

Lifetime Use of Alcohol in High School Students of Bhubaneswar

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Abstract

Context: Most of the social, academic and life skills behaviors develop during adolescence. Habit of substance abuse develops during teenage. Unlike tobacco, alcohol does not only cause harm to its user, but it has its effects on families and community at large. Experimentation with alcohol in earlier years of life has more ruinous effect in later part of life.

Aims: This study aimed to find the prevalence of lifetime use of alcohol in high school children and to find any difference across gender or school type.

Settings and Design: The cross-sectional study was done in Bhubaneswar city among high school students.

Methods and Material: To get sampling unit stratified cluster simple random sampling was done. A pre-designed, pre-tested, semi-structured and self administered questionnaire was used to assess their socio-demographic profile, lifetime use and current use, influencing factors and knowledge about harmful effect of alcohol.

Statistical analysis used: Data was entered and interpreted using Microsoft Excel Sheet and Epi Info.

Results: Data was analyzed for 863 students aged 12-17yr with participation of 58.8% and 41.2% of boys and girls respectively. Among all 8.2% had taken alcohol at least once in their lifetime. Of them 43.6% were current users. Friends and family members had major influence in decision on taking alcohol. Knowledge about harmful effect of alcohol was adequate.

Conclusions: Lifetime use of alcohol was high in high school students where its initiation was at younger age. Need of crucial intervention at middle and high school level to prevent alcohol related disorder among young adults.

Key-words: Adolescent, High School, Alcohol, Behavior, Bhubaneswar

I. Introduction

Alcohol is only drug whose self induced intoxication is socially acceptable.^[1] Worldwide alcohol accounts for 3.3 million deaths yearly which represent 5.9% of all deaths.^[2] Use of alcohol depends upon many environmental factors such as economical development, culture, ease of availability and alcohol policies of the area. This phenomenon is palpable in India, as its on road of rapid transition economically and socially. This transition can easily be noted by surge in figures of per capital alcohol use, as it has increased from 3.6 liters in 2003 – 05 to 4.3 liters in 2008 – 10 of which almost half of alcohol comes from unregulated market.^[3]

India comprises more than 20 % population in adolescent age group.^[4] Adolescent is most vulnerable age group; at this stage child acquires social, academic and life skills. Moving from middle to high school is routine academic progression but it's also associated with typical stress at social and academic domains. This stress may perpetuate in model building or substance abuse. Habits formed during adolescent age group forms behaviour for life time. Of various substance abuse alcohol is most dangerous and quite a fashionable among middle and late adolescent age group. Use of alcohol is associated with major morbidity and mortality. This burden is shared by family and society. Moreover earlier the age of initiation higher the risk factor for development of abusive consumption of alcohol.^[5] Even among adolescents who had no history of conduct problems, initiation of alcohol or poly-substance use before age 15 yr doubles the risk of substance use dependence and criminal convictions in adulthood. There is risk among females for acquisition of herpes infection, and early pregnancy.^[6] This initiation depends upon family dynamics, curiosity, peer pressure, level of knowledge about harmful effects and opportunity to experiment.

Objective: - The study was designed to access the prevalence of lifetime user of alcohol among high school students and to find any difference in use based on gender and type of school.

II. Material And Methods

The cross sectional study was carried out from August 2012 to July 2013 in Bhubaneswar city, Odisha. The target population was the students of high school (class VIIIth, IXth and Xth). The study was approved by the Institutional Ethics Committee and permission to conduct the study was obtained from the Principals. The name of the schools and students were kept confidential. During pre-survey all the students were explained the purpose and method of survey and those willing to participate were taken in study.

The students were surveyed through pre-designed, pre-tested, semi-structured and self administered questionnaire. The questions asserted their socio demographic profile with lifetime use of alcohol, occasion, anybody using at home and their knowledge about harmful effect of alcohol use. Exclusion criteria were students who were ill in last week or who were unwilling to participate in the survey. Prevalence was taken 50% to obtain adequate sample size.^[7] Using formula: $DEFF Z_{(1-\alpha)}^2 PQ/L^2$ (DEFF = 1.5; L = 10% of P; P= 50%; Q = 100-P) sample size of 576 was calculated. With 10% non response rate the final sample size was 634. Multi Stage Sampling technique was used to reach sampling unit. All the high schools were stratified into Government and Private, and then Bhubaneswar city was clustered into four zones i.e. East, West, North and South. From each zone one Government and one Private school was taken by simple random technique. Working Definitions: Lifetime use – All those who had used alcohol ever in his/her life, irrespective of dose or frequency. Current Use – All those who had used alcohol in last 30 days. Data was collected and analyzed using Microsoft Excel and Epi Info software.

III. Results

Total 928 students were surveyed of which only 863 were taken up for analysis, as rest was unfilled or improperly filled forms. The students selected in the study were within age group of 12-17yr. Most of the private school students lived in pucca house which was 433(95%) where as nearly half of government school children 192(47%) had kutchra or semi pucca house.[Table1]

Table 1: Scio-Demographic Profile

Type of schools & Gender	Government		Private		Total	
	Nos.	%	Nos.	%	Nos.	%
Boys	228	55.7%	279	61.5%	507	58.8%
Girls	181	44.3%	175	38.5%	356	41.2%
Total	409	100%	454	100%	863	100%

Prevalence of lifetime use of alcohol was found to be 71(8.2%). Mean age to initiate the use of alcohol was 12.52 yr and 13.34 yr for government and private schools respectively. Minimum age for first time use of alcohol was 7 yr and 11 yr for government and private schools respectively. Almost twice the percentage of students in private schools had tried alcohol at least once. When chi-square was applied it was found that $\chi^2 = 5.731$ which was statistically significant. [Table 2] In gender break up there is no discrimination among boys of either type of school for lifetime use of alcohol. [Table 3]

Table 2: Lifetime use of alcohol among different schools

Use of Alcohol	Government.(n) (%)	Private.(n) (%)	Total (N) (%)	Comment
Yes	24 (5.9%)	47 (10.4%)	71(8.2%)	$\chi^2 = 5.731$ P= 0.01666
No	385 (94.1%)	407 (89.6%)	792 (91.8%)	
Total	409 (100%)	454 (100%)	863 (100%)	

Table 3: Distribution of students for lifetime use of alcohol, based on gender and type of school

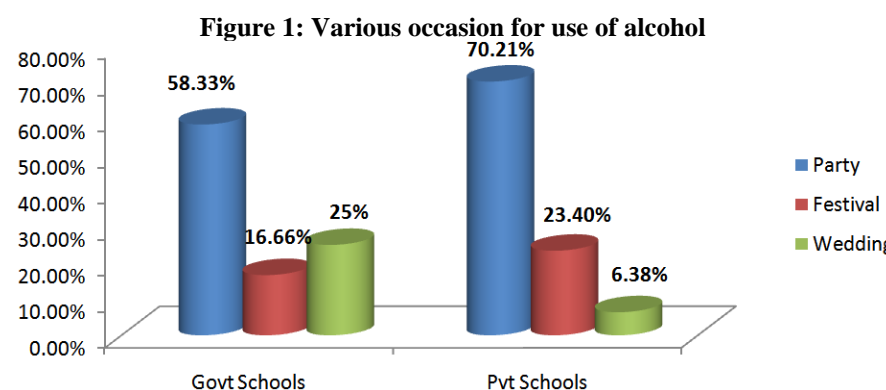
Use of Alcohol	Government (N)		Total(N=409)	Private (N)		Total(N=454)
	Boys (N=228) (100%)	Girls(N=181) (100%)		Boys(N=279) (100%)	Girls (N=356) (100%)	
Yes	21 (9.2%)	3 (1.7%)	24	28 (10%)	19 (10.9%)	47
No	207 (90.8%)	178 (98.3%)	385	251 (90%)	156 (89.1%)	407
Total	228	181	409	279	275	454

On assessment for use in last 30 days, more of the government schools students had taken alcohol as compared to private school students. It was found to statically significant as $\chi^2 = 5.2304$. If whole study population is taken, the percentage of alcohol user in last one month was small for both government and private schools which was 3.7% and 3.5% respectively.[Table 4]

Table 4: Taken alcohol in past 30 days

Use of Alcohol in Last 30 Days	Government.(n=24)(100%)	Private.(n=47) (100%)	Total (N) (%)	Comment
Taken	15 (62.5%)	16 (34.0%)	31 (100%)	$\chi^2 = 5.2304$ P= 0.022195
Not taken	9 (37.5%)	31 (66.0%)	40 (100%)	

During survey occasion for first time use of alcohol was investigated. It was found that 47(66%) students used alcohol during party which was followed by festival 15(21%) and 9(13%) on occasion of wedding of their relatives. [Fig 1]



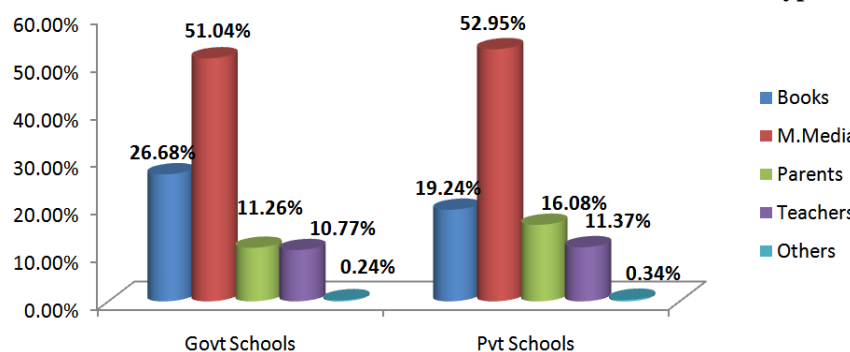
Parents of most of student didn't know that their child had taken any type of alcohol. Biggest influences to initiate alcohol consumption were friends in both type of school. But in Government school, it was found that they were also influenced by their relatives. 23 (32.4%) students of 71 ever-used students revealed that their relatives also use alcohol. [Table 5]

Table 5: Influence for use of alcohol

School Influence	Relatives	Friends	Movie	Personality Development
Government	62.5%	33.3%	8.3%	37.5%
Private	14.9%	57.4%	12.7%	25.5%
Total	77.4%	90.7%	21%	63%

Multimedia sources like TV/Radio/Internet were major source of information among students about harmful effects of alcohol.[Fig 2]

Figure 2: Source of information about harmful effect of alcohol in different types of schools



IV. Discussion

Teenager experimentation with the alcohol or other risk taking behaviour is more dangerous than that of adults. As brain keep on developing till age of 25yrs and brain pleasure centres get developed earlier than whole frontal cortex, responsible for impulse control and sober behaviour. In traditional society of India, consumption of alcohol by teenager is not acceptable. Moreover, India has contrasting socio-cultural background having different social values and tradition. This difference can easily be noted in different surveys showing different trends in different part of country. This study found lifetime prevalence of alcohol use to be 8.2% at Bhubaneswar, while in 2003 study done at West Bengal found it to be 5.23%.^[8] In 2006 at New Delhi, it was found to be 28.45%^[9], while in 2007 study done in Manipur found the prevalence to be 29%^[10] among high school students. In 2011 study done at Udupi, Karnataka found prevalence of 5.7%^[11] and in Mangalore the prevalence was 4.6%^[12]. In a review article taking different studies done in Iran, they found mean prevalence of 17%.^[13] According to HelpGuide organization, almost half of American youth 12 – 20 yrs has experimented with alcohol.^[14] Survey done in Victoria and Washington province found lifetime use of alcohol to be 59% and 39% respectively, by seventh grade students.^[15] In India the use of alcohol may not be so rampant but there is

different prevalence in different geographical areas, as it is higher in northern and north eastern states and bit lesser in eastern part of the country but this difference of prevalence gradually weaning off.

The mean age for initiation of alcohol was 12.9 yr in the study, where as in private schools 10% of boys and girls had used alcohol in their lifetime. In Karnataka mean age was 16.8 yr^[11] and in West Bengal study it was 12.6 yr.^[8] In both the studies number of males who experimented with alcohol outnumbered females. As per available data in USA the mean age of first use of alcohol is 11 yr and 13 yr for boys and girls respectively.^[14] Initiations of alcohol use during early adolescent period (11 – 14 yr) was most vulnerable to the risk of developing DSM-III-R alcohol disorders.^[16] Experimentation with alcohol or other drugs early in life is more likely to lead to addiction in later part of life.

In the study, the proportion of students who had taken alcohol in last 30 days was 3.6%. Survey done at Nagpur found it to be 4.07% .^[17] In a study it was 9.52% in West Bengal^[8] and its 34.9% among American youth.^[18] In the survey 90% of the users were influenced by their friends to experiment with alcohol. Similarly in Manipur the found that friend was biggest motivator for substance abuse.^[10] After friend 77% of students were influenced by family members to use alcohol, pre-dominantly among government school children. Parental attitude favouring alcohol and other drug use tend to be linked with a great likelihood of substance use by adolescent.^[5,19] Parental patterns of alcohol use and environment of their children in their use have been shown to be risk factors for adolescent alcohol and other drug use.^[5] Most of the students had information about ill effects of alcohol. Surprisingly, multimedia was the most common source of information like internet, TV and FM radios. This proves that mass communication is better mode of information, education and communication. It has got more coverage and appeal among younger population.

V. Conclusion

The study shows that the proportion of children using alcohol is high and is in upward trend. The age of initiation is early. Interventions like group and panel discussion with ward and parents at middle and high level of education may be helpful. This may be used for holistic approach and planning of intervention at school level to prevent occurrence of alcohol abuse among young adults. Further studies are required on issues to unfold the reasons for use of alcohol.

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