Assessing Alcohol Consumption among Mongolian Students Using ASSIST

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Objectives: There has been a rapid growth of alcohol use among Mongolians, particularly the youth. The goal of this study was to identify the risk scores of alcohol consumption among Mongolian students. **Methods:** Alcohol, Smoking and Substance Involvement Screening Test (ASSIST), recommended by the WHO international group of researchers, was used in this study. **Results:** Of the 150 students who had consumed alcohol before, 111 (74%) scored "low risk" (0-10 points), 39 (26%) scored "moderate risk" (11-26 points), and no subjects scored "high risk" (27+ points). 67 (44.7%) said that they have experienced health, social, and/or financial problems related to alcohol consumption. **Conclusion:** Health problems (OR=1.9; 95% CI, 2.2-0.04, p<0.002), social problems (OR=1.91; 95% CI, 1.5-0.11, p<0.001), and strong desire or urge to drink alcohol (OR=2.5; 95% CI, 4.5-8.1, p<0.000) significantly influenced risk scores.

Keywords: Alcohol Drinking, Students, Risk, Screening

Introduction

Alcoholism and tobacco addiction among youth are adverse to their mental, moral, and physical health, as well a hindrance to social development. According to the 2009 Global Health Risks report, 2004 estimates state that 8.7% of deaths is due to tobacco, 3.8% is due to alcohol, and 0.4% is due to illicit drugs; and 3.7% of Disability Adjusted Life Years (DALYs) lost is due

to tobacco, 4.5% due to alcohol, and 0.9% due to illicit drugs [1]. Furthermore, the report states that substance use is among the top 20 risk factors for death and disability worldwide. For individuals and their families, hazardous and harmful uses of alcohol and other substances are risk factors for a variety of social, financial, legal, and relationship problems.

In a previously study, subjects from Mongolia were asked about the types of alcoholic beverages that their

peers consume [2]. Most of the survey participants reported that they had started with beer, then tried vodka, and then consumed both vodka and other alcoholic beverages. Half of the survey participants answered that their peers had started drinking alcohol at age 16-18 years, and one out of every three friends started drinking alcohol at age 14-16 years. Of all 530 participants, 446 (84.1%) had already tried vodka and other alcoholic beverages. Of those who had already tried vodka and other alcoholic beverages, 226 (50.7%) had consumed alcohol for the first time under peer pressure or some influence during a party or special occasion. 127 (24.0%) reported that they liked vodka when they first tried it.

Use of alcohol, smoking, and substances can be hazardous worldwide. According to the sociological survey from Belarus, the majority (70.8%) of youth-aged students drink alcohol. 40.7% of respondents consumed alcoholic beverages once a month or less, 14.6% consumed alcohol 2-3 times a month, and only 28.4% did not consume alcohol [3]. One Russian study revealed that champagne was consumed by 17.5% of the respondents; the proportion of girls was slightly higher. Strong drinks were consumed by 12.5% of respondents. Alcohol consumption was twice as high among boys than girls [4]. A study among secondary school students in Nigeria revealed that male students moderately consumed beer (55.2%) and local cocktails (51.5%), whereas their female counterparts rarely consumed beer (44.8%) and local cocktails (48.5%). This study also found rare consumption of distilled spirits among both male and female students, whereas wine, liquor, local spirits, and palm wine were consumed moderately, regardless of gender [5].

Alcoholic beverages, especially beer and wine, are considered readily available. A study conducted in the country of Georgia reported that 73% and 70% of surveyed students found beer and wine, respectively, easy to obtain. 90% of the students had tried alcohol at least once during their lifetime. 80% had done so in the last 12 months, and 40% had done so in the past 30 days. This study noted that gender difference were apparent when frequency of use was considered; boys consumed alcohol more often than girls. 7.5% of the surveyed students stated that they never drink alcohol [6].

Assessing alcoholic consumption among students using the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) provides vital opportunities to address challenges facing students, reduce the risk of potential impacts harmful to health, and provide counseling accordingly. The goal of this study was to identify risk scores of alcohol consumption among Mongolian students, as there has been a f rapid growth of alcohol use among Mongolians and particularly the youth in the Mongolia.

Materials and Methods

Data collection
The ASSIST, recommended by a WHO international group of researchers, was used for this study. Data was collected from 250 students in the 7 universities in the Darkhan-Uul province, Mongolia. We divided the survey participants into the following age categories, per R.S. Nemov's classification: 15-17 years, 17-21 years, 21-35 years, and 35+ years.

Survey design and method
The ASSIST questionnaire consists of eight questions (Q). Q1 and Q8 are yes or no questions, which no point value. Q2 through Q7 have response choices with points assessed to each response.

Q1 asks about if alcohol has used in the student's lifetime. If the student responded yes, they are asked to answer Q2-Q7.

Q2 asks about the frequency of alcohol consumption in the past 3 months, to indicate if alcohol use is relevant to the current health status of the student. Students select from the following choices: never (0 points), once or twice (2 points), monthly (3 points), weekly (4 points), or daily (6 points).

Q3 asks about the frequency of a strong desire or urge to use alcohol in the past 3 months, with the following choices: never (0), once or twice (3), monthly (4), weekly (5), or daily (6).

Q4 asks about the frequency of problems (health, social, legal or financial) caused by uses of alcohol in the past 3 months, with the following choices: never (0), once or twice (4), monthly (5), weekly (6), or daily (7).

Q5 asks about the frequency of which the use of alcohol interfered with role responsibilities in the past 3 months, with the following choices: never (0), once or twice (5), monthly (6), weekly (7), or daily (8).

Q6 asks if anyone has expressed concern about the student's alcohol use, with the following choices: never (0), yes in the past 3 months (6), or yes but not in the past 3 months

(3).

Q7 asks whether the respondents have tried to cut down on alcohol use but failed, with the following choices: never (0), yes in the past 3 months (6), yes but not in the past 3 months (3).

Q8 asks whether the student has ever injected any substance. This Q is related to substances other than alcohol and did not impact the risk scores of alcohol consumption.

Alcohol consumption risk scores are assessed as follows: "low risk" was scored at 0-10 points (occasional or non-problematic use), "moderate risk" was at 11-26 points (regular use), and "high risk" was at 27+ points (frequent high-risk use).

Statistical analyses

Data were initially analyzed using descriptive statistics. Statistical analyses were performed with the SPSS-21 program using the random sampling method. We analyzed correlations between risk scores and problems related alcohol using the Pearson correlation coefficient and multiple logistic regression analysis. To define the risk score of alcohol consumption, a logistical analysis was made on nominal or categorical variables and estimated by odds ratio (OR) and 95% confidence interval.

Ethical review

We asked each study participant to fill in the permission before starting the questionnaire survey and participating in the study.

Results

Of 250 students 28 (11.2%) of were aged 15-17 years, 151 (60.4%) were aged 17-21 years, 69 (27.6%) were aged 21-35 years, and 2 (0.8%) were aged 35+ years. There were 144 (57.6%) female subjects and 106 (42.4%) male subjects. One hundred students of total 250 responded that they have never drunk alcohol; 150 students (60%) said that they have tried alcohol at least once.

In response to Q2 about the frequency of consumption of alcohol in the past 3 months 56 of the 150 subjects (37.3%) students answered never, 86 (57.3%) answered once or twice, 1 (0.6%) answered monthly, 6 (4.0%) answered weekly, and 1 (0.6%) answered daily. When consuming alcohol, 77 students (51.3%) reported that it usually is when meeting with friends, 48 (32%) said when celebrating holidays, 17 (11.3%) said when they are frustrated, and 8 (5.4%) students said when they are spending leisure time. Of the 150 students who had consumed alcohol, 58 of the females (38.6%) and 45 of males (30%) stated that they have only consumed beers. In response to Q3 about the frequency of strong desire or urge to consume alcohol in the past 3 months, 29 (19.3%) answered never, 120 (80%) answered once or twice, and 1 (0.7%) answered monthly.

In response to Q4 about how often the use of alcohol has led to health, social, legal, or financial problems in the past 3 months, 83 (55.3%) answered never, 67 (44.7%) answered once or twice. Problems reported included the following: 4 students of 67 students (5.9%) reported relationship breakdowns, 3 (4.5%) reported difficulties meeting daily expenses, 17 (25.4%) reported missing classes and 43 (64.2%) reported splitting headaches.

In response to Q5 about how often the use of alcohol has interfered with role responsibilities in the past 3 months, 117 (78%) answered never, 28 (18.7%) answered once or twice, 4 (2.7%) answered monthly, and 1 (0.6%) answered weekly. In

Table 1. Results of Alcohol Risk Assessment using ASSIST

Age	Alcohol Risk Assessment		
	Low Risk n (%)	Moderate Risk n (%)	High Risk n (%)
15-17	13(8.6)	2 (1.3)	0
18-21	63 (42.0)	28 (18.6)	0
22-35	33 (22.0)	9 (6)	0
35+	2 (1.3)	0	0
Total	111 (74.0)	39 (26.0)	0 (0)

As shown in Table 1, 111 students (74%) scored "low risk" (0-10 points), 39 (26%) scored "moderate risk" (11-26 points), and no subjects scored "high risk" (27+ points)

response to Q6 about if anyone else has ever expressed concern about their alcohol use, 28 (18.6%) said that family members expressed concerned, 30 (20%) said that teachers expressed concerned, and 4 (2.6%) said that friends expressed concern.

Table 2 shows the problems that students have reported related to their alcohol consumption.

Table 3 shows the correlations between risk score and problems related to alcohol consumption.

In response to Q7 about if they had ever tried to cut down on the use of alcohol but failed, all students responded no.

There was statistically significant correlations between risk score and the following problems associated with alcohol consumption: strong desire or urge, health problems, social problems, and others expressing concern (p<0.001).

Discussion

Hazardous alcohol and substance use are risk factors for a wide variety of social, financial, legal, and relationship problems for individuals and their families [1]. In our study, we used ASSIST to assess the risk scores of alcohol consumption among students. The mean age of students who had consumed alcohol was 20.7 years. Our study reported that 60% of our students had consumed alcohol before; of those, 74% were at low risk, 26% were at moderate risk, and 0% was at high risk.

In a similar study that used the EDAC score and self-reports to detect heavy and at-risk drinking among young adults, the mean age of their sample was 25 years [7]. A study conducted in Colombia used the AUDIT-score to analyze alcohol consumption and related psychosocial problems

Table 2. Problems Related to Alcohol Consumption

Problems	Low Risk	Moderate & High Risk
	n (%)	n (%)
Q3: Strong desire or urge to drink alcohol in past 3 months	13 (10.7)	20 (16.5)
Q4: Health, social, legal, or financial problems in past 3 months	15 (22.3)	23 (34.3)
Q5: Interference with role responsibilities in past 3 months	11 (33.3)	15 (45.5)
Q6: Family or friend expressed concern about student's use of alcohol	4 (6.4)	16 (25.8)

Table 3. Correlation between risk scores and problems related to alcohol consumption

Problems	Pearson correlation coefficient	p-value
Strong Desire or Urge	0.574**	0.000
Health Problems	0.249**	0.002
Financial Problems	0.810	0.028
Social Problems	0.274**	0.001
Legal Problems	0.012	0.885
Others Expressed Concern	0.356**	0.000

** p<0.001

Table 4. Results of multiple logistic regression analysis

Variables	OR	95% CI	
		Highest	Lowest
Health Problems	1.981	2.257	0.049
Financial Problems	1.174	0.653	0.008
Social Problems	1.911	1.564	0.111
Legal Problems	1.154	0.226	0.224
Strong Desire or Urge	2.536	4.554	8.176
Others Expressed Concern	3.245	0.128	0.011

among university students [8]. Their study sample (n = 396) was composed of 60.1% women, had the mean age was 23.2 years, and 75% was between the ages of 18 and 25 years [8]. They found that 88.6% of their students drank, 20.5% reported harmful consumption, and 14.9% were at risk for dependence on alcohol. Furthermore, the mean age of onset of alcohol consumption was 14.4 years, 11.3% first consumed alcohol before age 10, and 58.7% first consumed alcohol between ages 11 and 15 years. Their study showed that harmful alcohol consumption and dependence can result in damage to the academic performance, social relationships, psychological status, and sexual condition. 37.3% of those who practiced hazardous consumption and 67.4% of those who were dependent reported absences or delays in their classes. Of those who were dependent, 52.2% had fights and arguments with friends, 41.3% had general health problems such as headaches, and 21.7% had physical aggression. Furthermore, they found that the negative effects deriving from alcohol consumption can often involve changes in relationship with family, peers and teachers, economic problems, or fights that result in injuries.

The WHO reports that 11.7% of adolescents partake in heavy episodic drinking [9]. ASSIST is a reliable and valid tool for early detection of harmful and hazardous drug use, including alcohol [10]. A study among Lebanese university students using ASSIST found that the prevalence of ever consuming alcohol was 20.9% [11].

In the study conducted in Taiwan, 9.55% were classified with high-risk drinking behavior, 22.51% were classified with medium-risk drinking behavior, and 67.94% were classified with low-risk drinking behavior [12]. In a study conducted in Hong Kong, they found that high family affluence was associated with wine and spirits drinking. They also found that beer and spirits were preferred more by boys, and fruit wine by girls [13].

According to our assessment, 111 (74%) were considered "low risk" (0-10 points). These students use alcohol, but their current alcohol consumption resulted in less problems. 39 students (26%) were considered "moderate risk" (11-26 points), with some problems related to their alcohol consumption. 67 students (44.7%) stated that they have faced health, social, legal, or financial difficulties due to their alcohol consumption. In order to prevent "moderate risk" students from

becoming "high risk", students need effective counseling and support from family members, primary health organizations, and universities.

Our study was limited to participants from 7 universities in Darkhan, Mongolia, but it is feasible to extend this type of study to students at all universities across the country. This type of study can help reduce the potential negative impacts caused by alcohol consumption. As a medical school, this type of study not only benefits student and youth, but also benefits the general population, as we are able to communicate and conduct the public awareness about risks and health problems may be caused by alcohol consumption and tobacco addiction. Through this study, we have determined risk scores of alcohol consumption among Mongolian students, ages 15 years to 35+ years. However, we still have much to learn regarding the alcohol related problems students of each risk level face.

Conflict of Interest

The authors state no conflict of interest.

Acknowledgements

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