Original Research Article

Prevalence and pattern of alcohol consumption using alcohol use disorder identification test among students at a medical college in Goa, India

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ABSTRACT

Background: Alcohol use is a complex health and social issue, especially in developing countries like India and in particular the western Indian state of Goa moreover, adolescents are usually more vulnerable to alcohol-related harm from a same volume of alcohol compared to other age group individuals.
Methods: A cross-sectional design was conducted over a period of two months in Goa medical college, Goa. Students pursuing the MBBS Course in all semesters for the academic year 2015-16 were the study partici pants. Data was collected by interviewing the students. The pre-tested structured questionnaire used to collect the data. Alcohol consumption pattern was assessed using alcohol use disorder identification test (AUDIT). Approval was obtained from the Institutional Ethics Committee of the Medical College. Informed written consent was obtained from the participant prior to the interview. SPSS Software Package was used for statistical analysis.
Results: Prevalence of alcohol consumption was found to be 39.4%. Prevalence among females was higher (40.6%) compared to Males (38%). Among the alcohol consumers 82.3% were light drinkers (AUDIT <8) while 17.7% were identified as heavy drinkers. Hazardous alcohol consumption was identified in 46.7% of alcohol consumers. 20.9% of alcohol consumers showed signs of alcohol dependence.
Conclusions: Awareness of ill effects of alcohol consumption, counselling to deal with stress related to studies, negotiating peer pressure etc. need to be the possible solutions to address this health and social issue of alcohol use among young adults.

Keywords: Alcohol, Pattern, Prevalence, AUDIT

INTRODUCTION

Alcohol use is a complex health and social issue, especially in developing countries like India and in particular the western Indian state of Goa. The misuse of alcohol represents one of the leading causes of preventable death, illness and injury in many societies throughout the world. A recent study highlighted that in India, health loss from alcohol will grow larger, unless effective interventions and policies are implemented to reduce these habits.[1] The adolescent age group being a vulnerable group wherein because of varied reasons young adolescents venture into unforeseen addictions and habits which are responsible for multitude of problems in their lives.

Children and adolescents are usually more vulnerable to alcohol-related harm from a same volume of alcohol compared to other age group individuals.[2] Also, early initiation of alcohol use (prior to 14 years of age) has

been identified as a predictor of impaired health because it is associated with increased risk for alcohol dependence and abuse at much later ages.[3] A part of the excess health risk among young people is related to the fact that, usually, a greater proportion of the total alcohol consumed by young people is consumed during heavy drinking episodes.[4] Young people were also found to be less risk-averse and were found to engage in more reckless behaviour while being drunk.[5]

Despite an emphasis on the restriction of sale and consumption of alcohol in India and evidence of the impact of harmful alcohol use, little is known about the prevalence of alcohol use among adolescents.[6] There is paucity of data on pattern of alcohol use and other associated factors in adolescent population. This is the very reason that this study has been conducted among medical students in Goa.

METHODS

A cross-sectional study was conducted over a period of two months (April-May 2016) in Goa medical college, Goa. Study participants consisted of students pursuing the MBBS course in all semesters for the academic year 2015-16. Considering the total strength of 700 students it was decided to recruit 50% of the students i.e. 350 students for the study. Participants were selected randomly.

Data was collected by interviewing the students. The pre-tested structured questionnaire used to collect the data. Demographic and socio-economic data was collected. Alcohol consumption pattern was assessed using a pretested and validated alcohol use disorder identification test (AUDIT).[7]

AUDIT covers three domains on alcohol consumption: hazardous level drinking, dependence symptoms, and harmful alcohol use. Total AUDIT score of eight or more was considered indicative of hazardous and harmful alcohol use as well as possible alcohol dependence. The data was first examined using descriptive statistics, categorising the study sample into abstinent, moderate drinkers and harmful or dependent drinkers.

Approval was obtained from the Institutional Ethics Committee of the Medical College. Informed written consent was obtained from the participants prior to the interview. SPSS Software Package was used for statistical analysis. The results were expressed in terms of proportions and means. A univariate analysis was carried out to test the association between various factors and alcohol use. Chi square test of significance was applied and a p value of 0.05 was considered statistically significant. Odds ratio with 95% confidence limits was estimated to determine the effect of various factors on alcohol use.

RESULTS

A total of 350 respondents were randomly selected and recruited in the study. Around 35 participants were excluded (12 participants excluded because of incomplete data and 23 participants did not give consent) thus giving a response rate of 90% i.e. the final sample size was 315 participants

The proportion of alcohol consumers among the study participants was found to be 39.4%, where the alcohol consumer was defined as any person who has consumed any form of alcoholic drink in the past twelve months. The prevalence of alcohol consumption was found to be higher among female medical students (40.6%) compared to male students (38%).

Table 1: Alcohol use among medical students and associated factors.

Variables	Alcohol consumption		Total N=315 (%)	OR (95% CI)	P value
	Consumer No. (%) N=124	Non-consumer No. (%) N=191			
Gender					
Male	57 (38)	93 (62)	150 (100)	1.12(0.71-1.75)	0.64
Female	67 (40.6)	98 (59.4)	165 (100)		
Religion					
Hindu	86 (37.4)	144 (62.6)	230 (100)	1 (ref)	0.072
Christian	38 (48.1)	41 (51.9)	79 (100)	1.55 (0.93-2.60)	
Muslims	0 (0)	4 (100)	4 (100)	----------	
Others	0 (0)	2 (100)	2 (100)	----------	
Residence					
Urban	89 (43.8)	114 (56.2)	203 (100)	1.72 (1.06-2.79)	0.02
Rural	35 (31.3)	77 (68.7)	112 (100)		
Stay at hostel					
Yes	53 (58.9)	37 (41.1)	90 (100)	3.11 (1.87-5.15)	0.000
No	71 (31.5)	154 (68.5)	225 (100)		
Alcohol use in father					
Present	81 (67.5)	39 (32.5)	120 (100.0)	7.34 (4.41-12.23)	0.000
Absent	43 (22.1)	152 (77.9)	195 (100.0)		

Table 2: Distribution of alcohol consumption according to AUDIT score, hazardous consumption, alcohol dependence and binge drinking.

Variables	Males No. (%) N=57	Females No. (%) N=67	Total No. (%) N=124	P value
AUDIT score				
Light drinkers (AUDIT score <8)	44 (77.1)	58 (86.5)	102 (82.2)	0.173
Heavy drinkers (AUDIT score ≥8)	13 (22.9)	9 (13.5)	22 (17.7)	
Hazardous alcohol consumption				
Present	34 (59.6)	24 (35.8)	58 (46.7)	0.008
Absent	23 (40.4)	43 (64.2)	66 (53.3)	
Alcohol dependence				
Present	17 (29.8)	9 (13.4)	26 (20.9)	0.025
Absent	40 (70.2)	58 (86.6)	98 (79.1)	
Binge drinking				
Present	34 (59.6)	24 (35.8)	58 (46.7)	0.008
Absent	23 (40.4)	43 (64.2)	66 (53.3)	

As far as other socio-demographic factors were concerned, alcohol consumption was higher among Christian students (48.1%), students from urban areas (43.8%), students living in hostels (58.8%) and those in highest economic scale (40.4%) (Table 1). As far as history of alcohol consumption in the father of the student was concerned, students who reported alcohol consumption in their father were 7.34 times more likely to be alcohol consumers than those who did not report the same (OR=7.34; 95% CI: 4.41-12.23).

Distribution of alcohol use by AUDIT score, hazardous alcohol consumption, alcohol dependence and binge drinking is described in table 2. Around 82.2% of those reporting alcohol use were light drinkers (AUDIT Score <8) while 17.8% were classified as heavy drinkers (AUDIT score >8). Male students were more likely to be heavy drinkers (22.9%) compared to female students (13.5%), the difference however was not statistically significant. Around 46.7% of the alcohol consumers were classified as hazardous alcohol consumers. Prevalence of hazardous alcohol consumption was 59.6% among males compared to 35.8% among females. This difference was statistically significant (p=0.008).

As far as alcohol dependence was concerned, alcohol dependence was found in 20.9% of the alcohol consumers. It was found to be higher among males (29.8%) compared to females (13.4%) and this difference was statistically significant (p=0.02). Around 46.7% of the alcohol consumers reported binge drinking. Males were more likely to be binge drinkers (59.6%) compared to females (35.8%). This difference was found to be statistically significant (p=0.008).

As far as interpersonal violence due to alcohol use was concerned 8% of the participants reported history of interpersonal violence due to alcohol use. As regards type of alcoholic beverage preferred among students reporting alcohol consumption, male students preferred beer (31%) followed by whiskey (23%) while among female students 25% preferred wine followed by 22% preferring other light alcoholic drinks. Reasons for alcohol consumption among the medical students were explored. Around 32% males and 42% females reported thrill or adventure as the main reason while social drinking was reported by 33% males and 34% females. Peer pressure as a reason for alcohol consumption was reported by 28% of male students and 13% of female students. Around 19% males reported stress as a reason for alcohol consumption compared to only 7% females.

DISCUSSION

The prevalence of alcohol consumers among the study participants was found to be 39.4%. Interestingly prevalence of alcohol consumption was found to be higher among female medical students (40.6%) compared to male students (38%). An earlier study in Goa in rural population of all ages the prevalence of alcohol consumption was found to be 49%.[8] A study in rural Tamil Nadu among the general population found a prevalence of 9.4% whereas a study in rural Vellore by John et al found a prevalence of 24.6% among males and none among females.[9,10] Higher prevalence of alcohol in our study is possibly because as our study participants are adolescent and young adults. Similar finding has been reported by Agossou et al in Benin wherein alcohol consumption has shifted from adults and old people to younger people of both genders.[11]

Higher prevalence was seen among female students in our study compared to males this being in contrast to other studies.[9,10] However it was found that most of the females (86.5%) were light drinkers and had AUDIT score from one to three. The reason for higher alcohol consumption among Christian students was cultural as alcohol consumption is socially and culturally acceptable

in the Catholic Christian community in Goa. Higher consumption among students coming from urban areas could be due to adoption of a more western or cosmopolitan way of life. Those in higher socio-economic class could be having greater opportunities to consume alcohol in terms of affordability, partying and clubbing habits etc. resulting in higher consumption. Those living in hostels away from home reported higher consumption which could be explained by lack of parental control and a sense of freedom away from home.

In the present study 17.7% were classified as heavy drinkers this is comparable to the other studies.[10,12] The proportion of hazardous alcohol consumption, alcohol consumption and binge drinking were also higher, which is a cause for concern. There was an association between drinking in the father and alcohol consumption among the students. A complex mix of environmental and genetic factors has been shown to children of alcohol dependent parents at higher risk of harmful alcohol and drug use.[13] The common reasons for alcohol consumption were thrill, social drinking, peer pressure and stress these need to be addressed for any meaningful reduction in alcohol consumption among adolescents.

CONCLUSION

The pattern of alcohol consumption among the medical students is a cause of concern. Considering the factors most likely to initiate and promote alcohol consumption and the associated adverse health outcomes, there is an urgent need to address this issue. Awareness of ill effects of alcohol consumption, counselling to deal with stress related to studies, negotiating peer pressure etc. need to be the possible solutions to address this health and social issue of alcohol use among young adults.

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