What Persuades College Students to Take That First Sip? A Study on The Influence of Society and Media on Attitude Towards Alcohol Consumption

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ABSTRACT

Background: According to WHO statistics, close to 3 million deaths occur every year due to harmful use of alcohol of which 3.2 lakh people are aged between 15-29 years. College students are more prone to experimenting and risk-taking behaviour. Keeping this in mind, our study was aimed to assess the alcohol use patterns and factors associated with alcohol consumption among college students.

Methodology: A cross-sectional study was conducted including college students from various streams in the South Indian. Data was collected from 1129 participants using a self-administered questionnaire consisting of 4 sections including alcohol use patterns, attitude towards consumption & media exposure.

Results: Prevalence of alcohol consumption was found to be 31%, peer pressure was reported one of the main reasons for the first drink of alcohol. Significantly higher prevalence of alcohol consumption seen among the groups with higher media exposure and higher tolerance to alcohol advertising. The study statistics show that 600(53.14%) participants were exposed to actors consuming alcohol in media more than 10 times in the past 30 days while only 320(28.34%) reported seeing warnings or health education material in the same duration.

Conclusion: It is high time policy makers focused on using media for health promotion and health education, since it is proving to have the potential to influence decisions and lifestyles of future generations.

Key words: Alcoholism, Alcohol use in college students, Alcohol, media influence

INTRODUCTION

According to the World Health Organization (WHO) statistics, an approximate 2.5-3 million deaths per year occur as a result of harmful use of alcohol.[1,2] 48% of liver cirrhosis, 26% of mouth cancers, 26% of pancreatitis, 20% of tuberculosis, 11% of colorectal cancer and 05% of breast cancer can be attributed to harmful use of alcohol.[3] As of 2020, WHO estimates that 750,000 (04%) cancers diagnosed globally can be attributed to alcohol intake.[4] The global per capita harmful use of alcohol as on 2016 was 6.4 liters of pure alcohol.[5] India has always been one of the top rankers in per-capita alcohol consumption having consumed 2.4 liters of alcohol in 2005, 4.3 liters in 2010 and scaling up to 5.7 liters in 2016.[6] Having a better understanding of the various social determinants which influence the initiation and use of alcohol gives a better chance of achieving Goal 3.5.2 of the SDGs- "10% reduction in harmful use of alcohol"[7]

According to WHO, 3.2 lakh people aged 15-29 years die of harmful use of alcohol every year.[8] They contribute to a very large part of the global alcohol related mortality and interventions at this level can prove to be effective in reducing the harmful use of

alcohol related morbidity and mortality. College is the time when students are more prone to experimenting newer lifestyles.[9,10,11] The increase in media influence and glorifying alcohol use in media is an emerging millennial risk factor.[12,13,14] A better understanding of these factors will help policy makers developing newer public health interventions and preventive measures, including popularization of media for health education practices. Hence this study is aimed to assess the alcohol use patterns and factors influencing alcohol consumption among college students.

The primary objective of the study was to evaluate the factors influencing alcohol consumption among college students, specifically what is the persuasion for initiation. In addition, we have also estimated the prevalence of alcohol use among college students, tried to establish the association between media portrayal of alcohol and alcohol consumption among college students and to evaluate the attitude towards alcohol consumption among college students.

MATERIALS AND METHODS

A cross-sectional study was conducted among college students from various educational streams in Kerala and Tamil Nadu, both Indian states with literacy rate over 80%.[15] The study period was of 7 months (from August 2019 to February 2020) and included college students aged 18 years and above in their first and second years of college, pursuing graduate education in one of the following fields: medicine, dentistry, engineering, nursing, law, arts and science. Students who were not available at the time of institutional visit, who did not consent or who were not proficient in English were excluded.

Sample size: Minimum sample size was required for the study was calculated to be 1024 using Open Epi software (Sample size equation $n = [DEFF*Np(1-p)]/[(d^2/Z^2_{1-\alpha/2}*(N-1) +p*(1-p)])$ using single sample proportion method.[16] Assuming 99% confidence level and 4% allowable error, the sample size was estimated using 55.4% prevalence obtained from the reference study by Yuri Silva et al.[17] At the end of the study period, data was collected from a total of 1129 participants.

Sampling method: Five institutions each from the capital cities of both states (Thiruvananthapuram and Chennai) were chosen by lottery method and approached for taking part in the study. Out of which, 2 universities in Tamil Nadu and 3 colleges in Kerala agreed to take part in the study. All first- and second-year students from various streams who were present at the time of the visit and willing to participate in the study were administered self-answering questionnaires.

Study tool: A respondent moderator focus group of 8 university students was conducted to conceptualize the thrust areas for the study. Using this information, a basic questionnaire was developed which was then validated by three designated faculty members (one each from psychiatry, community medicine and general medicine). A self-administered questionnaire consisting of four sections including socio-demographic details, alcohol use patterns, attitude towards alcohol consumption, and media exposure was finalized and used for the pilot study conducted among 35 participants in August 2019. The study tool was re-analyzed for its contents and minor modifications were made based on the responses from the participants. The questionnaires were administered after explaining the purpose of the study and confidentiality. The participants were addressed in groups of 15-20 and given a time of 10 minutes to fill up the questionnaire in the presence of the investigator. The completed questionnaires were deposited in a drop-box by the participants themselves to ensure confidentiality and to decrease any chance for a social desirability bias.

Statistical analysis: Data was recorded using questionnaires, entered in Microsoft excel and analyzed using IBM SPSS Version 21. Quantitative variables were described in mean and standard deviation. Qualitative variables were described in proportions. Normality of the data was assessed using Shapiro-Wilk test for normality and all required statistical tests were applied. The significance of p value was taken as $p<0.05$. Development of confounder adjusting logistic regression model was done by including all the proposed independent variables with $p<0.2$ in univariate analysis assuming that anything greater will not deflect to the significant levels ($p<0.05$) after confounder adjustment.

Ethical considerations: Informed (detailed) consent was obtained from all participants before the commencement of the study. No personally identifier was collected and confidentiality of the participants was maintained through all stages of the study. A health education session was included at the end of data collection considering the possible effectiveness among the target population.

RESULTS

A total of 1129 responses were analyzed for the study. Mean (SD) age in years of the population was 20.06(1.79) ranging from 18 to 25. Students from Kerala contributed to 63% of the sample and the gender distribution in the sample showed 61% females. Majority of the representation was from the medical (27%) and engineering (26%) fields. Prevalence of alcohol consumption in the sample population was found to be 31% (348). The alcohol consumption practices reported by these participants are described in Table 02. The relation of various factors with a history of alcohol consumption (including even a one-time experimental consumption) was analyzed using a multivariate logistic regression model (Table 1). A clearly higher prevalence of alcohol consumption was seen among the groups with higher media exposure, significantly among those with social media exposure.

Table 1: Factors influencing alcohol consumption (N=1129)

Variables	Alcohol consumption		Crude OR	aOR	95% CI
	No (%)	Yes (%)			
Age in years (Mean±SD)	19.74±1.63	20.77±1.92	1.39	1.41*	1.28-1.56
Gender					
Female	510 (73.8)	181 (26.2)	1.74	1.38	0.99-1.92
Male	271 (61.9)	167 (38.1)	Reference		
Course					
Arts & Science	138 (63.3)	80 (36.7)	Reference		
Dental	52 (59.8)	35 (40.2)	1.16	0.99	0.54-1.85
Engineering	205 (68.8)	93 (31.2)	0.78	0.54*	0.34-0.85
Law	81 (78.6)	22 (21.4)	0.47	0.50*	0.27-0.95
Medicine	221 (73.7)	79 (26.3)	0.62	0.68	0.43-1.08
Nursing	84 (68.3)	39 (31.7)	0.8	1.28	0.71-2.31
Exposure to print media					
< 1 hour	174 (63.7)	99 (36.3)	Reference		
1-2 hours	519 (70.5)	217 (29.5)	0.74	1.53*	1.05-2.24
2-5 hours	80 (76.9)	24 (23.1)	0.53	0.93	0.45-1.93
> 5 hours	8 (50.0)	8 (50.0)	1.76	11.79	0.95-146.43
Exposure to audio/ visual media					
< 1 hour	32 (57.1)	24 (42.9)	Reference		
1-2 hours	166 (76.9)	50 (23.1)	0.4	0.52	0.24-1.12
2-5 hours	388 (74.5)	133 (25.5)	0.46	0.43*	0.21-0.86
> 5 hours	195 (58.0)	141 (42.0)	0.96	0.89	0.42-1.90
Exposure to social media					
< 1 hour	40 (83.3)	8 (16.7)	Reference		
1-2 hours	246 (80.9)	58 (19.1)	1.18	1.69	0.64-4.47
2-5 hours	324 (68.5)	149 (31.5)	2.3	2.72*	1.07-6.89
> 5 hours	171 (56.2)	133 (43.8)	3.89	3.95*	1.52-10.28
Frequency of observing media warnings against AC#					
Never	202 (70.1)	86 (29.9)	Reference		
< 10 times	381 (73.1)	140 (26.9)	0.86	0.54*	0.34-0.82
> 10 times	86 (48.9)	90 (51.1)	2.46	1.83*	1.06-3.16
At least once daily	112 (77.8)	32 (22.2)	0.67	0.36*	0.19-0.66
Frequency of observing AC by actors in media#					
Never	60 (83.3)	12 (16.7)	Reference		
< 10 times	309 (67.6)	148 (32.4)	2.4	7.09*	3.00-16.76
> 10 times	310 (66.8)	154 (33.2)	2.48	6.37*	2.69-15.05
At least once daily	102 (75.0)	34 (25.0)	1.67	4.67*	1.69-12.88
Frequency of exposure to AC behavior among peer groups #					
Never	179 (86.1)	29 (13.9)	Reference		
< 10 times	445 (76.2)	139 (23.8)	1.93	0.87	0.50-1.50
> 10 times	118 (47.4)	131 (52.6)	6.85	3.98*	2.20-7.18
At least once daily	39 (44.3)	49 (55.7)	7.76	3.28*	1.64-6.56
AC in close family					
No	513 (72.8)	192 (27.2)	1.56	1.93*	1.39-2.69
Yes	268 (63.2)	156 (36.8)			
Opinion about alcohol being injurious to health					
Harmful	480 (75.9)	152 (24.1)	2.06	2.50*	1.79-3.50
Not completely harmful	301 (60.6)	196 (39.4)			

Logistic regression model used for confounder adjustment. [Crude OR- unadjusted odds ratio, aOR- adjusted odds ratio,
CI- confidence interval, SD- standard deviation, AC- alcohol consumption,
#- Frequency in the 30 days prior to the administration of the questionnaire,
*- statistically significant odds ratio

Table 3 gives an insight of the participants' tolerance to alcohol advertisements and the role of alcohol in their future. When enquired about their future plans towards alcohol consumption at the end of the study, 16% of the participants planned to stop alcohol consumption, which gives us some hope but 15% responded that they planned to continue consumption and 6% responded that they planned to try it at least once, which should be considered as potentially hazardous numbers.

DISCUSSION

It should be acknowledged that 31% (348) is a dangerously high prevalence of alcohol consumption considering the age group of the study population. The results from the present study are similar to other studies conducted in various parts of the globe and provide a comprehensive outlook into the greater hazard hiding behind. The prevalence of alcohol consumption among college students reported in the present study is far less than the 55.4% reported by

Table 2: Practices related to alcohol consumption (N=348)

Practices	Participants (%)
Persuasion for the first drink	
Curiosity	94 (27)
Feeling sad/ depressed	8 (2.3)
Media influence	69 (19.8)
Peer influence	105 (30.2)
Family influence	56 (16.1)
Unknowingly	16 (4.6)
Frequency of alcohol consumption	
Experimented once	176 (50.6)
Social occasions	105 (30.2)
> Once a month	48 (13.8)
> Once a week	19 (5.5)
Frequency of alcohol consumption in past 30 days	
Experimented for the 1st time	104 (29.9)
<5 times	143 (41.1)
5-10 times	48 (13.8)
>10 times	53 (15.2)
Frequent companion for alcohol consumption	
Family	80 (23)
Friends	204 (58.6)
Alone	40 (11.5)
Someone	24 (6.9)
When do you feel like consuming alcohol?	
Never	109 (31.3)
When I am happy/ To celebrate	94 (27)
When I am sad/ tensed	16 (4.6)
When everyone around me is drinking	72 (20.7)
Others	57 (16.4)
Feeling after consuming alcohol	
Accomplished	41 (11.8)
Bitter taste	24 (6.9)
Don't know/ remember	43 (12.4)
Guilty	92 (26.4)
Happy/ relaxed	132 (37.9)
Inspired	16 (4.6)

Table 3: Attitude related to alcohol consumption (N=1129)

Attitude	Participants (%)
Attitude towards alcohol advertising	
No/Low tolerance	913 (80.9)
Moderate tolerance	136 (12)
High tolerance	80 (7.1)
Attitude towards alcohol consumption in future	
Do not plan to start	712 (63.1)
Plan to try it	69 (6.1)
Plan to stop	180 (15.9)
Plan to continue	168 (14.9)

Yuri Silva et al, but almost double that of the 17.2% and in the WHO report, and the 11.4% reported by Mekonen T et al.[17,6,18]

Increasing age (AOR=1.41[1.28-1.56]), higher exposure to social media and exposure to alcohol consumption in family (AOR=1.93[1.39-2.69]) were identified as factors influencing alcohol consumption among college students. Peer influence (30.2%) was identified as the persuasion for initiation. The influence of age may be due to the increased time spent with peer groups, life in hostels, etc. which increases their exposure to alcohol consumption practices among their peers. From Table 2, we can see that 104 (9.21% of 1129) of the study participants experimented (had their first drink of alcohol) in the preceding 30 days, by which we can say without a doubt that their alcohol initiation was during the initial years of college life, increasing the relevance of having public health interventions and increased exposure to health education in this age group.

Exposure to alcohol consumption in family was also reported by 16.1% participants as a motivation for alcohol consumption, which was less than 25.5% reported by Yuri Silva et al.[17] The motivation for initiation of alcohol consumption was reported as 'curiosity' by 27%, which is less than the 61.9% reported by Mini S S et.al.[19] The findings suggest the need for primordial prevention focusing equally on the peer groups and the families.

While observing the alcohol consumption practices, it was noted that 58.62% preferred the company of peers while consuming alcohol which was again an indicator of the role of peer groups and colleges in alcohol consumption. Similar findings were also reported in studies by Mekonen T et al and Mini S S et al.[18,19] In addition we have also tried to establish the association between media portrayal of alcohol and alcohol consumption among college students and to evaluate the attitude towards alcohol consumption among college students. Media exposure has been observed to be a significant influence in alcohol consumption among college students, along with peer-pressure and exposure to consumption of alcohol in the family in the present study. A similar influence of alcohol advertisements on the positive attitudes of adolescents towards alcohol consumption was also reported by Moreno M et al.[12]

When comparing the media exposure to alcohol consumption as well as warnings or health education sessions against harmful use of alcohol in the preceding 30 days, it was noted that the latter was not getting the required attention (Table 01). While 412 (36.5%) participants reported having media exposure to alcohol consumption at least 10 times or more in a month, only 198 (17.5%) reported observing warnings related to harmful use of alcohol more than 10 times. This can be considered as a pitfall in the common IEC practices by the policy makers. Another important factor noticed during the course of the study was that out of the 348 who reported alcohol consumption, 58.62% (204) preferred the company of friends for consuming alcohol and 105 (30.2%) reported peer influence as the persuasion for the initiation of alcohol consumption (consuming the first drink). This signifies the importance for public health interventions and preventive measures during this age group.

LIMITATIONS

There was a female predominance noted in the sample which may give rise to bias affecting the overall

prevalence and effects of various determining factors. This factor was identified and incorporated into the applied multivariate logistic regression model. The external validity of the results may be affected by the use of non-probability sampling techniques and self-selection bias due to the preference given to the students to answer the questionnaire. The fact that no objective assessment was done for alcohol consumption can be considered as a major limitation which holds the scope for further study in the future.

CONCLUSIONS

Statistics clearly shows a dangerously heavy burden of alcohol consumption among college students and calls for an immediate need for rectification. Along with the influence of family and friends, the influence of media was also found to be alarming. It should also be brought to attention that 6% planning to try alcohol at least once is still a significantly hazardous proportion considering the age group of the study participants. This warrants health education planning with more peer educator sessions as the findings from this study also proves a greater peer influence on the study group.

In this 21st century when everything is available at your fingertips, is the media giving more importance to the problem than the solution? The study statistics clearly show that 53.14% were exposed to actors consuming alcohol in TV/Movies more than 10 times in the past 30 days while only 28.34% reported seeing warnings or health education material in the same duration. It's high time we stop using technology for pleasure/ comfort and make use of it for the betterment of our future generations.

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