

**PREVALENCE AND FACTORS INFLUENCING SELF-MEDICATION AMONG
UNDERGRADUATES IN A TERTIARY INSTITUTION, EDO STATE**

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FACULTY OF NURSING
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OCTOBER, 2025

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**IN PARTIAL FULFILLMENT OF THE AWARD OF THE DEGREE OF BACHELOR
OF NURSING SCIENCE, FACULTY OF NURSING SCIENCES, UNIVERSITY OF
BENIN, BENIN CITY**

OCTOBER, 2025

DECLARATION

This is to declare that this research project titled “**PREVALENCE AND FACTORS INFLUENCING SELF-MEDICATION AMONG UNDERGRADUATES IN A TERTIARY INSTITUTION, EDO STATE**” was carried out by **AKWUZIE STEPHANIE CHEKWUBE** and is solely the result of my work except where acknowledged as being derived from other person(s) or resources.

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CERTIFICATION/APPROVAL

This is to certify that this project was carried out by **AKWUZIE STEPHANIE CHEKWUBE** with **Mat. No. BMS2001210** in the Department of Medical-Surgical Nursing, Faculty of Nursing Sciences under the supervision of **Mrs R. LAWAL**

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Supervisor

Sign & date

PROF (MRS) C.E OMOREGBE

Head of Department

Sign & date

External Examiner

Sign & date

DEDICATION

This work is dedicated to GOD ALMIGHTY who gave me the strength to complete my academic journey and my beloved parents for their unwavering support, love, and encouragement throughout my academic journey.

ACKNOWLEDGEMENT

I give all the glory to the Almighty God, the alpha and omega. I also express my heartfelt gratitude to everyone who is contributing to this research project.

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ABSTRACT

This study assessed the prevalence, awareness, influencing factors, and drug usage patterns of self-medication among undergraduate students at the University of Benin. A cross-sectional survey was conducted with 355 students selected from the Faculty of Art using a multistage sampling technique. A structured questionnaire was used to assess their demographic characteristics, level of awareness regarding risks and consequences of self-medication, prevalence rate of self-medication, and factors influencing self-medication practices. The Statistical Package for the Social Sciences (SPSS) version 27.0 was used for data analysis. The findings revealed that 79.7% of respondents engaged in self-medication at least sometimes, with 47.9% always practicing it. Pain relievers, such as paracetamol and ibuprofen, were the most commonly used drugs (77.2%), followed by antimalarials (61.7%). Despite high awareness of the risks—such as drug resistance ($\bar{x} = 3.52$) and adverse health effects from overdosing ($\bar{x} = 3.55$), self-medication remains widespread. Factors significantly influencing this practice included easy access to drugs without prescriptions ($\chi^2 = 36.731$, $p = 0.001$), long hospital waiting times ($\chi^2 = 4.834$, $p = 0.028$), high treatment costs ($\chi^2 = 5.159$, $p = 0.023$), and advice from non-medical sources ($\chi^2 = 9.383$, $p = 0.002$). Hence, the study concluded that self-medication is highly prevalent among undergraduate students at the University of Benin, despite a generally high level of awareness about its associated risks and consequences. However, recommendations included the need for regulatory, educational, and healthcare system interventions to promote safe medication practices among undergraduates.

Keywords: Self-medication, Prevalence, Undergraduates, Influencing factors

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND TO THE STUDY

In many Sub-Saharan African communities, health-related knowledge is commonly shared among individuals, enabling people to identify remedies for frequent illnesses that affect them or their relatives (Baryakoya *et al.*, 2023). Because of culturally shaped views about childhood and professional medical authority, information on the use of various medications including strong pharmaceuticals typically provided in hospital settings tends to be easily accessible. On the other hand, self-care is described as the range of activities individuals undertake to maintain their personal health and well-being, as well as the care they provide to family members and others. Importantly, every patient is viewed as having at least two sources of prescriptions which includes their healthcare provider and themselves, while friends, relatives, and other well-meaning individuals often act as additional prescribers (Siraj *et al.*, 2022).

Self-medication is a major aspect of self-care and involves the use of various medicinal substances including conventional drugs, herbal preparations, and traditional remedies to address ailments that individuals identify on their own. It also includes the continued intake of medications previously prescribed for chronic or recurring conditions. Essentially, self-medication refers to individuals managing their health problems, symptoms, or illnesses without direct guidance from a licensed healthcare professional (WSMI, 2021). This practice may involve using over-the-counter drugs, herbal products, standard pharmaceuticals, or even prescription medications acquired without an authorized prescription (Ikwara *et al.*, 2023; Vivek, 2023). Previous studies have shown that when practiced correctly, responsible self-medication can provide an affordable means of managing certain health conditions, thereby

reducing unnecessary hospital visits and easing pressure on healthcare systems. However, self-medication extends beyond the use of approved over-the-counter (OTC) medicines; it also includes reliance on traditional therapies, failure to adhere to prescribed treatment plans, and the use of leftover drugs from previous prescriptions. Consequently, the rising occurrence of self-medication has become a major public health concern globally, given its association with adverse effects and various health complications (Opoku *et al.*, 2022).

In Nigeria, the prevalence of self-medication has been reported to be as high as 95%–98%, with 81.8% documented in the southwestern region. Across Africa, prevalence rates range from 24% to 73.9%, while estimates of 36.1% to 45.8% have been recorded in the Middle East, 29% in South America, and between 4% and 75% in Asia (Chuwa *et al.*, 2021; Mathewos *et al.*, 2021). Commonly cited motivations for self-medication include drug shortages in health facilities, long waiting times, and the considerable distance many individuals must travel to access care. Additional factors such as inability to afford medical fees, the desire to choose preferred medications, shortages of trained health professionals, poor quality of available healthcare services, unregulated drug markets, and mistrust or misconceptions about medical practitioners contribute significantly, particularly in developing countries (Al *et al.*, 2021; Wegbom *et al.*, 2021).

Moreover, the widespread availability of medicines, rising healthcare costs, and a preference to avoid medical consultations further promote self-medication. Some individuals even use self-medication as a means of preventing or managing unhealthy behaviors, such as smoking, or as perceived protection against conditions like heart disease. Despite these perceived advantages, self-medication carries substantial risks including misdiagnosis, harmful drug interactions, and delayed access to appropriate care (Isha *et al.*, 2020). For treatment to be truly effective and safe, patients' symptoms must be thoroughly evaluated by qualified clinicians, with medications prescribed based on proper diagnosis and dispensed by

pharmacists (Alaosami *et al.*, 2022; Opoku *et al.*, 2022). Nevertheless, even with its long historical presence, self-medication remains insufficiently studied (Rawan & Abdelwahed, 2022).

1.2 STATEMENT OF THE PROBLEM

The prevalence of self-medication has been rising in both developing and developed countries, often leading to various side effects and health complications. Some argue that the practice provides patients with a degree of autonomy, allowing them to manage minor illnesses using over-the-counter (OTC) medications. Nevertheless, numerous studies have highlighted the negative consequences of self-medication, including the development of drug resistance, adverse drug reactions, incorrect diagnoses, and inappropriate dosing (Legesse *et al.*, 2021; Dzulkharnain *et al.*, 2022; Mutalub *et al.*, 2022).

The use of over-the-counter (OTC) medications is prevalent among university undergraduates, often inappropriately. With the widespread influence of social media, students increasingly turn to the internet rather than healthcare professionals for health-related guidance. Research indicates that self-medication is common among undergraduates in general, with pharmacy students exhibiting higher rates than medical students (Golnesa *et al.*, 2022). Akora-Jobreg *et al.* (2024) noted that improper self-medication can lead to negative outcomes, including resource wastage, increased pathogen resistance, and significant health risks such as adverse drug reactions and prolonged suffering resulting from irresponsible use of medications. Additionally, many individuals obtain medications from unregistered pharmacies or other informal sources, which exposes them to significant risks. Self-medication can result in misdiagnosis, incorrect guidance, and inappropriate drug use, including excessive dosing, prolonged consumption, drug interactions, and polypharmacy (Divya *et al.*, 2022; Baryakova *et al.*, 2023).

More so, the indiscriminate use of medications is linked to several negative outcomes, such as toxicity, adverse reactions, reduced clinical effectiveness, longer treatment periods, and delayed recovery. This practice contributes substantially to morbidity and mortality, as patients often rely on information from family, friends, or other informal sources that may be inaccurate. The patterns, prevalence, and motivations for self-medication, however, differ across countries, highlighting the need to investigate its occurrence and determinants among undergraduate students (Adesina *et al.*, 2022; Mutalub *et al.*, 2022).

1.3 OBJECTIVES OF THE STUDY

The objectives of this study:

General Objective;

The general objective of this study was to determine the prevalence and factors influencing self-medication among undergraduates in a tertiary institution, Edo State.

Specific Objectives;

- i. To assess the level of awareness regarding the risks and consequences of self-medications among undergraduate students in the University of Benin, Edo State
- ii. To determine the prevalence of self-medication among undergraduate students in the University of Benin, Edo State
- iii. To determine the factors influencing self-medication practices among undergraduate students in the University of Benin, Edo State
- iv. To identify the common types of drugs used for self-medication among undergraduate students in the University of Benin, Edo State

1.4 RESEARCH QUESTIONS

This study was guided by the following research questions:

- i. What is the level of awareness regarding the risks and consequences of self-medications among undergraduate students in the University of Benin, Edo State?
- ii. What is the prevalence rate of self-medication among undergraduate students in the University of Benin, Edo State?
- iii. What are the factors influencing self-medication practices among undergraduate students in the University of Benin, Edo State?
- iv. What are the common types of drugs used for self-medication among undergraduate students in the University of Benin, Edo State?

1.5 HYPOTHESIS

The study tested the following hypothesis in its null form:

- i. There is no significant association between the prevalence rate of self-medication and factors influencing self-medication practices among undergraduates in the university of Benin.

1.6 SIGNIFICANCE OF THE STUDY

The significance of this study is broad as it contributes to multiple recipients/stakeholders within the health, educational, and policy-making sectors.

Health Professionals

The study will provide health professionals with valuable data on the common self-medication practices among undergraduate students in the University of Benin, Edo State. This will help in understanding the misconceptions, drug misuse patterns, and potential health

risks, thereby guiding the development of targeted health education, counseling, and intervention strategies.

Students

For students, this research will raise more awareness on the dangers associated with self-medication, including drug resistance, incorrect dosage, and delayed treatment. It will equip the students with knowledge that can encourage safer health practices and responsible health-seeking behavior.

Educational Sector

This study will as well benefit educational institutions by highlighting the need to integrate health awareness programs into student life. The findings of this study can support the development of health education campaigns, peer health educator initiatives, and collaboration between campus clinics and academic departments.

Parents

As a result of this study, parents will gain insights into how their children approach health management, especially while away from home. This understanding will enable them to offer better guidance, reinforce healthy habits, and support the mental and physical well-being of their wards.

Society

The study will add to the societal understanding of youth health behaviors and drug misuse trends. In addition, it will contribute to public health knowledge, which is crucial for addressing broader issues like antibiotic resistance, substance abuse, and healthcare accessibility.

Government and Policymakers

On the other hand, this research will provide evidence-based insights that can guide policy formulation. It can inform regulations on drug sales, improve access to student health services, and shape national campaigns against drug abuse. Ultimately, it will support policies aimed at promoting responsible medication use and strengthening public health systems.

1.7 SCOPE OF THE STUDY

This study was limited to undergraduate students across selected departments within the Faculty of Arts at the University of Benin (UNIBEN), Edo State, and delimited to addressing the issues directly related to the title (prevalence and factors influencing self-medication).

1.8 OPERATIONAL DEFINITION OF TERMS

Self-Medication: This refers to the practice of individuals using medication to treat self-diagnosed conditions without consulting a healthcare professional.

Prevalence: This is the proportion rate of undergraduate students at the University of Benin who engage in self-medication within a specified period.

Undergraduate Students: This refers to individuals enrolled in a bachelor's degree program at the University of Benin, who serve as the study population.

Factors Influencing Self-Medication: This refers to various determinants such as accessibility of drugs, peer influence, perceived cost of healthcare, and previous experience with medications that drive students to self-medicate.

Commonly Used Drugs: This refers to the types of medications frequently used for self-medication among students, including antibiotics, analgesics, antipyretics, and antihistamines.

Risk Awareness: This refers to the level of knowledge students have regarding the potential health consequences and dangers associated with self-medication, including drug resistance, adverse reactions, and incorrect dosing .

CHAPTER TWO

LITERATURE REVIEW

The prevalence of self-medication among undergraduates is a major concern with potential risks including adverse reactions, overdose and development of antibiotic resistance. However, this practice is often influenced by different factors. Hence, this chapter explores the conceptual review, theoretical review, and empirical review of existing research on the prevalence and factors influencing self-medication among undergraduates.

2.1 CONCEPTUAL REVIEW

2.1.1 Concept of Self-Medication

Self-medication, whether involving prescription or over-the-counter (OTC) drugs, is a significant global concern. It refers to the practice of treating self-identified illnesses or symptoms using previously prescribed or OTC medications without consulting a licensed healthcare professional (Baracaldo-Santamaría *et al.*, 2022; WHO, 2023). This behavior constitutes a major public health issue, particularly in developing countries, and poses challenges for health systems. Broadly, self-medication encompasses the use of non-prescription drugs including synthetic, herbal, or homeopathic remedies, as well as OTC medications, to manage minor health problems independently, without professional medical guidance or a valid prescription (Subastini & Udayanga, 2020).

Self-medication is a widespread practice, defined by the World Health Organization (WHO) as the use of medications without professional oversight, typically for the management of minor health conditions. When done responsibly, self-medication involves using approved, non-prescription medicines that are considered safe and effective when taken according to guidelines (Rathod *et al.*, 2023; Cotobal Calvo *et al.*, 2024). Recent studies indicate that

about 22% of medication users engage in self-medication, with notable increases observed across various demographic groups over time (Alshammari *et al.*, 2021). The rise of this practice has been further driven by the easy availability of health information through online sources. On the other hand, digital technologies and artificial intelligence (AI) have facilitated the rapid and efficient access to medical information for both healthcare professionals and patients, including data on medications, diseases, and treatment options. However, seeking information from unregulated or unreliable online sources can foster misconceptions about the safety and efficacy of certain therapies. Websites lacking expert review may disseminate inaccurate content, potentially leading individuals to make harmful decisions based on unverified or unscientific information (Soloski, 2020; Pacha Jara *et al.*, 2023; Lanzagorta-Ortega *et al.*, 2022). Self-medication among undergraduates presents important public health concerns. Even healthcare students who use medications without following clinical guidelines may face health risks, including drug interactions and unforeseen adverse effects. While self-medication can provide quick relief from symptoms or clinical manifestations, it also carries significant dangers such as misdiagnosis, antimicrobial resistance, and harmful outcomes from improper drug use (Oviedo Córdoba *et al.*, 2021; Lau, 2024).

Additionally, the frequent misuse of certain medications, such as anxiolytics, can result in dependence and abuse, causing both short- and long-term health consequences. Previous research has shown that self-medication is influenced by factors including gender, knowledge and accessibility of medicines, inadequate prescription regulations, familiarity with treatments, prior positive experiences with medications, and time constraints (Gbadago *et al.*, 2021; Mbako, 2023). Consequently, it is critical to foster a culture of education and responsibility, encouraging students to critically evaluate the information they access, rely on trustworthy sources, and consult scientific evidence. Self-medication is also influenced by

sharing medications with others or using drugs already available at home, including leftovers from previous prescriptions. The practice encompasses all actions that modify a doctor's prescription, such as obtaining medicines from home or other sources, altering the duration of treatment, or adjusting the recommended dosage (Kifle *et al.*, 2021). Responsible self-medication involves treating illnesses or conditions with non-prescription medicines that are safe and effective when used correctly. Historically, self-medication has been part of human self-care, with individuals relying on personal care, herbs, or other traditional therapies to relieve symptoms or treat certain ailments. This empirical knowledge was often passed down orally across generations (Subastini & Udayanga, 2020). Today, self-medication is widespread globally, with prevalence estimates ranging from 40% to 90%. However, improper use of medications carries significant health risks. Common negative consequences include adverse reactions, allergies, intoxication, dependency, drug interactions, and antimicrobial resistance (Valentin *et al.*, 2020; Pacha-Jara *et al.*, 2023; Martin & Valls, 2020).

2.1.2 Factors Influencing Self-Medication Practices

Self-medication, defined as the independent use of medications without professional guidance, has received considerable attention in modern healthcare research. Understanding the factors that drive individuals to self-medicate is essential for comprehending the dynamics of this widespread behavior. A key motivator is the easy availability of over-the-counter and non-prescription drugs, which encourages people to self-diagnose and treat minor ailments. Additionally, a sense of empowerment and confidence in managing one's own health plays a significant role. Research indicates that individuals often engage in self-medication as a way to exercise control over their health, fostering autonomy in healthcare decision-making (Ahmed *et al.*, 2023; Aprilia *et al.*, 2022; Luz *et al.*, 2022).

Financial factors, including the cost of healthcare services and medications, are significant drivers of self-medication. Studies by Brown and Jones (2021) and Patel *et al.* (2021) indicate that the economic burden associated with conventional healthcare often leads individuals to seek self-care alternatives. Additionally, cultural beliefs, societal norms, and peer influence play a role in motivating self-medication. Lee and Kim (2023) emphasized that cultural perceptions strongly affect individuals' willingness to self-prescribe and manage their health independently. Research also shows that the prevalence of self-medication among health sciences students ranges from 55% to 97.3%, with higher rates observed among female students and those aged 20 to 21 years. The frequency of self-medication is reported to be influenced by individuals' social and cultural backgrounds, as well as the knowledge they acquire through university education, particularly among students in advanced semesters (Zevallos Escobar *et al.*, 2022). Furthermore, the digital era has made vast amounts of health information readily available online, prompting many to rely on these resources when making decisions about self-medication. However, individuals' perceptions of health risks and their levels of health literacy are critical factors in these decisions, highlighting how risk awareness and understanding of health information shape choices to self-diagnose and treat certain conditions (Jones & Smith, 2021; Lee *et al.*, 2021).

Previous personal experience and familiarity with certain medications often influence self-medication practices. Individuals who have successfully used a particular drug in the past may repeat the same treatment when similar symptoms arise, with this perceived familiarity fostering confidence in the medication's effectiveness without consulting a healthcare professional. Another important factor is the individual's assessment of illness severity; many people perceive their symptoms as mild and manageable, leading them to self-medicate rather than seek professional care (Manjurano *et al.*, 2021). Time constraints and busy schedules also discourage medical consultations for non-urgent issues, as long waiting times and

appointment requirements are seen as inconvenient for minor ailments. Additionally, advice from family and friends frequently shapes self-medication behaviors. Positive experiences shared by trusted relatives or peers can encourage others to use the same treatment, assuming it will be effective for them as well (Zeru *et al.*, 2020). The growing accessibility of health-related information online has further fueled self-medication. Individuals can easily search the internet and use digital platforms to learn about symptoms and potential treatments. While this access can empower people to take control of their health, it also increases the risk of self-diagnosis and the use of inappropriate or harmful therapies based on unverified information (Auta *et al.*, 2020; Zeru *et al.*, 2020). Additionally, fear or anxiety related to medical procedures and healthcare settings can discourage individuals from seeking professional care. Concerns about hospitals, injections, or potential diagnoses may lead some to avoid formal consultations and manage their conditions independently through self-medication (Adam, 2020; Kifle *et al.*, 2021). Individuals without health insurance are often more likely to engage in self-medication due to the high costs associated with formal healthcare. For these individuals, purchasing over-the-counter (OTC) medications offers a more affordable and immediate alternative. Additionally, stigma or embarrassment surrounding certain conditions, such as sexually transmitted infections, mental health issues, or skin disorders can drive people to self-treat privately. Concerns about being judged or misunderstood by healthcare providers or peers may discourage open discussion, further promoting reliance on self-medication (Tettye *et al.*, 2021; Alshammari *et al.*, 2021).

2.1.3 Commonly Used Medications in Self-Medication

Self-medication, a widespread behavior across various populations and particularly common among undergraduates, involves the use of medications without professional supervision to treat self-diagnosed health conditions. This practice spans a variety of drug types, with over-the-counter (OTC) medications being the most frequently used. Analgesics, especially non-

steroidal anti-inflammatory drugs (NSAIDs) like ibuprofen and acetaminophen, are commonly employed to manage everyday ailments such as headaches, menstrual pain, and general discomfort. Their easy accessibility contributes to their popularity among young people, often resulting in use even when professional medical advice would be appropriate (Saranga *et al.*, 2020; Kumar *et al.*, 2021).

In addition to analgesics, antibiotics are frequently misused in self-medication, particularly in developing countries (Suleiman *et al.*, 2020). Young people often use antibiotics, such as amoxicillin and azithromycin, without prescriptions to treat infections. This practice carries serious health risks, including the promotion of antibiotic resistance, which is a major global concern (Gallardo *et al.*, 2021). A cross-sectional study among Nigerian university students found that 45% of respondents self-medicated with antibiotics for conditions like sore throats and flu-like symptoms, highlighting gaps in regulatory control and awareness of responsible antibiotic use (Akinleye *et al.*, 2022).

Additionally, medications for gastrointestinal issues, including antacids and proton pump inhibitors, are commonly used by undergraduates. Many students self-treat heartburn or gastric discomfort using over-the-counter drugs such as omeprazole or ranitidine (Ubaid *et al.*, 2020). The ease of access to these medications encourages their use, despite potential side effects and the importance of consulting healthcare professionals for proper diagnosis and management. The use of herbal remedies and dietary supplements represents another notable dimension of self-medication among students. Many young adults turn to herbal alternatives to manage various conditions, often under the assumption that these products are safer than conventional pharmaceuticals. Studies have shown that ginger and garlic are frequently used for their anti-inflammatory effects, while chamomile is commonly employed to alleviate anxiety and insomnia (Udeani *et al.*, 2021). Despite their perception as natural and harmless, these products can produce side effects and interact with prescribed medications,

underscoring the need for careful use of herbal remedies (Nguyen *et al.*, 2022). Additionally, the self-medication of mental health drugs, such as those for anxiety and depression, is increasing. Undergraduates experiencing stress and other mental health challenges often self-prescribe medications, including SSRIs (selective serotonin reuptake inhibitors), based on online information or peer advice (Eisenberg *et al.*, 2023). This trend raises concerns about misuse, dependency, and inadequate treatment for legitimate mental health conditions.

2.1.4 Risks and Consequences of Self-Medication

Self-medication, while often seen as a convenient and cost-effective method for managing minor health issues, presents several significant risks that can adversely impact both individual health and public health systems (Pareek, 2022). Knowledge of these risks is essential, especially among young adults and students who may be more prone to self-medication practices due to various factors such as accessibility, perceived knowledge, and the pressures of academic life (Daanish and Mushkani, 2022).

Adverse Drug Reactions

A major concern associated with self-medication is the risk of adverse drug reactions (ADRs), which are harmful or unintended effects that occur even when medications are taken at recommended doses. Individuals who self-medicate often lack adequate knowledge about potential side effects, drug interactions, and contraindications related to their health conditions or concurrent medications. This knowledge gap can result in serious complications, including hospitalization or death. Moshnyaga *et al.* (2020) found that individuals who self-medicate experience significantly higher rates of ADRs compared to those receiving professional medical guidance. For example, improper use of over-the-counter drugs like NSAIDs can cause gastrointestinal bleeding or kidney damage when misused or taken in excessive amounts (Bhasin *et al.*, 2021). These risks highlight the critical need for

professional consultation, especially for individuals with pre-existing conditions or those taking multiple medications simultaneously (Barnes *et al.*, 2019).

Antibiotic Resistance

Another serious consequence of self-medication is the rise of antibiotic resistance, particularly due to the inappropriate use of antibiotics for self-diagnosed infections. Individuals often take antibiotics without prescriptions to treat common illnesses such as colds, flu, or sore throats, even though many of these conditions are viral and unresponsive to antibiotic therapy. A systematic review by Singh *et al.* (2021) demonstrated that self-medication with antibiotics plays a major role in the emergence of antibiotic-resistant bacteria. Resistance develops as bacteria adapt to the selective pressure caused by improper antibiotic use, resulting in strains that are increasingly difficult to treat and complicating infections that could otherwise be managed effectively with proper therapy. The World Health Organization (WHO, 2020) has highlighted that irrational antibiotic use is a key contributor to global health threats. Public education on the risks of antibiotic resistance is therefore essential, especially for young adults who may underestimate the consequences of self-medicating with antibiotics.

Drug Dependence and Toxicity

Self-medication can result in drug dependence and toxicity, particularly with medications such as opioids, benzodiazepines, and over-the-counter sedatives (Pimlott *et al.*, 2021). Many young adults, facing academic and social pressures, may use these substances to manage anxiety, relieve stress, or enhance academic performance, often without recognizing the risk of dependency. Research by Green *et al.* (2021) revealed that university students reported increased use of such drugs, frequently leading to unintended outcomes, including withdrawal symptoms and overdose. The misuse of prescription medications carries a

significant risk of toxicity, especially when dosages are not properly monitored by healthcare professionals. Additionally, self-prescribing can conceal underlying health problems, resulting in delayed treatment and worsening of conditions that might otherwise be effectively managed (Hayes *et al.*, 2020).

Delay in Seeking Proper Medical Attention

A significant consequence of self-medication is the postponement of appropriate medical care. Individuals who self-medicate may ignore symptoms or underestimate the seriousness of their conditions, believing they can manage their health independently. This behavior is especially concerning among young adults, who may feel invincible or avoid seeking help due to fear of stigma or embarrassment (López *et al.*, 2021). Tanna *et al.* (2020) reported that 60% of self-medicating students delayed consulting healthcare professionals, leading to a deterioration of their conditions. Delays in seeking care can be particularly harmful in serious illnesses, where timely medical intervention is essential for effective treatment. Reliance on self-care can therefore increase health complications, prolong recovery periods, compromise overall well-being, and place additional pressure on healthcare systems.

2.2 THEORETICAL REVIEW

2.2.1 The Knowledge-Attitude-Practice Theory Model

The KAP theory model was proposed by American Everett M. Rogers in the late 1950s and early 1960s. It is a behavioral intervention theory that can effectively change patients' bad practices. The KAP theory includes three stages: acquiring knowledge, building attitude, and constructing practice. It is based on knowledge and driven by individual attitudes, ultimately achieving practice change (Han *et al.*, 2023). Knowledge is the foundation and premise for practice change. It refers to the information, understanding, and skills acquired by individuals through learning and experience accumulation. The acquisition and accumulation of

knowledge are crucial for individuals to form correct cognitions and attitudes. Attitude is the driving force behind practice change. It is based on the individual's understanding and internalization of knowledge, forming a stable and lasting psychological state. The individual's cognition and attitude toward practice ultimately influence the formation and change of practice. Practice is the direct embodiment of knowledge and attitude, and it is also the ultimate goal of practice change. Practice is the actions and reactions taken by individuals in specific environments and situations, and it is directly influenced and dominated by knowledge and attitude. The KAP theoretical model has wide application value in many fields, especially in medical care, health education, and nursing management. Strengthening individuals' understanding and cognition of disease knowledge promotes their beliefs and attitudes toward treatment, thereby guiding them to adopt correct health practices (Zhou *et al.*, 2022). In summary, the KAP theoretical model emphasizes the progressive and interdependent relationship between knowledge, attitude, and practice and provides strong theoretical support and practical guidance for individual behavior change.

2.2.2 Application of the KAP Theory Model in the Medical Field

The application of the KAP theoretical model in the medical field not only demonstrates its significant value in improving the quality of medical services and patient health but is also an important innovation in the development process of the medical industry.

In terms of disease health education, Mao *et al.* (2024), conducted continuity nursing for elderly patients with benign prostatic hyperplasia based on the KAP theoretical model. By deeply exploring the patients' knowledge status, attitude structure, and practice model, they tailored a personalized continuity nursing plan for the patients, thereby ensuring that the patients could fully understand and follow the health guidance. The results showed that the research group exhibited higher treatment compliance ($P = 0.002$) and greater nursing

satisfaction compared to the control group ($P = 0.014$). In terms of nursing management, the KAP theoretical model ensures the efficiency, safety, and quality of nursing services by strengthening the professional knowledge, professional attitude, and practice standards of nursing staff. For example, in order to reduce the risk of needlestick and sharps injuries faced by nurses, Yang *et al.* (2022), developed a KAP theoretical model to conduct behavioral interventions on nurses. The results showed that the number of people who reported needlestick and sharps injuries decreased from 42 to 15 within three months after the intervention. On the other hand, in order to improve the ability of hospital infection prevention and control, Zhang *et al.* (2022), used the KAP theoretical model to investigate the current status of infection prevention and control among hospital nursing staff. The results showed that the older the age, the higher the education level, and the higher the professional title, the better the KAP score for hospital infection prevention and control ($P < 0.05$), suggesting that researchers can use the KAP theoretical model to deeply analyze the relationship between nursing staff's knowledge, attitude, and practice and provide a more accurate and scientific decision-making basis for nursing management.

In terms of nursing education, Zhou *et al.* (2022), adopted a qualitative research method and used the KAP theoretical model to analyze the deficiencies in the knowledge and practice of nursing students in responding to large-scale public health emergencies such as the COVID-19 pandemic. A total of 12 subject headings and 41 sublevel headings were identified. Based on this analysis, it was found that nursing students had three major problems in responding to large-scale public health emergencies: lack of knowledge in infectious disease epidemiology, insufficient evidence-based practice skills, and insufficient problem-solving practice. The aim was to prepare for the development of targeted capacity-enhancing education for nursing students.

In terms of disease prevention and health care, the KAP theoretical model can achieve the goal of preventing the occurrence of diseases by popularizing disease knowledge, enhancing prevention awareness, strengthening personal protection, and advocating healthy lifestyles, thereby strengthening community, family, and individual health care. Mubin *et al.* (2021), found that most community healthcare providers (90.91%) and health assistants (96.06%) did not receive cancer-related training and proposed to popularize disease knowledge among these people in order to improve disease prevention and healthcare capabilities of primary medical institutions.

2.2.3 Implication and Application of KAP Model on this Study

The application of the KAP model in this study is applicable understanding the prevalence and factors influencing self-medication practices among undergraduates the study area. The KAP model provides a structured approach to identifying how knowledge, attitudes, and practices are interrelated in the context of self-medication. By understanding undergraduates' knowledge about the risks and consequences of self-medication, their attitudes toward self-medication practices, and their actual behavior regarding self-medication, this model will help in designing effective interventions aimed at reducing inappropriate self-medication practices.

Specifically, the KAP model will guide the following:

Knowledge: Assessing the level of awareness among undergraduates regarding the risks of self-medication, such as drug resistance, organ damage, and misdiagnosis.

Attitude: Examining undergraduates' attitudes toward self-medication, whether they perceive it as a viable solution for managing minor ailments or as a risky practice.

Practice: Evaluating the actual behaviors of undergraduates in terms of frequency and types of self-medication practices, as well as factors that influence these practices, such as convenience, peer influence, and lack of medical access.

2.3 EMPIRICAL REVIEW

Alenzi *et al.* (2024) examined the key modifiable risk factors associated with self-medication among university students. The study found that around one-third of respondents reported using medications without prescriptions, with 83% of these individuals having taken medications up to three times over the past 12 months. Headache was the most commonly cited reason for self-medication (59%), followed by fever (20%). Multivariate analysis revealed that students aged 21–24 years (OR = 3.79, 95% CI = 1.21–11.82), females (OR = 2.43, 95% CI = 1.03–5.72), and those living alone in private housing (OR = 3.62, 95% CI = 1.32–9.90) were at higher risk of self-medicating compared to their counterparts. Conversely, students in the later years of college; fourth (OR = 0.14, 95% CI = 0.03–0.62), fifth (OR = 0.21, 95% CI = 0.05–0.95), and sixth year (OR = 0.05, 95% CI = 0.01–0.35), were less likely to engage in self-medication. The study concluded that self-medication is prevalent among university students, particularly among young adults, females, and those living alone, while students in advanced academic years are at lower risk. The authors recommended targeted educational programs and awareness campaigns to reduce the misuse of over-the-counter medications among high-risk student groups.

Anthony *et al.* (2024) investigated the prevalence, practices, determinants, and adverse effects of self-medication among young individuals residing in a suburban community in Ekiti, Nigeria. The study found that 31.7% of participants reported engaging in self-medication. Interestingly, a larger proportion of those who self-medicated lived within 1 km of the nearest health facility with a doctor ($p = 0.044$). Additionally, self-medication was significantly associated with being a student compared to being employed or unemployed ($p = 0.006$). The most common ailments prompting self-medication were fever (39.8%), abdominal pain (17.3%), and headaches (16.2%). The medications most frequently used included antimalarials (44.0%), antibiotics (25.1%), and antipyretics (16.8%). Among the

reported adverse effects, headache (34.0%) was the most prevalent. The study concluded that self-medication can lead to adverse reactions and potential drug dependence, posing health risks as young people transition into adulthood. Consequently, government agencies should enforce stricter monitoring of drug outlets to mitigate the negative impacts associated with self-medication.

Behzadifar *et al.* (2020) investigated the prevalence of self-medication among university students and found an overall rate of 70.1% (95% CI: 64.3–75.4%). Female students were more likely to self-medicate than male students, with an odds ratio of 1.45 (95% CI: 1.17–1.79). The prevalence was notably higher among medical students (97.2%) compared to non-medical students (44.7%). The I² test indicated significant heterogeneity, while sensitivity analysis confirmed the stability of the results. The study concluded that self-medication among students is widespread globally. It recommended implementing educational programs to raise awareness of the risks, enhancing regulation and monitoring of drug sales, and improving students' access to healthcare professionals and facilities to help reduce self-medication practices. Akora (2024) explored the factors influencing self-medication among medical students at Kampala International University-Western Campus, considering variables such as the quality of healthcare services, commonly used medications, and education level. The study reported that 80% of participants engaged in self-medication. The most frequently used drugs were painkillers (52%), antimalarials (31%), and antibiotics (12%). A large proportion of students (85.5%) obtained their medications from drug shops, which do not require prescriptions. Convenience and affordability were key factors, with 80% of participants citing easy access to drugs and low cost as reasons for self-medication. Additionally, 97.3% of participants lived within a 5-kilometer radius of KIUTH, and 79.1% of these individuals reported self-medicating. In many cases, students relied on vehicles to reach KIUTH, highlighting the widespread availability and accessibility of self-medicated

drugs. However, 18.2% of participants reported that the quality of services at KIUTH was poor, which may have influenced their decision to self-medicate rather than consult healthcare professionals. Students in higher academic years were more likely to engage in self-medication, potentially due to greater knowledge and experience with medications, as well as increased financial stability that allows them to access private and public healthcare facilities.

Adesina *et al.* (2022) examined the prevalence of self-medication and awareness of its associated risks among undergraduate students at Osun State University, Osogbo campus. The study population was relatively young, with an average age of 17 ± 5.6 years (ranging from 16 to 27 years), and males accounted for slightly over 64% of participants. Self-medication was found to be relatively common, with 55.3% of students reporting the use of drugs without medical advice. More than half of the respondents preferred purchasing medications from chemists or pharmacies rather than visiting the school clinic. Antibiotics were the most frequently self-medicated drugs, while headaches were the most commonly reported symptom prompting self-medication. Factors such as high consultation costs, urgency and severity of health issues, and time constraints were identified as reasons why students engage in self-medication. Male gender was found to be a significant determinant of self-medication ($p = 0.000$), while other socio-demographic variables did not show a significant association with its prevalence. In conclusion, self-medication is relatively common among students at Osun State University, Osogbo Campus, despite a generally good awareness of its associated risks. The study recommended that health promotion initiatives by university health workers and the campus clinic be prioritized to mitigate the practice of self-medication. Chuwa *et al.* (2021) investigated the prevalence and factors associated with antibiotic self-medication among university students in Moshi, Kilimanjaro, Tanzania. The study included 374 students, with 187 from each university; 126 were female and 248 male,

aged between 19 and 35 years, with a mean age of 23.91 years. The prevalence of antibiotic self-medication was 57%, with amoxicillin being the most commonly used antibiotic (32.08%). The leading symptoms prompting self-medication were headache (31.02%), followed by malaria (15.24%) and cough (10.96%). The primary reasons reported for self-medicating were emergency illness (38.77%) and delays in accessing hospital services (24.33%). The most commonly reported effects among students who self-medicated with antibiotics were worsening of their condition (4.55%) and the development of body rashes (2.67%). There was no significant difference in self-medication practices between medical and non-medical students ($p = 0.676$). In conclusion, antibiotic self-medication is highly prevalent among university students, with similar rates observed across both medical and non-medical groups. The most concerning consequence of such practices is the development of antibiotic resistance, which can lead to treatment failure, increased healthcare costs, and higher mortality rates due to microbial infections.

Olorunfemi *et al.* (2020) examined the factors contributing to the rise of self-medication and strategies to curb the practice among student nurses at the School of Nursing, University of Benin Teaching Hospital, Edo State, Nigeria. The study identified the reasons behind increased self-medication and potential measures to reduce its occurrence. Gender was found to be significantly associated with the reasons for self-medication among the students ($t = 6.82, p \leq 0.001$). The study concluded that self-medication among student nurses could be minimized by strengthening enforcement of relevant regulations, ensuring the availability of essential and quality medications in school clinics, and including all student nurses in the National Health Insurance Scheme (NHIS) to allow them to access treatment at only 10% of the cost. Edet *et al.* (2023) explored the prevalence and factors influencing self-medication among pregnant women attending antenatal clinics in urban tertiary hospitals in Nigeria. The study found that the overall prevalence of self-medication was 31.0% (95% CI = 26.7–73.3).

Higher rates were observed among unmarried women (60.5%, 95% CI = 45.1–74.0) and those with less than secondary education (51.1%, 95% CI = 42.7–59.4). The medications most commonly used included paracetamol, antimalarials, antibiotics, cough and cold remedies, and herbal products. Key reasons for self-medication were emergency illness, high healthcare costs, and long distances to health facilities. The most common ailments prompting self-medication among the participants were body pain, headache, fever, cold and cough, and vaginal discharge. Married women and those with education beyond the secondary level were less likely to engage in self-medication compared to their counterparts, with adjusted odds ratios of 0.37 (95% CI = 0.18–0.78) and 0.31 (95% CI = 0.18–0.51), respectively. The study highlighted that a substantial proportion of pregnant women practiced self-medication, with marital status and educational level being key factors influencing this behavior.

Mathewos *et al.* (2020) investigated self-medication practices and associated factors among adults in Wolaita Soddo town, Southern Ethiopia, in 2017. The study found that 33.7% of respondents had practiced self-medication within the past three months. Multivariate analysis identified female sex (AOR = 2.22, 95% CI: 1.47–3.36), low income (AOR = 3.95, 95% CI: 2.32–6.73), and higher educational level (AOR = 5.79, 95% CI: 2.47–13.58) as significant independent factors influencing self-medication. The most commonly reported ailments prompting self-medication were headache/fever (32.4%), respiratory tract infections (31.4%), and gastrointestinal diseases (16.2%). The study concluded that interventions such as health education campaigns, stricter regulation of drug dispensing in private pharmacies, and improved accessibility and affordability of healthcare services are essential to modify health-seeking behaviors and mitigate the risks associated with self-medication.

Oriavwote and Ikwuka (2022) examined the prevalence, patterns, and influencing factors of self-medication among students at the American International University West Africa

(AIUWA) in The Gambia. The study found that 38.9% of respondents engaged in self-medication. The most frequently reported reasons were perceiving the illness as mild (42%) and having experienced similar symptoms previously (36.2%). Other motivators included the availability of home remedies (26.1%) or medications (20.3%), emergency situations (17.4%), and the convenience of saving time. Less common reasons were the distance to clinics (2.9%) and being a healthcare worker or practicing nurse (1.4%). The main sources of knowledge for self-medication were previous personal experiences with illness (51.5%) and online resources (26.5%). The study reported that the most commonly used medications were paracetamol (60.9%) and antibiotics (46.4%), with headaches (52.2%) and cold symptoms (46.4%) being the most frequent conditions treated. Less than half of the respondents (46.4%) adhered to the recommended duration for taking medications, while 42% were aware that they did not follow the correct duration, and 11.6% did not check at all. Nearly all participants indicated that the medications alleviated their health issues. Most students preferred orthodox medicines over alternative remedies. The primary source of medications was drug stores (81.4%), followed by friends and family (16.7%), previously stored drugs at home (15.7%), and home remedies (15.7%). While many students occasionally read the prescribing information, 51.2% opposed self-medication. Additionally, self-medication was significantly associated with being a student in the health sciences ($p < 0.001$), marital status (married or single; $p < 0.05$), and being in the third year or beyond of their studies ($p < 0.05$).

Gbadago *et al.* (2021) investigated the factors influencing self-medication among students at the University of Ghana (UG). The study found a self-medication prevalence of 48.0% (95% CI: 43.1–53.0). Key reasons included the perception that the condition did not warrant a physician visit (42.1%, $p = 0.000$), familiarity with treatment options (36.8%, $p = 0.000$), lack of time (14.7%, $p = 0.000$), absence of a primary physician (6.8%, $p = 0.000$), and lack of valid insurance (1.9%, $p = 0.070$). Despite the availability of free medical services at the

university health facilities, 128 students (67.4%) still reported practicing self-medication. Other contributing factors included long waiting times (39.3%), desire for quick relief (28.0%), distance to hospitals (18.0%), and negative attitudes of healthcare providers (18.0%). Additionally, 22 students (11.6%, 95% CI: 7.7–17.0) reported experiencing adverse effects from self-medication. The study concluded that self-medication is common among students, primarily due to time constraints and dissatisfaction with healthcare providers, and recommended that the University Hospital, in collaboration with the Ghana Health Service, organize public lectures to educate students and address these challenges.

Loni *et al.* (2023) examined the prevalence of self-medication and its contributing factors among female undergraduate students in health science colleges at Majmaah University, Saudi Arabia. Out of 214 participants, 173 (80.84%) reported engaging in self-medication, including 82 (38.31%) from medical programs and 132 (61.68%) from applied medical science programs. Most participants (42.1%) were aged between 20 and 21.5 years, with a mean age of 20.81 ± 1.4 years. The primary reasons for self-medication included seeking quick relief from illness (77.5%), saving time (76.3%), addressing minor illnesses (71.1%), self-confidence in managing health (56.7%), and laziness (56.7%). The use of leftover medications at home was particularly common among applied medical science students (39.9%). The main conditions prompting self-medication were menstrual problems (82.7%), headache (79.8%), fever (72.8%), general pain (71.1%), and stress (35.3%). The most frequently used medications among the students were antipyretics and analgesics (84.4%), antispasmodics (78.9%), antibiotics (76.9%), antacids (68.2%), and multivitamins or dietary supplements (66.5%). In contrast, antidepressants, anxiolytics, and sedatives were the least used, at 3.5%, 5.8%, and 7.5%, respectively. Family members were the primary source of information for self-medication (67.1%), followed by self-acquired knowledge (64.7%) and social media (55.5%), while friends were the least common source (31.2%). When adverse

effects occurred, the majority of students consulted a physician (85%), followed by a pharmacist (56.7%), or opted to switch medications or adjust the dosage. The main motivators for self-medication were seeking quick relief, saving time, and managing minor illnesses. The study recommended implementing awareness programs, workshops, and seminars to educate students on the benefits and potential risks associated with self-medication.

In a related investigation, Namboothiri *et al.* (2023) examined the prevalence, patterns, and determinants of self-medication in a rural community in Kerala. The findings revealed that 53.8% of the respondents engaged in self-medication, with the average age of participants being 38.13 ± 15.56 years. Individuals experiencing acute conditions showed a higher tendency to self-medicate, with 80.7% obtaining their drugs from private pharmacies. Key drivers of self-medication included limited time (24.5%) and the use of previously issued but expired prescriptions (42.1%). Drug selection was largely guided by cost considerations (54.3%), brand reputation (21.1%), or a combination of both (24.6%), and pharmacists' advice influenced decisions in 36% of cases.

Self-medication was particularly prevalent among adults aged 41–60 years (64.3%) and those with lower educational attainment (77.8% among primary-level and 70.5% among middle-level education holders). People suffering from acute illnesses self-medicated more frequently (66%) compared to those with chronic conditions (34%). Overall, the study highlighted a 53.8% self-medication rate in the community, shaped by demographic factors and healthcare-seeking preferences, and emphasized the need for targeted interventions to promote responsible self-medication and strengthen healthcare practices.

2.4 Summary of Literature Review

The literature review establishes self-medication as a widespread global practice, particularly among undergraduates, driven by factors like easy access to medications, perceived minor illness, convenience, and cost of formal healthcare. While often used for common ailments with readily available drugs such as analgesics and antibiotics, this practice carries significant risks including adverse drug reactions, antibiotic resistance, and delayed diagnosis of serious conditions. Various demographic factors, including age, gender, and educational status, have been found to influence self-medication behaviors, although findings can vary across studies. The Knowledge-Attitude-Practice (KAP) model provides a theoretical framework for understanding how awareness and perceptions shape these practices. Empirical studies consistently report high prevalence rates of self-medication among university students and highlight the need for targeted interventions and education to promote safer health-seeking behaviors.

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter described the research design, population, sampling techniques, data collection methods, and the analytical techniques that were employed in determining the prevalence and factors influencing self-medication among undergraduates in a tertiary institution, Edo State. The methodology was designed to ensure that the study objectives were met through a systematic, accurate, and reliable process.

3.1 RESEARCH DESIGN

A cross-sectional survey design was employed to assess the prevalence and factors influencing self-medication among undergraduate students in a tertiary institution in Edo State. In addition, the study utilized a quantitative research approach, employing a structured questionnaire as the primary data collection instrument. The questionnaire was designed to gather information on the level of awareness of undergraduates regarding the risks and consequences of self-medication, the prevalence of self-medication, the factors influencing self-medication behaviors, and the types of drugs commonly used.

3.2 RESEARCH SETTING

The study was carried out among undergraduate students of the University of Benin. The University of Benin (UNIBEN) is a government owned tertiary institution, established on the 23rd of November, 1970, by the then Colonel Samuel Osaigbovo Ogbemudia-led military administration of Midwest State (UNIBEN, 2022). The University was established, first as Midwest Institute of Technology. After attaining the status of a full-fledged university in line with requirements of the National Universities Commission on the 1st of July, 1971, the name was changed to the University of Benin. The Institution became a federal government owned University on the 1st of April, 1975. The University now has an estimated 60,000 student

population who are spread across the two campuses of the University. The University has 16 Faculties, 1 College and 3 Institutes (UNIBEN, 2022).

3.3 TARGET POPULATION

The target population of this study included undergraduate students of the University of Benin in the faculty of Art, to ensure a diverse and representative sample. The population of undergraduate students in the Faculty of Arts consists of 5,456 students across nine departments, with each department offering courses at four different year levels (100L, 200L, 300L, and 400L). These departments include English & Literature, Foreign Languages, History & International Studies, Linguistics Studies, Mass Communication, Music, Philosophy, Religion, and Theater Arts.

Table 3.1 Faculty of Art Population Distribution (Undergraduates)

Faculty of Art	100 L		200 L		300 L		400 L	
	M	F	M	F	M	F	M	F
English & Literature	47	115	32	125	58	153	68	172
Foreign Language	21	57	12	40	10	44	12	20
History & International Studies	99	241	81	210	166	250	179	245
Linguistics Studies	61	124	56	206	49	148	71	210
Mass Communication	45	176	56	190	40	150	48	188
Music	12	32	7	8	14	11	10	11
Philosophy	33	61	57	37	31	71	29	63
Religion	43	29	16	45	7	12	12	37
Theater Arts	42	82	48	77	44	66	54	80
Total (5,456)	403	917	365	938	419	905	483	1,026

Source: University of Benin Students' Affairs, 2025

3.4 SAMPLING TECHNIQUE

This study employed a multistage sampling technique. In the first stage, cluster sampling technique to select three academic departments (English & Literature, Mass Communication, and History & International Studies) from the Faculty of Arts at the University of Benin (UNIBEN). Cluster sampling was chosen due to the structured diversity within the Faculty, where students are naturally grouped into departments and year levels. This method enabled the efficient capturing of a representative sample by focusing on well-defined clusters rather than attempting to randomly sample the entire faculty.

Following the selection of the three departments, the total student population across them was determined to be 3,134 students (English & Literature = 770 students; Mass Communication = 893 students; History & International Studies = 1,471 students). Afterwards, the sample size for the study was calculated using the Yamane's formula:

$$n = \frac{N}{1 + N (e^2)}$$

Where; n = sample size, N = total population size for the selected departments, e = margin of error (0.05, for a 95% confidence level)

$$n = \frac{3134}{1 + 3134 (0.05^2)}$$

$$n = \frac{3134}{1 + 3134 (0.0025)}$$

$$n = \frac{3134}{8.835} \approx 355$$

Therefore, the total sample size for the study was 355 students which were randomly selected across the 3 selected cluster departments from the Faculty of Arts at UNIBEN.

3.5 INCLUSION AND EXCLUSION CRITERIA

The study included undergraduate students in the departments of English & Literature, Mass Communication, and History & International Studies from the Faculty of Art, currently enrolled at the University of Benin. However, only students who willingly provide informed consent and are available to complete the questionnaire during the study period were included.

On the other hand, the study excluded students not in the selected departments from the Faculty of Art. Also, postgraduate students were excluded as their experiences with self-medication may differ significantly from those of undergraduates. Additionally, students who were on long-term prescribed medications for chronic illnesses were also excluded, as their medication use may not align with the study's focus on self-medication. Finally, individuals who declined participation or fail to provide informed consent were not be considered for the study.

3.6 DATA COLLECTION INSTRUMENTS

The study employed a quantitative data collection instruments designed to gather relevant information on their level of awareness regarding the risks and consequences associated with self-medication, it's prevalence, factors influencing self-medication practices, and types of drugs commonly used for self-medication among undergraduate students at the University of Benin.

A self-structured questionnaire served as the primary tool for data collection, designed to capture in-depth information from patients. The questionnaire was shared to undergraduate students at the University of Benin through online means. Before administering the

questionnaire, the purpose of the study was explained to the participants, and their informed consent was obtained to ensure voluntary participation.

The questionnaire comprised five sections; Sections A, B, C, D and E. The first section (Section A) collected demographic information such as age, gender, academic level, and field of study. The second section (Section B) assessed the the respondents' awareness of the risks and consequences of self-medication. The third section (Section C) assessed the prevalence of self-medication by asking participants whether they have engaged in self-medication within a specified period. The fourth section (Section D) explored the factors influencing self-medication practices, such as accessibility of drugs, past experiences, peer influence, and cost considerations. The final section (Section E) focused on the common drugs used for self-medication, including pain relievers, antibiotics, antihistamines, and herbal remedies.

For the distribution, a digital version of the questionnaire was created using Google Forms and shared via institutional email groups and social media platforms such as WhatsApp and Telegram to maximize response rates of the selected group of respondents. However, to enhance data reliability, respondents were assured of the confidentiality of their responses, and any potential concerns regarding privacy will be addressed. Once the data collection was completed, responses were reviewed for completeness and accuracy before proceeding to the analysis.

3.7 VALIDITY OF THE INSTRUMENT

The validity of the questionnaire was established through both content and face validity. Content validity was ensured by developing the questionnaire based on existing literature on self-medication among undergraduates and aligning it with the study objectives. The research instrument was reviewed by the project supervisor to ensure that it adequately captures all relevant aspects of self-medication practices. Also, face validity was assessed by pretesting

the questionnaire with a small group of undergraduate students who were not part of the main study sample to ensure clarity, relevance, and comprehensibility of the questions. Based on the feedback, necessary modifications were made before finalizing the instrument.

3.8 RELIABILITY OF THE INSTRUMENT

The reliability of the questionnaire was assessed using a pilot study conducted on 10% sample (36 students) of the total sample size (355). It included undergraduate students who share similar characteristics with the study population but were not included in the final study. The internal consistency of the questionnaire was evaluated using Cronbach's alpha coefficient, where a value of 0.7 or higher was considered acceptable for reliability.

3.9 METHOD OF DATA ANALYSIS

Quantitative data from the questionnaires were analyzed using Statistical Package for Social Sciences (SPSS) version 25. Descriptive statistics (mean, frequency, and percentages) were used to summarize the demographic characteristics of the respondents and other objectives.

Inferential statistics, such as Chi-square tests and logistic regression, were employed to test the hypothesis. A significance level of $p < 0.05$ was considered statistically significant.

3.10 ETHICAL CONSIDERATIONS

Ethical clearance and approval was applied for and obtained from the Ethics and Research Committee of the University of Benin Teaching Hospital. Institutional approval at the educational institution was also applied for and obtained before questionnaire administration. In addition, anonymity of respondents were assured in the study, while health education sessions were conducted to respondents following questionnaire administration.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS, AND INTERPRETATION

This chapter presents the data collected from the questionnaires administered to undergraduates on the prevalence and factors influencing self-medication practices among undergraduates.

4.1 Demographic Characteristics of Undergraduate Students in UNIBEN

Table 4.1: Distribution of respondents by their demographic characteristics (n= 355)

Variables	Frequency	Percentage	Mean±SD
Gender			
Male	150	42.3	
Female	205	57.7	
Age			
< 20	64	18.0	
21 – 25	254	71.5	23 ± 2 years
26 - 30	25	7.0	
> 30	12	3.4	
Religion			
Christianity	326	91.8	
Islam	23	6.5	
Traditional	6	1.7	
Ethnic group			
Igbo	110	31.0	
Esan	65	18.3	
Urhobo	40	11.3	
Yoruba	50	14.1	
Hausa	6	1.7	
Igbanke	9	2.5	
Benin	75	21.1	
Department			
English & Literature	147	41.4	
Mass Communication	113	31.8	
History & International Studies	95	26.8	
Level of study			
100L	18	5.1	
200L	51	14.4	
300L	98	27.6	
400L	188	53.0	
Major source of drugs for medications			
Home	17	4.8	
Pharmacy	326	91.8	
Relatives/neighbor	9	2.5	
Shopping centres	3	0.8	

Parents' level of education		
No formal education	6	1.7
Vocational education	16	4.5
Primary school education	24	6.8
Secondary school education	32	9.0
Tertiary school education	277	78.0
Housing status		
With Family	92	25.9
University housing	150	42.3
Private housing	113	31.8

Source: Field survey, 2025

As shown in Table 4.1, majority of the respondents were female, accounting for 57.7%, while males comprised 42.3%. The age distribution revealed that most students were between 21 and 25 years old, representing 71.5% of the sample, with a mean age of 23 ± 2 years. Religiously, an overwhelming majority identified as Christians (91.8%), with Muslims constituting 6.5%, and traditional believers making up 1.7%. Ethnically, respondents were predominantly Igbo (31.0%), followed by Benin (21.1%), Esan (18.3%), Yoruba (14.1%), Urhobo (11.3%), Igbanke (2.5%), and Hausa (1.7%). Regarding academic level, 53.0% of students were in their 400-level, while 27.6% were in their 300-level, and only 5.1% were in their 100-level. The majority reported pharmacy as their main source of medication, with 91.8% indicating pharmacy, while a small proportion obtained drugs from the home (4.8%) or relatives/neighbors (2.5%). Concerning parental education, most parents had attained tertiary education (78.0%), with minimal respondents having no formal education (1.7%). In terms of residence, 42.3% of students lived in university accommodation, 31.8% in private housing, and 25.9% with their families. These demographic characteristics provide a comprehensive overview of the undergraduate student population involved in the study.

4.2 Level of Awareness regarding the Risks and Consequences of Self-medications among Undergraduates in UNIBEN

Table 4.2: Distribution of respondents on their level of awareness regarding the risks and consequences of self-medications (n=355)

Perceptual statements	SA F (%)	A F (%)	D (%)	SD F (%)	Mean	Remark
I am aware that self-medication can lead to drug resistance	212(59.7)	118(33.2)	22(6.2)	3(0.8)	3.52	Aware
I am aware that overdosing on medications without a doctor's prescription can cause severe health problems	200(56.3)	149(42.0)	6(1.7)	0(0.0)	3.55	Aware
I know that self-medication can mask the symptoms of serious illnesses and then have adverse effect	212(59.7)	116(32.7)	27(7.6)	0(0.0)	3.52	Aware
I understand that wrong self-medication practices can worsen an existing medical condition	191(53.8)	146(41.1)	18(5.1)	0(0.0)	3.49	Aware
I know that antibiotics should only be taken when prescribed by a healthcare professional	219(61.7)	110(31.0)	23(6.5)	3(0.8)	3.54	Aware
I am aware that combining different drugs without medical advice can be harmful.	221(62.3)	123(34.6)	11(3.1)	0(0.0)	3.59	Aware
I believe that continuous self-medication can cause addiction or dependency.	235(66.2)	91(25.6)	26(7.3)	3(0.8)	3.57	Aware
I am informed about the self-medication can result in harmful drug interactions	185(52.1)	140(39.4)	30(8.5)	0(0.0)	3.44	Aware
I know that expired drugs can be dangerous even if self-prescribed	241(67.9)	108(30.4)	6(1.7)	0(0.0)	3.66	Aware
I am aware that self-medicating without proper diagnosis can delay effective treatment	210(59.2)	127(35.8)	18(5.1)	0(0.0)	3.54	Aware

Source: Field survey, 2025

SA = Strongly agree; A = Agree; D = Disagree; SD = Strongly disagree

Note: Figures in parenthesis are percentage

As shown in Table 4.2, about 59.7% of respondents strongly agree and 33.2% agree that self-medication can lead to drug resistance, resulting in an overall mean score of 3.52, which falls within the "aware" category. Similarly, 56.3% strongly agree and 42.0% agree that overdosing on medications without a doctor's prescription can cause severe health problems, with a mean score of 3.55, indicating a strong awareness of this risk. Furthermore, 59.7% strongly agree and 32.7% agree that self-medication can mask the symptoms of serious illnesses, with a mean score of 3.52. The majority also understand that incorrect self-medication practices can worsen existing health conditions, as reflected by 53.8% strongly agreeing and 41.1% agreeing, with a mean score of 3.49. Regarding antibiotics, 61.7% strongly agree and 31.0% agree that they should only be taken when prescribed by a healthcare professional, with a mean of 3.54. An even higher proportion, 62.3% strongly agree and 34.6% agree, acknowledge that combining different drugs without medical advice can be harmful, with a mean score of 3.59. A significant 66.2% strongly agree and 25.6% agree that continuous self-medication can lead to addiction or dependency, resulting in a mean score of 3.57. Additionally, 52.1% strongly agree and 39.4% agree that self-medication can cause harmful drug interactions, with a mean score of 3.44, while 67.9% strongly agree and 30.4% agree that expired drugs can be dangerous even if self-prescribed, leading to the highest mean score of 3.66 among the statements, signifying high awareness. Lastly, 59.2% strongly agree and 35.8% agree that self-medicating without proper diagnosis can delay effective treatment, with a mean score of 3.54.

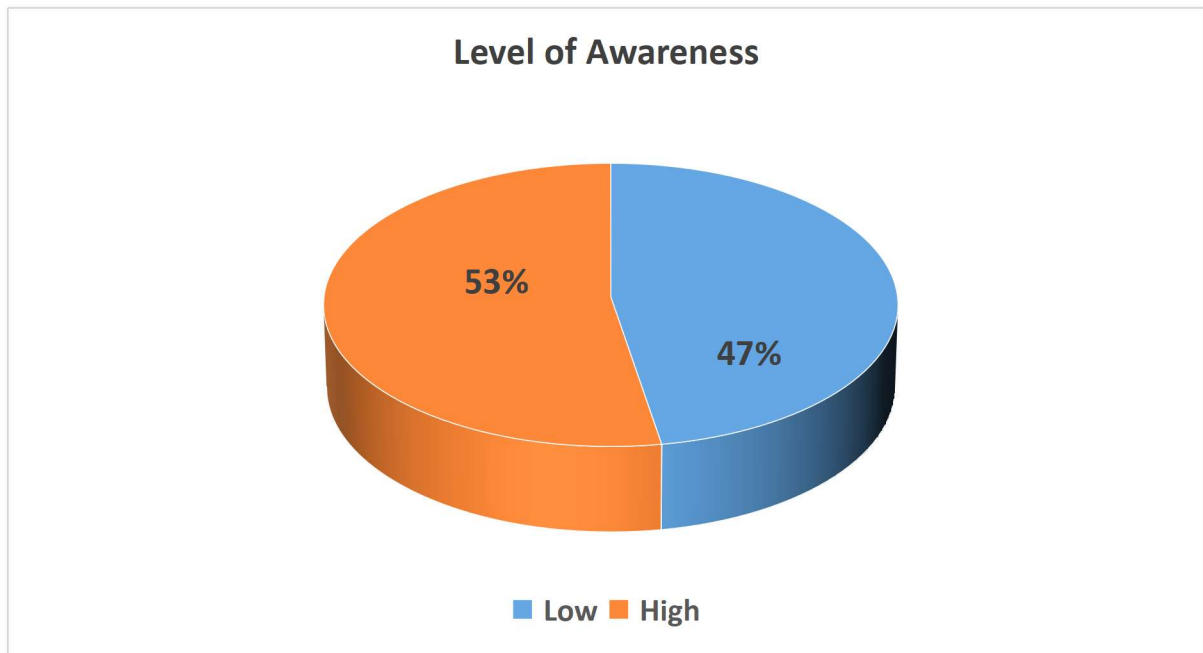


Fig 4.1 Pie chart distribution on level of awareness regarding the risks and consequences of self-medication among undergraduates in UNIBEN

Furthermore, Fig 4.1 revealed that majority (53%) of the respondents had low level of awareness regarding risks and consequences of self-medication.

4.3 Prevalence of Self-medication among Undergraduate Students in UNIBEN

Table 4.3: Distribution of respondents on the prevalence of self medication practice (n = 355)

Influencing factors	Always F (%)	Sometimes F (%)	Rarely F (%)	Never F (%)	Mean	Remark
Have you ever used any medication without prior medical advice?	170(47.9)	142(40.0)	24(6.8)	19(5.4)	2.30	Prevalent
Do you adhere to prescribed instructions before taking any medication?	173(48.7)	161(45.4)	21(5.9)	0(0.0)	2.43	Prevalent
Do you prefer buying medications yourself rather than visiting the school clinic?	163(45.9)	147(41.1)	25(7.0)	20(5.6)	2.28	Prevalent
Do you prefer to self-medicate when feeling unwell?	104(29.3)	175(49.3)	54(15.2)	22(6.2)	2.02	Prevalent
Do you self-medicate when experiencing common symptoms like headache, fever, or mild pain?	183(51.5)	134(37.7)	27(7.6)	11(3.1)	2.38	Prevalent
Do you use over-the-counter drugs without consulting a healthcare provider?	118(33.2)	184(51.8)	40(11.3)	13(3.7)	2.15	Prevalent
Do you rely on advice from friends, family, or peers when selecting medications?	113(31.8)	151(42.5)	70(19.7)	21(5.9)	2.00	Prevalent
When faced with a health issue, do you seek information online (e.g., through websites or social media) before taking medication?	168(47.3)	142(40.0)	28(7.9)	17(4.8)	2.30	Prevalent

Source: Field survey, 2025

Note: Figures in parenthesis are percentages

As shown in Table 4.3, self-medication among undergraduate students at UNIBEN is highly prevalent. Nearly half of the respondents, 47.9%, reported always using medication without prior medical advice, while an additional 40.0% sometimes engaged in this practice, resulting in a mean score of 2.30, indicating frequent occurrence. Similarly, 48.7% always adhere to prescribed instructions before taking medications, with 45.4% sometimes doing so,

underscoring a consistent pattern of self-medication behavior, reflected by a mean of 2.43. When asked about their preference for buying medications independently rather than visiting the school clinic, 45.9% always do so, and 41.1% sometimes, with a mean score of 2.28, suggesting a tendency towards self-reliance in medication procurement. Moreover, 49.3% sometimes prefer to self-medicate when feeling unwell, and 51.5% often use over-the-counter drugs without consulting healthcare professionals, with mean scores of 2.02 and 2.15 respectively, confirming the widespread nature of this practice. The tendency to rely on advice from friends, family, or peers was also notable, with 42.5% sometimes and 31.8% always relying on such sources, yielding a mean of 2.00. Additionally, nearly half of the students, 47.3%, often seek health information online before taking medication, with 40.0% doing so sometimes, reflecting a significant reliance on digital sources for health decisions

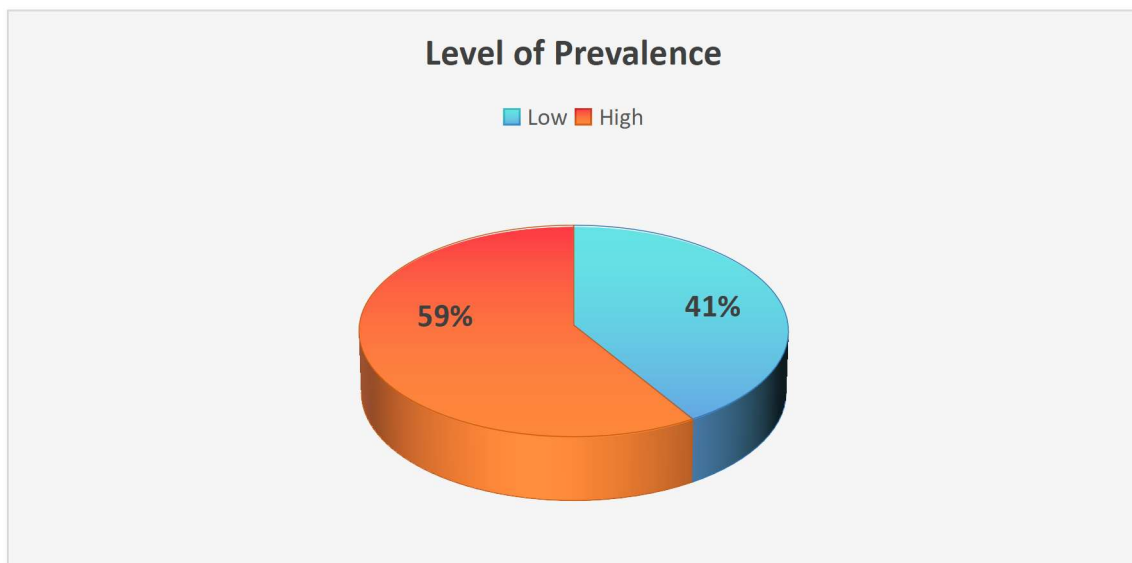


Fig 4.2 Pie chart distribution on the prevalence of self-medication among undergraduates in UNIBEN

Fig 4.2 further revealed a high level (59%) of self-medication prevalence amongst undergraduates in the study area

4.4 Factors Influencing Self-medication Practices among Undergraduate students in UNIBEN

Table 4.4: Distribution of respondents on the factors influencing self-medication practices (n = 355)

Influencing factors	Yes F (%)	No F (%)	Mean	Remark
Easy access to drugs without prescription (e.g., from pharmacies, chemists).	317(89.3)	38(10.7)	0.89	Factor
Past experiences with similar symptoms	241(67.9)	114(32.1)	0.68	Factor
Influence from family or friends who practice self-medication	216(60.8)	139(39.2)	0.61	Factor
Long waiting time at hospitals or clinics.	214(60.3)	141(39.7)	0.60	Factor
High cost of medical consultation and treatment	236(66.5)	119(33.5)	0.66	Factor
Confidence in my ability to diagnose and treat myself	142(40.0)	213(60.0)	0.40	Factor
Lack of time to visit a hospital due to academic activities	191(53.8)	164(46.2)	0.54	Factor
Fear of stigmatization regarding certain illnesses.	148(41.7)	207(58.3)	0.42	Not a factor
Lack of trust in healthcare professionals	141(39.7)	214(60.3)	0.40	Not a factor
Advice received from non-medical personnel (e.g., friends, pharmacists).	257(72.4)	98(27.6)	0.72	Factor
Limited awareness about the dangers of self-medication	214(60.3)	141(39.7)	0.60	Factor
Media influence promoting drugs	223(62.8)	132(37.2)	0.63	Factor

Source: Field survey, 2025

Note: Figures in parenthesis are percentages

As shown in Table 4.4, majority of respondents, 89.3%, reported that easy access to drugs without a prescription—such as from pharmacies or chemists—is a major factor, with a mean score of 0.89, highlighting its strong influence. Past experiences with similar symptoms also played a significant role, with 67.9% affirming this and a mean of 0.68, suggesting that familiarity with symptoms encourages self-medication. Additionally, 60.8% of students acknowledged influence from family or friends who practice self-medication, with a mean of 0.61, and 66.5% cited high costs of medical consultation as a motivating factor, with a mean of 0.66. Long waiting times at hospitals or clinics were also reported as a factor by 60.3% of respondents (mean 0.60), reinforcing the impact of healthcare system inefficiencies. Advice from non-medical personnel, including friends and pharmacists, was identified as a significant influence by 72.4% of students, with the highest mean score of 0.72, indicating its prominent role. Other notable factors include media influence promoting drugs (62.8%, mean 0.63) and limited awareness about the dangers of self-medication (60.3%, mean 0.60). Conversely, factors such as fear of stigmatization and lack of trust in healthcare professionals were not considered significant, with 58.3% and 60.3% respectively indicating “No,” and lower mean scores of 0.42 and 0.40.

4.5 Common Types of Drugs Used for Self-medication among Undergraduate Students in UNIBEN

Table 4.5: Distribution of respondents on the common types of drugs used for self medication (n = 355)

Influencing factors	Always F (%)	Sometimes F (%)	Rarely F (%)	Never F (%)	Mean	Remark
Antimalarials (e.g., Artemether, Chloroquine)	219(61.7)	90(25.4)	34(9.6)	12(3.4)	2.45	Common
Pain relievers (e.g., Paracetamol, Ibuprofen)	274(77.2)	73(20.6)	6(2.3)	0(0.0)	2.75	Common
Antibiotics (e.g., Amoxicillin, Tetracycline)	167(47.0)	104(29.3)	68(19.2)	16(4.5)	2.19	Common
Cough and cold medications	198(55.8)	97(27.3)	60(16.9)	0(0.0)	2.39	Common
Allergy drugs	39(11.0)	102(28.7)	106(29.9)	108(30.4)	1.20	Not common
Antacids and ulcer medications (e.g., Omeprazole, Magnesium trisilicate)	83(23.4)	88(24.8)	89(25.1)	95(26.8)	1.45	Not common
Skin creams or ointments (e.g., antifungals, steroids)	124(34.9)	98(27.6)	74(20.8)	59(16.6)	1.81	Common
Sedatives or sleeping pills	65(18.3)	84(23.7)	89(25.1)	117(33.0)	1.27	Not common
Anti-diarrheal drugs (e.g., Loperamide)	111(31.3)	104(29.3)	63(17.7)	77(21.7)	1.70	Common
Herbal/traditional remedies	103(29.0)	109(30.7)	69(19.4)	74(20.8)	1.68	Common
Vitamins and supplements (e.g., Vitamin C, multivitamins)	195(54.9)	97(27.3)	37(10.4)	26(7.3)	2.30	Common

Source: Field survey, 2025

Note: Figures in parenthesis are percentages

Table 4.5 showed that the most frequently used drugs for self-medication among undergraduate students at UNIBEN are pain relievers, with 77.2% of respondents always using medications such as paracetamol and ibuprofen, resulting in a high mean score of 2.75, which classifies them as common. Antimalarials, like Artemether and Chloroquine, are also widely used, with 61.7% of students always resorting to these drugs, and a mean of 2.45, indicating they are common choices. Antibiotics, including Amoxicillin and Tetracycline, are frequently used, with 47.0% always using them and a mean score of 2.19, highlighting their commonality despite the risks involved. Cough and cold medications are also popular, with 55.8% always using them, and a mean of 2.39, further emphasizing their prevalent use. Vitamins and supplements, such as Vitamin C and multivitamins, are also commonly used, with 54.9% always using them and a mean score of 2.30. Conversely, drugs like allergy medications, ulcer drugs, sedatives, and herbal remedies are less frequently used for self-medication; for example, allergy drugs are classified as not common, with only 11.0% always using them and a mean of 1.20. Overall, the findings reveal that students predominantly use analgesics, antimalarials, antibiotics, cough and cold remedies, and vitamins for self-medication, reflecting common health issues encountered and accessible over-the-counter options.

4.6 Hypothesis Testing

4.6.1 Relationship between Prevalence Rate of Self-medication and Factors Influencing Self-medication Practices among Undergraduates in UNIBEN

Table 4.6: Bi-variate Analysis of the relationship between prevalence rate of self-medication and factors influencing the practice among the respondents

Influencing factors	Low prevalence (F)	High prevalence (F)	Total	χ^2 value	df	p-value	Remarks
Easy access to drugs	113	204	317	36.731 ^a	1	0.001	Sig.
Past experiences	107	134	241	3.318 ^a	1	0.069	Not sig.
Influence from family or friends	95	121	216	1.857 ^a	1	0.173	Not sig.
Long waiting time at hospitals or clinics.	98	116	214	4.834 ^a	1	0.028	Sig.
High cost of medical consultation and treatment	107	129	236	5.159 ^a	1	0.023	Sig.
Confidence in self-medication	50	92	142	3.420 ^a	1	0.064	Not sig.
Lack of time for clinic visitation	96	95	191	14.249 ^a	1	0.002	Sig.
Fear of stigmatization regarding certain illnesses.	71	77	148	4.913 ^a	1	0.027	Sig.
Lack of trust in healthcare professionals	47	94	141	5.867 ^a	1	0.015	Sig.
Advice received from non-medical personnel	93	164	257	9.383 ^a	1	0.002	Sig.
Limited awareness about self-medication dangers	62	152	214	32.876 ^a	1	0.001	Sig.
Media influence promoting drugs	70	153	223	23.482 ^a	1	0.001	Sig.

Source: Field survey, 2025

The bi-variate analysis in Table 4.6 revealed significant relationships between the prevalence of self-medication among undergraduates in UNIBEN and several influencing factors. Notably, easy access to drugs without prescription showed a strong association, with a chi-square value of 36.731 and a p-value of 0.001, indicating that students with easier access are more likely to engage in high prevalence self-medication practices. Similarly, long waiting times at hospitals or clinics ($\chi^2 = 4.834$, $p = 0.028$), high costs of medical consultation ($\chi^2 = 5.159$, $p = 0.023$), lack of time for clinic visits ($\chi^2 = 14.249$, $p = 0.002$), fear of stigmatization ($\chi^2 = 4.913$, $p = 0.027$), lack of trust in healthcare professionals ($\chi^2 = 5.867$, $p = 0.015$), advice from non-medical personnel ($\chi^2 = 9.383$, $p = 0.002$), limited awareness of self-medication dangers ($\chi^2 = 32.876$, $p = 0.001$), and media influence promoting drugs ($\chi^2 = 23.482$, $p = 0.001$) all demonstrated significant associations with higher self-medication prevalence. Conversely, factors like past experiences and confidence in self-medication did not show statistically significant relationships, with p-values of 0.069 and 0.064 respectively.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.1 Discussion of Findings

5.1.1 Level of Awareness Regarding the Risks and Consequences of Self-Medication among Undergraduate Students in the University of Benin

The study revealed that a high proportion of undergraduates at UNIBEN are aware of the potential risks associated with self-medication. Specifically, over 50% of respondents demonstrated strong awareness that self-medication can lead to drug resistance, mask serious illnesses, and cause adverse drug interactions, with mean scores exceeding 3.4 on the Likert scale. This indicates a substantial level of knowledge among students, which aligns with findings by Behzadifar *et al.* (2020), who reported that university students possessed good awareness of self-medication risks. However, despite this high awareness, the practice remains prevalent, suggesting a disconnect between knowledge and behavior. Similar observations were made by Akora (2024), who argued that awareness alone does not necessarily translate into safe practices, often due to socio-economic factors and accessibility issues.

5.1.2 Prevalence Rate of Self-Medication among Undergraduate Students in the University of Benin

The prevalence level in the study indicated that self-medication is highly prevalent among the students, with nearly 80% reporting they have used medication without prior medical advice at least sometimes, and a significant proportion always engaging in this practice. Pain relievers and antimalarials emerged as the most commonly used drugs, with 77.2% and 61.7% of respondents

always using these medications, respectively. This prevalence aligns with studies by Adesina *et al.* (2022) in Nigeria, which documented high rates of self-medication among university students, often driven by perceived minor illnesses and convenience. The high prevalence underscores the cultural and systemic factors influencing health behaviors, including long waiting times at healthcare facilities and high treatment costs, which were corroborated by the significant association found in the hypothesis testing (Olorunfemi *et al.*, 2020). The findings suggest that despite awareness, students continue to self-medicate due to accessibility issues, economic constraints, and perceived mildness of ailments, echoing similar results from previous studies (Edet *et al.*, 2023). However, the widespread practice raises concerns about the potential risks of incorrect medication use, drug interactions, and antibiotic resistance, emphasizing the need for targeted interventions.

5.1.3 Factors Influencing Self-Medication Practices among Undergraduate Students in the University of Benin

As shown in this study, major influencing factor was easy access to drugs without prescription, with 89.3% of respondents affirming this as a major factor. This aligns with findings by Anthony *et al.* (2024), who noted that over-the-counter availability significantly contributes to self-medication among students. Additionally, past experiences with similar symptoms and influence from family or friends also played prominent roles, consistent with the social influence theory discussed by WHO (2019). High costs of healthcare and long waiting times at hospitals further compounded these behaviors, a phenomenon also reported by Chuwa *et al.* (2021), who emphasized the impact of healthcare system inefficiencies on self-medication. Media influence and limited awareness of self-medication dangers also contributed significantly, which supports

the findings of Oriavwote and Ikwuka, (2022), highlighting the role of information dissemination and advertising in shaping health behaviors. Conversely, factors like fear of stigmatization and lack of trust in healthcare professionals were not significant drivers in this study, which contrasts with findings from studies in South Africa (Mathewos *et al.*, 2020), where stigma influenced self-medication.

5.1.4 Hypothesis Testing

The hypothesis testing demonstrated significant associations between the prevalence of self-medication and several influencing factors. Notably, easy access to drugs without prescriptions ($\chi^2 = 36.731$, $p = 0.001$), long hospital waiting times ($\chi^2 = 4.834$, $p = 0.028$), high medical costs ($\chi^2 = 5.159$, $p = 0.023$), lack of time for clinics ($\chi^2 = 14.249$, $p = 0.002$), fear of stigmatization ($\chi^2 = 4.913$, $p = 0.027$), lack of trust in healthcare professionals ($\chi^2 = 5.867$, $p = 0.015$), advice from non-medical personnel ($\chi^2 = 9.383$, $p = 0.002$), limited awareness of self-medication dangers ($\chi^2 = 32.876$, $p = 0.001$), and media influence ($\chi^2 = 23.482$, $p = 0.001$) all had statistically significant relationships with high self-medication prevalence. These findings corroborate similar studies in Nigeria (Gbagado *et al.*, 2021) and other developing countries (Loni *et al.*, 2023), which established that accessibility, economic factors, and social influences significantly drive self-medication behaviors. On the other hand, some factors such as past experiences and confidence in self-medication did not show significant associations, possibly indicating that knowledge or confidence alone may not be sufficient to influence practice without systemic barriers.

5.2 Implications of Findings to Nursing

The findings of this study on the prevalence and factors influencing self-medication among undergraduates in a tertiary institution in Edo State have significant implications for nursing practice, education, and research. The observed prevalence of self-medication among this population highlights a critical public health issue that directly impacts the health and well-being of young adults. Nurses, particularly those working in university health centers, primary healthcare settings, and community health, are at the forefront of interacting with this demographic. Furthermore, understanding the specific factors influencing self-medication, such as perceived minor illness, lack of time to seek formal healthcare, cost of healthcare services, influence of peers or family, and access to over-the-counter medications is crucial for nurses. Moreover, nurses can educate undergraduates on the potential dangers of self-medication, including incorrect diagnosis, delayed diagnosis of serious conditions, drug interactions, adverse drug reactions, masking of symptoms, and the development of antibiotic resistance. They can also emphasize the importance of seeking professional medical advice for health concerns. In nursing education, these findings highlight the need to incorporate comprehensive modules on rational drug use, the risks of self-medication, and effective patient education strategies into the curriculum.

5.3 Limitations of the Study

Firstly, the study was conducted in a single tertiary institution in Edo State. This geographical and institutional specificity may limit the generalizability of the findings to undergraduates in other tertiary institutions within Edo State, other states in Nigeria, or different cultural contexts. Self-medication practices and influencing factors can vary significantly based on location,

institutional policies, and local availability of medications. Secondly, the study relied on self-reported data regarding self-medication practices. Self-report can be subject to recall bias, social desirability bias (where respondents may underreport or misreport their self-medication practices), and potential inaccuracies in reporting the types and dosages of medications used. While efforts were made to ensure confidentiality, the sensitive nature of self-medication might have influenced the accuracy of responses. Thirdly, the study focused specifically on undergraduates. The findings may not be representative of self-medication practices among other student populations (e.g., postgraduate students) or the general population in Edo State.

5.4 Summary of the Study

In summary, the study investigated the prevalence, awareness, influencing factors, and patterns of self-medication among undergraduate students at the University of Benin. The findings revealed a high prevalence of self-medication, with 79.7% of respondents reporting that they have used medications without prior medical advice at least sometimes, and 47.9% indicating they always do so. The most common drugs used were pain relievers (77.2%, $\bar{x} = 2.75$) and antimalarials (61.7%, $\bar{x} = 2.45$), highlighting the widespread reliance on over-the-counter medications for common ailments. The study also showed a high level of awareness regarding the risks of self-medication, with mean scores exceeding 3.4 across all risk factors assessed, such as drug resistance ($\bar{x} = 3.52$), adverse health effects from overdosing ($\bar{x} = 3.55$), and dangers of expired drugs ($\bar{x} = 3.66$). Despite this, self-medication remains prevalent, influenced significantly by factors such as easy access to drugs without prescriptions ($\chi^2 = 36.731$, $p = 0.001$), long waiting times at health facilities ($\chi^2 = 4.834$, $p = 0.028$), high costs of medical care ($\chi^2 = 5.159$, $p = 0.023$), and advice from non-medical sources ($\chi^2 = 9.383$, $p = 0.002$). Other

significant factors included limited awareness of the dangers of self-medication ($\chi^2 = 32.876$, $p = 0.001$) and media influence promoting drug use ($\chi^2 = 23.482$, $p = 0.001$). Furthermore, the study identified that the most commonly used drugs for self-medication were analgesics ($\bar{x} = 2.75$) and antibiotics ($\bar{x} = 2.19$), with over-the-counter drugs being the primary source for most students.

5.5 Conclusion of the Study

In conclusion, the study showed that self-medication is highly prevalent among undergraduate students at the University of Benin, despite a generally high level of awareness about its associated risks and consequences. Factors such as easy access to drugs, long waiting times at healthcare facilities, high treatment costs, and advice from non-medical sources were reported to significantly influence this practice.

5.6 Recommendations

Based on the findings of this study, the following were recommended;

- 1. Strengthen Regulation of Over-the-Counter Drugs:** Implement stricter policies to monitor and control the sale of medications, particularly antibiotics and analgesics, to reduce easy access without prescription and prevent misuse.
- 2. Improve Healthcare Accessibility:** Expand and streamline healthcare services within the university and surrounding communities to reduce long waiting times and high costs, encouraging students to seek professional medical advice instead of self-medicating.

3. Enhance Public Education Campaigns: Develop targeted awareness programs to reinforce the dangers of self-medication, emphasizing the risks of drug resistance, adverse interactions, and expired drugs, especially through media platforms popular among students.

4. Encourage Responsible Drug Use through Pharmacists and Healthcare Providers: Train pharmacists and healthcare professionals to educate students on safe medication practices and discourage the off-label sale of prescription drugs without proper consultation.

5. Promote Behavioral Change Interventions: Incorporate counseling and peer education initiatives within the university to address cultural and social influences that promote self-medication, fostering a culture of responsible health-seeking behavior among undergraduates.

5.7 Suggestions for Further Studies

For nursing research, this study's findings can serve as a foundation for further investigation. Future nursing research could explore the effectiveness of various nursing interventions aimed at reducing inappropriate self-medication among undergraduates, examine the role of health literacy in self-medication practices, or investigate the long-term health consequences of prevalent self-medication patterns identified in this study.

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APPENDIX I

QUESTIONNAIRE

**DEPARTMENT OF NURSING SCIENCES,
SCHOOL OF BASIC MEDICAL SCIENCES,
UNIVERSITY OF BENIN,
BENIN CITY, EDO STATE**

Dear respondent,

I am a 500l student of the department of nursing in the above-named institution. I am carrying out a research study on the Prevalence and Factors Influencing Self-Medication among Undergraduates in a Tertiary Institution, Edo State. Please be assured that all responses will be treated with the highest level of confidentiality and will be used for academic purposes only.

Please kindly assist me by indicating your opinion where necessary.

SECTION A: DEMOGRAPHIC INFORMATION OF UNDERGRADUATES

1. Gender: Male () Female ()
2. Age: (years)
3. Religion: Christianity () Islam () Traditional ()
4. Ethnic group: Igbo () Esan () Urhobo () Yoruba () Hausa () Igbanke () Benin ()
5. Department: English & Literature () Mass Communication () History & International Studies ()
6. Level of study: 100L () 200L () 300L () 400L ()
7. Source of drugs for medication: Home () Pharmacy () Relatives/neighbor () Shopping centres () Left-over from the hospital () Others (specify).....
8. Parent's level of education: No formal education () Vocational education () Primary education () Secondary education () Tertiary education ()
9. Housing Status: With Family () University housing () Private housing ()
10. Have you ever self medicates? Yes () No ()

SECTION B: LEVEL OF AWARENESS REGARDING THE RISKS AND CONSEQUENCES OF SELF-MEDICATIONS

Please indicate your level of agreement with the following statements regarding risks and consequences of self-mediations:

Risks and Consequences of self-medications	Strongly agree	Agree	Disagree	Strongly disagree
I am aware that self-medication can lead to drug resistance				
I am aware that overdosing on medications without a doctor’s prescription can cause severe health problems				
I know that self-medication can mask the symptoms of serious illnesses and then have adverse effect				
I understand that wrong self-medication practices can worsen an existing medical condition				
I know that antibiotics should only be taken when prescribed by a healthcare professional				
I am aware that combining different drugs without medical advice can be harmful.				
I believe that continuous self-medication can cause addiction or dependency.				
I am informed about the self-medication can result in harmful drug interactions				
I know that expired drugs can be dangerous even if self-prescribed				
I am aware that self-medicating without proper diagnosis can delay effective treatment				

SECTION C: PREVALENCE OF SELF-MEDICATION AMONG UNDERGRADUATES

For each statement below, please indicate how frequently you engage in the described self-medication practices.

Self-medication Practices	Always	Sometimes	Rarely	Never
Have you ever used any medication without prior medical advice?				
Do you adhere to prescribed instructions before taking any medication?				
Do you prefer buying medications yourself rather than visiting the school clinic?				
Do you prefer to self-medicate when feeling unwell?				
Do you self-medicate when experiencing common symptoms like headache, fever, or mild pain?				
Do you use over-the-counter drugs without consulting a healthcare provider?				
Do you rely on advice from friends, family, or peers when selecting medications?				
When faced with a health issue, do you seek information online (e.g., through websites or social media) before taking medication?				

SECTION D: FACTORS INFLUENCING SELF-MEDICATION PRACTICES AMONG UNDERGRADUATES

Please indicate which of the following factors influence your self-medication practices

Influencing Factors	Yes	No
Easy access to drugs without prescription (e.g., from pharmacies, chemists).		
Past experiences with similar symptoms		
Influence from family or friends who practice self-medication		
Long waiting time at hospitals or clinics.		

High cost of medical consultation and treatment		
Confidence in my ability to diagnose and treat myself		
Lack of time to visit a hospital due to academic activities		
Fear of stigmatization regarding certain illnesses.		
Lack of trust in healthcare professionals		
Advice received from non-medical personnel (e.g., friends, pharmacists).		
Limited awareness about the dangers of self-medication		
Media influence promoting drugs		

SECTION E: COMMON TYPES OF DRUGS USED FOR SELF-MEDICATION AMONG UNDERGRADUATES

Please indicate how frequently you have used the following types of drugs for self-medication

Common types of drugs	Always	Sometimes	Rarely	Never
Antimalarials (e.g., Artemether, Chloroquine)				
Pain relievers (e.g., Paracetamol, Ibuprofen)				
Antibiotics (e.g., Amoxicillin, Tetracycline)				
Cough and cold medications				
Allergy drugs				
Antacids and ulcer medications (e.g., Omeprazole, Magnesium trisilicate)				
Skin creams or ointments (e.g., antifungals, steroids)				
Sedatives or sleeping pills				
Anti-diarrheal drugs (e.g., Loperamide)				
Herbal/traditional remedies				
Vitamins and supplements (e.g., Vitamin C, multivitamins)				

APPENDIX II

RELIABILITY TEST

Reliability Statistics

Cronbach's Alpha	N of Items
0.873	41

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
R1	81.06	134.340	.349	.870
R2	80.69	134.333	.481	.868
R3	80.78	133.263	.460	.868
R4	80.83	133.114	.505	.867
R5	80.78	129.321	.685	.864
R6	80.69	132.733	.614	.866
R7	80.75	131.164	.533	.866
R8	80.78	133.549	.441	.868
R9	80.64	134.409	.496	.868
R10	80.67	133.886	.529	.868
P1	82.22	132.635	.420	.868
P2	81.94	136.797	.190	.873
P3	82.03	131.456	.559	.866
P4	82.33	131.200	.448	.868
P5	81.94	131.997	.452	.868
P6	82.08	136.136	.284	.871
P7	82.56	132.311	.351	.870
P8	82.03	134.028	.291	.871
F1	83.47	138.428	.273	.872
F2	83.61	140.987	-.058	.875
F3	83.75	137.793	.219	.872
F4	83.50	137.800	.323	.871

F5	83.44	139.968	.080	.873
F6	83.97	136.713	.313	.871
F7	83.67	140.343	.002	.874
F8	83.78	138.063	.193	.872
F9	83.97	137.056	.283	.871
F10	83.50	138.086	.288	.871
F11	83.81	142.447	-.176	.877
F12	83.78	136.292	.346	.870
D1	82.00	133.314	.325	.871
D2	81.50	136.429	.492	.869
D3	82.39	127.730	.508	.866
D4	81.64	134.523	.487	.868
D5	83.03	129.799	.396	.869
D6	82.89	129.644	.354	.871
D7	82.11	128.673	.539	.866
D8	83.00	128.114	.417	.869
D9	82.17	129.800	.425	.869
D10	82.81	129.875	.365	.871
D11	81.86	134.980	.262	.872



RESEARCH ETHICS COMMITTEE
COLLEGE OF MEDICAL SCIENCES
UNIVERSITY OF BENIN, BENIN CITY, NIGERIA.



Chairman: Prof. F. A Imarhiagbe
MBChb, FMCP
Cert Clin Res and ethics (NIH), MD.
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P.M.B 1154, BENIN CITY
Email: researchethics.cms@gmail.com

Our Ref: CMS/REC/01/VOL.2/784

Date: 1st June, 2025

Re: PREVALENCE AND FACTORS INFLUENCING SEL-MEDICATION AMONG
UNDERGRADUATES IN A TERTIARY INSTITUTION, EDO STATE

Name of Principal Investigator: **AKWUZIE, STEPHANIE CHEKWUBE**
Department Of Nursing Science,
School of Basic Medical Sciences,
University Of Benin,
Benin City.

REC Approval No: CMS/REC/2024/784

This is to inform you that the research described in the submitted proposal, the Informed Consent Forms and other participant information materials have been reviewed and approved by the College Research Ethics Committee, University of Benin.

This approval dates from **1st June, 2025 to 31st May, 2026**. In multi-year research, Endeavour to submit your annual report to the REC early in order to obtain renewal of your approval and avoid disruption of your research.

The National Code of Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations and with the tenets of the code including ensuring that all adverse events are reported promptly to the REC. No, changes are permitted in the research without prior approval by REC except in circumstances outlined in the code. REC reserves the right to conduct compliance visit to your research site without prior notice. Thank you.

PROF. F.A IMARHIAGBE
Chairman, REC

Promoting best ethical & scientific standard for research in Nigeria