

Investigation of Prevalence and Causes of Substance Use among Medical and Business Students at a Selected University in Zambia

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ABSTRACT

Substance abuse among university students is a growing concern globally, impacting academic performance and overall well-being. This study aims to investigate the prevalence and factors contributing to substance use among Medical and Business students at a selected University in Zambia. Previous studies highlight the significant influence of peer pressure, stress, and curiosity on students' substance use. Additionally, research conducted in Nigeria and Zambia underscores the negative outcomes associated with substance abuse, including social disturbances, poor academic performance, and health issues. By understanding these factors, appropriate interventions can be developed to promote healthy learning environments and student well-being. The main objective of the research study will be to investigate the prevalence and causes of substance use among medical and business students at the selected university in Zambia. The study investigates substance use prevalence and causes among Medical and Business students at the selected university in Zambia. Employing a qualitative approach, data will be collected using structured interviews and cross-sectional surveys. A sample of 288 students will be selected using stratified random sampling. Data analysis will involve descriptive statistics and frequency tables, conducted using SPSS software. Ethical considerations include obtaining informed consent, ensuring confidentiality, and adhering to institutional guidelines. The study surveyed 288 students at the selected university in Zambia, revealing a high prevalence of substance use among Medical and Business students. 86.8% reported using substances such as caffeine (41.3%) and over-the-counter medications (24.3%) to enhance cognitive function. Academic pressure (60.4%) and peer pressure (29.2%) were the main reasons cited for substance use. Most students (70.1%) believed substance use had a negative impact on academic performance. The specific goals of this study, which were to identify the types, prevalence, and causes of substance use among the student's pursuing business and medicine, were successfully met. The results show that 86.8% of participants reported using drugs, a statistic largely driven by peer pressure (29.2%) and academic pressure (60.4%). The most often used substances were over-the-counter medications (24.3%) and caffeine (41.3%), indicating a preference for easily accessible and lawful options for improving cognitive function.

Keywords: Substance abuse; University; Medical; Business; Students; Prevalence; Academic Pressure

INTRODUCTION

The pursuit of academic excellence has become increasingly competitive in recent years and students are using various methods to attain academic excellence. Substance abuse among students has become an alarming situation that's becoming normalized. Psychoactive substance use can be defined as illegal and legal use of substances that are consumed to alter an individual's smell, feel, taste and behavior as well as how they see things (Ministry of Health 2021). Students are abusing various substances to help prolong their study time and concentration while tending to their academics while other students tend to do it during their leisure time for experimental purposes and due to peer pressure to try and fit in with their friends. Prolonged study time refers to an extension of time spent on academic work with a goal of trying to cover a proportion of work. Many factors have led to this behavior, and this research aim is to discuss the prevalence and factors leading to this challenge as well as the negative effects it has on business and medical students at the selected university, narrowing down solutions that can be put in place to promote healthy learning among students at the selected university.

Researchers have attempted to evaluate the impact of substance use among scholars. However some studies were done on undergraduate students at the university of Uyo in Nigeria on factors leading to the excessive use of self-prescription drugs and its prevalence and the findings were as follows, substance use was more common in females scoring a percentage of 37.7% as compared to males who scored 18.2%. Therefore, some factors that were found that highly led to this behavior included peer pressure from friend groups 94.3%, stress 70.5%, curiosity 58.7%, the most frequent reasons to why scholars resorted to this behavior included increasing their confidence 92.1% and preparing for exams 85% (Johnson et Al., 2017).

Similarly, another study was done in Zambia on the outcomes of alcohol abuse and drug abuse among students in Zambian universities and it was found that a larger portion of males abused alcohol, while 20% confessed to abusing marijuana and diazepam and female also confessed to abusing alcohol, snuff, spirits and lagers. Students accommodated within school premises had a higher result compared to those living outside school and this could have been due to challenges with monitoring those living outside as well as the high number of students within the school premises. Some of the outcomes that were discovered included social disturbance, students who were under the influence of drugs would make noise, vomiting alcohol on fellow students or innocent students' rooms, engaging in fights, others included incidences of theft, stealing of phones, laptops within school premises to gain fast money to buy drugs. When caught by the University authorities, these students were expelled when found with these drugs and a vast number of students grades were affected because they absconded classes that led them to perform poorly in the studies and fail exams. Students who abused these drugs mentioned to have experienced various medical challenges like liver disease, mental challenges, malnutrition, chronic lip burns, most students admitted saying most friends that abused alcohol looked older than there age, their eyes are always puffy thus narrowing down to the outcomes that were taken down. (J Tembo et AL.,2022). This proves that substance use has terrible effects on most university students even in Zambia.

To date several studies have been investigated and a study was done by (N Mwanza, Mwale (2023) on students perspectives on drugs at a university in Zambia and during this study they discovered the most frequently used drugs were weed, codeine commonly obtained from Benylin and alcohol such as Bols, this shows that scholars easily access these drugs such as Benylin even without prescription from the nearest pharmacies around schools and proper documented regulations have to be put in place .Other commonly used drugs included shisha. This study further concluded saying psychoactive substance use also increases the prevalence of STIs, unwanted pregnancies, abortions and HIV among youths.

The use of illicit drugs among scholars as been influenced by various factors and has been widely discussed for several years with a couple of studies commonly noting down the extensive use of alcohol and tobacco (Welsh, Shentu and Sarvey, 2019; Aguocha and Nwefoh, 2021; Blows and Isaacs, 2022) Currently the focus has changed students are now abusing these drugs to enhance the level of concentration and prolong study hours. Pharmacological cognitive enhancement has been noted in many countries and schools (Schelle et Al.,2014: Signh,Bard and Jackson, 2014; Maier, Ferris and Winstock , 2018; Covaco,Ribeiro and Norgaard,2022). A study was done among scholars in the United States on the prevalence and commonly used drugs; However, the percentage ranged from 5% to 35% amid students in the United States. Weyandt et Al.,2013. Another study was done in Portugal, and it reviewed that 32% of students took these prescription drugs to enhance their cognitive performance (Cavaco, Ribeiro and Norgaard, 2022). Furthermore, discovering the substance potential risk and effects associated with its misuse is of prime importance especially its effects on academic outcomes (Bugbee et Al ;2019; Welsh, Shentu and Sarvey,2019) and simply type your text into it.

Problem Statement

The use of substances among students stems from a wide range of factors which may include academic performance, high levels of stress, family concerns and most times experimental.

Researchers have attempted to evaluate factors leading to this problem and a study was done by Rukundo et.al., (2017) on factors influencing psychoactive substance use among adolescents in secondary schools in Uganda and participants shared saying peer group influence within school played a huge role , while others mentioned saying taking these drugs helps them manage stressors, furthermore most pupils from the school blamed their parents and society responsible for them resorting to substance abuse, most of them mentioned saying they inherit

this behaviour from their parents and relatives because as they grow up it seemed to be normal in their household, others said to use marijuana to gain confidence. However, in comparison with the cited study above an exploratory study was done by Gasa et al., 2022) where students stated that peer pressure was one of the factors that led to substance use and, in a way, students used this as a way to bond with their friends and fit in with their social groups in fear of losing friendships. However, most students stated they resort to substance use for enjoyment purposes and not only out of negativity it's a way in which the students tend to have fun.

Scholars explore many ways that help them cope with their stressors, thus leading to the consumption of different substances, other factors that precipitate the use include lack of support and family involvement. In relation to substance use various studies have been done in different parts of the world concerning it being used widely by students, but they have not been any done at the selected university pinpointing how students are abusing various substances which come in many forms such as energy drinks containing caffeine, Benylin, weed and others. This research is bent on investigating the unknown prevalence and causes of substance use among medical and business students at the selected university. it will explore its effects on academic performance as well as students' health, however with the collected data specific solutions will be made thus encouraging healthy learning.

Objectives of the Study

The study was guided by the following specific objectives:

1. Determining the prevalence of substance use among Medical and Business students at the selected university.
2. Identifying the types of substances commonly used among Medical and Business students at the selected university.
3. Assessing the causes of substance use among Medical and Business students at the selected university.

Research Questions

1. What is the prevalence of substance use among Business and Medical students at the selected university?
2. Which substances are most commonly used by Medical and Business students at the selected university?
3. What are the causes for substance use among Medical and Business students at the selected university?

Significance of the Study

This research aimed at discovering the prevalence and causes of substance use among Medical and Business students at the selected university, Zambia, this information has helped come up with solutions specific to the problems leading to this behaviour. However, most of the solutions have included helping students develop healthy learning practices, through documentation of strict rules pertaining the use of harmful substances within the school premises. Drawing down compulsory activities and programs among students in collaboration with the school that will come up with solutions to help students cope with the challenges that make them resort to substance abuse. However the research also aimed at making students aware of dangerous health complications that arise from taking psychoactive substance. The findings of this study has helped form the development of targeted interventions and policies to promote healthy learning environments and support Medical and Business students in achieving their academic goals without resorting to potentially harmful substances.

Scope of the Study

The research was based on prevalence and causes of psychoactive substance use among Business and Medical students at the selected university in Zambia. It included factors that are led to an increment in the use of illicit drugs, their effects on students' physical and mental health. It also highlighted the commonly used substances among a random sample of students either Medical or Business students the many withdrawal effects that an individual tends to illicit as well as its outcomes. The research focused on Business and Medical students at the selected university in Zambia, categorical and continuous numerical variables have been utilized examples include the age, income, sex, year of study will be noted down.

LITERATURE REVIEW

A considerable amount of literature has been done on substance use among scholars, a study was done by (D Oztas et al.,(2018) where he had discovered that the consumption of harmful substances had increased worldwide and the average age of substance abusers had decreased to 11years in the USA , drug abuse is of public health concern and serves as a threat to society , families, environment and the world at large. In the USA substance use among adolescents had highly increased. However, in this study adolescents were the main group at risk. In his study he found that theirs a correlation between the age, gender and substance use, males had a higher rate of substance use at 4.8% while females students scored 2.2% and it was commonly practiced among students who were 15 years of age and above concluding that males older than 15 are at high risk of drug use. Another correlation included adolescents with separated parents and those with whom their parents are still together, and the results indicated that children with separated parents are at high risk of substance abuse.

Several studies done have investigated that the prevalence of the use of substances for cognitive enhancement among university students, with rates varying depending on the specific substances examined and the methodological approaches employed. For instance, a systematic review found the prevalence of prescribed stimulant misuse for enhancement of cognitive function ranged from 5% to 35% among college students in the United States (Weyandt *et al.*, 2013). Similarly, a study conducted in Portugal reported that 32% of university students had used prescription drugs, illicit substances, or dietary supplements for PCE purposes (Cavaco, Ribeiro and Nørgaard, 2022). However, there is a lack of research focusing on the selected university and its unique context, highlighting the need for the current study.

Several factors have been identified as contributing to substance use for cognitive enhancement among university students. These include academic pressure, mental health issues, and peer influence (Arria and DuPont, 2010). An example is, a study that found students that reported higher levels of anxiety and so much stress had a more likely hood of engaging in nonmedical use of prescription stimulants (Butler *et al.*, 2021). Additionally, research has shown that students who perceive a high prevalence of substance use among their peers are more likely to engage in this behavior themselves (Steyl and Phillips, 2011; Welsh, Shentu and Sarvey, 2019).

The effects of substance use for cognitive enhancement on students' well-being and academic performance have been mixed. Some studies have reported positive associations between PCE and academic outcomes (Husain and Mehta, 2011; Sharif *et al.*, 2021), while others have highlighted the potential risks and adverse effects associated with the misuse of prescription medications and other substances (Bugbee *et al.*, 2019; Welsh, Shentu and Sarvey, 2019). For example, a study by Arria and DuPont (2010) found that students who engaged in nonmedical use of prescription stimulants were more likely to experience negative academic outcomes, such as lower grade point averages and increased risk of dropping out.

Regional perspective

To begin with, a research was done in Abu Dhabi on factors increasing the rate of psychoactive substance use in adolescents and the many factors that led to substance use were poor parent and child interaction , boredom and influence from social groups easy accessibility to substance , however they had highlighted that religion played a huge role as a shield against exposure to these harmful substances L Alhyas et Al.,(2015). In addition to the evidence that has been provided in order to help students it would be great idea to introduce various religious programs at the selected university that would help shield many students against drug abuse and would help create a healthy routine for students who are normally idol.

Studies in Sub Saharan Africa were conducted by Stacey Blows, and it was discovered that drug use prevalence percentage was 62.7% and the most abused alcohol being 80.6%, cannabis being 46% and ecstasy being 5.3%. Students who were abusing these substances had a higher depression and anxiety score. The study concluded that a large number of selected students started using these substances after they entered university, thus serving as a baseline for interdisciplinary approach Stacey Blows et Al., (2022)

Similarly study was done in Nairobi Kenya and the results in line with the demographic characteristics showed that among the 1566 students that took part in the research a number of scholars who used substances were

between 20 to 24 years and in this case surprisingly female students scored higher than male students. Therefore substance dependency was also assessed and a few students disclosed that they couldn't do without included heroin 33.3% and cocaine 23.0% and most students showed dependency to marijuana as compared to alcohol which was the commonly abused substance L Kageni et al.,(2022)

National perspective

In Zambia studies have shown that the prevalence of substance use among males was of greater proportion compared to females, commonly in single men who scored a percentage of 70.9% and the married had 13.9% respectively According to their education levels 52.5% had completed secondary school and 31.3% had completed university G Lungu et Al.,(2023).

Similarly, J Menon., (2018) discovered that a large number of youths in Zambia consumed alcohol among them were university students, tobacco was found to be commonly used by first year students while alcohol frequently used by fourth year students. However, the study concluded saying students at the University of Zambia frequently consume alcohol and Tobacco and it is important that the institution comes up with regulatory measures to curb drug abuse as it widely affects one's development and the country's development at large. Another study was done by K Peltzer, (2009) on substance use frequency and its common correlates among adolescents' students and it was found that sleeping issues, sadness, suicide plans and poverty made students abuse drugs to try and escape reality.

Studies have been conducted by Isaac Masiye at several secondary schools in Zambia; however it was noted that the area of learning into which more focus is given has not included ways in which students can utilize to cope with their stressors instead more concentration has been put on the normative way of learning. On the basis of prevention of substance use among learners, the study discovered that they were no documented rules that had been set in secondary schools thus showing that the problem arises from secondary school and continues up to university without proper intervention. Isaac Masiye (2016).

Theoretical Framework

The phenomenon of substance use to prolong study hours among university students can be examined through various theoretical lenses. In this section, we discussed three relevant theories that provided a framework for understanding the prevalence and effects of substance use for cognitive enhancement: Theory of Planned Behaviour, Social Cognitive Theory and the Self-Medication Hypothesis.

The Planned Behaviour theory states that a person's intention to involve themselves in a specific behaviour is determined by his/her attitude towards the same behaviour, the subjective norms, perceived behavioural control (Ajzen, 1991). In the process of substance use for cognitive enhancement, students' attitudes towards the benefits and risks of using substances, the influence of peers and social norms, and their perceived ability to control their substance use may all contribute to their decision to engage in this behaviour. Other former research previously done has shown that TPB can be a useful framework for understanding substance use among university students (Collins and Carey, 2007).

The Social Cognitive Theory emphasized on the role of behavioural, cognitive and the environmental factors in shaping an individual's behaviour (Mimiaga et al., 2009). According to SCT, students may engage in substance use for cognitive enhancement due to their beliefs about the efficacy of these substances, their observations of peers using substances, and the availability of substances within their environment. Research has demonstrated that SCT can help explain the use of prescription stimulants for cognitive enhancement among college students (Arria and DuPont, 2010; Sharif et al., 2021).

Self-Medication Hypothesis is a theory that suggests that people use substances to cope with or alleviate psychological distress (Khantzian, 1997; Turner et al., 2018). In the context of substance use for prolonging study hours, students may use substances to manage stress, anxiety, or other mental health issues related to their academic workload. This hypothesis has been supported by research showing that the students who report that higher levels of stress have a more likely hood of engaging in nonmedical use of prescription stimulants (Butler et al., 2021; Magnotti et al., 2023).

The Conceptual Framework

The framework guided the investigation of the prevalence and causes of substance use among Medical and Business students at the selected university. It included the factors contributing to substance use among Medical and Business students at the selected university. These include personal, social, financial and academic factors. It also highlighted the types of substances used, the effects it has on Business and Medical students at the selected university such as their well-being and academic performance.

Personal factors involved ones identity what makes up an individual. These included there demographic details such as the students age, sex, religion, capabilities. This had a huge correlation with substance use. The conceptual framework identified several key variables that correlate and cause an increment in the usage of substance use. Another one that had been listed in the diagram is social factors that were mentioned earlier in our literature review stating how peer group influence played a huge role in substance abuse among students. Other factors included Availability of substances, psychological distress (e.g., stress, anxiety), academic stress e.g. stemming from fear of failure, having trouble understanding schoolwork, pressure from different lectures wanting students to complete their work in different specified times all causing students to resort to substance use. Financial factors also contributed to substance use as many students failed to meet their various financial needs beginning from completion of their tuition fees which determines whether one will sit for exams or not, others included failure to pay boarding rentals and buy groceries. All these contributed to student depression thus resorting to substance use. However, after examining these variables and their relationships, this research proposal aimed to provide a comprehensive understanding on the prevalence and causes of substance use among students at the selected university. Findings of this research has helped develop particular interventions and policies used in promoting a healthy environment for learning and supporting students in acquiring their academic roles without resorting to potentially harmful substance use.

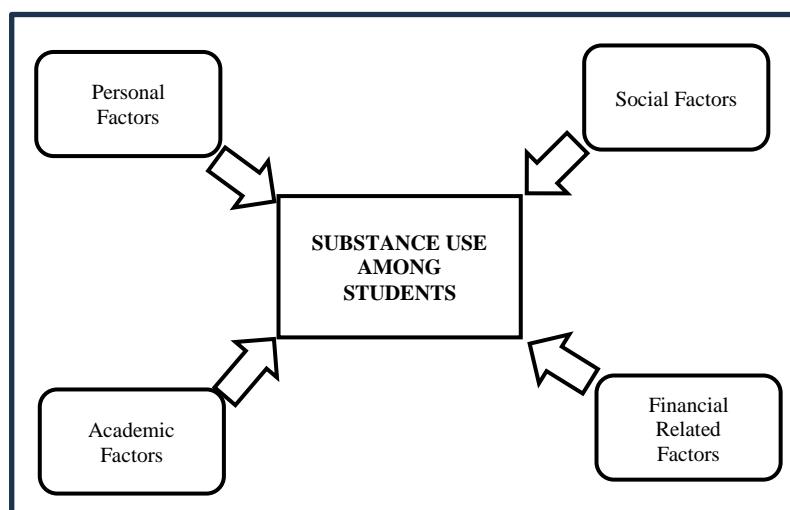


Figure 2.1: Diagrammatic representation of the Conceptual Framework

RESEARCH METHODOLOGY

The research problem was based on the prevalence and causes of substance use among Medical and Business students at the selected university. Qualitative data was used. This allowed us to formulate a hypothesis which has been expressed in words, images and interpretations. The data was analyzed by summarizing, categorizing and interpreting. Qualitative research is the collection of non-numerical information to help understand concepts, opinions and experiences Bhandari (2023). The qualitative approach helped us evaluate and explore the causes and the prevalence of substance use among a random number of Business and Medical students at selected university. Primary data was used and a questionnaire was used to gather information from a random sample of students in both faculties of school of Business and Medicine.

This study employed a cross-sectional research design in line with individual questionnaires that were allocated to every student in a target population. According to Thomas (2020), a cross-sectional study is a study design that allows one to collect data at a single point in time. Furthermore, the questionnaire assessed the prevalence of

substance use among students, the most common substance abused and the factors contributing to substance use. The study designs chosen provided understanding to the problem and helped form the development of target interventions and policies to promote healthy learning environments.

Study Site

The research context for this study was selected university; a higher education institution located in Zambia. The university offers a diverse range of undergraduate and postgraduate programs, attracting students from various backgrounds and disciplines. By focusing on this specific institution, the study provided insights into the unique cultural, social, and academic factors that may influence substance use among its students. The selected university served as an ideal setting to investigate this phenomenon, as it represents a microcosm of the broader higher education landscape in Zambia and allows for the examination of substance use patterns and their effects within a defined academic community. The findings from this research context had contributed to the understanding of substance use for cognitive enhancement in higher education settings and informing on development of the targeted interventions and policies used to promote a healthy learning environment

Sample and Sample Technique

To determine the appropriate size sample for this research the Cochran's formula for calculation of the sample size in cross-sectional design of studies was used. Therefore, the required sample size for this study was approximately 288 students. This sample size provided a sufficient level of precision and statistical power to detect the prevalence of substance use for cognitive enhancement and examine the relationships between contributing factors and the effects of substance use on students' well-being and academic performance at the selected University.

To ensure a representative sample of students for this study the researcher research a random sampling that is stratified technique was employed a combination of convenience and stratified random sampling. The technique involved dividing the group of the undergraduate student population in homogeneous subgroups that is based on the relevant characteristics, such as year of study and faculty. Within each stratum, a simple random sampling technique method was used in selecting the participants, each student had fair chance of being included in this sample. A stratified random sampling method helped to control potential confounding variables, and it was ensured that there is a sample representing the diverse undergraduate student population at the selected university.

STUDY FINDINGS

Table 1: Social-Demographic status

Gender	Frequency(n=288)	Percentage(100%)
Female	142	49.3%
MALE	146	50.7%
Total	288	100%
Participants age	Frequency(n=288)	Percentage(100%)
18-20	104	36.1%
21-23	95	33.0%
24-26	63	21.9%
27-29	14	4.9%
30 and above	12	4.2%
Total	288	100%
Year of study	Frequency(n=288)	Percentage(100%)
Fifth to sixth year	20	6.9%
First year	82	28.5%
Fourth year	39	13.5%
Second year	77	26.7%
Third year	70	24.3%
Total	288	100%

Faculty	Frequency(n=288)	Percentage(100%)
School of business	100	34.7%
School of law	9	3.1%
School of medicine	179	62.2%
Total	288	100%

The study included a total of 288 participants, consisting of 142 females (49.3%) and 146 males (50.7%). Regarding the age distribution, the majority of participants fell within the age range of 18 to 20 years, representing 104 individuals (36.1%). Participants aged between 21 and 23 years constituted the second most common age group, with 95 individuals (33.0%). Additionally, 63 participants (21.9%) were between the ages of 24 and 26, 14 participants (4.9%) were between 27 and 29, and 12 participants (4.2%) were 30 years old or above. Concerning the academic year, the study included 82 first-year students (28.5%), 77 second-year students (26.7%), 70 third-year students (24.3%), 39 fourth-year students (13.5%), and 20 fifth to sixth-year students (6.9%). In terms of faculty distribution, the School of Medicine had the highest representation with 179 participants (62.2%), followed by the School of Business with 100 participants (34.7%), and the School of Law with 9 participants (3.1%).

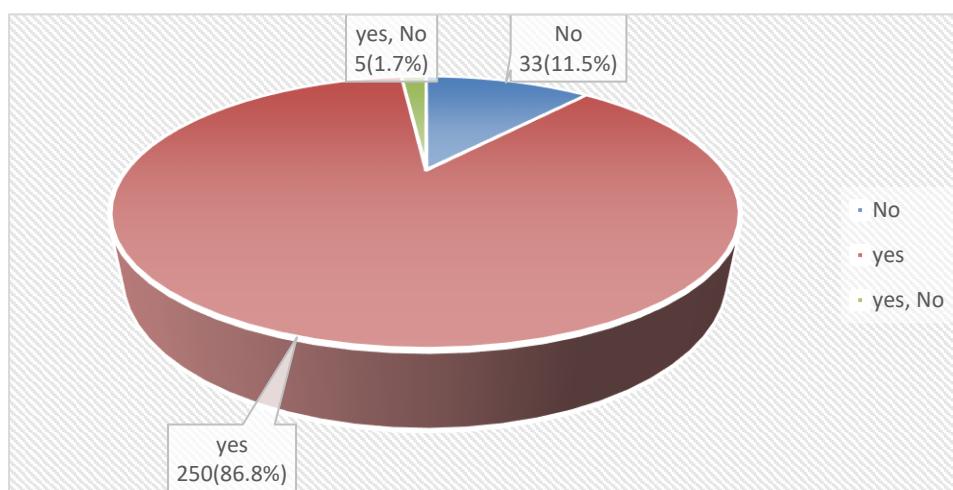


Figure 1: Have you ever used any substances (e.g... prescription drugs, caffeine , energy drinks etc) to help you study longer or improve concentration?

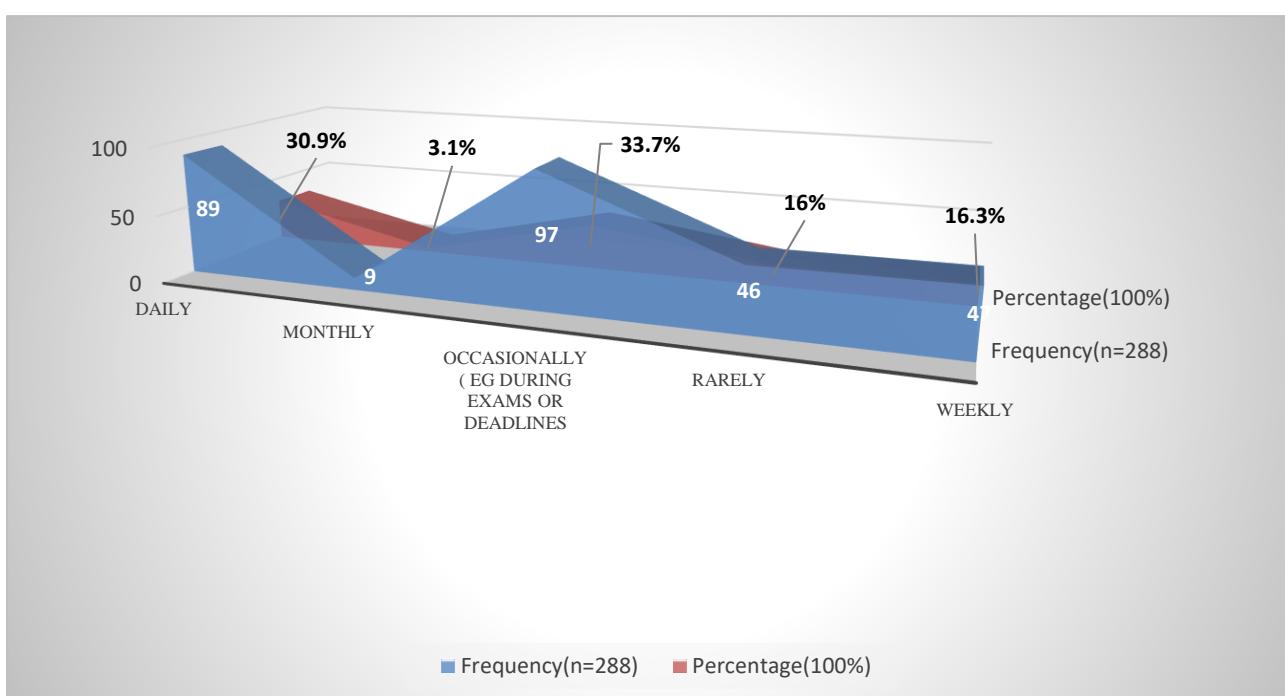


Figure 3: how often do you use the substance for cognitive enhancement?

Among the 288 participants, 250 (86.8%) reported having used substances such as prescription drugs, caffeine, or energy drinks to help them study longer or improve concentration. A smaller percentage, 33 (11.5%), reported not using any substances for this purpose, while 5 participants (1.7%) did not provide a clear response.

Among those who reported using substances for cognitive enhancement, caffeine (e.g., energy drinks, coffee) was the most commonly used substance, with 119 participants (41.3%) selecting it. Over-the-counter medications (e.g., Benylin, Vivarin) were also frequently used, with 70 participants (24.3%) reporting their use. Other substances commonly used included prescription stimulants (e.g., Ritalin, Adderall), reported by 10 participants (3.5%), and illicit drugs (e.g., cocaine, amphetamines), reported by 4 participants (1.4%).

Regarding the reasons for using substances, academic pressure was the most frequently cited precipitant, with 174 participants (60.4%) indicating it as a reason for their substance use. Peer pressure was also a significant factor, with 84 participants (29.2%) reporting it as a reason for their substance use. Other reasons included sports and academics, not wanting to sleep (1 participant, 0.3%), and feeling incapable or having low self-esteem (1 participant, 0.3%).

The frequency of substance uses for cognitive enhancement varied among participants. Among the respondents, 89 (30.9%) reported using substances daily, 97 (33.7%) reported using them occasionally (e.g., during exams or deadlines), and 47 (16.3%) reported using them weekly. Only a small number of participants reported using substances monthly (9 participants, 3.1%) or rarely (46 participants, 16.0%).

Table 2: Factors Contributing to Substance Use

Do you think using substances to prolong study hours is necessary to achieve academic success		
Responses	Frequency(n=288)	Percentage(100%)
agree	40	13.9%
disagree	84	29.2%
neutral	80	27.8%
strongly agrees	30	10.4%
strongly disagree	54	18.8%
How would you rate the availability of substances on campus or in your environment?		
Responses	Frequency(n=288)	Percentage(100%)
easily available	79	27.4%
not available at all	16	5.6%
not easily available	82	28.5%
very easily available	111	38.5%
Have you observed or heard about your peers using substances for cognitive enhancement?		
Responses	Frequency(n=288)	Percentage(100%)
no, never	15	5.2%
yes , but rarely	54	18.8%
yes , frequently	110	38.2%
yes , occasionally	109	37.8%

Among the 288 participants, opinions were divided on whether using substances to prolong study hours is necessary to achieve academic success. 30 participants (10.4%) strongly agreed, 40 participants (13.9%) agreed, 80 participants (27.8%) were neutral, 84 participants (29.2%) disagreed, and 54 participants (18.8%) strongly disagreed.

Regarding the availability of substances on campus or in their environment, 111 participants (38.5%) reported that substances were very easily available, while 79 participants (27.4%) indicated that substances were easily available. 82 participants (28.5%) reported that substances were not easily available, and only 16 participants (5.6%) stated that substances were not available at all.

When asked whether they had observed or heard about their peers' using substances for cognitive enhancement, responses varied. 110 participants (38.2%) reported that their peers used substances frequently, while 109

participants (37.8%) reported that their peers used substances occasionally. 54 participants (18.8%) reported that their peers rarely used substances for cognitive enhancement, and only 15 participants (5.2%) stated that they had never observed or heard about their peers' using substances for this purpose.

Table 3: Effects of Substance Use on Well-being and Academic Performance

Based on your experience, how would you rate the overall effectiveness of using substances to prolong study hours or improve concentration?		
Responses	Frequency(n=288)	Percentage(100%)
Missing responses	1	0.3%
effective	79	27.4%
not effective at all	37	12.8%
not very effective	144	50.0%
very effective	27	9.4%
Do you believe that using substances has had a positive , negative		
Responses	Frequency(n=288)	Percentage(100%)
negative impact	202	70.1%
positive impact	86	29.9%

Based on the participants' experiences, the effectiveness of using substances to prolong study hours or improve concentration varied. Among the 288 participants, 27 (9.4%) found substances very effective, 79 (27.4%) found them effective, 144 (50.0%) found them not very effective, and 37 (12.8%) found them not effective at all. One participant did not respond to this question.

When asked about negative side effects experienced from using substances for cognitive enhancement, participants reported various issues. Among the 288 participants, 17 (5.9%) reported dependency and addiction, 31 (10.8%) reported experiencing no negative side effects, and 1 (0.3%) participant each reported fatigue, increased anxiety, mood swings, and physical health issues (e.g., headaches, heart palpitations, diarrhea). Moreover, 59 participants (20.5%) reported physical health issues along with dependency and addiction, 22 participants (7.6%) reported sleep disturbance, and 4 participants (1.4%) reported sleep disturbance along with increased anxiety.

Regarding the impact of substance use on academic performance, most participants reported negative effects. Among the 288 participants, 202 (70.1%) believed that using substances had a negative impact on their academic performance, while 86 (29.9%) believed it had a positive impact.

DISCUSSION

Theme 1: Prevalence of Substance Use

An investigation was conducted into the prevalence of substance use among the students studying business and medicine at the selected university. Out of the 288 participants, 250 (86.8%) said they had used drugs, energy drinks, or prescription medications to prolong their studies or sharpen their focus. This high prevalence suggests that the students at the selected university frequently use drugs to improve their cognitive function. The most often used substance was caffeine (found in coffee and energy drinks), chosen by 119 participants (41.3%). A further common use was of over-the-counter drugs (e.g., Benylin, Vivarin), reported by 70 participants (24.3%). Substance abuse was more common in some age groups, academic years, and faculty than in others.

The bulk of participants (36.1%) were between the ages of 18 and 20, and 28.5% were first-year students. With 179 participants (62.2%), the School of Medicine had the largest representation. The School of Business came in second with 100 participants (34.7%). The study looked into the causes of substance use as well. There was disagreement among participants regarding the necessity of using drugs to extend study sessions in order to succeed academically. Seventy-one percent of them thought that using drugs had a detrimental effect on their academic performance. This suggests that the students at the selected university believe drug use has a negative impact on their ability to succeed academically.

Theme 2: Commonly Used Substances

The study sheds light on the drugs that the students at the selected university studying medicine and business most frequently use. Of the 288 participants, 250 (86.8%) said they used drugs, energy drinks, or prescription medications to prolong their study sessions or sharpen their focus. The most often used substance was caffeine (found in coffee and energy drinks), chosen by 119 participants (41.3%). A further common use was of over-the-counter drugs (e.g., Benylin, Vivarin), reported by 70 participants (24.3%). Furthermore, 10 participants (3.5%) reported using prescription stimulants like Ritalin or Adderall, and 4 participants (1.4%) reported using illicit drugs like cocaine or amphetamines.

These results imply that the most popular drugs for improving cognitive function among the medical and business students at the selected university are coffee and over-the-counter medications. The study also looked at the motivations behind substance use, and the most commonly mentioned catalyst (60.4%) was academic pressure. Peer pressure (29.2%) and the desire to overcome low self-esteem or feelings of inadequacy (0.3%) were two more important factors. Substance use for cognitive enhancement was reported by participants at varying frequencies: 30.9% reported daily use, 33.7% reported occasional use, and 16.3% reported weekly use. Merely 3.1% of participants reported using drugs on a monthly basis, while 16.0% reported using them infrequently.

These results shed light on the prevalence and usage patterns of drugs among the students studying medicine and business at the selected university, offering important new information for future investigations and preventative measures.

Theme 3: Causes of Substance Use

The study clarifies the variables influencing substance use among the students at the selected university studying medicine and business. Of the 288 participants, 250 (86.8%) said they used drugs, energy drinks, or prescription medications to prolong their study sessions or sharpen their focus. With 174 participants (60.4%) citing academic pressure as a reason for substance use, it was found to be the most commonly cited precipitant. Another important factor was peer pressure, which was cited by 84 participants (29.2%) as the cause of their substance use. Other motivations included the desire to overcome low self-esteem or feelings of inadequacy (1 participant, 0.3%), as well as engaging in extracurricular activities and sports and having trouble falling asleep (1 participant, 0.3%).

These results imply that the main drivers of substance use among medical and business students are peer pressure and academic performance. Furthermore, 190 participants (66.0%) reported that substances were easily or very easily available, indicating that the availability of substances on campus or in their surroundings was perceived as being relatively high. Furthermore, 109 participants (37.8%) reported that their peers used substances occasionally for cognitive enhancement, while 110 participants (38.2%) reported that their peers used substances frequently.

These results suggest that among the medical and business students at the selected university, the prevalence of substance use among peers may play a role in normalizing and increasing the use of substances for cognitive enhancement.

Comparative statistics

Demographics: The demographics of the participants in this study align with those of several previous studies. For instance, the majority of participants in this study fell within the age range of 18 to 23 years, with 36.1% aged 18 to 20 and 33.0% aged 21 to 23. This is consistent with the findings of Arria et al. (2020), who also found that the highest rates of substance use were among students aged 18 to 23 years. However, while this study found a higher representation of substance use among younger participants, Arria et al. (2020) reported the highest prevalence of substance use among older students, with the highest prevalence of substance use reported among 24 to 26-year-olds. Furthermore, the distribution of participants across faculties in this study was similar to that reported in other studies. The School of Medicine had the highest representation, with 62.2% of participants, followed by the School of Business with 34.7%. This is consistent with the findings of McCabe et al. (2006),

who also found a higher representation of substance use among medical students compared to students from other faculties.

Substance Use: The prevalence of substance use reported in this study is higher than that reported in some previous studies. Among the 288 participants, 86.8% reported using substances for cognitive enhancement. Caffeine (41.3%) and over-the-counter medications (24.3%) were the most commonly used substances. These findings are consistent with those of Smith and Farah (2011), who reported caffeine as the most commonly used substance among students for cognitive enhancement. However, the prevalence rates of substance use in this study are higher than those reported by Smith and Farah (2011), who found that around 20% of students reported using stimulants for cognitive enhancement.

Factors Contributing to Substance Use: The reasons for substance use reported in this study are similar to those reported in previous research. Academic pressure (60.4%) and peer pressure (29.2%) were identified as the main reasons for substance use. These findings are consistent with those of McCabe et al. (2006), who found that academic pressure was the most commonly cited reason for non-medical use of prescription stimulants among college students.

Effects of Substance Use: Regarding the effectiveness of substance use for cognitive enhancement, 36.8% of participants in this study found substances effective or very effective. However, the majority (62.8%) reported negative side effects from substance use, including dependency and addiction (5.9%) and physical health issues (20.5%). These findings are similar to those reported by Maier et al. (2013), who found that while students perceived benefits from using stimulants for cognitive enhancement, they also reported experiencing negative side effects.

In summary, while this study provides valuable insights into the prevalence and patterns of substance use among Business and Medical students at the selected university, the findings are generally consistent with those of previous research. However, there are some differences in the prevalence rates of substance use and the reasons reported for substance use, highlighting the need for further research in this area.

CONCLUSIONS

In summary, this study successfully satisfies the specific objectives established to ascertain the types, prevalence, and causes of substance use among the students of the selected university studying medicine and business. The results show that drug use is very common among students, with 86.8% of participants reporting using drugs, energy drinks, or prescription medications to improve their cognitive function. The most often used substances were found to be over-the-counter medications (24.3%) and caffeine (41.3%), suggesting a preference for readily available and lawful options for cognitive enhancement. The main causes of substance use were found to be peer pressure (29.2%) and academic pressure (60.4%), highlighting the important roles these factors play in influencing students' behavior. This study offers important insights into the types, prevalence, and causes of substance use among the students at the selected university studying medicine and business by focusing on these particular goals. The results highlight the necessity of focused interventions and support systems to deal with student substance use and advance their academic performance and well-being. The study's conclusions also add to the corpus of knowledge already available on drug use among college students, particularly in Zambia. Universities can create evidence-based strategies to support students, improve their academic performance, and promote their well-being by researching the different types and causes of substance use. To better understand the long-term impacts of substance abuse on students' health and academic performance, as well as to create and assess intervention programs catered to the unique requirements of the students at the selected university studying business and medicine, more research is necessary.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are proposed:

- **Develop Awareness Programs:** Implement awareness programs targeted at Medical and Business students to educate them about the risks associated with substance use for cognitive enhancement. These

programs should provide evidence-based information about the potential negative effects of substance use on health and academic performance.

- **Enhance Support Services:** Expand support services within the university to provide students with alternative coping mechanisms for academic and peer pressure. Counseling services should be readily available for students experiencing academic stress, and peer support groups could be established to promote positive coping strategies.
- **Promote Healthy Study Habits:** Encourage the development of healthy study habits among students, such as time management, regular breaks, adequate sleep, and proper nutrition. Providing resources and workshops on study skills and stress management techniques could help students cope with academic pressures without resorting to substance use.
- **Restrict Access to Substances:** Implement policies to regulate the availability of substances on campus and in the surrounding environment. This may include restricting the sale of caffeinated beverages and over-the-counter medications on campus, as well as monitoring the use of prescription stimulants.
- **Further Research and Evaluation:** Conduct further research to explore the long-term effects of substance use on students' health and academic performance. Evaluate the effectiveness of intervention programs aimed at reducing substance use among Medical and Business students at the selected university.
- **Collaboration with Health Professionals:** Foster collaboration between university administrators, faculty members, and health professionals to address substance use issues among students. This multidisciplinary approach can help develop comprehensive strategies to support students and promote their overall well-being.

By implementing these recommendations, the selected university can effectively address the issue of substance use among Medical and Business students, ultimately promoting a healthier and more supportive learning environment.

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