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Alcohol Consumption Practice and Associated Risk Factors among University of Limpopo Students

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Abstract

In South Africa, substance rehabilitation centers found alcohol as the primary substance abuse in eight out of the nine provinces. This study aimed to investigate the prevalence of alcohol use and associated risk factors among University of Limpopo students with mean age of 21.5 years. This was a cross-sectional study and constituted a total of 500 female students and 417 male students from the University of Limpopo. Logistic regression was used to calculate the association between alcohol consumption and its predictors. Information about their alcohol consumption, the type of alcohol and the practice related to alcohol consumption was collected using a validated questionnaire. Tobacco and marijuana product use were significantly ($P < 0.05$) associated with alcohol use among University of Limpopo students for unadjusted (OR ranges 4.31 95%CI 2.71 6.87 to 4.92 95%CI 3.16 7.70) and after adjusting for age gender and amount of money deposited into the student account by the bursary scheme (OR ranges from 4.14 95%CI 2.59 6.62 to 4.50 95%CI 2.87 7.06). Tobacco product use, marijuana use and enhancing interpersonal relationships are major risk factors associated to current alcohol use. Future studies are required to investigate the development of lifestyle and cardiovascular disease over time among University of Limpopo students.

Keywords: alcohol, tobacco, marijuana, students, university of Limpopo

1. Introduction

A university living setting provides a unique opportunity for students who enter this environment for the first time. Yet, living in a new environment is associated with stress and changes of lifestyle [1]. At the university level, students adjust to a certain level of being an adult and experiencing freedom. These students create a social and cultural environment by drinking alcohol to obtain a positive outcome (e.g. enhancement, coping) or to avoid a negative outcome (like peer rejection) [2]. This environment could further create unhealthy lifestyles such that students are more involved in risky behaviour and serious drinking problems than their peers

who are not enrolled in the University [2–4] . Unhealthy behaviour such as tobacco product use, marijuana use, injuries and interpersonal problems are the vital risk factors associated with excessive alcohol consumption. Besides, alcohol use among university students has been associated with poor academic performance, personal injuries, loss of memory, temporary illness (such as nausea, vomiting, and hangover), unprotected sexual activity, acquaintance rape, sexual violence and other problems like suicide,, impaired driving skills,, vandalism or fights [5].

The high percentage of alcohol use and abuse in the university environment by students is viewed as representing the prime drinking years for individuals [6]. For example, Young and De Klerk. [7] reported that more than 50% of Rhodes University student respondents who participated in their study were dependent on alcohol. The prevalent of alcohol use in a university in the South-East of Nigeria was reported to be 78.4% [8].

The prevalence of alcohol use by university students in South Africa has been found to range from 20% to 80% in 2009 by Peltzer & Ramlagan [9]. The prevalence of alcohol drinking at the University of Venda, South Africa was reported to be 65% of the current drinkers [10]. In South Africa, substance rehabilitation centers found alcohol as the primary substance abuse in eight out of the nine provinces [9]. Excessive alcohol consumption during University year's impacts negatively on student lifestyles even on post-University level, leading to accidents, health problems, and personal problems [11].

Alcohol drinking may be responsive to internal rewards such as the manipulation of management of one's own internal emotional state and external reward such as social acceptance [2]. Various factors affect the alcohol drinking patterns of students in the university environment. Some university student prefer beer and other drugs for economic reasons, Regardless of the various alcoholic beverages like cider, wine, spirits, champagne, whisky, gin or brandy [12]. Gender differences in alcohol use was reported among university students in the USA with a significantly high number of males compared to females drinking alcohol [13]. Furthermore, staying on-campus has been linked with excessive alcohol drinking than staying off-campus [14]. Little is known about the prevalence of alcohol use and associated risk factors among the University of Limpopo. This study aimed to investigate the prevalence of alcohol use and associated risk factors among University of Limpopo students aged 17 to 43 years.

2. Method

2.1 Geographical area

The study was conducted at the University of Limpopo, that was previously known as the University of The North (Sovenga). The University of Limpopo is situated at the foothill of Hwiti (Wolkberg range) in Mankweng, midway between Polokwane and Makgoebaskloof in Limpopo province, South Africa. The research was approved by the University of Limpopo research ethics committee (TREC/61/2019: IR).

2.2 Sampling and sample size

All the participants of the study were full-time students enrolled for the academic year 2019 in University of Limpopo. The participants represented the four available faculties (Science and Agriculture, Humanities, Management and Law, and Health Sciences). The total number of participants was n = 917 of which 45.5%

(n = 417) were males and 54.5% (n = 500) were females (mean age of 21.5 years). A convenient sampling method was used to have easy access to the participants.

2.3 Instruments

The questionnaire used in this study was based on questions, which have been used in the Ellisras Longitudinal Study and other studies [15, 16]. The questionnaire was shared with experts to ensure content, face and construct validity. The questionnaire was then revised and piloted with a sample of students to make sure it was valid, reliable, acceptable and accurately understood.

The questionnaire comprised of three sections. The first section of the questionnaire included of participants's age,gender, marital status and place of residence, field of study, year of entering the university and the level of study. The academic level was categorised as lower level (first and second year), moderate high (third-year level) and high level (postgraduate level).

Current alcohol drinkers were defined as anyone who drinks alcohol regularly for the past 30 days. The following question was asked: "During the past 30 days, have you had at least one drink of any alcoholic beverage such as beer, wine, a malt beverage, or liquor regularly?" The number of days in the past month where you had a drink between 07:30 and 16:00 and the frequency of drinking alcohol regularly the past 30 days were classified into: Less than four times in the past 30 days, 2 to 3 days a week in the past 30 days and more than four days a week the past 30 days. This was classified into the less than four times in 30 days. The onset (initiation age) age for alcohol drinker use was determined by the question "If yes, indicate how old you were when you first tried this _____. How old were you when you first drank alcohol regularly _____." Onset age was grouped as less than 15 years, between 15 and 19 years and over 20 years.

2.4 Other associated factors

All studied characteristics together with peer relation, personal enjoyment and tension reduction were chosen based upon literature that had identified associations between these variables and binge drinking [17, 18]. The selection questions included: I drink alcohol because it will boost my creativity (Yes/NO)? I drink alcohol because I want to be popular (Yes/NO)? I drink alcohol because it helps me to face difficulties with confidence (Yes/NO)? I drink alcohol because it would comfort me when I get blamed (Yes/NO)?

Tobacco and marijuana products use was assessed using the following questions: Does anyone you live with use tobacco products (Yes/No)? Does anyone you live with smoke hubbly bubbly (Yes/No)? Does anyone you live with smoke weed/marijuana (Yes/No)? Does anyone you live with drink alcohol (Yes/No)?

2.5 Statistical analysis

Descriptive statistics including frequency distribution and percentage frequencies were used to determine the prevalence of current alcohol use among University of Limpopo students. A chi-squared test was used to compare sets of nominal data that had larger frequency counts while the Fisher's exact test was used when frequency cells were small (less than five or ten) between genders [19, 20]. Logistic regression was used to determine the associated risk factors for current alcohol use among the University of Limpopo students. All statistical analyses were performed using SPSS version 25. The statistical significance was set at P < 0.05.

3. Results

Table 1 shows the descriptive statistics for positive response on alcohol consumption of the University of Limpopo students aged 17 to 43 years. The prevalence of current regular alcohol use was significantly (p < 0.021) higher for males (61.9%) compared to females (47.8%). Students who first consumed alcohol at age of less than 15 years were 24.7% males and 8.8% females, the difference was

	Males		Females	
	%	**(n)**	**%**	**(n)**
Faculties of the University of Limpopo				
Science and Agriculture	33.8	(141)	19.6	(98)
Humanities	26.9	(112)	23.8	(119)
Management and Law	17.0	(71)	13.0	(65)
Health Sciences	22.3	(93)	43.6	(218)
Bursaries Received				
Receiving funding from other bursaries	11.0	(46)	9.2	(46)
Receiving funding from NSFAS	70.3	(293)	80.4	(402)
Students Study level				
Lower level (First and Second year)	56.8	(237)	53.8	(269)
Moderate high level (third-year level)	23.0	(96)	25.6	(128)
High level (post graduate level)	20.1	(84)	20.6	(103)
Alcohol consumption				
Have you ever drunk alcohol?	74.3	(310)	62.8	(314)
Age when you had first drink of alcohol				
Less than 15 years	31.4	(131)	14.2	(71)
15 to 19 years	35.7	(149)	40.0	(200)
20 years and above	7.2	(30)	8.6	(43)
Are you currently drinking alcohol regularly during the past 30 days	61.9[*]	(258)	47.8[*]	(239)
Age when you first started drinking alcohol regularly during the past 30 days				
Less than 15 years	24.7[*]	(103)	8.8[*]	(44)
15 to 19 years	30.0	(125)	30.8	(154)
20 years and above	7.2	(30)	8.2	(41)
Types of alcoholic drinks you drink regularly in the past 30 days				
Beer	44.4[*]	(185)	9.6[*]	(48)
Cider	35	(146)	30.2	(151)
Wine	24.9	(104)	29.2	(146)
Spirit	29.3[*]	(122)	12.8[*]	(64)
Home made	8.4[*]	(35)	3.0[*]	(15)
Champagne	15.8	(66)	12.4	(62)

*≥0.05; **≥0.001.

Table 1.
Descriptive statistics for positive response on alcohol consumption of the University of Limpopo students aged 17 to 43 years.

significant (P < 0.05). Many males (44.4% and 29.3%) in the current study significantly (P < 0.05) prefer beer and spirits compared to females (9.6% and 12.8%), respectively. Females preferred wine than males (29.2% and 24,9%) respectively. Though, the difference was not significant. The use of homemade alcohol was significantly (p < 0.05) higher for males (8.4%) compared to females (3.0%).

Table 2 presents the prevalence of positive response on the frequency of drinking and reasons for drinking alcohol among University of Limpopo students aged 17 to 43 years. A significantly high number of females (27.6%) drink alcohol fewer than 4 times in the past 30 days than males (21.6%). There was a significant (P < 0.05) number of males (13.4%) who drink alcohol regularly between the period of 07:30 and 16:00 2 to 3 days a week in the past month compared to females (7.4%). The prevalence of students who drink alcohol for popularity and bosting confidence is also higher in males (34.8% and 23.5%) than in females (1.8%, and 7.8%), respectively. The prevalence of tobacco and marijuana products use among relatives/friends who live with males students were significantly higher (ranges from 16.8 to 42.2%) compared to those who live with females students (prevalence ranges from 10.6 to 27.4%).

Table 3 shows the logistic regression (Odds ratio and 95% confidence interval and p-value) for the association of current regular alcohol drinking use and the associated risk factors for University of Limpopo students aged 17 to 43 years. Tobacco and marijuana product use of relatives/friends living with students were

	Males		Females	
	%	**(n)**	**%**	**(n)**
Rate of drinking alcohol regularly the past 30 days				
< than 4 times in 30 days	21.6*	(90)	27.6*	(138)
2 to 3 days a week in the past 30 days	11.8	(49)	6.8	(34)
> than 4 days a week in the past 30 days	28.5*	(119)	13.4*	(67)
Number of days in the past month where you had a drink between 07:30 and 16:00				
< than 4 times in the past 30 days	29.0	(121)	22.4	(112)
2 to 3 days a week in the past 30 days	13.4*	(56)	7.4*	(37)
> than 4 days a week the past 30 days	7.2	(30)	4.0	(20)
Reasons for drinking alcohol				
I drink alcohol because it will enhance my creative ability	6.7	(28)	6.6	(33)
I drink alcohol because I want to be popular	34.8*	(145)	1.8*	(9)
I drink alcohol because it helps me to face difficulties with confidence	23.5*	(99)	7.8*	(39)
I drink alcohol because it would ease me when I get blamed	18*	(75)	4.6*	(23)
Tobacco and marijuana product use				
Does anyone you live with use tobacco product?	25.2*	(105)	14.2*	(71)
Does anyone you live with smoke hubbly bubbly?	16.8*	(70)	11.4*	(57)
Does anyone you live with smoke weed/marijuana?	22.8*	(95)	10.6*	(53)
Does anyone you live with drink alcohol?	42.2*	(178)	27.4*	(137)

*≥0.05; **≥0.001.

Table 2.
Positive response on frequency of drinking and reasons for drinking alcohol among University of Limpopo students aged 17 to 43 years.

	Unadjusted				Adjusted for age, gender and receiving money into own Bank account		
	OR	P-value	(95%CI)		OR	P-value	95%CI
Educational level							
Lower level	0.96	0.765	(0.74	1.25)	0.98	0.900	(0.74 1.31)
Moderate high	0.84	0.254	(0.62	1.13)	0.84	0.264	(0.62 1.14)
High level	1.30	0.113	(0.94	1.80)	1.28	0.161	(0.91 1.82)
Tobacco and marijuana product use of relatives/friend living with participated students							
Smoking hubbly bubbly	4.31	0.000**	(2.71	(6.87)	4.14	0.000**	(2.59 6.62)
Smoke Marijuana	4.93	0.000**	(3.16	(7.70)	4.50	0.000**	(2.87 7.06)
Tobacco smoking	4.54	0.000**	(3.04	(6.78)	4.24	0.000**.	(2.82 6.35)
Student residence							
On campus	0.86	0.322	(0.64	(1.16)	1.07	0.650	(0.79 1.45)
Off Campus	1.16	0.322	(0/86	(1.57)	0.93	0.650	(0.69 1.26)
Reasons for drinking alcohol							
I drink alcohol because it will enhance my creative ability	4.52	0.000*	(3.73	(8.21)	3.65	0.000**	(2.74 6.66)
I drink alcohol because I want to be popular	1.86	0.001**	(0.07	(3.71)	2.31	0.005*	(1.87 7.86)
I drink alcohol because it helps me to face difficulties with confidence	1.10	0.321	(0.31	(4.42)	0.24	0.371	(0.15 3.34)
I drink alcohol because it would ease me when I get blamed	3.41	0.561	(2.45	(4.73)	2.21	0.461	(1.57 4.63)

*≥0.05; **≥0.001.

Table 3.
Odds ratio and 95% confidence interval and p-value for the association of current regular alcohol drinking use and the associated risk factors for University of Limpopo students aged 17 to 43 years.

significantly (P < 0.05) associated with the current regular alcohol use among University of Limpopo students for unadjusted (OR ranges 4.31 95%CI 2.71 6.87 to 4.92 95%CI 3.16 7.70) and after adjusted for age, gender, and amount of money deposited into the student account by the bursary scheme (OR ranges from 4.14 95%CI 2.59 6.62 to 4.50 95%CI 2.87 7.06). Place of residence and educational level of students were not significantly associated with current regular alcohol use among students. Current regular alcohol use among students was significantly (P < 0.05) associated with enhancing creativity (OR = 4.52 95%CI 3.73 8.210) and popularity (OR = 1.86 95%CI 0.07 3.71) motive among University of Limpopo students before adjusting the cofounders, even after adjusting cofounders, creativity (OR = 3.65 95%CI 2.74 6.66) popularity (OR = 2.31 95%CI 1.87 7.86)).

4. Discussions

This study aimed to investigate the prevalence of alcohol use and related risk factors among University of Limpopo students aged 17 to 43 years. The prevalence of current alcohol drinkers was significantly higher for males compared to females in a University of Limpopo. Similar patterns were reported earlier in South African Universities [7, 9, 10]. Among students in South Africa, Lategan *et al*, [12] found significant differences in drinking behaviour between males and females, with male students drinking frequently more alcohol than female students. Kypri, et al., [21] reported similar results among students in a university in New Zealand and further indicated that these students drank over the legal limit.

In the current study, a significant number of males compared to females (P < 0.05) preferred drinking beer and spirits. Weschler et al., [22] reported that several students (both genders) chose spirits (43.8%), beer (19.2%) cider (17.4%) and very few chose wine (3.7%).

Students who preferred spirits and beer showed risky drinking behaviour such as driving while drunk and smoking [12]. Alcohol use at university tends to reach a peak among students aged between 18 and 25 years and are also at the risk of increasing their alcohol consumption later [23]. These university students may develop drinking patterns early in life and it will eventually affect their health and reduce their life expectancy later in their lifestyle.

In the current study alcohol use among students is associated with the use of tobacco and alcohol among friends and family they are staying with. Taremian et al., [24] showed a relatively high incidence of alcohol (17%) abuse among University students in Tehran, however drugs abuse was also high with 34% water-pipe smoking, 24% cigarette, and 2.2% marijuana. Patterns of alcohol consumption and use of drugs vary depending on drinking motives. Cox and Klinger, [25] reported that alcohol drinking and drug use motives could be characterised into two underlying dimensions reflecting the valence (positive or negative) and source (internal or external) of the outcome an individual hopes to achieve. These drinking and drug problems of university students affect their academic achievement badly, emotional adaptableness, and the ability to get jobs after obtaining their career qualification [26].

In our current study alcohol use was not significantly associated with the students residents (off campus/on campus). Dawson et al., [27] found the similar results were there was no differences in amount of alcohol drinking among students living on and off-campus. Similar results were found in the current study. Contrary, Simons-Morton et al., [14] reported that independency and peer pressure increases the risk of alcohol consumptions among students living off-campus.

In the present study, most students drank alcohol to improve interpersonal relationships. The greatest motive for drinking was to be popular followed by difficulties with confidence among males in the current study. Yoo et al., [28], reported a similar response among Korean Medical Students. The high prevalence of drinking among university students not only undermines academic performance, it also places student at risk of injuries, mortality, crime, and sexual assault [29]. It is necessary and essential to identify the significance of alcohol consumption complications in the institutional environment and system that can launch a healthy drinking culture. The problem of university student alcohol consumption can be solved by Policy-based tactics. A healthy drinking culture should be advocated by both the university authority, staff, students and parents such that skilled graduates of the University of Limpopo could pursue his/her career with dignity and vision.

This study has some limitations. We did not randomly select the students to participate in the study but have invited them to take part in the study. There is a possibility that our sample may not be generalizable to the University of Limpopo students. This study forms the base; ever since the higher education sector decided to deposit the bursary money into the student account every month to cover their essentials. Given the cross-sectional nature of the current study, a causal relationship could not be achieved. This was based on interviewing students by well-trained field workers hence recall bias should not be ruled out as an interview was conducted between lecture classes.

5. Conclusions

The prevalence of the current alcohol consumption is high among University of Limpopo male students compared to female students. Living with a person using Tobacco product, marijuana and alcohol are major associated risk factors for current alcohol use in the University of Limpopo students. Drinking problems should not be handled in isolation by the university authority in policy formulation for the culture of healthy drinking but also educate the students on the use of drugs and the motives for drinking. Future studies are required to investigate the development of lifestyle and cardiovascular disease over time among University of Limpopo students.

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Conflict of interest

Authors declare no conflict of interest.

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