EVALUATION OF SUBSTANCE USE AMONG UNDERGRADUATE STUDENTS IN THE COLLEGE OF MEDICAL SCIENCES, UNIVERSITY OF BENIN, EDO STATE.

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A THESIS SUBMITTED TO THE DEPARTMENT OF COMMUNITY DENTAL HEALTH, SCHOOL OF DENTISTRY, UNIVERSITY OF BENIN IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF BACHELOR OF DENTAL SURGERY.

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DECLARATION

We, Fubaraibi Edward David (DEN1602073), Idukpaye Osaze Hope (DEN1702334), Edun Abraham Oritse (DEN1502120), Anim Chukwuka Matthew (DEN1702327), Kolawole Oladimeji (DEN1802720) hereby declare that this research titled 'EVALUATION OF SUBSTANCE USE AMONG UNDERGRADUATE STUDENTS IN THE COLLEGE OF MEDICAL SCIENCES, UNIVERSITY OF BENIN, EDO STATE' is original research and was carried out by us in the Department of Community Dental Health, University of Benin for the award of the Degree Bachelor of Dental Surgery (BDS).

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CERTIFICATION BY SUPERVISOR

I hereby certify that this research work titled 'EVALUATION OF SUBSTANCE USE AMONG UNDERGRADUATE STUDENTS IN THE COLLEGE OF MEDICAL SCIENCES, UNIVERSITY OF BENIN, EDO STATE' was supervised by me.

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CERTIFICATION BY HEAD OF DEPARTMENT

I hereby certify that this research work titled 'EVALUATION OF SUBSTANCE USE AMONG UNDERGRADUATE STUDENTS IN THE COLLEGE OF MEDICAL SCIENCES, UNIVERSITY OF BENIN, EDO STATE' was carried out in the Department of Community Dental Health.

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DEDICATION

This project is dedicated to God for his grace, wisdom, and guidance throughout the course of this work.

To our beloved parents and families:

Mr. and Mrs. EE Fubaraibi: For their immeasurable support, sacrifices, encouragement, and constant prayers throughout my academic journey.

Mr. and Mrs. Idukpaye: For their unwavering love, prayers, sacrifices, and encouragement, and to my siblings— Mr. Frank Idukpaye, Mr. Festus Idukpaye, and Mr. Victor Idukpaye—for their support and understanding.

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LIST OF ABBREVIATIONS

CBD- Cannabidiol

CNS- Central Nervous System

LSD- Lysergic Acid Diethylamide

NAFDAC- National Agency for Food and Drug Administration and Control

NDLEA- National Drug Law Enforcement Agency

THC- Tetrahydrocannabinol

WHO- World Health Organization

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ABSTRACT

Background: Substance use among young adults remains a major global and national public health concern, with significant implications for academic performance, physical and mental health, and social functioning. Students in medical related courses are expected to demonstrate greater health consciousness, understanding the prevalence, determinants, and commonly abused substances within this population is crucial for effective intervention and policy formulation**.**

Aim: To evaluate substance-use among undergraduate students in the College of Medical Sciences, University of Benin.

Methodology: A descriptive cross-sectional study was conducted among 437 undergraduate students drawn from the College of Medical Sciences of the University of Benin. Data was collected using a structured, self-administered questionnaire assessing socio-demographic variables, knowledge, attitude, and practice of substance-use. The data was analyzed using SPSS version 26.0, results were presented in frequency tables and charts. Associations between variables were tested using Chi-square at a significance level of $p < 0.05$.

Results: The prevalence of substance-use among respondents was 80.5%, with alcohol being the most commonly used substance, followed by cough syrups and prescription medications such as opioids and stimulants. Male students and those in clinical faculties reported higher rates of use compared to their counterparts in basic sciences. Curiosity, academic stress, and peer influence were the major contributing factors. A significant association was observed between substance use and socio-demographic variables such as age, faculty, and place of residence.

Conclusion: Substance use was prevalent among these undergraduate students, despite high awareness of its risks. The findings highlight the need for gender-sensitive, faculty-specific, and peer-driven interventions, alongside improved campus-based mental health and counseling services.

Keywords: *Substance use, medical students, alcohol, prescription drugs, peer influence, University of Benin.*

CHAPTER ONE

INTRODUCTION

1.1 Background

The World Health Organization (WHO) categorizes drug and substance abuse as the harmful use of psychoactive substances such as alcohol and illicit drugs (Olanrewaju et al. 2022b).Substances misused or abused include cigarettes (tobacco), illegal/illicit substances, prescription medications, inhalants, and solvents, as well as the intake of alcohol or drugs (Fentaw et al. 2022).These substances are usually psychoactive, and they produce pleasure for their users by altering perception and sensations, resulting in inner peace and satisfaction (Sharma et al. 2023). However, these pleasurable effects can harm the individual's well-being, family relationships, social interactions, and professional pursuits. Despite massive attempts to reduce the use of lawful elements and prevent the abuse of illicit substances, the use of these substances continues to result in significant illness and mortality, as well as tremendous societal monetary costs (Sharma et al. 2023).

Substance abuse is primarily associated with male behavior and is quickly becoming one of the most pressing public health issues in the world (Fentaw et al. 2022). Alcohol is also the most commonly consumed psychoactive substance worldwide (Sharma et al. 2023). People aged 15-24 years (adolescents and young adults) are more likely to abuse psychoactive substances than the general population (Sharma et al. 2023). In Africa, it was estimated that 8.4% of people aged 15 to 64 engaged in drug use in 2017. East Africa is still home to one of the world's highest rates of substance users (Fentaw et al. 2022). Furthermore, the projected total number of drug users on the continent is expected to increase by 38% between 2018 and 2030. Cannabis is

the preferred illicit substance in Africa, opiates are the most commonly used illicit substance in Europe and Asia, and cocaine predominates in South America (Oluoha et al. 2017).

1.2 STATEMENT OF PROBLEM

An increase in the prevalence of drug/substance abuse has been observed globally. In 2017, drug users represented approximately 0.9% of the world's population (Olanrewaju et al. 2022b), while 31 million people were documented to suffer from drug use. Currently, an estimated 2 billion individuals worldwide consume alcohol, 76.3 million suffer from disease-related alcohol use and its abuse accounts for 3.3 million deaths annually. About 1.3 billion smoke cigarettes, 5.4 million individuals die from smoking and 185 million take drugs (Franck et al. 2024).

According to WHO, each year, more than 2.6 million people between 10 to 24-years of age die from drug and substance abuse (Olanrewaju et al. 2022b).

). Young adults are particularly vulnerable to experimentation, and the university setting presents inherent risks for substance-use-related behaviors (Olanrewaju et al. 2022b). The rapid socioeconomic and cultural change with Westernization in most sub-Saharan African countries, provides an enabling environment, with increased social contact among peers in the university community there is increased influence in the initiation of substance use (Franck et al. 2024). The transition from secondary school to university is characterized by considerable peer influence, due to the changes in the environment. For some this marks the first period where they live by themselves. Unsupervised by their parents/guardians and many young adults tend to be intellectually, emotionally, and socially vulnerable during this period as they look for validation from their peers (Oluoha et al. 2017).

This increased rate of drug and substance abuse has plagued society, resulting in loss of self-consciousness, addictions, mental disorders, untold hardship and deaths. The abuse of drugs and

other substances and associated crime have driven a considerable rise in the number of youths imprisoned in recent years (Olanrewaju et al. 2022b).

Nigeria is not left out of this current global trend as a report by the United Nations Office on Drug and Crime in Nigeria indicates that 14.4% (14.3 million) of people aged between 15- and 64-years abuse drugs with alcohol being the most prevalent beverage and cannabis the most prevalent illicit substance (Olanrewaju et al. 2022a). An estimated population of 30 to 35 million people spend approximately USD 15,000 and $30,000 annually on psychotropic drugs and alcoholic beverages respectively (Olanrewaju et al. 2022b).

Drug and substance abuse cuts across all educational levels even trickling down to secondary schools, and across all the geopolitical zones in the country.

1.3 JUSTIFICATION OF THE STUDY

Substance abuse remains a pervasive public health concern with far-reaching consequences, particularly among young adults. It is expected that young adults with medical knowledge would embody health-conscious behaviors and serve as role models, however, the occurrence of substance abuse is particularly troubling and warrants focused investigations. This study seeks to explore and address this critical issue for several compelling reasons. Research consistently shows that the transition to college life is a period marked by increased vulnerability to substance use due to academic pressure, peer influence, and new found independence (Welsh et al. 2019). Students in medical colleges are not immune to these pressures and may face unique stressors due to the rigor of their academic programs and are already at higher risk for burnout and stress-related conditions, they may also experience exacerbated health issues due to substance abuse. Identifying the prevalence and patterns of substance abuse within this population is essential to understanding the scope of the problem. Substance abuse can impair

cognitive function, reduce academic performance, and lead to higher dropout rates, it is also associated with a range of adverse health outcomes, including mental health disorders such as anxiety and depression. For students in medical related specialties, the implications are even more significant, as their professional training involves responsibility for the health and well-being of others. Addressing substance abuse is therefore critical not only for individual success but also for the integrity and future of healthcare delivery. Investigating these effects within the context of medical education can help inform targeted interventions. Medical professionals are held to high ethical standards and this starts from student days, and substance abuse could compromise their professional judgment and patient care practices. Exploring the extent and nature of substance abuse among these students can provide valuable insights into potential risks to the healthcare system and opportunities for early intervention. While substance abuse among university students has been widely studied, there is limited research focusing specifically on students in medical colleges. This population may exhibit distinct patterns of substance abuse due to their medical knowledge, the demands of their training, and the perceived norms within their professional environment. Filling this gap in the literature is essential to developing effective prevention and intervention strategies. Understanding substance abuse patterns and their determinants among medical students can guide the development of tailored policies and programs to reduce its prevalence. Preventive measures targeting this population are not only crucial for their well-being but also for safeguarding the future healthcare workforce.

Therefore, this project seeks to understand and address substance abuse among undergraduate medical students in the College of Medical Sciences at the University of Benin, given its potential impact on their academic performance, health, professional conduct, and future

contributions to society. The findings of this study will provide actionable insights to inform policy, enhance support systems, and promote healthier lifestyles within this critical population.

1.4 AIMS AND OBJECTIVES

1.4.1 AIM

To evaluate the substance abuse among undergraduate students in the College of Medical Sciences, University of Benin.

1.4.2 OBJECTIVES

1. To determine the prevalence of substance abuse among undergraduate students in the College of Medical Sciences, University of Benin
2. To assess the knowledge, attitude and practice of undergraduate students in College of Medical Sciences to substance abuse.
3. To determine the most common substances used by undergraduate students in College of Medical Sciences
4. To determine the factors which contribute to substance abuse among undergraduate students in College of Medical Sciences

1.4.3 RESEARCH QUESTIONS

- What is the prevalence of substance abuse among undergraduate students in the college of medical sciences
- What is the knowledge of substance abuse among undergraduate students in college of medical sciences
- What is the most common substance abuse by undergraduate students in the college of medical sciences
- What are the factors contributing to substance abuse among undergraduate students in college of medical sciences.

CHAPTER 2

2.0 LITERATURE REVIEW

2.1 Background

According to the World Health Organization (WHO), drug and substance abuse refers to the harmful use of psychoactive substances such as alcohol, wrong use of prescription medications and illicit drugs (Idowu et al, 2018). The current prevalence of drug and substance abuse has plagued society, causing its members to lose self-consciousness and has led to mental disorders, death, addiction and other hardship (Fagbe, 2019). A perceived increase in the prevalence of drug abuse globally has been observed. As of 2017, drug users represent approximately 0.9% of the world's population (Ritchie et al, 2018). Alcohol abuse accounts for 3.3 million deaths annually while 31 million people are documented to suffer from drug use (Onoja, 2020). More than 2.6 million people in the 10 to 24-year age bracket die yearly from drug and substance abuse (WHO, 2019).

Nigeria currently faces similar challenges as citizens indulge in drug and substance abuse despite a 1990 National Drug Policy adopted to guard against inadequacies in drug availability, supply and distribution (Erhun et al, 2001). In Nigeria, a population of 30 to 35 million spend approximately $15,000 to $30,000 US dollars annually on psychotropic drugs and alcoholic beverages, respectively (Onoja, 2010). A report by the United Nations Office on Drug and Crime in Nigeria indicates that 14.4% (14.3 million) of people aged between 15- and 64-years abuse drugs (UNODC, 2018). The findings of a 2015 nationwide survey showed that alcohol abuse is the drug with the highest prevalence rate, with cannabis being the most abused illicit substance (Adamson, 2015). Drug and substance abuse has been associated with increased

crime rates and this has resulted in a considerable rise in the number of youths imprisoned in recent years (Essien, 2010).

Drug and substance abuse in Nigeria is prevalent across educational levels from secondary schools up (Idowu et al, 2018). The considerable increase in drug and substance abuse engendered the war against drugs, which was marked by the creation of two federal agencies in Nigeria: The National Drug Law Enforcement Agency (NDLEA) in 1990 and the National Agency for Food and Drug Administration and Control (NAFDAC) in 1993. Drug and substance abuse are prevalent across Nigeria's six geopolitical zones. However, in the south-south, which comprises Edo, Delta, Rivers, Bayelsa, Cross Rivers and Akwa Ibom, is reported to have the highest prevalence (22.4%) of drug and substance use, with Edo and Rivers states having the highest proportions (UNODC, 2018). This is followed by the South-west, South-East, North-East, North-West and North-Central zones respectively (UNODC, 2018). The South-South geopolitical zone also has the second highest numbers of tertiary institutions in the country, accounting for 24 accredited universities (Ibiyemi, 2020). These universities are post-secondary educational institutions of higher learning that provide facilities for teaching, research and degrees in various disciplines. Typically, a university has an undergraduate division that grants bachelor's degrees and a graduate school division that confers advanced diplomas (masters and doctorate degrees) (Allan, 2020). Undergraduates have been reported to be more easily initiated than post-graduate students into harmful habits such as the abuse of drugs and substances (Osman et al, 2016). Reasons adduced for this initiation include low self-esteem, peer pressure, the need for extra energy for daily activities, poor socioeconomic conditions at home and experimental curiosity (Fareo, 2012).

2.2 Historical Perspectives on Drug Use and Abuse Globally and in Nigeria

Naturally occurring sedatives, narcotics, euphoriants and hallucinogens have been in existence years before civilization, as even men from the stone age systematically poisoned themselves with some of these substances. It is said that drug addicts existed even before early farmers (Eric, 2017). Some drugs have been termed illicit from their time of discovery or synthesis. Many illegal substances have in the past enjoyed a period of legal popularity especially among the upper and middle classes. As their legal status changed, so did their users. Some drugs that are now tagged illegal due to their ability to create illicit pleasures, previously were used to relieve physical pain, induce sleep, as cough medicines, as cures for diarrhea, as multivitamins, as energy boosters to improve daily work performance, and even as cures for dependence on other drugs.

From a global perspective, after World War I, the United States government, made a major attempt to make psychoactive drugs illegal by enacting laws against it. This led to a reduction in their prescription by physicians and a decline in their use especially among the middle class, however, minority groups and some certain groups continued its use. After World War II, drug use became more widespread, first within the segregated black ghettoes in the United States and from there to urban middle-class college students.

In Nigeria, the history of drug abuse dates back to the early days of civilization which took place as man settled down from being a gatherer to a farmer. Some of the early crops cultivated include intoxicants such as grapes (which were used to produce wine) and tobacco, as well as opium, and other harder substances. However, the introduction of religion (Islam and Christianity) reduced this trend (Eric, 2017). Nigeria witnessed drug abuse following the return of World War II veterans who fought in Malaysia and Burma (Myanmar). On their return, they

brought with them cannabis (Indian hemp) as souvenirs and subsequent sporadic and illegal cultivation of cannabis as a widespread farm product. In past decades, specifically between 1960's and 1970's, drug trafficking rate was low, as it was only dominated by cannabis and other derivatives. However, drug abuse in the 1980's in Nigeria metamorphosed to other wide varieties of illicit substances which included hallucinogens, cocaine, heroin etc. (Eric, 2017). With each passing decade newer illicit substances are discovered.

2.3 Drugs and illicit substances

Drugs can be used to relieve pain, sedate, poison, cure or produce hallucinations in the users. Drugs may be either be medical or non-medical. Medical drugs are chemical substances that are prescribed for people's use by the physician to treat illnesses, relieve pain, cure infections and so on while non-medical drugs are chemical substances that are regarded as socially approved or accepted drugs that are used without physicians' prescriptions such as alcohol, tobacco, cigarettes, kola, gins and others (Oliha, 2014) While medically prescribed drugs are referred to as medications, when taken without prescriptions they can be referred to as drug misuse or abuse, non-medical drugs could also be referred to as illicit drugs or substances. Scholars from different walks of life have defined the term drug from different perspectives based on their discipline and sometimes experience, thus, the meaning of the word drug often varies depending on the context in which it is used.

Regardless of the various definitions, there seems to be an agreement that drugs are chemical substances capable of modifying, altering the mood, physiological and biological composition of the user (Nachi,2007). A drug is any chemical substance or ingredient used in making medicines, therefore, it affects persons or users in such a way as to bring about psychological, emotional or behavioral changes in them. The effects of drugs are felt in the body, mind and

mood of the users (Oliha,2014]). Drugs could also be said to be substances produced through the mixing of certain chemicals and synthetics together which is capable of altering or modifying the biological, physiological, emotional and behavioral patterns of humans when taken (Oliha 2014). Drugs in general includes all substances that can alter or bring a change in the brain function and /or biological function through its chemical ingredients (Oliha, 2014). Other scholars consider drugs as substances that modifies perceptions, cognition, mood, behavior and general body functions. Drugs could also be considered as chemical modifiers of the living tissues that could bring about psychological and behavioral changes (Nnachi 2007; Balogun, 2006).

2.4 Common drugs/substances abused/misused

2.4.1 Alcohol

Alcohol is a generic term for many different chemical compounds, each with its own distinct properties. It is a clear, colorless liquid that comes from fermenting or breaking down natural substances such as fruit, corn, grain, or sugarcane (Desai et al, 2003). The type of alcohol consumed by humans is ethyl alcohol or ethanol. Ethanol can have different colors, taste, potency(strength) and flavors, depending on the fruits or vegetables used in its manufacture, the process of manufacture and the additives used (Obot et al, 2005)

The alcohol found in beverages such as wine and beer is chemically classified as ethanol. Ethanol consists of a chain of two carbons and a hydroxyl group (-OH). These characteristics confer a perfect hydrophilic-hydrophobic balance which, together with the low weight of the molecule, (Maher, 1997) guarantees an immense capacity for diffusion and distribution in all body fluids and tissues, favoring its partitioning in the central nervous system (CNS) .

The effects of alcohol on the individual and its capacity to alter behavior have been known since the beginning of its consumption by different societies.

2.4.2 Cannabis

Cannabis is an illegal drug made from the cannabis plant. It is also commonly known marijuana, draw, ganja, grass, hash, herb, pot, weed, and others. Stronger types of cannabis are called skunk. Cannabis contains over 100 cannabinoids with tetrahydrocannabinol (THC) and cannabidiol (CBD) being the most prevalent active ingredients in most. THC is responsible for the psychoactive effects while CBD has been shown to have therapeutic potentials without psychoactive effects (Chadwick et al, 2013). It can be smoked or eaten. It can be smoked on its own or mixed with tobacco to make a 'joint' or 'spliff'. It can also be cooked in food or brewed in tea. People use cannabis for different reasons, such as relieving mental or physical symptoms by self-medicating. This results in the user feeling good in the short term, however, in the long term it can result in worsening health conditions. Young people have been reported to be more likely to use cannabis than older people (Volkow, 2014).

2.4.3 Heroin

Heroin, is a highly addictive and illegal opioid drug derived from morphine, it can be injected, snorted or smoked and its use can lead to physical overdependence, overdose and even death. Its usage has been linked to significant public health concerns for decades. Studies have consistently shown that heroin use is a global issue with an estimated 15.6 million people aged 15-64 using heroin in 2019(UNODC, 2021). In the United States, heroin- related overdose deaths have increased dramatically from 1,962 in 2000 to 13,219 in 2018.

2.4.4 Tobacco

Tobacco is an agricultural product from fresh leaves of the plant in the genus Nicotiana with two common species: Nicotiana tabacum and Nicotiana rustica. It is a plant with leaves that have high levels of addictive chemical called nicotine. After harvesting, tobacco leaves are cured, aged and processed in various ways. The resulting products may be smoked (in cigarettes, cigars and pipes) applied to the gums (as dipping and chewing tobacco) or inhaled (as snuff). Cured tobacco leaves and the products made from them contain many cancer-causing chemicals and tobacco use and exposure to second hand tobacco smoke has been strongly linked to many types of cancer and other diseases.

The tobacco epidemic is one of the biggest public health threats the world has ever faced, killing more than 8 million people a year around the world. More than 7 million of those deaths are the result of direct tobacco use while around 1.2 million are the result of non-smokers being exposed to secondhand smoke. All forms of tobacco are harmful, and there is no safe level of exposure to tobacco. Cigarette smoking is the most common form of tobacco use worldwide. Other tobacco products include waterpipe tobacco, various smokeless tobacco products, cigars, cigarillos, roll-your-own tobacco, pipe tobacco, bidis and kreteks. Waterpipe tobacco use is damaging to health in similar ways to cigarette tobacco use. However, the health dangers of waterpipe tobacco use are often little understood by users. Smokeless tobacco use is highly addictive and damaging to health. Smokeless tobacco contains many cancer-causing toxins and its use increases the risk of cancers of the head, neck, throat, esophagus and oral cavity (including cancer of the mouth, tongue, lip and gums) as well as various dental diseases. Over 80% of the 1.3 billion tobacco users worldwide live in low- and middle-income countries, where the burden of tobacco-related illness and death is heaviest. Tobacco use contributes to

poverty by diverting household spending from basic needs such as food and shelter to tobacco. The economic costs of tobacco use are substantial and include significant health care costs for treating the diseases caused by tobacco use as well as the lost human capital that results from tobacco attributable morbidity and mortality. In some countries children from poor households are employed in tobacco farming to boost family income. Tobacco growing farmers are also exposed to a number of health risks, including the "green tobacco sickness" (Huang et al. 2014).

2.4.5 Opium

This is derived from juices of the opium poppy. It produces physical and psychological dependence. It is used in relieving of pains and inducing of sleep. It is licked, swallowed or put in a hot tea after cutting off the semi-molten opium resin into small bits. It is commonly prescribed to patients for the relieving of pains. People abuse this drug on the grounds that it is good for pain relief. Opium abuse begins when the patient starts taking medication on their own term, more frequently than what their doctor has recommended. It is not only used by the patients for their relief; opium abuse is even more prevalent in those who use it as a recreational drug.

2.4.6 Valium

This is a drug that is used to reduce anxiety. It is commonly recommended central nervous system (CNS) depressant used to produce beneficial drowsy or calming effect in individuals suffering from sleep disorders or anxiety. If valium is used as prescribed by a doctor, it is not additive but when used as not prescribed by the doctor, it becomes additive and an abuse.

2.4.7 Pemoline

This is a newly made drug. Others were in existence before it. It is coated in white color and it has same size with Panadol and paracetamol. It is not costly and because of this, it is being abused by many people

2.4.8 Percocet

This is a narcotic drug prescribed to patients by doctors for the management of mild to moderate post-operative pain. The medication which is a mixture of oxycodone and acetaminophen is part of the opioid family of drugs and as such it is highly addictive. Percocet is abused when the patients do not follow the prescription as directed by the physician. The patient may take more than the prescribed number of pills at a given time or take the medication more often than what is recommended. The drug can be chewed or crushed and the powder sniffed.

2.4.9 Crystal methamphetamine

This is one of the abused drugs. This drug is extremely dangerous but induces sleep and appetite for food

2.4.10 Xanax

This is a commonly prescribed short-term drug used to treat severe anxiety and panic disorders. The possibility of being xanax addict is extremely high especially after two months of use as tolerance to the drug builds over this period of time. It is administered naturally with its pill or injected into the vein.

2.5 Drug or Substance Abuse/Misuse

Drugs are taken either for medical, non-medical or social reasons by individuals. Drug or substance abuse is taking medications without a doctor’s prescription at higher or lower dosages

than usual or use of illicit substances for purposes for which they were not made. Drug abuse can also be defined as the "arbitrary" use or misuse of one particular drug with or without a prior medical diagnosis from qualified health practitioners, or the unwarranted use of a drug in order to achieve a 'high' or for performance enhancement. It also includes the harmful use of mind-altering substances (Adeyemo, 2016). Drug abuse is also described as excessive and persistent self-administration of a drug without regard to medically or culturally acceptable usage patterns (Adeyemo, 2016).

Substance abuse is a term that refers to the intake of illegal drugs/substances, which also include harmful use of legal prescription drugs, such as in self-medication (Hamisu, 2014). A drug is said to be abused when its use is not pharmacologically necessary especially when used in the face of legal prohibition or when a socially acceptable beverage is used excessively.

In relative terms, drug abusers/users refer to people who abuse drugs/substances. They are usually taken without a prescription for the drug and abusing these drugs or substances usually leads to dependency and addiction. Drugs are abused in many ways including but not limited to the following: a)The use of prescribed drugs to treat medical conditions for which they were not prescribed, b) use of a drug purely for its social effects, c) the excessive use of any drug or substance to the extent of interfering with the individual user's social, marital, vocational, emotional, or physical functioning in the individual's day-to-day life, d) the over-use or regular use of any of the socially acceptable substances such as alcoholic beverages or diet pills to the point of intoxication, e) use of less socially acceptable substances such as tobacco, cannabis (Marijuana), cocaine, heroin, Lysergic acid diethylamide(LSD), etc. that are legally prohibited but are obtained by illicit means, and f) use of medically prescribed drug in excess of the prescribed dose (Hamisu, 2014).

2.5.1 Drug misuse

Drug misuse is the taking of drugs for the wrong universally accepted medical purpose and, or at a wrong dosage. This is when a person ingests a drug for purposes other than that for which the drug is intended. The intention behind drug misuse may not necessarily be for mind altering reasons or pain relief, it may be as a result of poor knowledge of its use or miscommunication between the patient and the prescribing physician or pharmacist. To avoid drug misuse, a physician must prescribe a drug, and it should be identified by a pharmacist and its dosage must not be exceeded.

2.5.2 Drug overdose

Taking drugs in excess of the dose prescribed for an individual to the extent of causing ill health is referred to as drug-overdose. Excessive use of a prescribed medication by an individual at a time or in succession may result to overdose. Overdose is also a type of drug misuse. Some symptoms of drug overdose include reduced respiratory rate, stupor and coma. Cases of overdose require artificial respiration and physician's assistance to restore normalcy in breathing (Omolola et al, 2021).

2.5.3 Multiple drug use

Taking more than one medication in sequence or simultaneously (within the same time) is referred to as multiple drug use. Combining multiple medications without a doctor's prescription increases the risk for harm as certain medications should not be combined as drug-

drug interactions may cancel out their effects or increase the potency of both. For example, alcohol and barbiturates (sleeping pills) when combined gives a double dose of depressants and may cause harm or result in death if taken in excess (Omolola et al, 2021).

2.6 Drug addiction

Drug addiction is a term that denotes a drug dependent habit or attitude in technical circles. It is a periodic or repeated consumption of drug owing to insatiable desire or need for drug use. Addiction is characterized by getting the drug by all means and with the tendency to increase the dose or amount. Sometimes, it extends to the physical dependence on the drug in order that the user may be able to perform or act (Omolola et al, 2021). Drug addiction is a chronic intoxication that is detrimental to the life of the individual addict and that of the society in general. Addicts often commit crimes, looking for money to buy drugs or they may even become aggressive and cruel to the society when they feel ignored or when they feel that people are unkind to them when their needs are unmet. Victims of drug addiction become mentally and physically ill.

2.7 Drug dependence

Drug dependence is the state whereby the individual drug user uses a drug or drugs regularly or continuously. The user in this case becomes attuned to drug use to the extent that it becomes difficult or impossible to function without the drug physically or psychologically. Drugs that are likely to induce dependence include depressants, stimulants, hallucinogens and narcotic analgesics (Adebusuyi, 2009). Drug dependence could be physical or psychological. Physical drug dependence occurs when the user needs the drug repeatedly to maintain his physical state of well-being to carry out his daily activities. If the user attempts to stop using the drug, certain

withdrawal pattern or signs and symptoms appear. Such withdrawal symptoms may include headache, vomiting, muscle tremors, etc. many medical or medicinal drugs that are used can produce physical dependence example: narcotics and barbiturates (sleeping pills). In psychological drug dependence, the user develops a drug-seeking behavior, and this results in a compulsive drug use attitude. Serious psychological dependence may make the user employ antisocial behaviors to get their supply, as they are illegally trafficked and include drugs such as marijuana, cocaine, heroin and LSD. The psychomimetic drugs such as amphetamines and others induce psychological dependence because of their effects on the mind, mood and behavior.

2.8 Effect of drugs on young people

Drug abuse seems to have become a prominent social problem in Nigeria especially among our undergraduate. drug abuse leads to serious health hazards for drug addicts. Drug abuse has adverse effects on the brain, kidney, liver, pancreas, heart and lung, thereby making them vulnerable to disease. It also leads to other physical complications such as hepatitis, hepatic failure, tuberculosis in relation to alcohol abuse, infection and emaciation (Adedeji, 2024).

Again, drug abuse may result to serious psychiatric implications, these include confusion, restlessness and sometimes serious abnormal behavior or outright madness. At least one out of the psychiatric cases is due to delirious effects of marijuana. Besides, statistics have shown that 70 percent of patients undergoing treatment for drug abuse in nations psychiatric hospitals are undergraduates between the ages of 16 and 25 years. It may also lead to poor performance in school work and may ultimately result in school dropout. Apart from that, it leads to the development of aggressive behavior and depression mood that may esteem. Adedeji (2024)

observed that drug abuse may give rise to sudden mood swings, with unusual aggression and depression for no apparent reasons or warning interest in school, hobbies or friends.

2.9 Government Efforts on Drug Abuse Reduction and Eradication

Going by the prevalence of substance abuse in the country and its seeming increase among young people, one is tempted to ask if the Nigerian government is bothered at all about the menace. The increase in drug trafficking, substance abuse and obsession resulted in enactment of Decree 48 in 1989 by the Federal government of Nigeria to establish the Nigerian Drug Law Enforcement Agency (NDLEA) and other organization-based interventions. Several attempts have been made to reduce and/or stop altogether, the circulation and consumption of illicit drugs by abusers especially among the young and productive Nigerians.

Further steps taken was the establishment of a Drug Demand Reduction within the NDLEA whose major statutory responsibility is helping drug/substance abusers overcome their dependency and reduce the risk they pose to themselves and others. The ultimate aim is to achieve a drug free and acceptable way of life; sensitizing the public on the dangers inherent in drug abuse by visiting schools, market women, road transport workers, artisans and others to educate them as well as form preventive drug use strategies, counselling and rehabilitative measures (Omolola et al, 2021).

CHAPTER 3

3.0 MATERIALS AND METHODS

3.1 STUDY AREA

This study was conducted at the College of Medical Sciences University of Benin. The College of Medical Sciences consists of four Schools -Medicine, Dentistry, Basic Medical Sciences, Basic Clinical Sciences and an Institute of Child Health forming four of the 14 faculties in the University of Benin. University of Benin was established in 1970 and is one of Nigeria's foremost tertiary institutions.

3.2 STUDY DESIGN

This study adopted a descriptive cross-sectional design.

3.3 STUDY POPULATION

The study population comprises undergraduate students in the College of Medical Sciences. The College consist of four schools and an institute namely- School of Dentistry, School of Medicine, School of Basic Medical Sciences and School of Basic Clinical Sciences along with

the Institute of Child Health. The Schools of Medicine, Dentistry and Basic Clinical Sciences have only a set of undergraduate students per year for a straight 6-year program while the School of Basic Medical Sciences admit undergraduate students into various Departments within the School ranging from 4 to 5-year programs. The undergraduate students for this study were selected from all the schools within the College from 100 level till final year in the respective courses.

3.4 SELECTION CRITERIA

3.4.1 INCLUSION CRITERIA

Eligible participants were bonafide students in any of the four Schools in the College of Medical Sciences, University of Benin.

3.4.2 EXCLUSION CRITERIA

Participants who do not consent to participate in the study.

3.5 STUDY DURATION

This study lasted a duration of nine months starting from August 2024.

3.6 SAMPLE SIZE DETERMINATION

The sample size was calculated using the Cochran formula

Where,

n = desired sample size

Z = normal standard deviation (1.96 at 95%confidence interval)

p = proportion in the target population with a particular characteristic (0.2 was used in this study)

q = 1 - p

d = error margin (0.05 was used in this study)

Therefore: 245

In order to cater for non-response, 10% non-response rate was added to the minimum sample size according to the following formula:

Where:

n = minimum sample size

nr = non-response rate (10% or 0.1) =25

nf = final minimum sample size

Hence the minimum sample size was taken as 270

3.8 SAMPLING TECHNIQUE

A systematic random sampling technique was used for this study to select the study participants until the desired sample size was met.

a) Selection of Schools

All Schools in the College of Medical Sciences was included in the study. The schools were School of Dentistry, Medicine, Basic Clinical Sciences and Basic Medical Sciences.

b) Selection of Departments

The Schools of Medicine, Dentistry admit only a set of students per year and have undergraduate classes from 100-600 level all classes were selected for the study. The School Basic Clinical Sciences do not admit undergraduate students but train undergraduate Medical and Dental students in basic clinical sciences.

The School of Basic Medical Sciences have departments which admit undergraduate students and include- anatomy, medical biochemistry, medical laboratory science, nursing science, physiology, physiotherapy and radiography. All the departments in this school was randomly selected to participate in this study

c) Selection of classes

Students were selected from all levels in each school to participate. For the Schools of Medicine and Dentistry undergraduate classes from 100-600 level all classes were selected which for the School of Basic Medical sciences undergraduate classes from 100-400 level was selected in all departments.

d) Selection of study participants

All students present on the day of data collection and meet the selection criteria for the study were recruited to participate in the study.

3.9 METHOD OF DATA COLLECTION

Data was collected using a structured self-administered questionnaire containing five sections. Section A contained questions on the socio-demographic characteristics of the study participants (age, gender, ethnic group, religion, family type, level of education). Section B contained questions on knowledge (a list of all known substances abused and a place to specify others not

listed, methods in which those substances are assessed and routes of administration) attitude (will elicit study participants perception towards use of substances and others who use it) and practice of substance use among study participants on a Likert scale.

3.10 PILOT TESTING

A pilot test of the questionnaire was done on 10% of the sample size (insert number here) among undergraduate students in another Faculty within the institution to ensure clarity of the tool and standardization. Corrections were made to the questionnaire based on the findings of the pilot study.

3.10 DATA ANALYSIS

Data was analyzed using SPSS version 26.0. Frequencies and percentages were presented in form of tables and charts. Prevalence of substance use among the study participants were analyzed. Association between the socio-demographic variables and the study participants knowledge, attitude and practice of substance use was ascertained using Chi square statistics and level of significance was set at 5% ($P< 0.05$).

3.11 ETHICAL CONSIDERATION:

Ethical approval for this study was obtained from Health Research Ethics Committee of the University of Benin Teaching Hospital (ADM/E 22/A/VOL. VII/ 148654912545). Written informed consent was obtained from all the study participants after they had been educated on the purpose and confidentiality of the study. All forms of identifiers were removed to ensure anonymity. Participants who abuse substances and wished to stop the habit were referred to the addiction clinic of the University of Benin Teaching Hospital for counselling and treatment anonymously.

CHAPTER 4

RESULTS

A total of four hundred and ten (437) respondents participated in this study with all questionnaires retrieved giving a response rate of 100%.

The highest proportion of the respondents 216 (49.5%) are within the age group 18 – 21 followed by the age group 22-26 which is 160 (36.7%), the sample was nearly evenly split by gender, with a slight majority being female 226 (51.7%). In terms of Religion the vast majority are Christians 410 (93.8%), The Benin ethnic group was the most prominently represented, constituting nearly one-third of all respondents 142 (32.5%). This was followed by Igbo (18.1%) and Delta (Ijaw/Isoko/Itsekiri/Urhobo) 73 (16.7%). The majority of respondents were drawn from three major faculties: Basic Medical Science (BMS) 184 (42.1%), Medicine 144 (33.0%), and Dentistry 109 (24.9%). The highest proportion of respondents are in 600-level 94 (21.5%) followed by 200 level 83 (19.1%) and then 500 level 75 (17.1%). (Table 1).

Majority of respondents 246 (56.3%) reside on-campus, with the overwhelming majority of those 232 (53.1%) living in university hostels. Most of those living off-campus reside in self-contained apartments 131 (30.0%) followed by home 112 (25.6%). The vast majority of respondents 313 (71.6%) come from homes with both father and mother present followed by father only 64 (14.6%), The vast majority of monogamous setting 394 (90.2%). An overwhelming 395 (90.4%) of respondents are not salary earners. for those receiving an allowance, the majority 259 (59.3%) receive less than ₦50,000 monthly. The fact that 116 (26.5%) reported this question as "Not Applicable" may indicate they receive no formal allowance at all, further underscoring the limited financial means for a significant portion of the sample. (Table 2).

Table 1: Socio-demographic Characteristics of Respondents (a)

Variables	Frequency(n)	Percent (%)
Age group		
<17	23	5.3
18 – 21	216	49.5
22 – 26	160	36.7
27 – 31	32	7.3
32 – 36	4	9
>37	2	5
Gender		
Male	211	48.3
Female	226	51.7
Religion		
Christianity	410	93.8
Islam	21	4.8
ATR	6	1.4
Tribe		
Benin	142	32.5
Esan	80	13.7
Etsako	27	6.2
Igbo	79	18.1

Hausa	7	1.6
Yoruba	49	11.2
Delta (Ijaw/Isoko/Itsekiri/Urhobo)	73	16.7
Faculty		
Dentistry	109	24.9
Medicine	144	33.0
Basic medical science	184	42.1
Level		
100	54	12.4
200	83	19.0
300	58	13.3
400	73	16.7
500	75	17.2
600	94	21.5
Total		

*Multiple choice questions, ATR- African Traditional Religion

Table 2: Socio-demographic Characteristics of Respondents (b)

Variables	Frequency(n)	Percent (%)
Place of residence in school		
On-campus	246	56.3
Off-campus	191	43.7
Total	437	100.0
Specific residence on campus		
Hostel	232	53.1
Home	5	1.1
Boy's quarters	15	3.4
Not applicable	185	42.3
Total	437	100.0
Specific residence off campus		
Hostel	42	9.6
Boy's quarters	18	4.1
Home	112	25.6
Self-contain	131	30.0
Shared flat	27	6.2
Not applicable	107	24.5
Total	437	100.0
Family structure & financial status		

Family type		
Father only	16	3.7
Mother only	64	14.6
Grandparent	11	2.5
Both father and mother	313	71.6
Aunty/uncle	17	3.9
Older sibling	16	3.7
Total	437	100.0
Family type married		
Monogamous	394	90.2
Polygamous	28	6.4
Not applicable	15	3.4
Total	437	100.0
Are you a salary earner		
Yes	42	9.6
No	395	90.4
Total	437	100.0
Family type allowance		
<#50,000	259	59.3
#50,000 - #99,000	44	10.1
>#100,000	18	4.1
Not applicable	116	26.5
Total	437	100.0

*Multiple choice questions

Most of the respondents who have ever used drug were aged 18 – 22 and the relationship between age group and use of drug was not statistically significant (p=0.138), vast majority of respondents are of the Benin ethnic group 114 (80.3%) the relationship between ethnic group and those that have ever use of drug was not statistically significant (p=0.307), Majority of respondents are female 184 (81.4) the relationship between gender and use of drug was not statistically significant (p=0.636), majority of the respondents were of the department of medicine 130 (88.4%), the relationship between department and use of drug is statistically significant (p=<0.001), a vast majority of the respondents are in 600 level 92 (97%), the relationship between level of study and use of drug is statistically significant (p=<0.001), most of the respondents reside on-campus 204 (82.9%) (p=0.180), the monthly income of majority

of the respondents that have ever used drugs is less than 10,000 54(88.7%) (p=0.325), however the relationship between income and ever use drug is not statistically significant. (Table 3)

Table 3: Association between socio-demographics and drug use among respondents

Variables	Use of drugs		Chi-Square	p-value
	Never used	Ever used		
Age group				
<17	2(8.7)	21(91.3)	8.385	0.138
18 – 21	51(23.6)	165(76.4)		
22 – 26	24(15.0)	136(85.0)		
27 – 31	7(21.9)	29(78.1)		
32 – 36	0(0.0)	4(100.0)		
>37	1(50.0)	1(50.0)		
Ethnic group				
Benin	28(19.7)	114(80.3)	7.148	0.307
Esan	10(16.7)	50(83.3)		
Estako	8(29.6)	19(70.4)		
yoruba	7(14.3)	42(85.7)		
Igbo	21(26.6)	58(73.4)		
Hausa	1(14.3)	6(85.)		

Ijaw/isoko/itsekiri/urhobo	10(13.7)	63(86.3)		
Gender				
Male	43(20.4)	168(79.6)	0.224	0.636
Female	42(18.6)	184(81.4)		
Faculty				
Dentistry	11(10.1)	98(89.9)	27.072	**<0.001**
Medicine	17(11.8)	127(88.2)		
BMS	57(31.0)	127(69.0)		
Department				
Dentistry	12(11.3)	94(88.7)	48.736	**<0.001**
Medicine	17(11.6)	130(88.4))		
Physiotherapy	6(26.1)	17(73.9)		
Physiology	6(20.7)	23(79.3)		
Anatomy	4(30.8)	9(69.2)		
Radiology	3(13.0)	20(87.0)		
Med. Lab. Sci	5(18.5)	12(70.6)		
Nursing sci	5(18.5)	22(81.5)		
Med. Biochemistry	27(51.9)	25(48.1)		
Level of study				
100level	6(11.1)	48(88.9)	39.594	**<0.001**
200level	28(33.7)	55(66.3)		
300level	20(34.5)	38(65.5)		
400level	14(19.2)	59(80.8)		
500level	15(20.0)	60(80.0)		
600level	2(2.1)	92(97.9)		
Place of Residence				
On-campus	42(17.1)	204(82.9)	2.031	0.180
Off-campus	43(22.5)	148(77.5)		
Monthly allowance				
<10,00	7(11.5)	54(88.5)	3.466	0.325
Between #10,000 - #49,000	44(21.9)	157(78.1)		
>#50,000	18(18.2)	81(81.0)		

*** = chi - square test, p <0.05 is significant**

An exceptionally high proportion of respondents 423 (96.8%) confirmed that they have heard about substance abuse, Most have heard via television 223 (50.6), movies 221 (50.6%), Most have heard via social media 305 (69.8%), friends 213 (48.7%), majority have heard in school 337 (77.1%). (Table 4).

Table 4: knowledge of substance abuse among Respondents

Variables	**Frequency(n)**	**Percent**

		(%)
Have you heard		
Yes	423	96.8
No	14	3.2
Total	437	100.0
How did you hear		
Television		
Yes	223	50.6
No	214	49.0
Total	437	100.0
Movies		
Yes	221	50.6
No	216	49.4
Total	437	100.0
Social media		
Yes	305	69.8
No	132	30.2
Total	437	100.0
Friends		
Yes	213	48.7
No	224	51.3
Total	437	100.0
School		
Yes	337	77.1
No	100	22.9
Total	437	100.0

*Multiple choice questions

Majority 413 (94.5%) of respondents believed that drug abuse is harmful, some of the respondents 218(49.9) believe that drug users are victim of circumstances, Majority of the respondents 391(89.5) agreed there are programs to reduce prevalence. (Table 5).

Table 5: Attitude of Respondents towards substance abuse

Variables	**Frequency(n)**	**Percent (%)**
do you believe drug abuse is harmful		
Yes	413	94.5
No	24	5.5
Total	437	100.0
How do you perceive individuals who use		

drug/substance		
They're victims of circumstance	218	49.9
They're making poor choices	132	30.2
They're danger to society	33	7.6
They're misunderstood and need support	21	4.8
They're engaging in normal behaviour should not be judged	3	7
I have no opinion	30	6.9
Total	437	100.0
Would you consider using drugs/substance		
Do you think educational programs on drug/substance can reduce prevalence		
Yes	391	89.5
No	46	10.5
Total	437	100.0

*Multiple choice questions

Over one-third of all respondents 161(36.8%) reported having ever used drugs. Some of the respondents 164 (37.5%) agreed the single reason was curiosity, recreational purpose 45 (10.3%), the need to cope with stress 44 (10.1%), the data on source of acquisition reveals the most significant risk environment: the peer network. More than half 260 (59.5%), local shops 19 (4.3%), through prescription 16 (3.7%). (Table 6).

Table 6: Practice of Respondents towards substance abuse

Variables	Frequency(n)	Percent (%)
Have you ever used drugs		
Yes	161	36.8
No	278	63.2
Total	437	100.0
Primary reason for using drugs/substance		

To cope with stress	44	10.1
Due to peer pressure and influence	18	4.1
For recreational purpose/ to feel good	45	10.3
To enhance performance	13	3.0
Out of curiosity	164	37.5
To escape from personal and family problems	9	2.1
Addiction/dependence	2	0.45
Not applicable	141	32.3
Total	437	100.0
How do you obtain these drugs/substance		
From friends and peers	260	59.5
Purchased from local shops or supermarket	19	4.3
Through online platforms and social media	4	9
Through prescription from a doctor or pharmacist	16	3.7
From street vendors or illegal dealers	6	1.4
From family members within household	1	2
Not application	131	30.0
Total	437	100.0

*Multiple choice questions

Alcohol 11 (2.5%) is the most frequently abused substance, while almost half of the respondents 211 (48.3%) reported never using it, a very significant portion engage in its use 128 (29.3%) use it occasionally, for prescription drugs occasional use 54 (12.4%), while more than half of the respondents 291 (66.6%) reported never using it, while 7 (1.6%) frequently consume it making it the second highest abuse substance of choice, Third, the data for cough syrup is highly notable. It shows the highest percentage of "Never Used" among the more common substances 138 (36.2%), a substantial 180 (43.6%) of students have used it occasionally and a few use it frequently 3 (7), less than a third 1 (2) use it daily. Hard drugs such as methamphetamine, heroin, and cocaine show very low occasional use (ranging from 1.1% to 2.7%) and virtually no regular or daily use. (Table 7).

Table 7: commonly used substance among undergraduate students

Variable	Never used Freq (%)	Occassionally Freq (%)	Regularly Freq (%)	Daily Freq (%)	Not applicable Freq (%)
Alcohol	211 (48.3)	128 (29.3)	11 (2.5)	1 (2)	86(19.7)
Tobacco	314(71.9)	28(6.4)	2(5)	1(2)	92(21.1)
Meth/methamphetamine	339 (77.6)	12 (2.7)	0(0.0)	0 (0.0)	86(19.7)
Heroin	334 (76.4)	19 (4.3)	0(0.0)	0(0.0)	84 (19.2)
Codeine	334 (76.4)	17 (3.9)	1 (2)	1(2)	84 (19.2)
Cough/syrup	158 (36.2)	180 (43.6)	3 (7)	1(2)	84 (19.2)
Weed/ marijuana	320(73.2)	20 (6.4)	3 (7)	2 (5)	84 (19.2)
Prescription drugs/ opioids/ tramadol/ stimulants	291(66.6)	54(12.4)	7(1.6)	1(2)	84(19.2)
Cocaine	346(79.2)	6(1.4)	1(2)	0(0.0)	84(19.2)
Inhalants	347 (79.4)	5(1.1)	1(2)	0(0.0)	84(19.2)

The majority of the respondents agreed that Peer Influence 348 (79.6%) is the predominant contributing factor to drug abuse, A cluster of other major factors were also identified by a large majority of students: Stress from academic or personal challenges 304 (69.6%), Curiosity or desire to experiment 296 (67.7%), easy access to substance 260 (59.5%), Family issues or lack of personal supervision 279 (63.8%), Media influence 275 (62.9%), Mental health issues like anxiety and depression 274 (62.7%), Furthermore, a nearly identical percentage 260 (59.5%) believe a lack of awareness of the risks is a factor. Majority of students 283 (64.8%) believe that there are no adequate facilities or resources on campus to help students struggling with substance use. (Table 8).

Table 8: Factors contributing to drug/substance use

Variables	Frequency(n)	Percent(%)
Factors contributing to use		
Peer influence		
Yes	348	79.6
No	89	20.4
Total	437	100.0
Stress from academic or personal challenges		
Yes	304	69.6
No	133	20.4
Total	437	100.0
Curiosity or desire to experiment		
Yes	296	67.7
No	141	32.3
Easy access to substance		
Yes	260	59.5
No	177	40.5
Family issues or lack of personal supervision		
Yes	279	63.8
No	157	35.9

Media influence		
Yes	275	62.9
No	161	36.8
Lack of awareness of risk of substance use		
Yes	260	59.5
No	177	40.5
Mental health issues like anxiety and depression		
Yes	274	62.7
No	163	37.3
Availability of funds		
Yes	184	42.1
No	253	57.9
Total	437	100.00
Are there facilities/ resources to help student		
Yes	154	35.2
No	283	64.8
Are you willing to get help		
Yes	102	23.3
No	92	21.1
Not sure	89	20.4
Not applicable	153	35.0
Total	437	100.0

*Multiple choice question

Table 9 analyzes the relationship between socio-demographic factors and the respondents' practice towards substance abuse, categorizing them into those with Good Practice (non-use, n=338, 77.3%) and Poor Practice (use, n=99, 22.7%). The analysis reveals that the vast majority of demographic factors showed no statistically significant association with substance use practices. These include: Some of the respondents age 18-21 49 (22.7%) have poor practice while one-hundred and sixty seven (77.6%) have good practice but the relationship between age group practice is not statistically significant (p=0.986), majority 153 (72.5%) of male have good practice while 58 (27.5%) have poor practice, however, the relationship between gender and practice is not statistically significant, BMS 141 (76.6%) in Faculty of Study, however, the relationship is not statistically significant with (p=0.812), Level of Study 67 (73.1%) have

good practice while 27 (28.7%) have poor practice and the relationship is not statistically significant (p=0.601), Place of Residence On-campus 198 (78.5%) have good practice while 53 (21.5%) however, the relationship between place of residence and practice is not statistically significant p=0.529), Monthly Allowance (p=0.292) however, the relationship between monthly allowance and practice is not statistically significant.

Table 9: Association between Practice and socio-demographic characteristics of participants

Variable	practice towards substance/drug abuse		Test statistic	p-value
	Good practice (n = 338) Freq (%)	Poor practice (n = 99) Freq (%)		
Age (years)				
<17	18(21.7)	5 (21.7)	0.641	0.986
18 – 21	167(77.3)	49 (22.7)		
22-26	123(76.9)	37 (23.1)		
27 – 31	25(78.1)	7(21.9)		
32 – 36	3(75.0)	1(25.0)		
>37	2(100.0)	0(0.0)		

Sex				
Male	153 (72.5)	58 (27.5)	5.440	0.020
Female	185 (81.9)	41 (18.1)		
Faculty				
Dentistry	83 (76.1)	26 (23.9)	0416	0.812
Medicine	114 (79.2)	30(20.8)		
BMS	141 (76.6)	43 (23.4)		
Level of study				
100level	43 (79.6)	11(20.4)	3.646	0.601
200level	64 (77.1)	19 (22.9)		
300level	47(81.0)	11(19.0)		
400level	60(82.2)	13(17.8)		
500level	57(76.0)	18(24.0)		
600level	67(71.3)	27(28.7)		
Residence				
On-campus	193 (78.5)	53 (21.5)	0.396	0.529
Off-campus	145 (75.9)	46(24.1)		
Monthly allowance				
<#10,000	43 (70.5)	18 (29.5)	3.732	0.292

About three hundred and fifty-two 352 (80.2%) of the respondents had used one form of drug/substance or the other. Eighty-five (19.5%) of the respondents had never used any of the drug/substance respectively. (Figure 1)

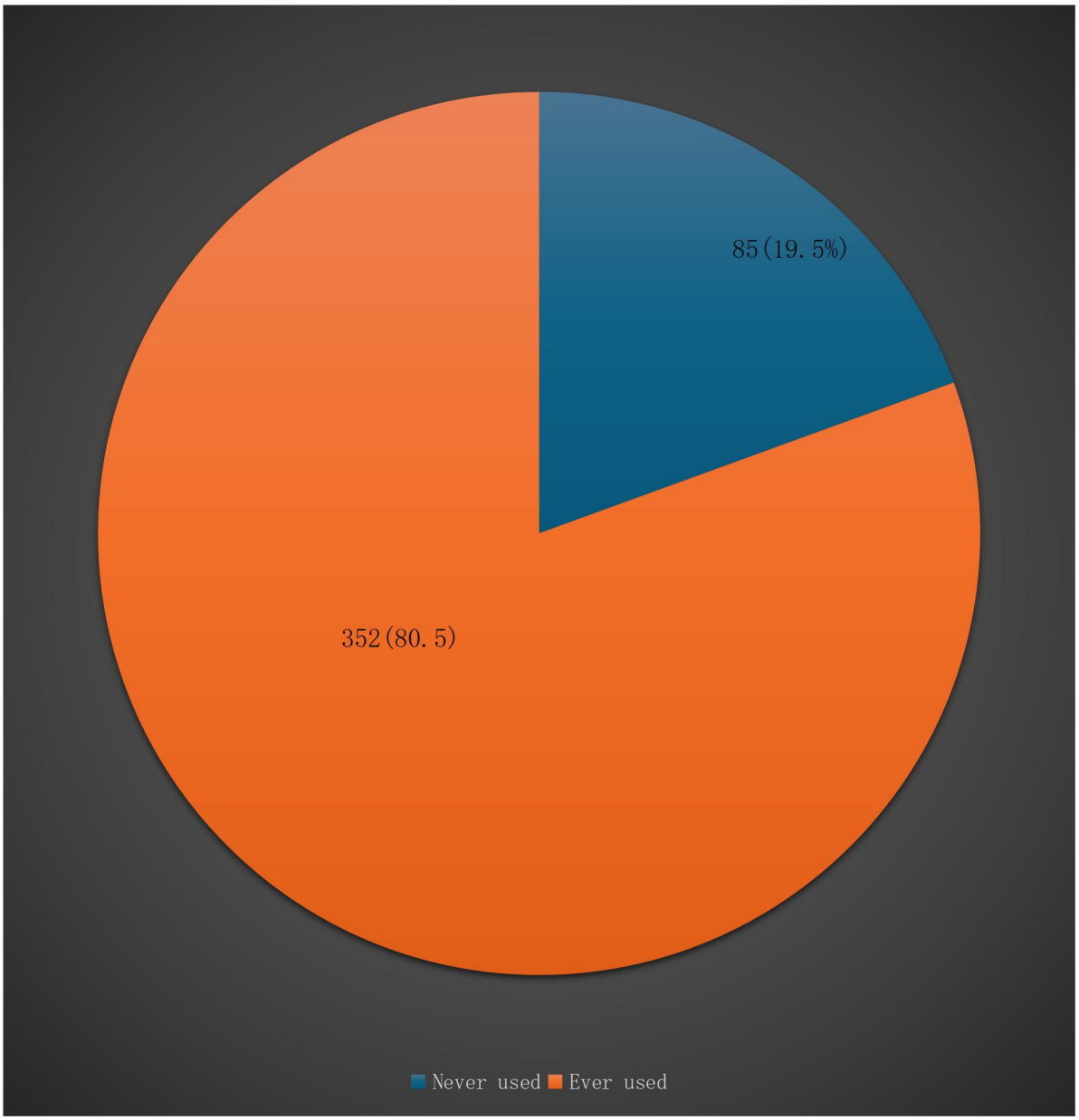

Figure 1 showing the use of drugs/ substance among undergraduate student.

Regarding knowledge most of the respondents aged 18-22 102 (47.2%) had good knowledge and 114 (52.8%) had poor knowledge however, the relationship between age group and knowledge is not statistically significant (p=0.349), about one-hundred and one (44.7%) of

female had good knowledge while one-hundred and twenty five (55.3%) had poor knowledge, but the relationship is not statistically significant (p=0.598), it was recognized that most of medical student 46 (31.9%) had good knowledge while a vast majority 98 (68.1%) had poor knowledge, and the relationship between faculty and knowledge is statistically significant (p=<0.001), Respondents in 600 level 34 (36.2%) had good knowledge while higher proportion of the respondents in this level 60 (63.8%) had poor knowledge however, the relationship between level of study and knowledge is not statistically significant (p=0.410), respondents who reside within the campus 99 (40.2%) had good knowledge while a higher proportion 147 (59.8%) have poor knowledge, however, the relationship between Place of Residence and knowledge is not statistically significant, (p=0.122), respondents with monthly allowance between 10,000-49,000 74 (36.8%) have good knowledge while higher proportion 127 (63.2%) have poor knowledge and the relationship between monthly allowance and knowledge is statistically significant. (Table 10).

Table 10: Association between knowledge and socio-demographic statistics

Variable	Knowledge towards	Test	p-value

	substance/drug abuse		statistic	
	Good knowledge (n = 190) Freq (%)	**Poor knowledge (n = 247) Freq (%)**		
Age (years)				
<17	8 (34.8)	15 (65.2)	5.582	0.349
18 – 21	102(47.2)	114 (52.8)		
22-26	60(37.5)	100 (62.5)		
27 – 31	17(53.1)	15(46.9)		
32 – 36	2(50.0)	2(50.0)		
>37	1(50.0)	1(50.0)		
Sex				
Male	89 (42.2)	122 (57.8)	0280	0.598
Female	101 (44.7)	125 (55.3)		
Faculty				
Dentistry	45 (41.3)	64 (58.7)	15.992	**<0.001**
Medicine	46 (31.9)	98(68.1)		
BMS	99 (53.8)	85 (46.2)		
Level of study				
100level	22 (40.7)	32 (59.3)	5.049	0.410
200level	41 (49.4)	42 (50.6)		
300level	29(50.0)	29(50.0)		
400level	34(46.6)	39(53.4)		
500level	30(40.0)	45(60.0)		
600level	34(36.2)	60(63.8)		
Residence				
On-campus	99 (40.2)	147 (59.8)	2.396	0.122
Off-campus	91 (47.6)	100(52.4)		
Monthly allowance				
<#10,000	27 (44.3)	34 (55.7)	15.795	**<0.001**
Between #10,000-49,000	74 (36.8)	127 (63.2)		
Above #50,000	41 (41.4)	58 (58.6)		

† = chi-square, * = Fisher's exact

Regarding perception a higher proportion of respondents between the age 18-22 163 (75.5%) have positive perception while 53 (24.3%) have negative perception however, A very strong and statistically significant association was found between age and perception (χ^2 = 18.734, p=0.002). The data reveals more females 186 (82.3%) have positive perception and 40 (17.7%) have negative perception, however the relation is not statistically significant, a higher proportion of BMS students 147 (77.2%) have positive perception while 42 (22.8%) have negative perception, however, the relationship between faculty and perception is not statistically significant, majority 37 (68.5%) of respondents from 100 level have positive perception which is the lowest, a few 17 (31.5%) have negative perception the lowest too, however, the relationship between level of study and perception is not statistically significant, it was noted that majority 144 (75.4%) who reside off campus have positive perception while a few 47 (24.1%) have negative perception, however, the relationship between place of residence and perception is not statistically significant, respondents receiving allowance of 50,000 82 (82.8%) while 17 (17.2%) have negative perception however, the relationship between monthly allowance and perception is not statistically significant (Table 11).

Table 11: Association between perception of substance abuse and socio-demographic statistics

Variable	Knowledge towards substance/drug abuse		Test statistic	p-value
	Positive perception (n = 352) Freq (%)	Negative perception (n = 88) Freq (%)		
Age (years)				
<17	13 (56.5)	10(43.5)	18.734	**<0.002**
18 - 21	163(75.5)	53 (24.5)		
22-26	144(88.1)	19 (11.9)		
27 - 31	26(81.3)	6(18.8)		
32 - 36	4(100.0)	0(0.0)		
>37	2(100.0)	0(0.0)		
Sex				
Male	163 (77.3)	48 (22.7)	1.730	0.188
Female	186(82.3)	40 (17.7)		
Faculty				
Dentistry	84 (77.1)	25 (22.9)	4.120	0.127
Medicine	123 (85.4)	21(14.6)		
BMS	142 (77.2)	42 (22.8)		
Level of study				
100level	37(68.5)	17 (31.5)	12.288	**0.031**
200level	70 (84.3)	13 (15.7)		
300level	40(69.0)	18(31.0)		
400level	60(82.2)	13(17.8)		
500level	65(86.7)	10(13.3)		
600level	77(81.9)	17(18.1)		
Residence				
On-campus	205 (83.3)	41 (16.7)	4.216	**0.040**
Off-campus	144 (75.4)	47(24.6)		
Monthly allowance				
<#10,000	50 (82.0)	11 (18.0)	5.929	0.115
Between #10,000-49,000	164 (81.6)	37 (18.4)		
Above #50,000	82 (82.8)	17 (17.2)		

† = chi-square, * = Fisher's exact

CHAPTER 5

DISCUSSION

This study assessed the knowledge, attitudes, practices, and associated factors of substance abuse among undergraduate students in medical and health-related faculties. The findings reveal a complex pattern characterized by high awareness and largely negative attitudes toward substance abuse, yet a substantial prevalence of substance use, particularly among specific academic and demographic groups. This discussion interprets the findings in relation to the study objectives and highlights their implications for prevention and intervention strategies within the university setting.

Socio-demographic Characteristics and Substance Use

The socio-demographic profile of respondents showed that the majority were young adults aged 18–26 years, a group widely recognized as being at heightened risk for experimentation with psychoactive substances. This aligns with developmental theories which suggest that young adulthood is a period marked by identity exploration, peer influence, and risk-taking behaviors (Schulenberg and Maggs, 2002). Although age itself was not significantly associated with lifetime drug use, its strong association with perception of substance abuse suggests that maturity and experience play a role in shaping attitudes, even if they do not directly determine behavior.

Gender distribution was nearly equal; however, gender emerged as a significant predictor of substance use practice. Male students demonstrated poorer substance use practices compared to females, a finding consistent with previous research indicating that males are more likely to engage in risk-taking and substance-related behaviors. Female students, on the other hand,

exhibited better practices, which may reflect stronger social controls, risk perception, or coping mechanisms (Schulenberg and Maggs, 2002).

Family structure and financial dependence revealed a predominantly stable background, with most students coming from two-parent, monogamous families and relying on limited monthly allowances. While these factors are often considered protective, they did not show a significant association with substance use practices, suggesting that university-based environmental and social factors may exert a stronger influence than family background during this life stage (Olanrewaju et al, 2022a).

Academic Factors and Substance Use Patterns;

One of the most striking findings of this study is the strong association between academic variables and substance use. Students in clinical faculties, particularly Medicine and Dentistry, reported significantly higher lifetime substance use compared to those in Basic Medical Sciences. This pattern may be attributed to increased academic pressure, long study hours, performance demands, and easier access to prescription medications among clinical students (Mustafa-Shaibu et al, 2022).

At the departmental level, Medical Biochemistry students stood out as a notable exception, demonstrating significantly lower substance use rates. This suggests the presence of unique protective factors within the department, such as academic culture, curriculum structure, peer norms, or stress management patterns. This finding warrants further qualitative investigation.

Level of study also showed a significant association with substance use, displaying a U-shaped trend. Substance use was highest among first-year (100-level) and final-year (600-level) students. Early exposure may be linked to curiosity and transition stress, while increased use

among final-year students may reflect cumulative academic stress, burnout, or normalization of substance use over time. This pattern underscores the need for targeted interventions at both entry and exit points of undergraduate training.

Knowledge of Substance Abuse

The study revealed near-universal awareness of substance abuse, with most students obtaining information through the school environment, social media, and traditional media. Despite this high awareness, more than half of the respondents were classified as having poor knowledge, indicating that awareness does not necessarily equate to depth of understanding (Asiyanbi et al., 2024).

Importantly, students in Basic Medical Sciences demonstrated significantly better knowledge than those in Medicine and Dentistry, despite the latter reporting higher substance use. This knowledge–practice gap is concerning, particularly given that clinical students are future healthcare providers. It suggests that theoretical exposure to substance abuse topics may be insufficient or poorly integrated into clinical training.

Monthly allowance was also significantly associated with knowledge, indicating that socioeconomic factors may influence access to information or engagement with health-related content (Olanrewaju et al, 2022a).

Attitudes and Perceptions Toward Substance Abuse

Attitudes toward substance abuse were largely negative, with the vast majority of students recognizing its harmful effects. However, perceptions of individuals who use substances were predominantly empathetic, with many respondents viewing users as victims of circumstance

rather than moral failures. This reflects a shift toward a public health perspective rather than a punitive one.

Positive perception (opposition to substance abuse) was significantly associated with age, level of study, and place of residence. Older students and those living on-campus were more likely to hold negative views toward substance abuse. The on-campus environment may offer greater exposure to health campaigns, peer regulation, and institutional norms that discourage substance use (Mustafa-Shaibu et al, 2022). Younger students, particularly those below 17 years, exhibited more permissive or uncertain perceptions, highlighting them as a vulnerable group requiring early preventive education.

Substance Use Practices and Patterns

Despite high knowledge and negative attitudes, over one-third of respondents reported having used substances, demonstrating a clear disconnect between cognition and behavior. Curiosity emerged as the leading reason for initiation, followed by recreational use and stress management. Peer influence was the dominant source of substance acquisition, emphasizing the role of social networks in facilitating use.

Alcohol was the most commonly used substance, reflecting its social acceptability and normalization within student culture. The high prevalence of cough syrup and prescription drug misuse is particularly concerning, given their legal availability and perceived safety. In contrast, the low use of hard drugs such as heroin, cocaine, and methamphetamine suggests effective social deterrence and stigma against these substances.

Factors Contributing to Substance Use and Help-Seeking Behavior

Peer influence, academic stress, curiosity, mental health challenges, and easy access to substances were identified as major contributing factors. The prominence of mental health issues underscores the need to integrate substance abuse prevention with mental health support services (Ibrahim et al., 2013). A critical institutional gap was identified: most students perceived that there are inadequate facilities or resources available to support those struggling with substance use. This perceived lack of support likely contributes to low willingness to seek help, with a significant proportion of students either unwilling or uncertain about accessing assistance (Olanrewaju et al, 2022a).

Implications for Policy and Practice

The findings suggest that substance abuse among undergraduate health science students is driven more by academic, social, and environmental factors than by basic demographic characteristics. Interventions should therefore focus on: a) Early orientation and prevention programs targeting first-year students; b) Stress management and mental health support for clinical and final-year students; c) Peer-led and faculty-supported interventions; d) Strengthening campus-based counseling and rehabilitation services e) Integrating comprehensive substance abuse education into clinical curricula.

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CONCLUSION

In conclusion, this study revealed a paradoxical situation in which undergraduate students demonstrated high awareness and negative attitudes toward substance abuse, yet substantial levels of experimentation and use persist. Academic pressure, peer influence, and inadequate institutional support appear to be the key drivers of this behavior. Addressing substance-use within this population requires a multifaceted, proactive, and context-specific approach that goes beyond awareness to include structural, psychological, and social interventions.

RECOMMENDATIONS

Based on the specific objectives and significant findings of this study, the following recommendations are made:

To determine the prevalence of substance abuse:

The University Health Services should institute mandatory and anonymous annual screening for substance use during the 100-level and 600-level orientations to identify at-risk students early and provide timely intervention.

To assess the knowledge, attitude and practice:

The curriculum for clinical faculties (Medicine and Dentistry) must be enhanced to include mandatory, longitudinal modules on stress management, mental health resilience, and the specific dangers of self-medication and prescription drug misuse.

To determine the most common substances used:

The university should launch targeted campaigns focusing on the dangers of alcohol abuse and the misuse of prescription drugs and cough syrup, emphasizing that their legal status does not make them safe for abuse.

To determine the factors contributing to substance abuse:

The university must urgently establish and widely publicize a confidential, accessible, and specialized Counseling and Mental Health Unit with professionals trained to handle issues of academic stress, anxiety, and substance use disorders. Structured peer-mentoring programs should be developed to leverage positive peer influence for support and to create a culture where seeking help is normalized and encouraged.

Further qualitative research should be conducted to understand the unique stressors of the clinical environment and the protective factors in departments like Medical Biochemistry, to inform the development of tailored, evidence-based interventions.

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QUESTIONNAIRE

Section A: Socio-demographic Information

1. Age as at last birthday:
2. Gender: (a) Male [ ] (b) Female [ ]
3. Ethnic group: (a) Bini [ ] (b) Esan [ ] (c) Etsako [ ] (d) Igbo [ ] (e) Hausa [ ] (f) Yoruba [ ] (g) Others (pls specify with state) _____
4. Religion: (a) Christian [ ] (b) Islam [ ] (c) African Traditional [ ] (d) Others(specify) _____
5. Place of residence while in school: (a) Hostel [ ] (b) Off-campus [ ] (c) Home [ ]
6. Faculty: (a) Dentistry [ ] (b) Medicine [ ] (c) Basic Medical Sciences [ ] (d) Basic Clinical Sciences [ ]
7. Department: (a) Dentistry [ ] (b) Medicine [ ] (c) Physiotherapy [ ] (d) Radiography [ ] (e) Med Lab Science [ ] (f) Med Biochemistry [ ] (g) Nursing Science [ ] (h) Physiology [ ] (i) Anatomy [ ]
8. Level of study: (a) 100L [ ] (b) 200L[ ] (c) 300L [ ] (d) 400L [ ] (e) 500L [ ] (f) 600L [ ]
9. Family type: (a) Monogamous [ ] (b) Polygamous [ ] (c) Single parent [ ] (d) Orphan (e) Others (please specify) _____
10. Which parent do you reside with (a) Father [ ] (b) mother [ ] (d) Grandparent [ ] (e) Others (please specify)_____
11. Monthly Allowance (a) less than 10,000 [ ] (b) Above 10,000- 49,000 (c) Above 50,000

Section B: Knowledge of Drug/Substance Use

1. Have you heard of drug/substance abuse? Yes [ ] (b) No
2. How did you hear about it? (a) Television [ ] (b) Movies [ ] (c) Social media [ ] (d) Friends [ ] (e) School [ ] (f) Others [ ]
3. What do you know is Drug/substance use? (please tick as appropriate)

(a) The proper use of prescribed medications for medical purposes [ ]

(b) The improper use of prescribed medications [ ]

(c) The use of psychoactive substances for non-medical purposes [ ]

(d) The use of psychoactive substances for social purposes [ ]

(e) A healthy lifestyle that avoids harmful substances [ ]

(f) Using natural herbs to treat illnesses without consulting a doctor [ ]

(g) Don't know [ ]

4. Which of the following substances do you know can be abused? (Select all that apply):
    a. Tobacco- [ ]
    b. Alcohol- [ ]
    c. Relevin- [ ]
    d. Crack- [ ]
    e. Meth/Methamphetamine/(upper, pep pill, bennie, speed) - [ ]
    f. Heroin/Horse/Big H- [ ]
    g. Codeine/Cody- [ ]
    h. Cough syrup- [ ]
    i. Weed/Pot/Grass/Marijuana/Cannabis ganga, igbo,Colorado,blue, loud- [ ]

j. Prescription drugs (e.g., opioids/tramadol, pentazocine, diazepam, stimulants, Tranquillisers or sedatives (give names that apply) - [ ]

k. Cocaine- [ ]

l. Inhalants (e.g., glue, paint) - [ ]

m. Others (specify): _____

5. What are the common methods of accessing these substances? (Select all that apply)

(a) Through friends or peers [ ]

(b) Purchased from local stores or supermarkets [ ]

(c) Prescription from a doctor or pharmacist [ ]

(d) Purchased from street vendors or dealers [ ]

(e) Through online platforms or social media [ ]

(f) Others (please specify)

6. How would you rate your knowledge about the harmful effects of drug/substance use?

(a) Excellent – I am well-informed about the harmful effects [ ]

(b) Good – I have a general understanding of the harmful effects [ ]

(c) Average – I know some harmful effects but lack detailed knowledge [ ]

(d) Poor – I have very little knowledge about the harmful effects [ ]

(e) None – I have no knowledge about the harmful effects [ ]

Section C: Attitudes toward Substance Use

7. Do you believe substance use is harmful to health?

a) Yes [ ] (b) No [ ]

8. How do you perceive individuals who use substances?

(a) They are victims of circumstances and need help [ ]

(b) They are making poor choices and lack self-control [ ]

(c) They are a danger to society [ ]

(d) They are misunderstood and need more support [ ]

(e) They are engaging in normal behavior that should not be judged [ ]

(f) I have no opinion or neutral perception [ ]

9. Would you consider using substances in the future? (a) Yes [ ] (b) No [ ]
10. Do you think educational programs on substance use can reduce its prevalence? (a) Yes [ ] (b) No [ ]

Section D: Practices Related to Substance Use

11. Have you ever used any substance? (a) Yes [ ] (b) No [ ]
12. If yes, which substance(s) have you used? And how often? (Select all that apply)

Substance	Never used	Experimental (tried once or twice	Occasionally	Regularly	Daily or almost daily
Tobacco					
Alcohol					
Meth/Methamphetamine					
Heroin/Horse/Big H					

Codeine/Cody					
Cough syrup					
Weed/Pot/Grass/Marijuana/Cannabis					
Prescription drugs (e.g., opioids/tramadol, diazepam, stimulants)					
Cocaine					
Inhalants (e.g., glue, paint)					
Others (specify):					

13. What was your primary reason for using substances?

    a) To cope with stress, anxiety, or depression [ ]

    b) Due to peer pressure or influence from friends [ ]

    c) For recreational purposes or to feel good [ ]

    d) To enhance performance or focus [ ]

    e) Out of curiosity or experimentation [ ]

    f) To escape from personal or family problems [ ]

    g) Addiction or dependence [ ]

    h) Other (please specify)

14. How do you usually obtain these substances? (a) From friends or peers [ ] (b) Purchased from local shops or supermarkets [ ] (c) Through online platforms or social media [ ] (d)

Through prescriptions from a doctor or pharmacist [ ] (e) From street vendors or illegal dealers [ ] (f) From family members or within the household [ ] (g) Other (please specify)

Section E: Factors Contributing to Substance Use

15. What do you think are the major factors contributing to substance use among students? (Select all that apply)
    a) Peer pressure or influence from friends [ ]
    b) Stress from academic or personal challenges [ ]
    c) Curiosity or desire to experiment [ ]
    d) Easy access to substances [ ]
    e) Family issues or lack of parental supervision [ ]
    f) Media influence or glamorization of substance use [ ]
    g) Lack of awareness about the risks of substance use [ ]
    h) Mental health issues such as anxiety or depression [ ]
    i) Availability of funds [ ]
    j) Other (please specify)
16. Are there facilities or resources available to help students struggling with substance use in your College? (a) Yes [ ] (b) No[ ]
17. Are you willing to get help or give help to those with addiction to drug/substance use? (a) Yes [ ] (b) No [ ]
18. What measures do you think can be implemented to reduce substance use among students? (Please specify): _____

Section F: Recommendations

19. Would you recommend the inclusion of substance use education in the university curriculum? (a) Yes [ ] (b) No [ ]

Any additional comments or suggestions regarding substance use among students? _____

HEALTH RESEARCH ETHICS COMMITTEE (HREC)

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Registration Number:
NHREC-UBTH-HREC/24/12/2022B

PROTOCOL NUMBER: ADM/E 22/A/VOL. VII/148654912545

PROPOSAL TITLE: "EVALUATION OF DRUG/SUBSTANCE USE AMONG UNDERGRADUATE STUDENTS IN THE COLLEGE OF MEDICAL SCIENCE, UNIVERSITY OF BENIN, EDO STATE"

PRINCIPAL INVESTIGATOR(S): FUBARAIBI EDWARD DAVID, IDUKPAYE OSAZEE HOPE, EDUN ABRAHAM ORITSE, ANIM CHUKWUKA MATTHEW, KOLAWOLE OLADIMEJI

DEPARTMENT/INSTITUTION: DEPARTMENT OF COMMUNITY DENTISTRY, SCHOOL OF DENTISTRY, UNIVERSITY OF BENIN, BENIN CITY, NIGERIA

DATE CONSIDERED: APRIL 2ND, 2025

DECISION OF THE COMMITTEE: APPROVED

THIS APPROVAL DATES 2/4/2025 TO 1/4/2026. IF THERE IS DELAY IN STARTING THE RESEARCH, PLEASE INFORM THE HREC SO THAT THE DATES OF APPROVAL CAN BE ADJUSTED ACCORDINGLY

REMARK:

CHAIRMAN: PROF. (MRS) A.N. OFILI **SIGNATURE & DATE:** 2/4/2025

UNIVERSITY OF BENIN TEACHING HOSPITAL ETHICS & RESEARCH COMMITTEE Sign..... Date..... BENIN CITY P.M.B. 1111

SUPERVISOR (S): DR CHUKWUMAH NNEKA

DECLARATION BY INVESTIGATOR(S):
PROTOCOL NUMBER (please quote in all enquiries)
Note that no participant accrual or activity related to this research may be conducted outside of these dates. All informed consent forms used in this study must carry the HREC assigned number and duration of HREC approval of the study. In multiyear research, endeavor to submit your annual re-port to the HREC early in order to obtain renewal of your approval and avoid disruption of your research. No changes are permitted in the research without prior approval by the HREC except in circumstances outlined in the Code. The HREC reserves the right to conduct compliance visit your research site without previous notification

Signature & Date.....