

Pattern of alcohol consumption and it's risk assessment among medical college students

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ABSTRACT

Introduction: Alcohol consumption is a global concern due to its association with numerous diseases and health conditions.

Objective: To assess prevalence of alcohol consumption among medical students and drinking risk among them.

Methodology: A descriptive cross-sectional study was conducted among medical students from different streams and years in Kathmandu Valley. A validated online questionnaire based on the Alcohol Use Disorder Identification Test (AUDIT) was used to collect data. Convenience sampling was employed, and the required sample size was determined. Descriptive and inferential statistics were utilized for data analysis using SPSS software.

Results: Out of 192 respondents, 56% reported consuming alcohol at least once in their lifetime. Among the alcohol consumers, 40.7% started drinking after joining medical college. Curiosity was the primary reason for initiating alcohol consumption among the students. The majority of students were classified as being at a low risk of drinking based on the AUDIT scores.

Conclusion: Alcohol consumption among medical students in Kathmandu Valley is prevalent, with a significant proportion starting drinking after joining college. The findings emphasize the importance of addressing alcohol-related issues among medical students and implementing preventive measures to promote their well-being and academic performance. Further studies encompassing a larger and more diverse sample are recommended to obtain a comprehensive understanding of alcohol consumption among medical students in Nepal.

Keywords: Alcohol Consumption; AUDIT Score; Medical Students

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INTRODUCTION

Alcohol usage is associated to mental health issues, alcoholism, liver cirrhosis, some malignancies, cardiovascular ailments, and over 200 diseases, injuries, and health concerns.¹ Three million people die each year from the harmful use of alcohol and has negative impact on the health and well-being.²

According to estimates, one in three young drinkers will develop an addiction, and up to 9% of youngsters globally may have an alcohol use disorder.³ Such usage might have detrimental social, economic, and cognitive effects, encouraging the use of other drugs and impeding educational endeavors and thus it is crucial to assess alcoholism among medical students to assess a student's quality of life based on their physical



health, mental condition, personal conduct, and social interactions.⁴

This study aimed to assess the prevalence of alcohol consumption among medical students in Kathmandu Valley and evaluate its impact on their well-being.

METHODOLOGY

A descriptive cross-sectional study was conducted among the students of medical colleges in Kathmandu valley studying in different streams (MBBS, BDS, BSc. Nursing, BNS). The study was conducted from 31st November 2022 to 20th December 2022. Ethical approval was taken from the Institutional Review Committee of Kathmandu Medical College (Reference number: 09092022/01). Consent was taken from participants. All the data were kept confidential and were used only for research purpose.

We included the students from all medical colleges of Kathmandu Valley i.e. 6 who voluntarily filled the google form and excluded students who had not given consent. Total 244 emails were sent and 195 have given consent to fill the form with response rate of 20%. Among 195, 192 students had completely filled up the form. Alcohol consumption was taken as the dependent variable and age, sex, stream, peer pressure, emotional instability; stress was taken as independent variables.

The sample size was calculated using the following formula, $n = Z^2 \times p \times (1-p) / e^2$
 $= (1.96)^2 \times (0.88) \times (1-0.88) / (0.05)^2$
 $= 162.26$
 $= 162$

Where, n=required sample size, z= 1.96 at 95% Confidence Interval, p= prevalence, 88% 5, q= 1-p, e= margin of error, 5%

Taking non-response rate of 20%, sample size was 195. Data from 195 participants were collected but 3 were incomplete so the adjusted sample size was 192.

Convenience sampling method was used. Online google form was distributed among the students via E-mail, Facebook and Viber. Email, viber account obtained through class representatives. Validated Online Modified self-administered anonymous questionnaire based on Alcohol and Health Questionnaire (AUDIT)⁶ was used to analyze for assessment of risk. The AUDIT is widely used alcohol screening tool developed by WHO. The AUDIT has 10 questions. The range of possible scores is from 0 to 40. According to World Health Organization (WHO)

guidelines 0 indicates an abstainer who has never had any problems from alcohol. A score of 1 to 7 suggests low-risk consumption. Scores from 8 to 14 suggest hazardous or harmful alcohol consumption and a score of 15 or more indicates the likelihood of alcohol dependence.

Pretesting was done among 20 students (11% of sample size) of non-clinical stream and questions were modified after pretesting. Day to day supervision of mailed questionnaires was done. Those who did not respond were sent up to three reminders. These reminders were sent at a gap of 3 days.

The data were analyzed by using IBM SPSS Statistics for Windows, version 26 (IBM Corp., Armonk, N.Y., USA). Descriptive statistics (frequencies, means, and standard deviations) was used to describe the variables of interest.

RESULTS

The study was conducted among total 192 respondents, out of which there were 101 (52.6%) male and 91 (47.4%) females. Out of all the respondents, maximum were Hindus 173 (90.1%). Based on the ethnicity, large number belonged to Brahmin 87 (45.3%) followed by Madhesi 39 (20.3%). The majority of respondents 120 (62.5%) were from out of valley. Among all the respondents, 158 (82.3%) were studying MBBS, 23 (12%) were studying B.Sc. Nursing and 11 (5.7%) were studying BDS. Maximum of the respondents 111 (57.8%) were living in hostel followed by 44 (22.9%) living in flat/room and 37 (19.3%) were living with their parents (Table 1). Among 192 respondents, 108 (56%) have consumed alcohol once in their lifetime and remaining 84 (44%) haven't consumed alcohol once in their lifetime as shown (figure 1). Gender wise, 53.84% of female and 58.40% male students had consumed alcohol. Among the respondents who consumed alcohol, 64 (59.6%) started consuming alcohol before joining medical college and remaining 44 (40.4%) started consuming alcohol after joining medical college (figure 2). Among respondents who consumed alcohol, most of them 43 (40%) preferred beer followed by 27 (25%) for wine, 27 (16%) for whiskey, 10 (9%) for vodka, 6 (5%) for local, 3 (3%) for cider and 2 (2%) for rum, 74 (68%) of respondents started drinking alcohol due to traditional purpose, 18 (17%) due to peer pressure, curiosity followed by 13% due to emotional stress (figure 3). Medical Students on average spend Nrs.1123.08 per month with maximum of Nrs.15000 and minimum Rs.100 per month.

The median score on the full AUDIT was two. Whereas, Mean and SD is 3.60 ± 3.25 . Among all the respondents who consumed alcohol, 75 (88.24%) were at lower risk of

drinking and remaining 10(11.76%) were at increasing risk of drinking alcohol as shown in the (figure 4).

Table 1: Socio-demographic characteristics of the respondents

Variables	n (%)
Age (Mean±SD)	21.98±1.855
Sex	
Male	101(52.6)
Female	91(47.4)
Religion	
Atheist	3 (1)
Buddhist	8(4.2)
Christian	1(0.5)
Hindu	173(90.1)
Muslim	7(3.6)
Ethnicity	
Brahmin	87(45.3)
Chhetri	29(15.1)
Dalit	4(2.1)
Janajaati	33(17.2)
Madhesi	39(20.3)
Permanent residence	
Outside valley	120(62.5)
Inside valley	72(37.5)
Stream	
BDS	11(5.7)
MBBS	158(82.3)
B.Sc.Nursing	23(12.0)
Current residence	
Flat/room without hostel	44 (22.9)
Hostel	111(57.8)
With parents at home	37(19.3)

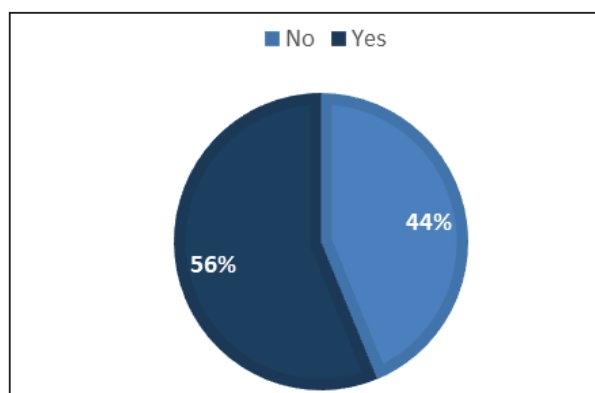


Figure 1: Alcohol Consumption once in a life time.

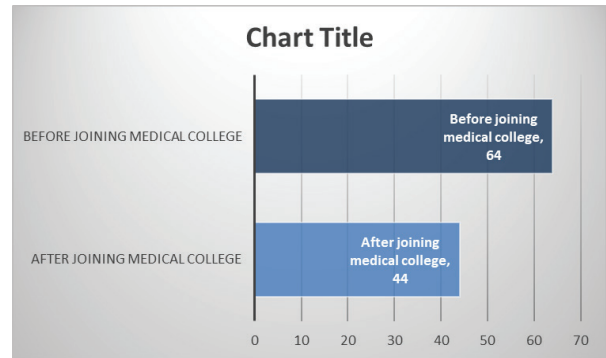


Figure 2: Starting Point of Drinking Alcohol (n=108)

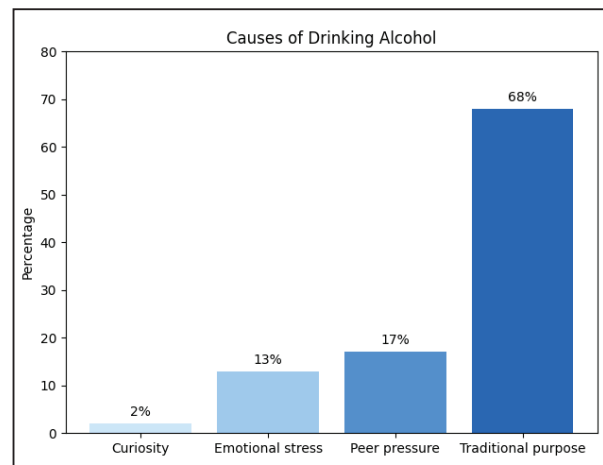


Figure 3: Reasons for drinking alcohol for the first time (n=108)

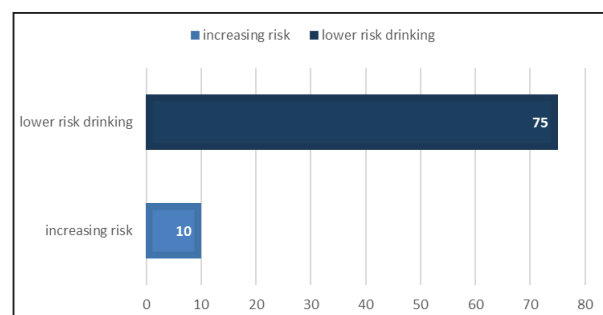


Figure 4: AUDIT Grading of drinking risk .

DISCUSSION

The prevalence of alcohol consumption among medical college students in the Kathmandu Valley was found to be 56% in this study. This prevalence is similar to a study conducted among medical students in the Kathmandu Valley in 2010, which reported a prevalence of 57.6%.⁷ Similarly, another study conducted among 3rd-year Nepalese medical students in 2010 reported a prevalence of 52.3%, which is also comparable to the

current study.⁸ However, a more recent study conducted among medical students in Nepal in 2020 reported a lower prevalence of 41.86%.⁹

Comparing these findings to international studies, there are both similarities and differences. The prevalence of alcohol consumption among Italian medical students in 2017 was higher at 85.5%, indicating a significantly higher prevalence compared to the current study.¹⁰ In contrast, a study conducted among Thai medical students of Prince Songkla University in 2016 reported a prevalence of 53.3%, which is similar to the current study's findings.¹¹ Furthermore, the prevalence in the current study is higher than a study conducted among Canadian medical students in 2021, which reported a prevalence of 46.4%.¹² Additionally, the prevalence in the current study is significantly lower than a study conducted among medical students in the United States of America in 2016, which reported a prevalence of 91.3%.¹³ In USA, the inability to practice medicine with reasonable skill and safety to patients by reasons of physical or mental illness, including alcoholism or drug dependence in which medical students are is in great concern therefore Medical schools may dismiss those students who pose a distinct risk of substantial harm to the health and safety of others.¹⁴ This is not quite common in our part of the world.

In terms of AUDIT scores, the median score in this study was 2.00, indicating a relatively low level of alcohol-related problems among the participants. However, the mean and standard deviation (SD) were 3.60 ± 3.256 , suggesting some variability in alcohol-related problems within the sample. This finding is lower than the median score reported in the POLLEK Cohort study of 2021, which was 5.¹⁵ Furthermore, the AUDIT score from the current study is significantly lower than a study conducted among Korean medical students in 2020, which reported a mean $\pm$ SD of 9.8 ± 7.5 .¹⁶

There are certain limitations of this study. First, the study was conducted in medical colleges within the Kathmandu Valley only and may not reflect the general prevalence among medical students in Nepal. Additionally, the data collection relied on self-report measures, which are subject to recall and social desirability biases. Furthermore, the study focused solely on alcohol consumption among medical college students and did not explore other factors that could influence alcohol-related behaviors, such as psychological or social determinants.

CONCLUSION

The findings of this study indicate that alcohol consumption is a concern among medical students in the Kathmandu Valley. A considerable number of students reported alcohol use. Among these, the majority were classified as low-risk drinkers, while a smaller group demonstrated patterns associated with increased risk. These results highlight the presence of alcohol use among medical students, with most falling within the low-risk category based on AUDIT assessments.

To address this issue, several recommendations can be considered. First, implementing alcohol education programs specifically tailored for medical students would be beneficial. Creating a supportive environment within medical colleges is also crucial. Medical colleges should consider implementing strict policies and regulations regarding alcohol consumption on campus.

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