Organization (WHO) in its Global Status Report on Alcohol and Health (2018) documents that about half of the global population aged more than 15 years are current (past 12 months) users of alcohol. The WHO Global Burden of Disease study reported that among youth aged 10–24 years, the main risk factor for incident disability-adjusted life years (7%) was alcohol use.^[2] The exposure of the adolescent brain to alcohol is shown to result in various cognitive and functional deficits related to verbal learning, attention, visuospatial and memory tasks, and behavioral inefficiencies such as disinhibition and elevated risk-taking.^[3] Also, according to the Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) 2019,

among adolescents and young adults (aged 10–24 years), the alcohol-attributable burden is second highest among all risk factors contributing to disability-adjusted life years in this age group.^[4] Alcohol consumption in adolescents results in a range of adverse outcomes across several domains and includes road traffic accidents and other non-intentional injuries, violence, mental health problems, intentional self-harm, suicide, HIV and other infectious diseases, poor school performance, drop-outs, and poor employment opportunities. Substance use, including alcohol, is typically established during adolescence and this period is the peak

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risk for the onset and intensification of substance use behavior that poses risk for short- and long-term health.^[5-10] The objective of this study is to measure the prevalence of alcohol consumption and illegal drug use among adolescent students studying in class ninth to eleventh standard in English medium private schools in Tripura, India.

MATERIALS AND METHODS

A cross-sectional descriptive study was carried out during November–December 2021 in four faith-based English medium private schools of Udaipur and Bishramganj subdivision of Tripura, India. The schools were selected based on the convenience of the researcher/investigator.

Out of the four selected schools, three were in rural areas whereas one was in an urban area. Permission for conducting the study was obtained from the school authorities. Consent was obtained from individual students before administering the questionnaires. All the students of classes ninth, tenth, and eleventh standard of the selected schools were included in this study.

The sample size was calculated on the basis of the study conducted by Ningombam *et al.*^[11] for the school students (The prevalence of every alcohol intake was 29%). It was calculated as $N = 4pq/r^2 = 4p(1-p)/d^2 = (4 \times 29 \times 71)/4 \times 4 = 515$, where P is the prevalence of alcohol intake (29%), q is the $1-p$ and d is precision (corresponding to effect size). The level of confidence usually aimed for is 95%, most researchers present their results with a 95% confidence interval (CI).

Indian Adolescent Health Questionnaire developed by Long KNG *et al.* (ref)^[12] was used as a study instrument to measure the prevalence of alcohol intake and other illegal drug intakes. Illegal drugs were included as ganja, weed, pot, hash, charas, inhaling fluids, crack, cocaine, heroin, opium, etc. A list of illegal drugs was included in the questionnaire for easy understanding purposes.

Data was entered and analyzed in the Epi info (version 7.2.5). The demographic profiles like gender, place of residence, education, occupation, consumption of alcohol, and illegal drugs variables were described in percentage (frequency). The Chi-square test was used to evaluate statistical significance, and a two-sided P value of < 0.05 was considered as statistically significant.

RESULTS

A total of 565 students participated in this study from four schools. The number of students participating from classes ninth, tenth, and eleventh standard was 375 (66.4%), 85 (15%), and 105 (18.6%), respectively. The demographic profile of the study participants is described in Table 1. The mean age of the study participants was 15.5 ± 1.2 SD (minimum 13 years, maximum 18 years).

Table 1: Demographic profile of the students

Variables	Number	Percentage	95% CI
Gender			
Boys	308	54.5%	50.4-58.6%
Girls	257	45.5%	41.4-49.6%
Residence			
Rural	520	92%	89.5-94%
Urban	45	8%	6-10.5%
Class			
Class ninth	375	66.4%	62.4-70.1%
Class tenth	85	15%	12.3-18.2%
Class eleventh	105	18.6%	15.6-22%
Age			
13 years	6	1.1%	0.5-2.3%
14 years	119	21.2%	18-24.8%
15 years	187	33.3%	29.6-37.3%
16 years	125	22.3%	19-25.9%
17 years	82	14.6%	11.9-17.8%
18 years	42	7.5%	5.4-10.7%
Currently Staying			
Hostel	216	38.8%	34.9-42.9%
With relative	10	1.8%	0.9-3.3%
Rented house	171	30.7%	27.1-34.7%
Own house	159	28.6%	25-32.5%

Table 2 indicate that the prevalence of alcohol intake (ever) among adolescent students was 28.2% (95% CI 24.6–32.1). 1.7% (95% CI 0.9–3.1) of adolescents consumed alcohol once a week in the past 6 months. Most of the adolescents took alcohol for the first time during the “Puja” religious ceremonies or festivals (8.8%) followed by the wedding ceremonies (7.5%). It was observed that 1.6% (95% CI 0.9–3.1) of the adolescents took alcohol for the first time in school. 9.9% (95% CI 7.7–12.7) of adolescents consumed alcohol until they are intoxicated. 43.2% (95% CI 39.1–47.4) of close friends of the study participants ever consumed some form of alcohol.

Prevalence of alcohol intake is more in male students (37.8%) as compared to female students (16.9%) and the difference is significant (P -value < 0.001). The proportion of the students who consumed alcohol increased along with years in school, that is, lowest in class ninth (24.6%) and highest in class eleventh (43.1%). The highest prevalence of alcohol intake was observed in students in the age of 18 years (57.9%). Prevalence of alcohol intake was more among the students residing in the rural areas (29.7%) compared to the urban areas (11.3%) and the difference was statistically significant (P -value < 0.009). It was observed that a higher proportion of students staying in hostels (33.2%) were consuming alcohol as compared to the students staying in their homes (18.3%), rented houses (31.1%), and staying with relatives (11.1%) and the difference was statistically significant (P -value = 0.007).

It was observed in the table 3 that 4.2% (95% CI 2.8–6.3) of adolescent students use illegal drugs. 12.7% (95% CI 10.2–15.8) of the close friends of the study subjects were using

Table 2: Distribution of status of alcohol use among the adolescents

Variables	Number	Percentage	95% CI
Consumption of alcohol (ever) (n=543)			
No	390	71.8%	67.9-75.4%
Yes	153	28.2%	24.6-32.1%
Consumption of alcohol in last 6 months (n=542)			
Never	411	75.8%	72-79.2%
Once	54	9.9%	7.7-12.8%
A few times	49	9%	6.9-11.7%
Once a month	6	1.1%	0.5-2.4%
Once a week	9	1.7%	0.9-3.1%
More than once a week	2	0.4%	0.1-1.3%
Occasion of initiation of alcohol consumption (n=546)			
At a wedding ceremony	41	7.5%	5.6-10%
At home	26	4.8%	3.3-6.9%
At school	9	1.6%	0.9-3.1%
At someone else's home	15	2.7%	1.7-4.5%
I have never tried alcohol	386	70.7%	66.7-74.5%
In a Puja/Festival	48	8.8%	6.7-11.5%
Out on the street or in a park	5	0.9%	0.4-2.1%
Some other place	16	2.9%	1.8-4.7%
If you do drink alcohol, do you typically drink until you are intoxicated? (n=534)			
I do not drink alcohol	383	71.7%	67.8-75.4%
No	98	18.3	15.3-21.9%
Yes	53	9.9%	7.7-12.7%
Friends who consume alcohol (n=539)			
No	182	33.8%	29.9-37.9%
Yes	233	43.2%	39.1-47.4%
Unsure	124	23%	19.6-26.7%

illegal drugs. More than 1% of adolescents used illegal drugs 10 or more times in the past 1 year. The prevalence of using illegal drugs in injectable form is 2.6% (95% CI 1.5–4.3).

The prevalence of illegal drugs was more in male students (6.4%) as compared to female students (1.6%) and the difference is statistically significant (P -value = 0.02). The percentage of students who use illegal drugs from rural areas (4.2%) and urban areas (4.4%) is almost similar. The prevalence of illegal drug use is more in the students staying at the hostel (6.2%) than staying at their own house (2.6%).

DISCUSSION

The present study observed that the prevalence of alcohol intake among adolescent students was 28.2% (95% CI 24.6–32.1). A similar prevalence of alcohol intake was reported among the higher secondary school students of Imphal, Manipur (29%)^[11] and Assam (32.2%).^[13] However, the prevalence of alcohol intake among the adolescent students of the current study is much more than the overall prevalence

Table 3: Distribution of status of illegal drug use among the adolescents

Variables	Number	Percentage	95% CI
Ever taken any illegal drugs (n=544)			
No	515	94.7%	92.4-96.3%
Yes	23	4.2%	2.8-6.3%
Unsure	6	1.1%	0.5-2.4%
Close friends ever used illegal drugs (n=541)			
No	384	71%	67-74.6%
Yes	69	12.7%	10.2-15.8%
Unsure	88	16.3%	13.4-19.6%
Used illegal drugs during the past year (n=847)			
1 to 2 times	14	2.6%	1.5-4.2%
10 or more times	7	1.3%	0.6-2.6%
3 to 9 times	6	1.1%	0.5-2.4%
Never	520	95.1%	92.9-96.6%
Taken any illegal drugs in injection form (n=546)			
No	522	95.6%	93.5-97%
Yes	14	2.6%	1.5-4.3%
Unsure	10	1.8%	1-3.3%

of lifetime alcohol intake among adolescents in Ernakulam, Kerala (15%)^[14] and adolescents from Udupi, India (5.7%)^[15] and Uttarakhand (8.7%).^[16] Alcoholic beverage prepared from rice after fermenting is a common and most popular traditional drink prepared by all the tribes of Tripura^[17] which may be one of the reasons for high alcohol intake among the adolescent students in Tripura. Cultural differences between northeastern states and other states of India may be reasons for differences in the prevalence of alcohol intake among adolescent students. A systemic review conducted by Nadkarni *et al.*^[1] observed that the prevalence of ever or lifetime alcohol consumption in adolescence age between 10 and 24 years in India ranged from 3.9% to 69.8%. Prevalence of alcohol consumption at least once in the past year ranged from 10.6% to 32.9%. It is important to note that early initiation of alcohol use among adolescents can provide a useful indication of the potential future burden among adults including increased risk for academic failure, mental health problems, antisocial behavior, physical illness, risky sexual behaviors, sexually transmitted diseases, early-onset dementia, and the development of alcohol use disorders.^[18-21]

The current study observed that 4.2% (95% CI 2.8–6.3) of adolescent students use illegal drugs but it is less prevalent than the use of cannabis (14%) and opiates (12%) in higher secondary school students of Imphal, Manipur.^[11] The overall prevalence rates among rural and urban students of the classes eighth, ninth, and tenth standards in West Bengal were 6.14% and 0.6% for illicit drug use, respectively.^[22] The national prevalence of drug use among teenagers and young adults in Bhutan was 3.2%.^[23] Tripura also has an open border with

Bangladesh whereby a huge cache of drugs has made its way to the market. The rampant drug abuse in the states of northeast India is no secret. Most states sharing borders with Myanmar and Bangladesh have reported a massive inflow of illegal drugs from these countries. Due to porous borders in the form of thick vegetations and jungles in these states, they have become the highway for drug trafficking.^[24] Among people who inject drugs, HIV rates range from 6.3% in China to 19% in Malaysia, and HCV ranges from 41% in India and Taiwan to 74% in Vietnam.^[25]

The strength of this study is to find out the prevalence of alcohol and illegal drug use among adolescent school students in particular geographical areas. Further, it was noticed that social festivals and wedding ceremonies were the main events that helped adolescent students to take alcohol first time in their lives.

A limitation of this study is the use of self-reported survey, which may have resulted in reporting bias.

CONCLUSION

Early identification of alcohol and illegal drug use and related factors like initiations, frequency, and types (injectable drugs and non-injectable drugs) may be useful to improve the scope of holistic interventions for adolescent students. Appropriate intervention may be useful to prevent non-communicable diseases and HIV infections among adolescent students.

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Conflicts of interest

There are no conflicts of interest.

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