Link between COVID-19 and Substance Abuse among University Students

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Abstract

The ongoing spread of the COVID-19 pandemic has exposed much systemic vulnerability to health care, the economy, and to the normal functioning of society worldwide. As a result of the accumulating stress, many young people find it difficult to cope with mounting pressure and revert to drug and substance abuse. There has been increased research on the impact COVID-19 had on the normal lives of people. However, studies of this effect on substance abuse among the youth are scarce. The objective of the study was to assess substance use disorders among university students during the COVID-19 pandemic. The study was a descriptive cross-sectional study and Quantitative methods were adopted. The study was carried out in three public universities in Kenya. The respondents were university students (n = 278). Data were analyzed through descriptive statistics and one-way ANOVA which was used to check differences in substance abuse amongst the sociodemographic characteristics. In case of observing significant differences Bonferroni post-hoc test was used. Findings were considered significant at p < 0.05. The main outcome measures included drug abuse and sociodemographic characteristics. The overall computation revealed that generally majority of the student (n = 157, 56.5%) moderately abused drugs. The majority of the respondents reported that they very frequently abused alcohol (n = 152, 54.7%). Many noted that they very frequently abused miraa (n = 133, 47.8%). Moreover, many reported frequently abusing cigarettes; they less frequently abused Bhang (n = 138, 49.6). The results of the ANOVA revealed that the main effect for the year of study was significant, $F_{(3, 266)} = 3.86$, p = 0.010, $\eta_p^2 = 0.04$, indicating there were significant differences in Drug abuse mean score by study year levels. The main effect, religion was significant, $F_{(3, 266)} = 3.65$, p = 0.013, $\eta_p^2 = 0.04$, indicating there were significant differences in

Drug abuse mean score by Religion levels. The main effect, University was significant, $F (2, 266) = 22.72$, $p < 0.001$, $\eta_p^2 = 0.15$, indicating there were significant differences in Drug abuse mean score by university levels. The main effect, area of origin, gender and marital status were not significant. In conclusion, although the findings show that the abuse of drugs and substances was moderate during the COVID-19 pandemic period, alcohol and miraa abuse were still high among university students during the same period. The study recommends that investing extensively in support programs and making them necessary should be essential for tertiary schools in order to help students develop the necessary life skills, healthy leisure activities that decrease stress and sadness, as well as the dangers of drug use and addictions, it is essential to engage them during their spare time.

Subject Areas

Drugs & Devices, Public Health

Keywords

Drug Abuse, Substance Abuse, University, Sociodemographic Characteristics, Prevalence, COVID-19

1. Introduction

Substance use has been and continues to be a significant threat to individual growth and development as well as national development worldwide. In Kenya, A study done by National Authority for the Campaign against Alcohol and Drug Abuse revealed the prevalence of drug use among 15-65-year-old to be as follows: Alcohol-12.2%, Tobacco-8.3%, khat/miraa-4.1% and bhang-1%. The prevalence of alcohol use disorders was 10.1%, Tobacco use disorders at 6.8%, khat use disorder at 3.1%, and bhang use disorder at 0.8% (NACADA, 2017) [1]. World Health Organization lists tobacco and alcohol use among the four primary behavioral risk factors for Non-Communicable Diseases inclusive chronic respiratory disorders, mental health disorders, cardiovascular diseases, diabetes, oral health, and cancers, among others. They have also been shown to increase the severity of and predisposition to pneumonia and other infectious diseases. The wake of the new Coronavirus disease 2019 (COVID-19) pandemic puts youth with substance use disorders (substance dependence and substance abuse) at a higher risk of suffering both the physical and psychological health effects of this disease. A majority of the youth with substance use disorders are of low socioeconomic status; thus, they are grappling with depression, and inadequate access to proper water and sanitation (Babor, 2007) [2].

One of the responses to the challenges of life is to acknowledge mental health counseling for human beings. The Bible, the Koran, African Traditional Society, and other basic units of instruction provide evidence that mental health coun-

seling has played a crucial role, especially in critical occurrences faced by humanity. COVID-19 has posed a challenge and heartbreaking experience that need special attention in the history of humankind. The youth age bracket is a critical period with myriads of psychological, social, academic, economic, spiritual, and substance use disorders that require a personal psychotherapeutic intervention. Ocholla (2018) [3] documented that the increased workload for mental health service providers and exposure to ICT has necessitated the introduction of online counseling to cater to the high demand for services and interventions among the youths. Callahan and Inckle (2012) [4] noted that online advice has no geographical limitation and can be accessed anywhere through social media platforms such as WhatsApp, Facebook, Telegram, email, zoom, Microsoft teams, duo, and phone calls. Youths feel less intimidated and empowered when talking to an online counselor. This project will sensitize youths to send their details, whether in anonymity or by giving full information for directions by the counselor when necessary. Confidentiality is assured to the client, depending on the terms and conditions of the agreed psychotherapeutic relationship. Secret locked chats and passwords can also be used to ensure confidentiality. Drug abuse is associated with anti-social behavior and crimes, and most of these crimes are planned the place where alcohol and drugs are sold with no social distancing and inappropriate hygiene, making them vulnerable to the COVID-19 pandemic. For young people struggling with substance use disorders, the current COVID-19 pandemic is a particularly challenging time. Therefore, this study aimed to assess substance use disorders among university students during COVID-19 pandemic.

2. Methods

This study focused on gathering quantitative information through the implementation of a cross-sectional study design. Participants were excluded because of an incomplete questionnaire and others due to a lack of a consent form. The purpose of the study and the procedures of the questionnaire were explained to the participants. Those who agreed to participate completed an informed consent form and the questionnaire. The participants completed the questionnaires in person enabling them to ask questions or withdraw from the study at any time during the data collection. No incentive was provided to participants. All study protocols and the survey instrument were approved by the University Human Research Ethics committees and conducted in accordance with the ethical principles of the Declaration of Helsinki.

2.1. Participants

The population of the current study was university students. Then the targets, sets of measures, exercise procedures, sampling days, and details of the study which were conducted according to the study process, were explained to the subjects, and they were asked to hand in the consent form and study and sign the written pledge. The inclusion criteria for the volunteers were that they were

students. Researchers excluded potential participants who did not meet these criteria from the study. Random sampling was used to obtain a sample for inclusion in this research in the first phase of the study. Random sampling ensured a balanced sample that was representative of various dynamism within youth groups with drug use disorders hence, provision of rich and comprehensive data, as well as providing necessary impetus in the phenomenon under investigation.

2.2. Protocol

In assessing the exposure and practices of university students with drug use disorders, a questionnaire was used. The questionnaires were self-administered to overcome the difficulties arising from peer assistance and minimize the non-respondent prevalence. The questionnaire covered demographic characteristics, and practices regarding drug abuse during COVID-19.

2.3. Statistical Analysis

Descriptive statistics such as mean and standard deviation were used to describe data and to verify the normality of the data Shapiro-Wilk test was used. Then, to test the research hypotheses, one-way ANOVA was used to check differences in substance abuse amongst the sociodemographic characteristics. In case of observing significant differences Bonferroni post-hoc test was used. Findings were considered significant at $p < 0.05$. Researchers used IBM SPSS version 26 for statistical analysis.

3. Results

A total of 278 respondents participated in the study and completed the questionnaire. The percentage of completed questionnaires was ranged from the lowest at the university of Nairobi (n = 51, 18.3%) to the highest at Masinde Muliro University (n = 118, 42.4%). The per university response rates were 42.5% at the University of Nairobi, 90.8% at Kenyatta University and 98.3% at Masinde Muliro University. The background results of the respondents revealed that the majority of the respondents were female (n = 142, 51.1%). The average age of the respondents was 21 years (±1.426) years (±SD). Majority of the respondents belonged to the protestant's religion (n = 89, 32.0%) and single (n = 185, 66.5%). In addition, most of them were in their first year of study (n = 81, 29.1%) and most of them came from urban areas (n = 194, 69.8%). A summary of findings in frequencies and percentages is presented in Table 1. Results from the chi-square statistics showed that there were differences in proportion among the different universities with regard to only one socio demographic characteristic. The variables religion (χ^2(df = 3) = 13.367, p = 0.038) was statistically significant and the rest were all not statistically significant.

4. Drug Usage

Drug usage was assessed with a Likert scale which was scored and index scores

Table 1. Sociodemographic characteristics of households.

| Socio demographic characteristics		University						
			University of Nairobi		Kenyatta University		Masinde Muliro University	
			n	%	n	%	n	%	χ2, p
Gender	Male	136 (48.9%)	27	9.7%	50	18.0%	59	21.2%	0.790, p = 0.674
	Female	142 (51.1%)	24	8.6%	59	21.2%	59	21.2%	
Marital status	Single	185 (66.5%)	34	12.2%	70	25.2%	81	29.1%	0.499, p = 0.779
	Married	93 (33.5%)	17	6.1%	39	14.0%	37	13.3%	
Year of study	First Year	81 (29.1%)	18	6.5%	28	10.1%	35	12.6%	3.997, p = 0.677*
	Second Year	64 (23.0%)	8	2.9%	27	9.7%	29	10.4%	
	Third Year	61 (21.9%)	9	3.2%	26	9.4%	26	9.4%	
	Fourth year	72 (25.9%)	16	5.8%	28	10.1%	28	10.1%	
Religion	Catholic	51 (18.3%)	14	5.0%	17	6.1%	20	7.2%	13.367, p = 0.038
	Protestant	89 (32.0%)	11	4.0%	33	11.9%	45	16.2%	
	Muslim	65 (23.4%)	13	4.7%	34	12.2%	18	6.5%	
	Pagan	73 (26.3%)	13	4.7%	25	9.0%	35	12.6%	
Area, you come from	Urban	194 (69.8%)	35	12.6%	78	28.1%	81	29.1%	0.268, p = 0.875
	Rural	84 (30.2%)	16	5.8%	31	11.2%	37	13.3%	

Note. Due to rounding error, percentages may not sum to 100%, *The Chi-square statistic is significant at 0.05 level.

computed. The majority of the respondents reported that they very frequently abused alcohol (n = 152, 54.7%). Many noted that they very frequently abused miraa (n = 133, 47.8%). Moreover, many reported to frequently abusing cigarette, they less frequently abused Bhang (n = 138, 49.6%), less frequently abused tobacco (n = 163, 58.6%), many reported they never abused heroine (n = 104, 37.4%), they never abused cocaine (n = 138, 49.6%), they also pointed out that they very frequently abused depressants (n = 129, 46.4%), they never abused brown sugar (n = 179, 64.4%) and also never abused inhalants (n = 138, 49.6%). A summary of the findings is presented in Table 2. The drug scores were computed by getting a mean score from all the total responses from all the drugs. The overall mean score was 1.41 (±0.32) (±SD). This score was used to rank respondents on overall drug abuse. The overall computation revealed that generally the majority of the student (n = 157, 56.5%) did not abuse drugs (see Figure 1).

An analysis of variance (ANOVA) was conducted to determine whether there were significant differences in drug abuse mean score by gender, marital status, study year, religion, area of origin, and university. The ANOVA results were examined and were considered significant based on an alpha value of 0.05. The

Table 2. Drug abuse among students.

	Never		Less frequently		Frequently		Very frequently	
	n	%	n	%	n	%	n	%
Alcohol	36	12.9%	68	24.5%	22	7.9%	152	54.7%
Miraa	0	0.0%	117	42.1%	28	10.1%	133	47.8%
Cigarette	106	38.1%	41	14.7%	119	42.8%	12	4.3%
Bhang	0	0.0%	138	49.6%	22	7.9%	118	42.4%
Tobacco	0	0.0%	163	58.6%	83	29.9%	32	11.5%
Heroin	104	37.4%	65	23.4%	86	30.9%	23	8.3%
Cocaine	138	49.6%	105	37.8%	13	4.7%	22	7.9%
Depressants	0	0.0%	88	31.7%	61	21.9%	129	46.4%
Brown sugar	179	64.4%	40	14.4%	17	6.1%	42	15.1%
Inhalants	138	49.6%	103	37.1%	3	1.1%	34	12.2%
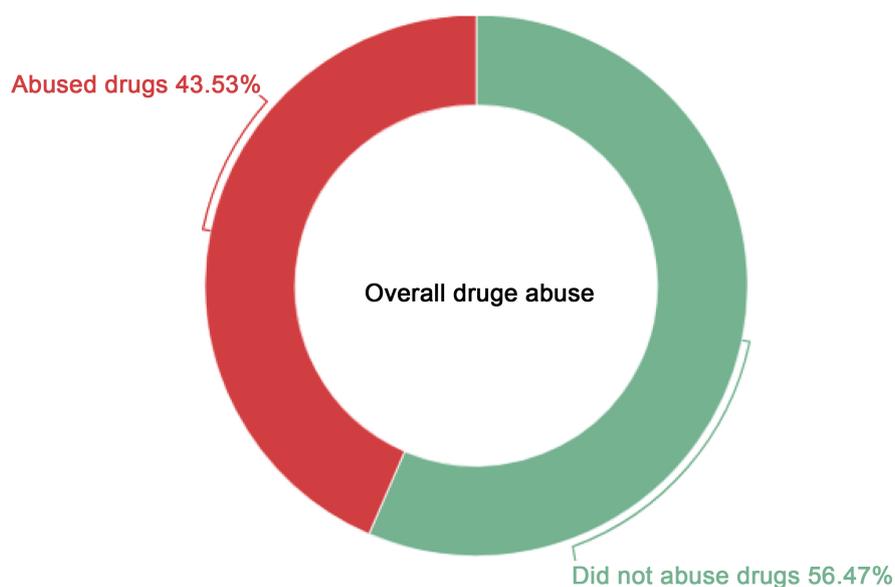
Figure 1. Overall drug abuse among students.

results of the ANOVA were significant, $F(11, 266) = 7.28$, p < 0.001, indicating there were significant differences in Drug abuse mean score among the levels of gender, marital status, study, Religion, area, and University (Table 3). The main effect, gender was not significant, $F(1, 266) = 0.89$, p = 0.346, indicating there were no significant differences in Drug abuse mean score by gender levels. The main effect, marital status was not significant, $F(1, 266) = 0.40$, p = 0.526, indicating there were no significant differences in Drug abuse mean score by marital status levels. The main effect for the year of study was significant, $F(3, 266) = 3.86$, p = 0.010, $\eta_p^2 = 0.04$, indicating there were significant differences in Drug abuse mean score by study year levels. The main effect, religion was significant,

$F(3, 266) = 3.65$, p = 0.013, $\eta_p^2 = 0.04$, indicating there were significant differences in Drug abuse mean score by Religion levels. The main effect, area of origin was not significant, $F(1, 266) = 0.86$, p = 0.356, indicating there were no significant differences in Drug abuse mean score by area levels. The main effect, university was significant, $F(2, 266) = 22.72$, p < 0.001, $\eta_p^2 = 0.15$, indicating there were significant differences in Drug abuse mean score by university levels.

Paired *t*-tests were calculated between each pair of measurements to further examine the differences among the variables based on an alpha of 0.05. The Tukey HSD p-value adjustment was used to correct the effect of multiple comparisons on the family-wise error rate. For the main effect of the study (**Figure 2**),

Table 3. Analysis of variance table for drug abuse mean score by gender, marital status, study, religion, area, and university.

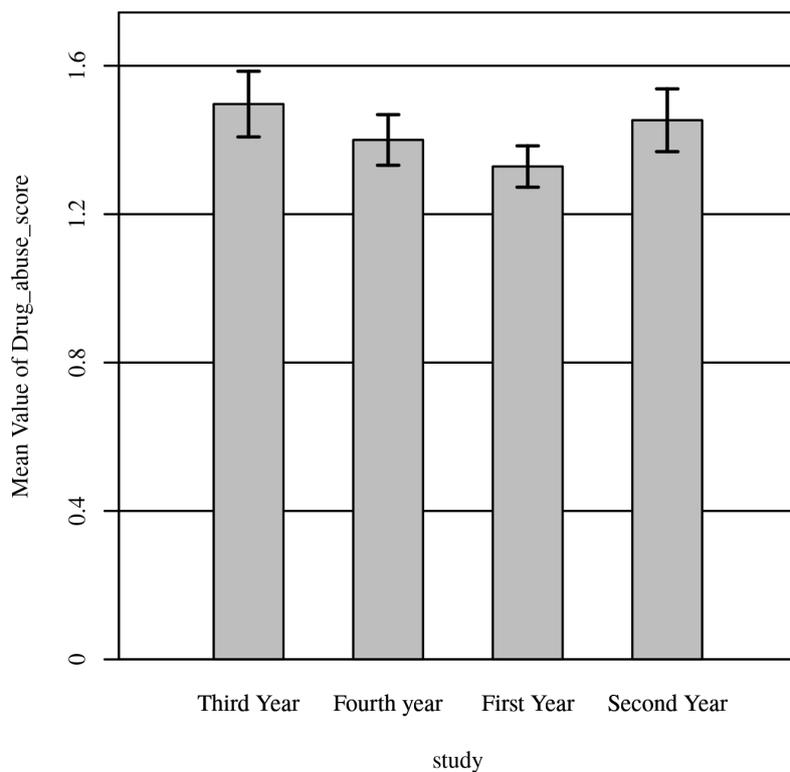| Independent variables	*SS*	*Df*	*F*	*P*	η_p^2
Gender	0.07	1	0.89	0.346	0.00
Marital status	0.03	1	0.40	0.526	0.00
Study	0.92	3	3.86	0.010	0.04
Religion	0.87	3	3.65	0.013	0.04
Area	0.07	1	0.86	0.356	0.00
University	3.62	2	22.72	<0.001	0.15
Residuals	21.17	266			

Figure 2. Means of drug abuse mean score by study year.

the mean of Drug abuse mean score for Third Year (M = 1.50, SD = 0.35) was significantly larger than for First Year (M = 1.33, SD = 0.26), p = 0.003. For the main effect of study, the mean of Drug abuse mean score for First Year (M = 1.33, SD = 0.26) was significantly smaller than for Second Year (M = 1.45, SD = 0.35), p = 0.038. For the main effect of Religion (**Figure 3**), the mean of Drug abuse mean score for pagan (M = 1.48, SD = 0.29) was significantly larger than for catholic (M = 1.31, SD = 0.37), p = 0.014. For the main effect of Religion, the mean of Drug abuse mean score for pagan (M = 1.48, SD = 0.29) was significantly larger than for Muslim (M = 1.33, SD = 0.29), p = 0.023. For the main effect of Religion, the mean of Drug abuse mean score for protestant (M = 1.47, SD = 0.29) was significantly larger than for catholic (M = 1.31, SD = 0.37), p = 0.023. For the main effect of Religion, the mean of Drug abuse mean score for protestant (M = 1.47, SD = 0.29) was significantly larger than for Muslim (M = 1.33, SD = 0.29), p = 0.037. For the main effect of university (**Figure 4**), the mean of Drug abuse mean score for University of Nairobi (M = 1.23, SD = 0.27) was significantly smaller than for Masinde Muliro University (M = 1.55, SD = 0.29), p < 0.001. For the main effect of university, the mean of Drug abuse mean score for Kenyatta university (M = 1.35, SD = 0.30) was significantly smaller than for Masinde Muliro University (M = 1.55, SD = 0.29), p < 0.001. No other significant effects were found.
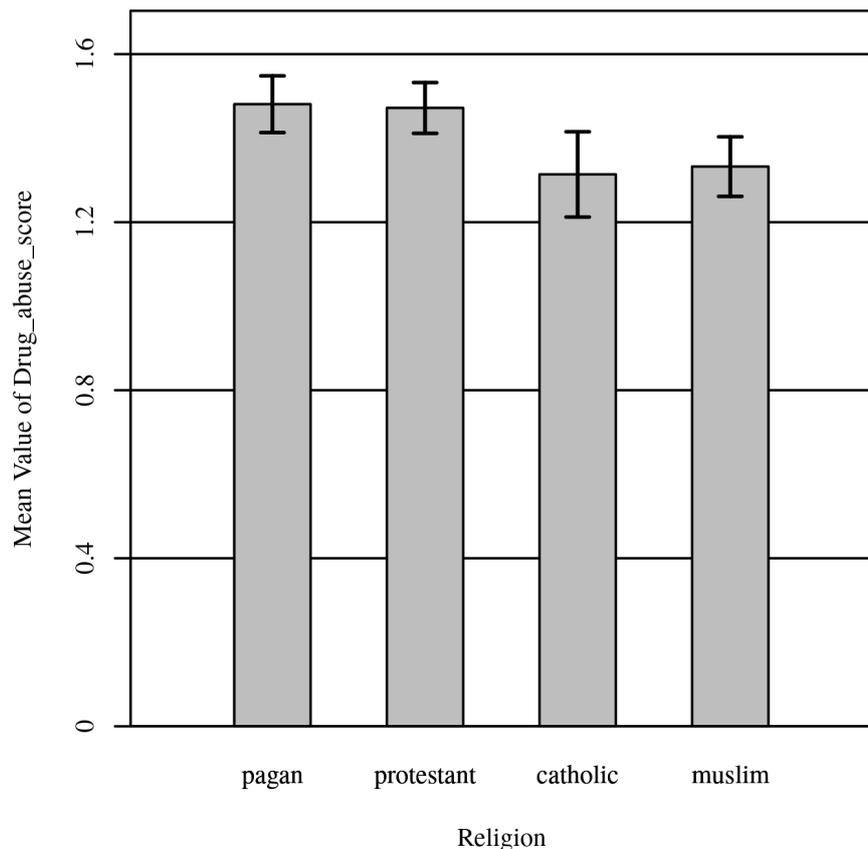

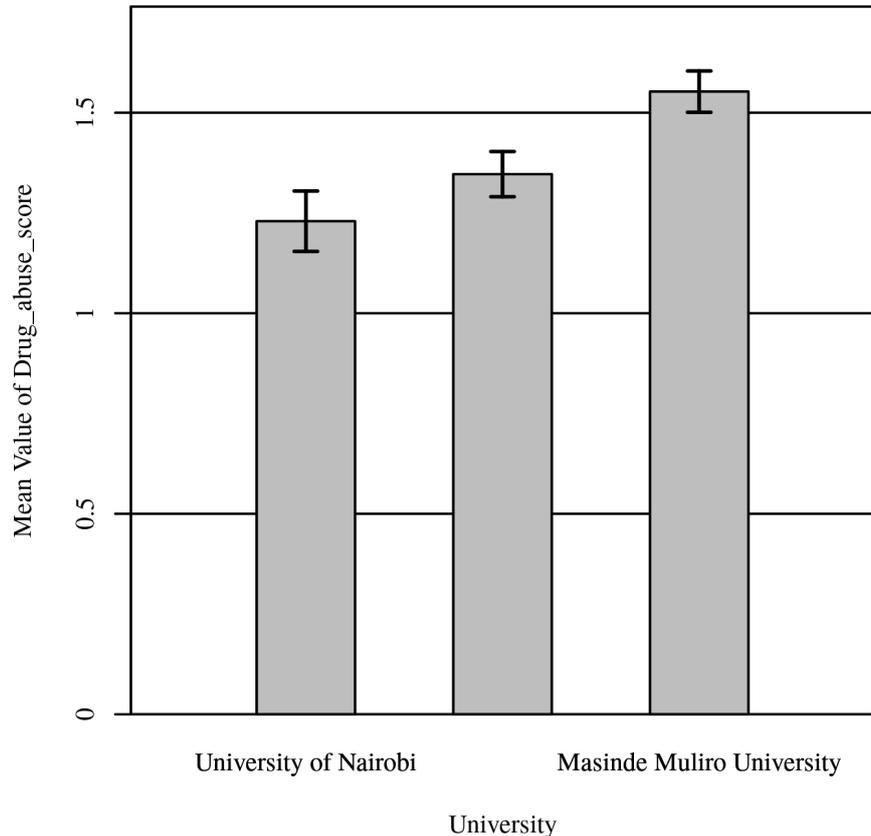**Figure 3.** Means of drug abuse mean score by religion.

Figure 4. Means of drug abuse mean score by university.

5. Discussion

The objective of this study was to assess substance use disorders among university students during the COVID-19 pandemic. According to the conclusions of the survey, students at higher institutions drink beer, use marijuana, and smoke cigarettes. Research by Othieno *et al.* (2014) [5] indicated that the vast majority of young people are abusing drugs or alcohol in some way. The majority of young individuals began misusing drugs at higher institutions, according to Cheloti and Gathumbi (2016). This data quantitatively demonstrates the widespread drug abuse among college students. Only one research in Nigeria (Njoku, 2017) [6] established the link between depression and drug addiction among students, but this one is in higher institutions. As a result, there is a similarity in the demographics of those being targeted. South African researchers explored the link between drug use and prevalent mental problems in young people, and found a strong correlation between the two. Depression was shown to be a significant contributor to youth drug use, echoing prior findings.

Despite the fact that respondents from various academic years, universities, and religious backgrounds varied significantly in their usage of drugs, gender, marital status, and place of origin had no effect on their drug use. Contrary to statements made by Kiambuthi (2005) [7], Wambua (2004) [8], Siringi (2003) [9], and NACADA, this is not the case (2003) [10]. Males are more likely than girls

to engage in drug misuse, according to all of this research. Being risk-takers, adventurous, inquisitive, and having a culture of experimentation among guys may be to blame for this (Kiambuthi, 2005) [7]. A person's age has no bearing on their likelihood of abusing drugs. According to research by Kiambuthi (2005) [7], pupils between the ages of 15 and 17 had a slightly greater frequency of depression than those between the ages of 18 and 29.8 percent. According to the data, age is not a major factor in affecting drug usage (Otieno, 2010; Sutherland, 2008 [11]). Marital status has no effect on drug usage, according to one research. NACADA's (2003) [10] research supports this. However, Gikonyo disagrees (2005) [12]. As far as Gikonyo can tell, there is no connection between drug misuse in the home and the members of that household. In spite of this, the research suggests that the year of education is a factor to consider. Young people's exposure to cultural variants may be to blame for this outcome. There is a greater chance of students developing a habit of drug addiction because of their interest and experimenting with new substances (Gikonyo, 2010). Toxicology and drug and substance misuse are not linked. According to Otieno (2005) [13], 57.6% of drug abusers reside in rural regions, whereas just 42.4% reside in metropolitan areas. Religion and drug misuse seem to be linked, according to the research. These findings are at odds with the findings of Gikonyo and Kiambuthi, who found no link between religious affiliation and drug addiction. Although Muchiri (2005) [14] concurs with this conclusion, it is not universally accepted. One explanation for this is because religious believers' morality and beliefs have shifted.

6. Conclusion & Recommendation

In conclusion, the overall computation revealed that generally majority of the student moderately abused drugs. The majority of the respondents reported that they very frequently abused alcohol. Many noted that they very frequently abused miraa. Moreover, many reported frequently abusing cigarettes, but they less frequently abused Bhang. The results of the ANOVA were significant, indicating there were significant differences in Drug abuse mean score among the levels of gender, marital status, study, Religion, area, and University. The study recommends; Tertiary institutions should be on the lookout for drug availability and drug sales. Investing extensively in support programs and making them necessary should be essential for tertiary schools in order to help students develop the necessary life skills, healthy leisure activities that decrease stress and sadness, as well as the dangers of drug use and addictions; it is essential to engage them during their spare time. Teachers, school counselors, and administrators should be trained and educated on the need to look into a student's family history in connection to drug misuse via joint initiatives by the Ministry of Public Health and Sanitation and NACADA. Alcoholic Drink Monitoring Law, 2010 mandates that bars and wine and spirit stores located within a 300-meter radius of one's residence be subject to government control by the Ministry of Internal Security

under the Office of the President. There should be clear regulations on drug usage prevention introduced by the Ministry of Education to all educational institutions, requiring them to implement programs such as having guest lecturers visit schools on a regular basis. All schools should have a long-term academic strategy that is approved by the district's quality assurance officer and submitted to the Ministry of Education at the end of the year.

Ethics Approval

Ethical clearance was obtained from Masinde Muliro University of Science and Technology Ethics Committee.

Disclaimer

The findings and conclusions presented in this manuscript are those of the authors and do not necessarily reflect the official position of Masinde Muliro University.

Competing Interest

The authors declare that they have no competing interests.

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