Factors influencing Alcohol Use among University Students in a Kenyan University

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Abstract

This study set out to examine factors associated with alcohol use and abuse among university students in Kenya. The target population of the study was Daystar University Nairobi and Athi River students. The study used cross-sectional design with respondents recruited from the two campuses. Post-hoc power calculations were conducted using the G*power program to calculate the sample size for the study. A total sample of 140 was obtained using respondent-driven sampling that targeted students using alcohol or cannabis. The respondents were assessed using ASSIST, AUDIT, PHQ-9, BAI, and IES. The data was analysed using inferential statistics that included t-tests, ANOVA, chi square, linear and logistic regressions. The results revealed that most of the respondents had moderate risk for alcohol use problems. In addition, gender, age, year of study and place of residence, parental and peer use, media, and accessibility to drugs were all factors that were found to influence drug use. Similarly, depression, anxiety, PTSD, and academic performance were found to have an association with respondents' drug use.
Key words: Alcohol, depression, anxiety, PTSD, university students, cross-sectional

Introduction and Background

Alcohol abuse is a global epidemic (McCabe, Boyd, & Teter, 2009) putting young people at a high risk (Dammann et al., 2014; NACADA, 2014). Recent research in Kenya indicated that 84% of youth aged 16-24 years were involved in drug abuse (NACADA, 2014). Globally, university students are among the populations most affected by alcohol abuse (Advisory Council on the Misuse of Drugs, 2006). According to LaBrie, Pedersen, Lamb, and Quinlan (2007), almost all major universities struggle with the issue of students' drinking. An observation has also been made that the prevalence of alcohol use was higher among university students than in the general population (Tse, 2011). It is therefore important to consider factors associated with alcohol use among university students in Kenya so that appropriate preventive measures can be taken.

Methodology

The population of the study was obtained from Daystar University Nairobi and Athi River campuses. Respondent-driven sampling (RDS) procedure was used to get the student respondents for this study. RDS has been shown to be effective in tracing hidden respondents such as drug users (McCreesh et al., 2012). The RDS method was used which involved identifying the first three respondents who went ahead to recruit others until the sample required was obtained on both campuses. This gave a total of 255 respondents in both campuses (134 from Athi River campus and 121 from the Nairobi campus).

Those who declined from the two campuses did so because of fear of being found out by the University administration even after being assured of confidentiality and anonymity. From the 121 students recruited in Nairobi campus, 90 agreed to participate in the study while 31 declined. After the baseline assessment, out of the 95 students who agreed to participate in Athi River campus, 78 qualified while 17 failed to qualify, in accordance with ASSIST criteria of medium and high risk on either alcohol or cannabis use. Similarly, from Nairobi Campus, 62 students qualified while 28 did not meet ASSIST criteria of medium and high risk on either alcohol or cannabis use. Therefore, a total of 140 respondents formed the sample for the study.

Self-administered tools were used to collect the data for the study. These included a socio-demographic questionnaire. The Alcohol, Smoking and Substance Involvement Screening and Test (ASSIST) was administered to detect drug use (WHO, 2008). On alcohol, an individual with a score of 0-10 is at low risk; 11-26 is at moderate risk while 27 and above is at high risk. For all the other substances, a score of 0-3 is at low risk, 4-26 is at moderate risk, and 27 and above is at high risk of dependence. ASSIST has been adapted and used in Kenya with different studies that reported good reliability and validity (Kuria et al., 2012; Muriungi & Ndetei, 2013; Muriungi, Ndetei, Karanja, & Matheka, 2013; Ndetei et al., 2009). The Alcohol Use Disorders Identification Test (AUDIT) was also administered and it helped to identify individuals with harmful use of alcohol (WHO, 2001). A score of 8 and above on AUDIT indicates harmful alcohol use. AUDIT has been adapted and used with the Kenyan population, with results that showed good reliability and validity (Chersich, Bosire, King'ola, Temmerman, & Luchters, 2014; Kuria et al., 2012; Ndetei et al., 2009).

The Patient Health Questionnaire-9 (PHQ-9), Beck Anxiety Inventory (BAI) and Impact of Event Scale (IES) were the other tools that were administered to the research respondents. PHQ-9 was used to detect depression and its severity (Kroenke, Spitzer, & Williams, 2001). An individual with a score of 0-4 has no depression, 5-9 has mild depression, 10-14 has moderate depression, 15-19 has moderately severe depression, and 20-27 has severe depression. BAI was used to measure the severity of anxiety among the respondents (Beck & Steer, 1993). An individual with a score of 0-21 has low anxiety, 22-35 has moderate anxiety, and 36 and above has severe anxiety. According to King'ori, Odera, and Oboka (2015), IES is used to assess the presence of PTSD and its severity. An individual with a score of 1-11 has little or no symptoms of PTSD, 12-32 has moderate symptoms of PTSD, and 33 and above has PTSD. Different studies have used PHQ-9, BAI, and IES in Kenya and have reported good reliability and validity (Johnson et al., 2014; King'ori, Odera, & Oboka, 2015; Monaham et al., 2007; Muriungi & Ndetei, 2013; Ndetei et al., 2005; Njoroge et al.,, 2014).

In this study, exploratory data analysis (EDA) techniques were used. Descriptive statistics such as mean, standard deviation (SD), 95% confidence interval of mean, minimum and maximum were used to summarize continuous variables while categorical variables were summarized using frequencies and proportions. T-test and one way analysis of variance (ANOVA) were used to test for mean differences in alcohol intake scores between two and more than two independent groups respectively. Multiple linear regression analysis was used to model

alcohol intake scores using independent factors identified to be significant at P<0.1 during bivariate analysis. Backward conditional method was specified with removal at P<0.05, resulting in identification of independent predictors of elevated alcohol intake scores.

Results

These are the socio-demographic characteristics of the 140 respondents in this study. The proportion of males was relatively high (52.1%), with a high number of respondents aged 21 – 22 years (38.6%). Most of the respondents were in second (30.7%) and third (39.3%) years of university education. A relatively high proportion of the respondents (44.3%) resided in off-campus hostels, with almost all respondents (98.6%) being single. The majority of the respondents (79.3%) reported that their parents were married.

The analysis of suicide attempts, difficulty in doing school work, taking care of things at home/room, or getting along with other people among respondents by study groups at baseline was done. A relatively small proportion of the respondents (7.1%) reported to have ever tried to commit suicide. Slightly more than half (58.6%) indicated that they had had some difficulty in doing school work, taking care of things at home/in the room, or getting along with other people. These findings suggest that the respondents exhibited low energy in engaging in day to day activities, which could be as a result of drug use.

Analysis of risk levels of alcohol using ASSIST and AUDIT scores of the respondents was done. More than half of the respondents were using alcohol. Those at moderate risk of alcohol use according to ASSIST were 45.7%, followed by high risk (39.3%), and low risk was 15.0%. When it came to AUDIT, those at low risk were the majority (42.9%), followed by moderate risk (36.4%) and high risk at 20.7%.

Factors Associated With Elevated Alcohol Intake Scores among the Study Respondents

a. Alcohol Intake Score in Relation to Socio-Demographic Characteristics

Age was significantly associated with alcohol intake score (p=0.031). Older respondents (age >22 years) had significantly higher mean alcohol intake score [30.6 ($\pm$ 24.3 SD)], compared to their counterparts in age group <21 years [20.7 ($\pm$ 12.3 SD)]; (p=0.023). Similarly, the mean alcohol intake score among those aged 21-22 years [29.4 ($\pm$ 21.5 SD)] was significantly higher than that of respondents aged<21 years [20.7 ($\pm$ 12.3 SD)]; (p=0.025).This may mean that alcohol intake increased with age among the respondents.

b. Alcohol Intake Score in Relation to Influential Characteristics among the Study Respondents

Ever seeing the mother use alcohol had marginal significant association with alcohol intake scores (p=0.095). Contrary to expectation, never seeing the mother use alcohol was significantly associated with higher mean alcohol intake scores [28.4 ($\pm$ 19.3 SD)] compared to ever seeing mother use alcohol [22.3 ($\pm$ 20.9 SD)]. This indicates that those who had not seen

their mothers use alcohol ended up with a higher mean alcohol intake score compared to those who had ever seen the mother use.

The analysis of alcohol intake score by accessibility to drug(s) being used reveals a significant association (p=0.031). Those that would easily access the drug(s) had a significantly higher mean alcohol intake score [29.9 ($\pm$ 22.5 SD)], than those that would not easily access the drug(s) [21.1 ($\pm$ 11.8 SD)]; (p=0.100). The mean alcohol intake score among those that would easily access the drug(s) [29.9 ($\pm$ 22.5 SD)], was equally significantly higher than those that would moderately access the drug(s) [20.8 ($\pm$ 13.5 SD)]; (p=0.020). This suggests that easy accessibility may influence the respondents to use alcohol.

Analysis of alcohol intake score in relation to media influence on start of drug(s) use among the respondents was done. There was a significant association between alcohol intake score and celebrities influence to start using drugs (p=0.006). Those who indicated that they were influenced to start using drugs by the celebrities in the media had significantly higher mean alcohol intake score [35.7 ($\pm$ 29.4 SD)] than those that were not influenced by celebrities [24.2 ($\pm$ 16.1 SD)].

c. Alcohol Intake Score in Relation to Other Substance Use, Common Mental Disorders Indicators and School Performance among the Study Respondents

Table 1 presents the mean, standard deviation and range of alcohol intake scores by substance use, common mental disorders indicators and school performance of the respondents. Alcohol intake score had a significant correlation with use of other substances such as use of cannabis (p=0.017), use of tobacco (p<0.001), and use of Khat (p<0.001). Positive Spearman's Rho correlation coefficients imply that for every increase in alcohol intake score, there was a direct increase in the other substance use score.This suggests that the more a person took alcohol, the more the likelihood of increasing use of other substances.

Alcohol intake score had a significant correlation with common mental disorders indicators such as PHQ-9 score (p=0.001), BAI score (p<0.001), and IES score (p=0.001). Positive Spearman's Rho correlation coefficients imply that for every increase in alcohol intake score, there was a direct increase in the psychosocial indicator score, which suggests that those with high symptoms of mental disorders were likely to use alcohol more.

School performance score had marginal significant association with alcohol intake scores (p=0.063). Negative Spearman's Rho correlation coefficient implies that for every increase in alcohol intake score, there was a direct decrease in the school performance score. The implication of this finding is that more alcohol intake would mean a higher likelihood of poor academic performance.

Table 1: Alcohol Intake Score in Relation To Substance Use, Common Mental Disorders Indicators and School Performance

Variables	Spearman's Rho correlation coefficient	p value
Substance use		
Cannabis use- Score	0.202	0.017
Tobacco use – Score	0.415	<0.001
Khat*(Miraa)* use- Score	0.396	<0.001
Common mental disorders indicators		
PHQ-9 – Score	0.267	0.001
BAI – Score	0.356	<0.001
IES – Score	0.271	0.001
School Performance – Score	-0.158	0.063

Analysis of alcohol intake score in relation to suicide attempt and feeling of difficulty in doing school work, taking care of things at home/room, or getting along with other people among the respondents was done. There was a marginal significant association between alcohol intake score and feelings of difficulty in doing school work, taking care of things at home/room, or getting along with other people (p=0.062). Those who indicated that they found it very difficult or extremely difficult had significantly high mean alcohol intake score [33.4 ($\pm$ 26.0 SD)], in contrast to those who indicated that they did not find it difficult at all [22.1 ($\pm$ 16.7 SD)]; (p=0.056). Similarly, those who found it somewhat difficult had a high mean alcohol intake score [28.9 ($\pm$ 20.5 SD)], compared to those who stated that they did not find it difficult at all [22.1 ($\pm$ 16.7 SD)]; (p=0.053). This seems to suggest that the more a person experienced difficulties in daily activities, the higher the likelihood of increased alcohol intake.

d. Factors Associated With Elevated Alcohol Intake Scores among the Study Respondents

Multiple linear regression was used to model alcohol intake score using factors identified to be significant at P<0.1 during bivariate analysis. Backward conditional method was specified with removal at P<0.05. Five independent predictors of elevated alcohol intake score among respondents were identified, as presented in Table 2. Elevated alcohol intake scores among the respondents were significantly associated with: age >22 years (p=0.006), never seeing the mother use alcohol (p=0.017), easy access to the drug(s) (p=0.042), increased use of tobacco (p<0.001), and increased use of Khat (p<0.001).

Table 2: Factors Associated With Elevated Alcohol Intake Score

		95% CI			p
Variables	B	Lower	Upper	t value	value
(Constant)	24.31	19.73	28.89	10.50	<0.001
Age in year: >22 years[¥]	7.60	2.27	12.92	-2.82	0.006
Ever seen mother use alcohol: No[Ω]	6.79	1.22	12.35	-2.41	0.017
Accessibility to the drug(s) used: Easily accessible[€]	6.12	0.23	12.01	-2.06	0.042
Tobacco use score	0.78	0.44	1.11	4.63	<0.001
Khat*(Miraa)* use score	1.17	0.73	1.62	5.20	<0.001

Reference categories; [¥]<21 years; [Ω]Yes; [€]Moderately accessible

Discussion

From the findings reported in this study, several points emerge. First, there is evidence that beer products and wines were commonly used by the respondents. The respondents were found to be at different risk levels of alcohol use: moderate risk (45.7%), high risk (39.3%) and low risk (15.0%). This shows that the majority of the respondents were moderate risk and high risk users of alcohol, which was likely to predispose them to alcohol use disorders (WHO, 2008).

Secondly, more than half of the respondents (57.1%) using alcohol in a harmful way were doing so in a hazardous and dangerous manner. This would imply that they may be exposed to medium and high levels of alcohol use problems (WHO, 2001). This finding has serious ramifications for respondents involved in this study since it meant that they were at a greater risk of alcohol-related problems. This is because more than half of them could have developed tolerance, making them increase their alcohol dosage to achieve the desired effect. In addition, it is possible that some of them may have developed alcohol dependence predisposing them to higher risks of alcohol-related complications, as has been shown in previous studies (Mukamal, 2006; National Health and Medical Research Council, 2009).

Furthermore, it was discovered that a higher proportion of male students used drugs (52.1%) with higher mean alcohol intake scores of 28.5 ($\pm$22.3 SD) compared to female students at 24.5 ($\pm$16.8 SD). Harmful alcohol use was found to be relatively higher (60.3%) among male students than females (53.7%). Other studies have also reported that male students used alcohol and other drugs more than female students (Aklog et al., 2013; Hassan, 2013; Polymerou, 2007; Tsvetkova & Antonova, 2013). However, there was no statistically significant difference in the distribution by gender (p=0.569). The lack of significant differences by gender has also been reported in previous studies by Davoren et al. (2015) and Karrari et al. (2013). The lack of a statistically significant difference by gender in this study indicates that male and female engagement in harmful drug use was relatively similar.

The results of this study further showed that age was significantly associated with alcohol intake score (p=0.031). Respondents older than 22 years had a higher mean score than those below 21 years (p=0.023). Similarly, the mean alcohol intake score among those aged 21-22 years was significantly higher than respondents aged below 21 years (p=0.025). This suggests

that the older the youth were, the more likely they were to use more alcohol, making them susceptible to developing dependence. In relation to harmful alcohol use, the study also revealed that the older the respondents, the higher their percentage of use. Thus, the result showed that those below 21 years had 54.9%; 21-22 years had 57.4% and those above 22 years having 60%.

This progression from smaller amounts of alcohol intake among younger students accumulated to harmful use, which led to alcohol dependence due to tolerance as the students grew older. This could mean that as the youth were exposed to alcohol consumption, there was an increasing risk of developing dependence which is associated with the duration of exposure to alcohol. Bandura's social cognitive theory postulates that individuals learn behavior by observing how others around them behave. Accordingly, the students' progression in harmful alcohol use could be due to environmental factors such as availability of alcohol, peers using alcohol and parents' use of alcohol as a learning model to the youth, which in turn, could have predisposed alcohol dependency (Murphy et al., 2007).

If a person has a high alcohol use score, they are likely to develop high alcohol tolerance, a dependence factor which can be said to influence both the pattern and volume of alcohol consumed, leading to the maintenance of dependence. Alcohol use is a learned behavior which could have been picked up from the immediate environment, and this behavior could invariably become problematic (Heydari et al., 2014). The

The correlation between age and dependence are consistent with studies which reported that alcohol and substance use increased with age among the youth (Atwoli et al., 2011; Pengpid & Peltzer, 2012; Sutherland & Shepherd, 2001), and that age is a significant predictor of alcohol use among students (Adekeye et al., 2015).

The study appeared to indicate an association between year of study and substance use. A good number of the respondents using substances (39.3%) were in third year, followed by 30.7% who were in second year, 19.3% who were in fourth year and 10.7% in first year. This affirms a report that students in third and second years of study had a higher prevalence rate of drug use than fourth and first year students, with first year students having the lowest prevalence rate (Chkere & Mayowa, 2011). Not surprisingly, first year students had the lowest prevalence rate probably because they were aware that they were in a Christian university environment and also lacked exposure to freedom and drug use. This is in line with Atwoli et al. (2011) that substance use increases with transition in the education system. The fourth year respondents were slightly higher than the first years but lower than second and third year students. The disparity could have been due to many of them not fulfilling the inclusion criteria. The fourth year students that were scheduled to complete their university studies earlier than the period that the study was taking place were therefore in the exclusion criteria.

Respondents' places of residence also varied significantly in this study. Close to half the total (44.3%) resided in off-campus hostels, while 18.6% resided on the campus. The remaining 37.1% were living with their families. Off-campus residence therefore appeared to be preferred due, possibly, to minimal restrictions, which could be a contributing factor to alcohol use among the respondents. Residing on campus, did not have any diminishing effect on alcohol use, but

actually had a significant association with harmful alcohol use compared with those living with their families. Accordingly, a high proportion at 73.1% of the respondents found to have been using alcohol in a harmful way resided on campus compared with 46.2% that resided with families. Also, 59.7% of the respondents who admitted to using alcohol in a harmful way resided in the off-campus hostels. This was an indication that residing on campus which was supposed to cushion students from much negative influence from outside the campus appeared not to have that effect.

As regards living away from parents, there seemed to be a tendency among respondents to indulge in alcohol use to a harmful proportion. These findings corroborate other studies that have reported that living away from parents in university hostels, or living alone or with friends in areas around universities is a contributing factor to drug use among university students. Presumably, the lack of adult monitoring and supervision gives unlimited freedom to young people to behave as they choose, and consequently predispose them to try out alcohol and other drugs more than those who live with family (Chaveepojnkamjorn & Pichainarong, 2010; Chesang, 2013; Heydari et al., 2015).

This study also found a strong association between parental use of alcohol or other drugs and respondents' use of the same. Specifically, more than half of the respondents (52.1%) had seen their fathers use alcohol and 9.3% indicated that their fathers used other drugs. The majority (92.3%) of those who had seen their fathers use alcohol engaged in harmful alcohol use. This implies that fathers' alcohol use could be a major contributing factor to harmful alcohol use in their children during their youth. Therefore, youth who have been exposed to fathers' alcohol use at home are more likely to engage in harmful alcohol use.

Mothers' use of alcohol could be equally damaging to youths. It was significant that all those who had seen their mothers use alcohol (30.7%) or other drugs also engaged in harmful consumption of alcohol and other drugs. Drug abuse by mothers may therefore predispose the youth to a myriad of challenges and stressors that could lead to drug use in the affected youth as a way of coping (Atwoli et al., 2011; Maugo et al., 2012). Our study has shown further that mothers' use of other drugs could have a more damaging effect on youths than fathers' use of the substances. Similar findings on parental use of alcohol and other drugs have been reported in other studies (Kaplow et al., 2002; Li et al., 2002).

It was, however, interesting to note that never seen mothers use alcohol was a predictor of elevated alcohol intake scores among the respondents (p=0.017). This finding corresponds with the results of a study by Adekeye et al. (2015) that parental use of alcohol is not a major predictor of students' alcohol and drug use. It would then mean that there could be some other predisposing factors, which would need further investigation.

Peer influence was found to be a contributing factor to drug use among the respondents. The majority of respondents had close friends who used alcohol (88.6%), other drugs (75%) and who would go to parties where alcohol was easily accessible (82.1%). Of those whose friends used other drugs, 61.9% engaged in harmful alcohol use, compared to those whose friends did not use other drugs (42.9%); (OR=2.17; 95% CI: 1.00-4.17; p=0.049). Some Other studies have

similarly reported the same (Deressa & Azazh, 2011; Li et al., 2002; Tsvetkova & Antonova, 2013). The desire for social acceptance and the fear of being rejected by peers might be a plausible explanation for this finding (Bandura, 1994).

A high number of the respondents reported that the drug(s) they used were easily accessible (62.9%). Accessibility to drug(s) being used revealed a significant association with alcohol intake score (p=0.031). Easy access to drugs corresponded with high use of alcohol. The mean alcohol intake score among those who had easy access to the drug(s) was similarly significantly high compared to that of those that would moderately access the drug(s) (p=0.020). In addition, elevated alcohol intake score was significantly associated with easy access to other drug(s) (p=0.042). This may indicate that easy access to drugs creates an environment that supports not only the onset and maintenance of drug use but also their increased use. Studies among the youth likewise point to this association (Swahn, Palmer, & Kasirye, 2013; Tsvetkova & Antonova, 2013).

Media influence was significantly associated with beginning drug use among the respondents. There was a significant association between alcohol intake score (p=0.006) with celebrities' influence in the media to start drug use. Respondents who indicated that they were influenced to start using drugs by celebrities had higher alcohol intake scores. This shows that the influence by celebrities through the media to use drugs is strong among students, which affirms the World Health Organization's (2005) study that media plays a major role in influencing alcohol and drug use among the young people. Modeling plays a key role in the learning of new behavior (Bandura, 1999). When young people perceive celebrities as role models, they are more likely to imitate their behaviors and attitudes including drug use.

Use of alcohol was associated positively with poly drug use and a higher risk of alcohol dependence. Alcohol use has previously been linked with other substance use like tobacco and Khat use (Deressa & Azazh, 2011; Pengpid & Peltzer, 2012). The present study showed that alcohol intake score had a significant correlation with the use of other substances such as cannabis (p=0.017), tobacco (p<0.001), and Khat (p<0.001). These findings imply that for every increase in alcohol intake, there is a direct increase in other substance use, which is similar to findings by Deressa and Azazh (2011).This study suggests that the use of one drug is correlated with the use of another additional drug.

The mean tobacco and Khat use scores were significantly higher among those who engaged in harmful alcohol use than those who never engaged in harmful alcohol use. This study showed that tobacco and Khat use were prevalent among respondents engaged in harmful alcohol use. This concurs with other studies (Davoren et al., 2015; Ojo et al., 2010; Tsegay & Esmael, 2014) which indicated that those who smoke or chew Khat are more likely to use alcohol in a harmful way than those who do not. These findings show that the respondents who were engaged in harmful alcohol use were at a higher risk of being poly drug users.

Alcohol use was associated with depression, anxiety and PTSD symptoms. Alcohol intake score had significant correlation with common mental disorders indicators such as PHQ-9 (depression) score (p=0.001), BAI (anxiety) score (p<0.001), and IES (PTSD) score (p=0.001).

These findings imply that increase in alcohol use was associated with increase in symptoms of common mental disorders. Thus, it appears that a person is more likely to use alcohol when they have symptoms of depression, anxiety and PTSD as a way of coping with these negative symptoms that affect their psychological well-being, or as a way of alleviating their symptoms of non-treated mental disorders.

In this study, harmful alcohol use was associated with higher depression and anxiety symptoms among respondents. These findings correspond with Knychala et al. (2015) that those with anxiety and depression symptoms exhibit high-risk alcohol use more than those without the symptoms. PTSD symptoms were significantly higher among respondents who engaged in harmful alcohol use than those who never engaged in harmful alcohol use. Other studies have also an association between harmful alcohol use and traumatic events and PTSD (Cheng et al., 2012; Okulate & Jones, 2006). Moreover, there was a significant association between harmful alcohol use and elevated PHQ-9 scores. It has been demonstrated that people with more depressive symptoms were 1.18 times more likely to engage in harmful alcohol use (Cheng et al., 2012), and that mental health was a major predictor of alcohol use.

School performance score had a marginally significant negative association with alcohol intake scores (p=0.063). This implies that for every increase in alcohol intake score, there was a direct decrease in the school performance scores. Therefore, alcohol use by the respondents affected their academic performance negatively. The mean school performance score was significantly lower in those who engaged in harmful alcohol use (2.46$\pm$0.69) than those who never engaged in harmful alcohol use (2.70$\pm$0.54), (p=0.031). This was not surprising because alcohol misuse has been found to affect students' academic performance negatively (Ansari et al., 2013; Burns et al., 2015; Tantirangsee et al., 2014).

Several limitations were anticipated while carrying out this research. First, there was the unwillingness of some of the respondents to take part in the study due to fear of being discovered by the university administration. To deal with this limitation, we assured the respondents of confidentiality and anonymity and that the university management would not get to know their identities, after which the respondents signed the informed consent forms.

Another limitation emanated from having the respondents complete the questionnaire at their own time which could mean that some might return incomplete forms. To address this limitation, research assistants were employed research assistants to follow up the respondents and ensure that completed forms were returned.

Conclusion

This study has made some significant contributions to knowledge on factors associated with drug use among university students. Male students were found to be using drugs more than females. This was evident in almost all areas of comparison between gender and drug use in this study. Age of the respondents was associated with increase in drug use, with older students using

drugs more. In relation to the years of study, students in second and third years of study used drugs more than their counterparts in the other years of study.

The residence of the respondents had an influence on their drug use. Living off-campus, on-campus, or away from parents played a role in students' drug use. In addition, parental and peer influence and accessibility of drugs all appeared to play a major role in the use of drugs by the respondents. It was also noteworthy that respondents took alcohol irrespective of whether or not they had seen their take alcohol. What is more, the majority of respondents whose peers took drugs had the same problem of drug use. The study also linked easy accessibility to drugs to an increase in drug use among the respondents.

Apart from alcohol, the respondents were also found to be using other drugs such as cannabis, cigarettes and Khat. The use of alcohol appeared to have an association with depression, anxiety and PTSD symptoms just as alcohol was associated with poor academic performance. Respondents with high levels of depression, anxiety, or PTSD also had high levels of alcohol use and harmful alcohol and cannabis use.

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