

Population-Based Cross-Sectional Study to Assess Alcohol Drinking Pattern and Subjective Health

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Abstract:

Introduction: The World Health Organization indicates that alcoholic beverages are consumed by about 2 billion people all over the world amongst whom 76.3 million are reported to be diagnosed with alcohol use disorders. Various patterns of alcohol consumption tend to act as risk factors, leading to biochemical and biological effects, thereby producing long-term consequences on human health as well as affecting the day to day life.

Materials and Methods: A questionnaire-based study was conducted to assess the patterns of alcohol consumption in a group of medical fraternity belonging to various Medical Colleges of Punjab. The Google Form based on The Alcohol Use Disorders Identification Test Questionnaire was prepared and randomly circulated for period of 3 months and all responses were collected.

Results: Frequency of participation of junior resident was found to be the highest followed by 26 senior residents, faculty and interns and majority of respondents belonged to age range of 25 to 50 years with male predominance was seen. Male junior residents are most likely to develop alcohol use disorders as the frequency of drinking is found to be the highest.

Conclusion: The current study has helped to assess the frequency of alcohol drinking in the medical faculty which were well verse with the alcohol use disorders. As such, this study provides grounds for further researches which can be conducted to identify and assess the type of diseases that occur in alcohol drinkers due to high frequency of drinking.

Keywords: Alcohol Drinking Pattern; Subjective Health

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Introduction

The estimation made by the World Health Organization (WHO) indicates that alcoholic beverages are consumed by about 2 billion people all over the world amongst whom 76.3 million are reported to be diagnosed with alcohol use disorders [1]. Various patterns of alcohol consumption tend to act as risk factors, leading to

biochemical and biological effects, thereby producing long-term consequences on human health [2].

The average volume of alcohol consumed by individuals of varying age makes them vulnerable to a number of chronic disorders, liver cancer, unipolar major depression, mouth and oropharyngeal

cancer while the varying patterns of alcohol consumption makes individuals vulnerable to risks of coronary heart diseases and intentional and unintentional injuries [3,4]. However, moderate alcohol consumption is found to reduce the chronic disease risk factor, bringing about improvement in overall health of individuals [5].

Some of the major alcohol drinking patterns that have been associated with poor health outcomes include binge drinking, extreme binge drinking, heavy drinking and drinking outside of meals [5]. Based on drinking frequency, several studies have classified alcohol drinkers as continuous drinkers, frequent heavy drinkers and episodic drinkers [6]. The populations which are mostly found to be engaged in binge drinking include the adolescents and the young adult men and as such, these populations are mostly vulnerable to the risks of alcohol use disorders [7, 8].

The World Health Organization (WHO) has developed a simple screening tool, that is, AUDIT (Alcohol Use Disorders Identification Test) for the identification and assessment of individuals engaged in harmful and hazardous patterns of drinking alcohol. The AUDIT now stands as one of the leading self-screening measures of alcoholism due to the accuracy and brevity of the test results [9, 10, 11]. Stranges S et al carried out a population based study to examine the relation between several patterns of alcohol use and subjective health in a general-population sample of men and women [12]. A two component summaries both physical and mental of the Short Form-36 health survey questionnaire was used to assess the outcome measure and subjective health of the study subjects. The study revealed that both the components were affected by the drinking pattern of the individuals [13, 14]. Another population based cross-sectional study was conducted by Reisdorfer E et al. (2012) to study the Prevalence and associated factors with alcohol use disorders among adults in Southern Brazil [15]. The study recruited

the subjects between 20-59 years of age using a two-stage cluster sampling. The Alcohol Use Disorders Identification Test (AUDIT) was used for measuring the disorders of Alcohol use. A significant association was observed between alcohol use disorders and variables like gender, age and smoking habits of the study subjects [16].

While there are a large number of studies which have been previously conducted to determine and assess the positive and negative health outcomes of alcohol consumption, the proximity of the relationship between various patterns of alcohol consumption and the health of individuals consuming alcohol remains questionable. Thus, the current study aimed at closing the existing gaps in previous literature and assess the proximate relationship existing between the alcohol drinking patterns and subjective health in a group of people. To study patterns of alcohol consumption in a group that is well versed with ill effects of alcohol consumption, loss of work efficiency on performance in day-to-day basis and to study remorse that goes with consumption of alcohol and correlate it with the amount of consumption and other people's response.

Materials and Methods

A questionnaire-based cross-sectional study was conducted to assess the patterns of alcohol consumption in a group of medical fraternity belonging to various Medical Colleges of Punjab. The Google Form based on The Alcohol Use Disorders Identification Test (AUDIT) Questionnaire was prepared and was randomly circulated to various individuals through emails and social media platforms like WhatsApp etc. for period of 3months and all responses were collected. The Alcohol Use Disorders Identification Test (AUDIT) questionnaire is a 10-item screening tool developed by the World Health Organization (WHO) to assess alcohol consumption, drinking behaviours and alcohol-related problems. A

score of 8 or more is considered to indicate hazardous or harmful alcohol use. A score of 13 or more in women and score 15 or more in men indicates alcohol dependence [17]. Individuals from medical background of various age and genders were selected for the survey. However, the only eligibility criteria were that the respondents required to be associated with medical profession in medical colleges of Punjab in the form of faculty, interns, senior or junior residents. The responses were collected after informed consent of the respondents. It was further ensured that their responses remain confidential and anonymous. [18]

The final results depict the responses provided by a total of 103 respondents who fulfilled the eligibility criteria.

Results

Amongst the 103 respondents, the frequency of participation of junior resident was found to be the highest, that is, 37 (35.9%), followed by 26 senior residents (25.2%), 24 faculty (23.3%) and 16 interns (15.5%). The frequency distribution based on age interval indicated that the majority of respondents belonged to age range of 25 to 50 years, that is, 71 (68.9%), followed by 20 (19.4%) respondents belonging to age range less than 25 years and 12 (11.7%) belonging to age range above 50 years (Fig. 1). According to the gender-wise distribution of the study subjects, male predominance (68%) was reported.



Figure 1: Distribution in percentage (A) As per Designation; (B) As per age

Based on the responses given by the respondents against each of the 10 relevant questions, it was observed that out of 103 respondents, the majority, that is, 34 (33%) respondents drink alcohol 2 to 4 times a month which are in age group 25-50 years.

Out of these 34 respondents, 13 were junior residents. It was further noted that on a typical drinking day, the majority (41.8%) respondents take 3 or 4 drinks (Q2). (Table 1)

Table 1: Frequency of alcohol drinking pattern in subjects

Q1. How often do you have a drink containing alcohol?	Percent	Q2. How many drinks containing alcohol do you have on a typical day when you are drinking?	Percent
2 to 4 times a month	33.0	1 or 2	34.0
2to 3 times a week	14.6	3 or 4	41.8
4 or more times a week	3.9	5 or 6	6.8
Monthly Or less	32.0	None	17.5
Never	16.5	10 or more	0

Majority (61.2%) never take 6 or more drinks on an occasion. However, 26.2% respondents reported to take 6 or more drinks less than monthly, among these majority (33.3%) were faculty. The frequency of taking 6 or more drinks on an occasion was seen in only 3.9% respondents (Q3). The majority (70.9%) also responded that they can stop drinking once getting started during the last year. However 23.3% of the total respondents, reported that they were not able to stop drinking once it had started for less than a month during the last year and this was seen mainly in the faculty group (33.3%) (Q4). In response to the next question, the majority (79.6%) said that they never during last year failed to do something

because of drinking. But it was also noted that almost 19% respondents failed to do something because of drinking during a month (Q5). 88 out of 103 respondents (85.4%) never faced a situation where they needed a drink in the morning to get themselves going after a heavy drinking session, which was seen in 13.6% respondents (Q6). 65% said that they never felt guilt or remorse after drinking in the last year while this happened with 25.2% less than monthly (Q7). The majority (76.7%) also responded that they never confronted an occasion when they were unable to remember what happened last night due to drinking during the last year (Q8). (Table 2).

Table 2: Alcohol drinking behaviour in subjects

Response	Q3. How often do you have 6 or more drinks on one occasion?	Q4. How often during the last year have you found that you were not able to stop drinking once you had started?	Q5. How often during last year have you failed to do what was normally expected from you because of drinking?	Q6. How often during the last year have you noticed you needed a first drink in morning to get yourself going after a heavy drinking session?	Q7. How often during the last year have you had a feeling of guilt or remorse after drinking?	Q8. How often during the last year how have you been unable to remember what happened the night before because you had been drinking?
Never	61.2%	70.9%	79.6%	85.4%	65.1%	76.7%
Less than monthly	26.2%	23.3%	18.4%	13.6%	25.2%	14.6%
Monthly	7.8%	1.9%	0.97%	0.97%	6.8%	4.9%
Weekly	0.97%	3.9%	0.97%	0	1.9%	2.9%
daily	3.9%	0	0	0	0.97%	0.97%

83.5% of respondents said neither they or someone else got injured due to their drinking while rest (16.5%) claimed that they or someone else got injured due to their drinking during the previous years (Q9). 78.7% of respondents said that they have

never been expressed the concern about their drinking by a relative or friend. However, 15.5% respondent's relative or friend expressed the concern about their drinking (Q10). (Table 3)

Table 3: Alcohol-related problems in subjects

Response	Q9. Have you or someone else been injured as a result of your drinking?	Q10. Has a relative or friend or a doctor or another health worker been concerned about your drinking or suggested you to cut down?
No	83.5%	78.6%
Yes, but not in the last year	12.6%	5.8%
Yes, during the last year	3.9%	15.5%

In this sense, it can be stated that the male junior residents (usually between 28 to 30 years of age) are most likely to develop alcohol use disorders as the frequency of drinking is found to be the highest in this study population.

Discussion

Alcohol intake is well-known to be the most common causative factors for liver disease, upper gastrointestinal, pancreatitis, and neurological disorders. The study aimed to investigate the relationship of alcohol-related patterns in persons with medical profession which included their drinking pattern of average volume of alcohol consumption and its effects in the day to day outcomes. In established market economies like the Western Europe, the Eastern part of Europe and in North America, the average volume of drinking was highest while in the Eastern Mediterranean region and parts of Southeast Asia including India, the average volume of drinking lowest [2].

Relevant to our findings, Grønbæk M et al. reported that the most common age group among the study subjects in their findings was 18-44 years [16]. However, the study by Reisdorfer E et al. in a study on southern

Brazilian population reported that the majority of the respondents belonged to the age group between 20-29 years and the prevalence of alcohol use disorders was three times higher among men (29.9%) in relation to women (9.3%) [15].

In the study by Stranges S et al. (2006), the frequency of men engaged in alcohol consumption was found to be higher than women and the majority of drinkers in both genders ranged between 30 to 50 years of age [12]. Other previous studies conducted to assess the frequency of alcohol drinking patterns also concluded that the percentage of men drinkers is higher than females and that the majority are young adults and middle-aged [7, 8, 13, 14].

In the current study it was noted individuals taking 4 or more times a week are approximately 3.9%. In a study on adult male Ethiopian population it was reported that nearly 5% had risky drinking patterns and in the last 12 months nearly 9.7% of men drink almost every day [8].

In the current study it was reported that nearly 15.5% respondent's relative or friend expressed the concern about their drinking. Similarly it was also reported that the prevalence of alcohol use disorders was

higher in adolescents having Binge drinking pattern [7]. Alcohol-related medical disorders are more frequent in heavy drinkers which were reported to be nearly 44.4% [6]. Binge drinking in addition to smoking together account for depression [14]. Poorer mental health in women and poorer physical health in men were associated with intoxication and liquor consumption [12]. Increased risk of major chronic diseases various types of carcinomas, hypertensive disease, unipolar major depression, epilepsy, cirrhosis of the liver and hemorrhagic stroke are associated with average volume of alcohol consumption [3].

The study population in current study were all medical graduates while in literature it had been reported that low educational status individuals were seen engaged in high-risk alcohol consumption behaviour [8].

Studies had also reported that there is self-perception of good health in cases of moderate alcohol intake [13]. In a study by Stranges S et al. it was reported that with moderate alcohol consumption in male current drinkers poorer physical and mental health was seen while in case of female current drinkers, better mental health were associated with consumption of daily drinking and mixed beverage and better physical health were associated with wine and mixed beverage consumption [12].

Indian data of various states shows that Punjab is at rank of high consumption of alcohol. There is need to find the reasons behind indulgence into alcohol use by Medical doctors who are well educated group, aware of all the effects of alcohol use and doses etc and supposed to guide the patients about good health. Indulgence or dependence on alcohol if not corrected timely can lead to absenteeism from work, behaviour problems with the fellow staff, health effects. While at recruitment into job there should be medical screening to rule out addiction history as well along with the other medical check-up. Various

recommendations include interventions like re-education of doctors by holding seminars and recreational problems and education of the adolescent students is needed regarding ill effects of alcohol and drug abuse.

Conclusion

The current study has helped to assess the frequency of alcohol drinking in the medical faculty. The drinking patterns were found to be the highest in male junior residents as compared to other categorized groups. However, the study has been limited to only the assessment of alcohol drinking patterns to find out which population group is most vulnerable to alcohol use disorders. As such, this study provides grounds for further researches which can be conducted to identify and assess the type of diseases that occur in alcohol drinkers due to high frequency of drinking.

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