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# Alcohol and Tobacco Usage among Students in a Higher Education Institution in Lusaka, Zambia

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## Abstract

**Background:** About 190 million people consume drugs and alcohol worldwide with the majority of this number being the youth. In Zambia the consumption of alcohol and other drug abuse is on the increase with the majority of youths starting to consume alcohol at an early age.

**Objectives:** Aim of this paper is to explore the usage of alcohol and tobacco among University of Zambia students and factors contributing to this behavior.

**Methods:** This study utilized a cross-sectional quantitative survey method design. Approximately 800 undergraduate students were targeted and surveyed in classrooms selected through a stratified random sample procedure. Data was collected by a self-administered questionnaire using the Health and Behavior Survey and the Global School Health Survey.

**Results:** The results suggest that consumption of alcohol was higher than that of tobacco. The prevalence of tobacco and alcohol use occurs across all years. However, the use of tobacco products was higher among first years and drinking alcohol was high among fourth years.

**Conclusions:** It is prudent for institutions such as the University of Zambia who are looking after the youth and young adults for extended periods of time to put measures in place to curb such vices as regular and heavy consumption of alcohol.

**Keywords:** Alcohol drinking; Tobacco smoking; Sedentary behavior; Physical inactivity

reduce pain. Behavioural risk factors including tobacco smoking, alcohol drinking, physical inactivity, sedentary behaviour, and obesity are major determinants of adult chronic diseases morbidity and mortality [2,3].

The use of drugs, tobacco and alcohol among college and university students can often lead to unwanted outcomes such as dropping out of school; being assaulted; engaging in unplanned sexual activity putting themselves in situations where they are more susceptible to sexually transmitted diseases such as HIV; being injured or having life-threatening experiences; driving while intoxicated among many other things can be the primary source of morbidity and mortality in this population [4-9].

The prevalence of drugs and alcohol consumption among young people seems to have risen to unprecedented levels. Epidemiological studies in the USA have shown that alcohol consumption is commonly reported by college students and leads to alcohol use-related problems [10,11]. Other studies have shown that the prevalence of self-reported smoking of alcohol and marijuana is also on the increase among college students [11,12]. While in the UK, it has been reported that 16-24 year olds consume the highest amount of alcohol, after 24 years of age there seems to be decline in alcohol use [13]. Alcohol is also the most commonly used recreational substance, with 93% of men and 84% of women in Scotland consuming alcohol at least occasionally [13].

Studies in Africa have also found a high prevalence of hazardous or harmful alcohol use among university students, in Malawi 54.1% among males and 16.5% among females [14,15]. Haan 16 carried out studies in South Africa where he observed that alcohol consumption and tobacco smoking is followed by the smoking of cannabis. Further, he observed that alcohol consumption had contributed to the prevalence of medical and psychological conditions [16].

The Zambia Global School Health Survey [17] jointly conducted with the Ministry of Health and Ministry of Education in selected primary and secondary schools found that alcohol and other drug abuse was on the increase. They also found that youths were engaged in alcohol consumption at an early age. Siziya et al. [18] conducted a study on cigarette smoking among school-going adolescents in Kafue district, the findings show that Overall 8.2% pupils were current cigarette

## Introduction

The World Drug Report [1] reports that a total of 190 million people consume drugs and alcohol worldwide and the majority of these are youths. The initial choice to take drugs and alcohol is mostly voluntary, drugs and alcohol also contain properties that can stimulate, sedate, cause hallucinations or

smokers, while 10.4% males and 6.2% females were current smokers.

## Aim

The aim of this paper is to explore the usage of alcohol and tobacco among University of Zambia students and socio demographic factors contributing to this behavior. The data was collected as a part of a larger study carried out to assess the Health Behaviour of University of Zambia students [19,20].

## Methodology

### Sample and sampling

This study utilized a cross-sectional quantitative survey. Eight hundred and fifty nine undergraduate students from were surveyed in classrooms selected through a stratified random sample procedure. A university department formed a cluster and was used as a primary sampling unit. A list of departments and numbers of students registered for undergraduate courses in each department was obtained. One department was randomly selected from each faculty. For each selected department, undergraduate courses offered by the department were randomly ordered, with larger classes having greater probability of being near the beginning of the list and smaller classes having greater probability of being near the end.

Data was collected by a self-administered questionnaire in a class room situation in the presence of one of the researchers, a trained research assistant, after informed consent had been obtained. All of the students present in class on the day of the survey were invited to participate [21-23].

### Measures

The questionnaire included the Health and Behaviour Survey [24] designed as a broad survey of health-related behaviours and beliefs, components of the “national college health risk behavior survey” [25] and the Global School Health Survey [26]. The risk-knowledge items that was analysed for this paper, included questions about diet, exercise, smoking and alcohol consumption [27,28].

### Data analysis

In this paper, Statistical Package for Social Sciences version 12 (SPSS v 12) was used for data analysis. Cross tabulations were used to examine the relationship between the frequency of condom use and socio-economic and demographic variables. For the statistical analysis, chi-square tests of independence were conducted at the bivariate level, and the differences were determined at  $P < 0.05$  and  $P < 0.01$  significant levels.

### Ethical issues

The study was cleared by the Social Sciences Ethics committee at the University of Zambia. Informed consent was obtained from participants prior to data collection. Participation was voluntary and research data obtained from participants was computer coded with a number to ensure confidentiality.

## Results

### Characteristics of participants

Of the undergraduate students who took part in the study, 58% and 42% were females and males, respectively. About 52% of females and 58% of males interviewed were doing their first year. On the other hand 48% females and 42% males interviewed were in their fourth year respectively. The majority of the respondents were single (87% females and 82% males).

### Use of tobacco and related products

The percentage of students who reported currently using one or more tobacco products (cigarettes, snuff, chewing tobacco, cigars etc) is shown in **Table 1**. Overall, 11% of males and 2% of females were found to be currently taking tobacco products. Students aged 15-20 were more likely than the other age groups taking tobacco products. Those in year one were more likely to be taking tobacco products (3.8% of females and 12.5 of females) compared to those in year 4 (9% of males and 1% of females). Off campus male students (15%) were found to be more likely to take tobacco products compared to those from on campus (10%). Students from higher socio economic status were found to be more likely to be taking tobacco products.

### Consumption of alcohol

Overall, 35% female and 33% male students were found to be taking alcohol occasionally in the past 12 months. Students from fourth year of study were found to be more likely to report taking alcohol occasionally (44% females and 36% males) compared to those from the first year of study (27% females and 29% males). Those students from catholic background were more likely to report taking alcohol occasionally (52% females and 36% males) compared to protestant background (29% females and 30% males). (**Table 2**).

### Factors Influencing drinking alcohol occasionally

To understand the factors influencing the students drinking alcohol occasionally, logistic regression analysis was carried out by considering socio-economic and demographic factors (**Table 3**). The results of the logistic regression analysis shows that year of study, religion and family background had significant influence on drinking alcohol occasionally. Students

attending year 4 were 2.9 times more likely than students attending year 1 to report alcohol consumption on occasional basis. Students from catholic background were found to be 2.6 times more likely to drink alcohol occasionally compared to

the counterparts from the protestant background. Students from quite poor background were found to be less likely to take alcohol occasionally than their counterparts.

**Table 1** Percentage of respondents who reported currently using one or more tobacco products (cigarettes, snuff, chewing tobacco, cigars etc)

	Female (N=419)	Male (N=305)	Pearson Chi-square	Significance level
<b>Age</b>				
15-20	4.6**	10		
21-24	1.4	13.5		
25+	0	7.2	0.274	0.64
<b>Year of study</b>				
Year 1	3.8*	12.5		
Year 4	0.6	8.5	7.536	0.054
<b>Marital Status</b>				
Married	0	10		
Single	2.5	11.7	0.006	0.577
<b>Religion</b>				
Protestant	1.3	9.5		
Catholic	3.4	14.3	0.698	0.564
<b>Current Residence</b>				
On campus	2.9	9.5		
Off campus	1.4	15.3	2.746	0.312
<b>Family Background</b>				
Quite well off	3.3	15.2		
Not very well off	1.1	11		
Quite poor	0	7.5	5.372	0.132
Overall	2.3	10.7		
** P < 0.05, *** P < 0.01				

## Discussion

The results suggest that consumption of alcohol was higher than that of tobacco. The prevalence of tobacco and alcohol use occurs across all years. However, the use of tobacco products was higher among first years and drinking alcohol was high among fourth years.

Our reported rate of using tobacco products was slightly higher than those reported by Siziya<sup>18</sup> in a study in rural Zambia. Our findings also indicate that males smoked more than females. Previous studies in Saudi Arabia of medical students, in government colleges, showed that smoking was highly prevalent among male students [29,30]. The lower rate of smoking among females could be due to cultural reasons,

since smoking is considered inappropriate behavior for women [31]. Nevertheless, it is also possible that some females who did actually smoke may not have reported their habit during the survey for fear of being stigmatized.

### Factors Influencing drinking alcohol regularly

To understand the factors influencing the students drinking alcohol regularly, logistic regression analysis was carried out by considering socio-economic and demographic factors (**Table 4**). The results of the logistic regression analysis shows that sex and current residence of the students had significant influence on drinking alcohol regularly. Male students were found to be 4.6 times more likely to drink alcohol regularly. Students from

off campus were found to be less likely drinking alcohol regularly than their counterparts.

**Table 2** Percentage of students who reported drinking alcohol

	Percentage of students who reported drinking alcohol occasionally		Pearson Chi-square	Significance level
	Female (n=419)	Male (n=305)		
Age				
15-20	27.8	32.8		
21-24	42.6	37.8		
25+	31.8	26.1	7.047	0.133
Year of study				
Year 1	27.4***	28.7**		
Year 4	43.6	36.4	10.46	0.005
Marital Status				
Married	34.1	24.5		
Single	35.2	34.3	1.268	0.53
Religion				
Protestant	28.9***	29.7**		
Catholic	52.3	35.9	22.866	0
Current Residence				
On campus	38.6	32.3		
Off campus	32.2	33.3	1.762	0.414
Family Background				
Quite well off	33.5	38.4		
Not very well off	39.6	32.1		
Quite poor	23.8	23.2	4.291	0.368
Overall	34.9	32.9		
** P< 0.05, *** P< 0.01				

Studies on alcohol use among college students in Zambia are very scanty. Like previous studies [14,15] our results indicate that generally there are more students who take alcohol occasionally than regularly with males drinking more regularly than females. A study in Sweden showed that more than 90% of university students consumed alcohol during the preceding three months and 39% of males and 20% of females were involved in heavy episodic drinking at least once a week [32].

Several, studies have been carried out to understand the reasons behind smoking and drinking among college students. On smoking, findings in some studies show that students smoke due to imitation of others, leisure, relief of pressure, peer pressure or as a result of the influence of advertisements and media. Other studies though contrary to our findings have shown that those from the lowest-status occupational group (SES social Economic Status) group were twice as likely as to be

smokers than those whose fathers occupied the highest status occupational group [33-35].

Consistent with similar studies [36,37] our study revealed that students who were in the fourth year of study were 2.9 times more likely than those from the first year of study to drink alcohol occasionally. Similar also to Ashley et al. [38] who found that, the substantial influence of fraternity/sorority membership on excessive alcohol use is a socialization effect rather than merely a recruitment effect. This influence is discernible as early as the second semester of the first year of college, but is even more pronounced in the senior year. We believe that the perceived sense of freedom, maturity and independence over time in college can lead to more alcohol drinking. Our findings also show that Students from quite poor background were found to be less likely taking alcohol

occasionally than their counterparts. However this relationship needs to be further explored.

**Table 3** Logistic Regression Analysis examining association between drinking alcohol occasionally and socio-economic, demographic factors

Variables	B	S.E	Exp (B)	Significance
<b>Age</b>				
15-20				
21-24	0.6914	0.4134	1.9966	0.1944
25+	0.6524	0.3522	1.9201	0.0640
<b>Sex</b>				
Female				
male	0.1178	0.2043	1.125	0.5642
<b>Year of Study</b>				
Year 1				
Year 4	0.928	0.253	2.953	0.0002
<b>Marital Status</b>				
Married				
Single	-0.0515	0.3834	0.9496	0.8926
<b>Religion</b>				
Protestant				
Catholic	1.5795	0.9033	2.5602	0.0044
<b>Current Residence</b>				
On campus				
Off campus	0.135	0.2065	1.1446	0.5132
<b>Family Back ground</b>				
Quite well off				
Not very well off	0.5056	0.341	1.658	0.1381
Quite poor	-0.8044	0.3426	0.86353	0.0189

The fact that male students were found to be 4.6 times more likely to drink alcohol regularly than females could be attributed to differences in peer influence. Peer alcohol use may have a significant impact on perceived acceptability of alcohol use. As more number of males tend to have alcohol using peers, they would have normative beliefs about alcohol use being socially and culturally permitted [39]. Earlier studies had also indicated that peer influence and parents' favorable attitude towards drinking have been positively associated with adolescents initiating drinking alcohol [39]. Scott-Sheldon et al. [40] found students from off campus to be less likely drinking alcohol regularly than their counterparts, but this result did not reach statistical significance in our study.

**Table 4** Logistic Regression Analysis examining association between drinking alcohol regularly and socio-economic and demographic factors

Variables	B	S.E	Exp (B)	Significance
<b>Age</b>				
15-20				
21-24	0.9039	0.9543	2.4693	0.3435
25+	0.3723	0.8414	1.4511	0.6581
<b>Sex</b>				
Female				
Male	1.5359	0.5303	4.6454	0.0038
<b>Year of study</b>				
Year 1				
Year 4	-0.6933	0.6201	0.4999	0.2636
<b>Marital Status</b>				
Married				
Single	-0.7108	0.9716	0.4962	0.4644
<b>Religion</b>				
Protestant				
Catholic	-0.5064	0.4896	0.6026	0.3009
<b>Current Residence</b>				
On campus				
Off campus	-0.9083	0.4952	0.4032	0.0667
<b>Family Background</b>				
Quite well off				
Not very well off	1.0237	0.8173	2.7834	0.2104
Quite poor	0.2507	0.9014	1.2849	0.7809

## Conclusion

The results of this study clearly indicate that University of Zambia students engage themselves in risky behaviours of alcohol consumption and tobacco smoking. Tobacco is also used by both male and female students though to significantly lower levels than alcohol consumption.

It is prudent for institutions such as the University of Zambia put in measures in place to curb such vices as regular and heavy consumption of alcohol. The provision of recreation facilities has always acted as a good avenue for distraction from 'aversive' behaviours by enabling students to expend their pent up libidinous energy.



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