

Problem Drinking Among University Students in Malawi

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ABSTRACT

A survey of 787 University of Malawi students (481 males and 306 females) using the Alcohol Use Disorders Identification Test (AUDIT) indicated that about 72% of responders (78% of males and 63% of females) drink alcohol. The mean AUDIT score was 3.4 ± 5.3 for females and 13.2 ± 8.9 for males. Some 54.1% of males and 16.5% of females had the AUDIT score above the threshold level of 8.0, which corresponded with high mean values of alcohol consumption per week (222.8 ± 162.7 g of pure ethanol for males and 100.3 ± 98.3 g for females). In addition, about 74.4 % of male students and 27.3 % of females reported episodes of heavy drinking. The findings stressed the need for developing of alcohol control policies in the University of Malawi and in the country as a whole.

Key words: AUDIT, Malawi, students

Introduction

According to the WHO estimates (2002)¹, there are considerable variations in the recorded adult per-capita alcohol consumption between African countries. For example, the WHO's Global Alcohol Database² for the year 2000 showed that in Malawi the estimated amount of pure ethanol consumed per adult was 1.38 litres, which was lower than in South Africa, Zimbabwe, Zambia and Kenya (11.51, 3.91, 2.92, and 1.61 litres, respectively) but higher than in Mozambique (0.56 litres). In general, the recorded adult per-capita alcohol intake in the region of sub-Saharan Africa is lower than in developed countries. However, in many African countries un-recorded production of alcoholic beverages within the informal sector might contribute up to 90% of the total alcohol consumption of the population³. Therefore, the total per-adult alcohol consumption in African societies could be close to the level of developed regions of the world.

Traditionally, drinking was not part of the every day life in African communities. However, during the second part of the last century a traditional pattern of sporadic drinking changed to a pattern of frequent heavy drinking, which was reflected in increased levels of alcohol consumption in sub-Saharan Africa¹. This transformation of drinking habits in African communities could be attributed to the combination of effects of several envi-

ronmental, cultural, economic and social factors¹. Industrialization caused migration of people from rural to urban areas and changes in social, cultural and physical environments with increased availability of alcoholic beverages. Industrialization and urbanization also stimulated alcohol consumption in rural areas due to the diffusion of drinking habits from towns to villages. Mass un-employment, poverty, erosion of the traditional communities and values, breakdown of taboos related to age, rapid changes in national, gender and ethnic identities and spreading of western drinking styles are some other important factors, which contributed to alcohol abuse, especially among young people in many sub-Saharan countries¹.

A review of the surveys on alcohol use in sub-Saharan Africa shows that considerable proportion of young adults in this region drinks alcohol. For example, data on alcohol consumption among high school students in Lesotho has demonstrated that 54% of boys and 42% of girls had drunk alcohol at some point of time in their lives⁴. A survey conducted at the University of Ibadan, Nigeria has revealed that about 54% of freshmen drink alcohol⁵. Other studies have shown that young people in many urban and rural African communities have a positive attitude toward alcohol consumption⁶⁻⁸. Heavy drinking and

alcohol-related problems are also common among young adults in Africa and became one of the major public concerns and public health issues. For example, school surveys in South Africa have shown that between 53.3% and 36.5% of male students in different provinces had heavily-drinking episodes by grade 11⁹. Studies, which were conducted in urban Nigeria, have indicated that about 40% of high school students and 43% of the University of Ile-Ife students had alcohol-related problems^{10,11}.

There are some problems in comparing the prevalence of alcohol-related problems in different African countries as well as in comparing African data with studies conducted in other regions of the world due to discrepancy in screening procedures and instruments used for detection of alcohol abuse. In order to facilitate international comparisons of data on problem drinking the WHO working group has designed the Alcohol Use Disorders Identification Test (AUDIT)¹², which has high sensitivity and specificity in different settings including populations of university students^{12–14}. However, most of the studies, which were conducted in sub-Saharan Africa, used the AUDIT in primary health care and hospital settings rather than for assessment of alcohol-related problems in communities, including schools, colleges and universities^{15–17}. Therefore, the present study was undertaken to assess alcohol consumption and alcohol related problems among University students in Malawi using the AUDIT¹².

Methods

Instrument

In this study we used an English version of the AUDIT¹². All responders had no problems with understanding questions and answer options. The AUDIT has some advantages compare to other screening tests as it identifies both harmful and hazardous alcohol use^{13,14,18}. According to the WHO (2002) terminology, harmful use is a pattern of drinking, which is already causing physical or mental damage even without signs of alcohol dependence, while hazardous use is a pattern of alcohol consumption, which, if it persists, is likely to result in harm¹⁸. In addition, the AUDIT could capture not only regular alcohol consumption at hazardous level, but also episodic heavy drinking¹⁹. The ten AUDIT questions included three questions on quantity and frequency of alcohol drinking, three questions on alcohol dependence and four questions on the problems caused by alcohol. Each item was scored from 0 to 4, giving a maximal score of 40. A score of 8 and above has been found to be sensitive in predicting current problematic drinking^{20–22}. Therefore, it was used as a cut-off point in the present study.

Volunteers were also asked about a type of alcoholic drink, which they usually consume, and the number of drink measures consumed on a typical week. Drink measures were based on the alcoholic beverages commonly consumed in Malawi and included a bottle (330 mL) of commercial beer, one measure (40 mL) of commercial spirits, one glass of wine (125 mL), one sachet (50 mL) of

local spirit distilled from grains, sweet potatoes or sugar cane and containing about 40% of alcohol by volume, a can (330 mL) of fruit ale, and a packet (1000 mL) of chibuku – factory produced traditional opaque beer with an average strength of 3–5% of ethanol. Alcohol content was calculated in all drink measures and expressed in grams of pure ethanol. In addition, drink measures were converted to a standard drink containing 10 g of absolute ethanol. For example, 1 measure of commercial spirit containing 40 mL of liquid was equivalent to 1.26 standard drinks and it contained 12.6 g or 16 mL of absolute ethanol.

Sampling procedure

The survey was conducted at 3 colleges of the University of Malawi: College of Medicine (COM), Kamuzu College of Nursing (KCN) and Chancellor College (Chancol). All students reside in the University hostels, which are located in the close proximity to the colleges. Students' campuses in all colleges have cafeterias and pubs.

Each second student from the class lists was selected. Data were collected by the second year medical students and the College of Medicine technicians who went through a training session. Twenty six selected students were not available during testing sessions as they were out of the campus due to different reasons. We assumed that it might be embarrassing for volunteers to report data on alcohol consumption non-anonymously. Therefore, every effort was made to ensure anonymity of the responders. Researches did not know participants personally and the questionnaire did not require any form of identification. Volunteers filled in questionnaires in a private setting such as a hostel room or a study place in the library. Completed questionnaires were collected in sealed boxes, which were placed in the libraries and halls of residents. Such approach gave the return rate 89% to 96% in different colleges. In total, 481 males and 306 females participated in the survey in the three colleges. The proportions of males and females in the study sample reflected the actual sex ratio of students in the colleges. The mean age of participants was 21.6±2.0 years. Age differences between the participants from various colleges as well as between male and female students were not statistically significant.

A standard version of SPSS 11.0.0 was used for data analysis.

Results

About 72% of the students (78% of males and 63% of females) reported that they drink alcohol. Commercial beer was the most preferable alcoholic drink among males (52.3 %) and females (36.2%). Nine percent of males and none of the females reported traditionally manufactured beer or spirits as their preferable alcoholic drink.

Table 1 shows the reported drinking pattern of responders according to gender. Females consumed alcohol

TABLE 1
ALCOHOL DRINKING PATTERN OF SAMPLE OF MALAWIAN STUDENTS

Parameter	Males, % (n=481)	Females, % (n=306)
Frequency of drinking		
Never	22.2	37.2
Monthly or less	16.9	33.1
2-4 times per month	22.2	17.4
2-3 times per week	23.2	4.1
4 or more times per week	15.5	8.2
Typical number of drinks per episode		
1-2	36.2	64.5
3-4	4.8	14.9
5-6	18.8	9.9
7-8	18.8	6.6
9-10 or more	21.4	4.1
Frequency of having 6 or more drinks for males and 5 or more drinks for females on one occasion		
Never	25.6	72.6
<Month	10.1	17.4
Monthly	15.5	5.0
Weekly	40.6	2.5
Daily	8.2	2.5

less frequently than the males (d.f.=4, $\chi^2=9.76$, $p<0.001$). They also reported a smaller number of drinks per episode (d.f.=4, $\chi^2=121.65$, $p<0.001$). Fifty two point two percent of the students (27.4% of females and 74.4% of males) had episodes of 'binge' drinking (6 or more standard drinks for males and 5 or more standard drinks for females). Binary logistic regression revealed that the year of study and tribe of responders did not have significant effect on pattern of drinking.

Table 2 shows the mean AUDIT scores and ethanol consumption of responders according to the College and gender. The overall AUDIT score of male students was well above the threshold level of 8.0. The mean AUDIT score of females was below the critical score in all colleges and was significantly lower than in the male sample

($t=12.59$, $p<0.001$). The highest mean AUDIT score was in the Chancol and the lowest in the KCN. The mean weekly consumption of alcohol of male students was significantly higher than that of the females ($t=7.01$, $p<0.001$). The highest level of alcohol consumption of both male and female responders was reported in the Chancol. Deviation from equal proportions in the distribution of positive (>8) and negative (<8) AUDIT cases in the colleges was statistically significant (d.f.=2, $\chi^2=58.65$, $p<0.001$). Gender difference in the proportions of positive and negative AUDIT cases in the colleges was statistically significant (d.f.=2, $\chi^2=59.73$, $p<0.001$). The most common alcohol related negative consequence reported by male students was concern of friends, relatives or doctors about drinking (46%), while feeling of guilt or remorse after drinking was the most common consequence reported by the females (42.2%).

Discussion

The present survey for the first time indicated that problem drinking is a serious problem among the University of Malawi students. The mean AUDIT score of students was 8.3 and 45% of responders had the AUDIT score above the threshold level of problem drinking. This corresponded with a high mean value of alcohol consumption per week (175 g of absolute ethanol). Due to lack of comparable data on AUDIT scores, it was not possible to compare students with other social groups in the country and in the region of sub-Saharan Africa. However, the results reported here provided evidence that University of Malawi students consume ethanol at a level, which could be significantly higher than the WHO estimates for the country (1.38 litres/year).

Comparison of Malawian data with a survey conducted in Nigeria⁵ indicated that more Malawian students drink alcohol than their Nigerian counterparts (72% vs. 54%). However, this difference may result from the fact that only University freshmen were surveyed in the Nigerian study, while the Malawian sample consisted of students of all years of study. At the same time, the prevalence of problem drinking among Malawian students was similar to that reported for a sample of students from another Nigerian University (45 and 43%)¹⁰.

TABLE 2
THE MEAN VALUES (\pm SD) OF AUDIT SCORE AND ALCOHOL CONSUMPTION AND PERCENTAGE (NUMBER) OF POSITIVE AUDIT CASES (AUDIT SCORE >8) OF RESPONDERS IN DEFERENT COLLEGES

Institution	Number of subjects			AUDIT score			Ethanol consumption (g/week)			Positive AUDIT cases		
	Males	Females	Overall	Males	Females	Overall	Males	Females	Overall	Males	Females	Overall
KCN	18	98	116	12.1 \pm 7.7	1.8 \pm 3.2	3.6 \pm 6.7	83.1 \pm 66.0	56.2 \pm 41.9	61.2 \pm 47.9	66.7(12)	8.2(8)	17.2(20)
Chancol	371	190	561	17.9 \pm 11.6	5.3 \pm 10.3	12.0 \pm 10.8	241.8 \pm 196.2	127.0 \pm 140.3	202.6 \pm 211.3	67.9(252)	25.9(49)	53.8(301)
COM	92	18	110	7.8 \pm 8.3	1.9 \pm 4.7	5.5 \pm 8.0	176.3 \pm 153.1	60.2 \pm 27.7	125.2 \pm 134.0	37.0(34)	11.1(2)	32.7(36)
Overall	481	306	787	13.2 \pm 8.9	3.4 \pm 5.3	8.3 \pm 8.1	222.8 \pm 162.7	100.3 \pm 98.3	175.2 \pm 165.2	54.1(298)	16.5(59)	45.3(357)

KCN – Kamuzu College of Nursing, Chancol – Chancellor College, COM – College of Medicine.

A review of international surveys on alcohol use indicated that the mean AUDIT score of Malawian male students (13.2) was higher than in other studies, while the score of the females (3.4) was lower. For example, New Zealand tertiary students had the mean AUDIT score of 10.9 for men and 7.6 for women²⁰. The results of the present survey also demonstrated that Malawian male students had a higher prevalence (74.4%) of binge drinking compare to male tertiary students in New Zealand (46%), Australia (47%) and the USA (50%)^{20,23,24}. The prevalence of heavy episodic drinking among Malawian female students (27.4%) was lesser than among their female counterparts in developed countries. However, comparison of data on binge drinking is problematic due to the discrepancies in the threshold level used in different studies. For females, the threshold values were 48 g of ethanol per occasion in New Zealand and the USA and 50 g of ethanol in Australia^{20,23,24} and in the present study. For males, the threshold levels were 60 g of ethanol per occasion in the USA and in the present study and 70 g of ethanol in New Zealand and Australia^{20,23,24}.

The difference in alcohol consumption between Malawian female students and their male counterparts could be explained at least in part by the traditional African attitude towards women and their role in family and society. While drinking among men is a sign of maturity and well being and it is generally tolerated by families and societies, drinking of women is socially unacceptable because many traditional societies idealize women. For example, in Nigeria women who misuse alcohol are considered as social misfits and in many cases they will end up in prostitution due to rejection from their families²⁵. Study conducted in the USA also demonstrated high abstinence rates among black women compare with white women²⁶.

Numerous surveys attempted to investigate differences in drinking patterns of Caucasians and Africans. The results of these studies are controversial. Early reports of drinking of black collegians have indicated that the percentage of black students who drink is about the same as that of white students, however the proportion of heavy drinkers is higher among black males while black females drink significantly less than black males^{27,28}. Our findings are in agreement with these reports. High prevalence of heavy drinking among blacks was attributed to the greater permissiveness and liberality of black's attitude towards alcohol compare to that of whites²⁹. Contrary to the early studies on racial differences in alcohol consumption, more recent surveys conducted in the USA have demonstrated that abstention rate is higher among black man than among white man³⁰. Engs (1977)³¹ has reported that 84% of white college students drink compare to 60 % of black students and the prevalence of heavy episodic drinking among black students was 3 times lower than among white collegians. Another survey of drinking behavior of college students in the USA has shown that African Americans scored lower on drinking measures than the white students and reported fewer negative consequences of alcohol consumption³². It

should be noted that most of studies on racial differences in alcohol consumption were conducted in the USA and compared white Americans with African Americans or immigrants from African and Caribbean countries. Socio-economical situation and reasons for drinking of African Americans are different from those of Africans leaving in Africa. For example, Al-Issa (1997)³³ has emphasized the role of stressors related to social adjustment to the American culture, such as accumulative stress, socio-economic stress and minority stress in determining the drinking patterns of various ethnic minorities in the USA. These stressor factors are not relevant for the African settings and they could not be used for explanation of the differences in drinking pattern between Malawian students and their counterparts in western countries.

The results reported here raised questions about aetiology of problem drinking of Malawian students and possible preventive measures. High availability of relatively cheap alcohol and lack of effective restrictive measures on alcohol consumption in all campuses might contribute to the alcohol misuse among students. Therefore, measures that restrict and channels sales and consumption of alcohol could be effective in reducing rates of the alcohol-related problems in this population. Evaluation studies have demonstrated that such measures are the most effective in preventing hazardous drinking^{1,18}. There is another possible reason for alcohol abuse among students. In general, the prevalence of alcohol related problems was higher in the Chancol compare to the COM and KCN, which could be related to differences in the learning environment between the Colleges. In the University of Malawi, the academic programme of the Chancol is less busy than in other colleges and the college has reputation for partying. In contrast to the Chancol, the COM and KCN are known for their conducive environment for learning. These colleges also had a lower level of alcohol consumption than Chancol. Therefore, we suggest that learning goal orientation of students might be helpful in reducing the prevalence of problem drinking. This suggestion concurs with another study³⁴, which has demonstrated that learning goal orientation in a student campus that did not restrict alcohol use is inversely related to alcohol abuse behaviour.

All data reported in this study are subjective and have limitations similar to other investigations where assessment of alcohol consumption was done using self-reports. Another possible limitation of the present study may be related to the selectivity of the sample. However, we employed several strategies to minimize self-selection and reporting biases and to improve representativeness of the sample. We used a random sampling procedure where each second student was approached. The instructions and interviews with participants stressed anonymity of the responses and privacy in handling the data, which ensured a relatively high return rate of completed questionnaires (between 89% and 96% in different colleges) and minimized the bias of self-selection. Provision of usual drink definitions and answer options for each question also helped in obtaining valid responses. In addition,

the AUDIT was used in conjunction with a few other questions on quantity of drinking and the two sets of data were generally in agreement. Therefore, we believe that our study provided reliable estimates of alcohol drinking pattern in the 3 colleges of the University of Malawi.

The University of Malawi is a national university, which enrolls students from all regions of the country and the student population represents all major religions and tribes in the country. Selection of candidates is based on the results of the Malawi Secondary School Exams. In addition, candidates should pass the University Entrance Test. All University students receive scholarships from the Government, which cover more than 90% of the tuition and boarding fees. Therefore, it is reasonable to suggest that in same educational, economic and social as-

pects the University of Malawi students differ from their counterparts in private colleges and young people who do not attend tertiary institutions. Therefore, our findings should be interpreted with caution.

In conclusion, the present study has implications for further research on alcohol related problems and preventive work among youth and adults in Malawi and in other countries in the region.

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OPIJANJE MEĐU STUDENTIMA U MALAVIJU

SAŽETAK

Pregled 787 malavijskih studenata (481 muških i 306 žena), koristeći test identifikacije poremećaja uzimanja alkohola (Alcohol Use Disorders Identification Test – AUDIT), pokazao je da otprilike 72 % ispitanika (78 % muških i 63 % žena) piju alkohol. Aritmetička sredina AUDIT rezultata bila je $3,4 \pm 5,3$ za žene te $13,2 \pm 8,9$ za muške. Neki od 54,1 % muških te 16,5 % ženskih ispitanika imalo je AUDIT rezultat preko praga od 8,0, što je odgovaralo visokim vrijednostima konzumacije alkohola tijekom vikenda ($222,8 \pm 162,7$ g čistog etanola za muške te $100,3 \pm 98,3$ g za žene). Uz to, oko 74,4 % muških te 27,3 % ženskih studenata prijavilo je epizodu teškog opijanja. Nalazi su pokazali potrebu razvoja pravila za kontrolu alkohola na Sveučilištu u Malavi te u državi kao cjelini.