PREVALENCE, DETERMINANTS, IMPACTS OF DEPRESSION AND IT'S EFFECT ON ACADEMIC PERFORMANCE AMONG PHARMACY STUDENTS IN UNIVERSITY OF BENIN, BENIN CITY, EDO STATE, NIGERIA.

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COLLEGE OF MEDICAL SCIENCES

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SUPERVISOR

PROF A.N OFILI

APRIL, 2026

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A ONE YEAR PROJECT PRESENTED TO THE DEPARTMENT OF COMMUNITY HEALTH IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF A BACHELOR OF MEDICINE AND BACHELOR OF SURGERY (MBBS) DEGREE.

SUPERVISOR

PROF A.N OFILI

APRIL, 2026

DECLARATION

We hereby declare this research project titled “PREVALENCE, DETERMINANTS, IMPACT OF DEPRESSION AND ITS EFFECTS ON ACADEMIC PERFORMANCE AMONG PHARMACYSTUDENTS IN UNIVERSITY OF BENIN” will be conducted under supervision and has not been submitted in part or in full for any purpose.

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CERTIFICATION

This is to certify that this research study titled **"PREVALENCE, DETERMINANTS,IMPACT OF DEPRESSION AND ITS EFFECTS ON ACADEMIC PERFORMANCE AMONG PHARMACY STUDENTS IN UNIVERSITY OF BENIN"** was conducted by IJOGI OBOH JOSEPH with matriculation number **MED1807419** and **LAWANI KORLYNS EHIGIE** with matriculation number **MED1807430** under the supervision of Prof A.N Ofili in the department of public Health and Community Medicine, college of Medical Sciences, University of Benin as part of the requirements for the award of Bachelor of Medicine, Bachelor of Surgery

(MBBS) degree.

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DEDICATION

This work is dedicated to God almighty, whose divine grace, mercy and strength sustained us through out the duration of this project.

We extend our deepest appreciation to our families and friends; their unwavering moral and financial support, combined with their patient understanding, served as a constant source of motivation. Our heartfelt gratitude also goes to our teachers, whose invaluable mentorship and guidance were essential in navigating the complexities of this endeavor.

ACKNOWLEDGEMENT

We give thanks to God Almighty, the Creator of all things who has been our Solid Rock. We wish to extend our thanks to the Department of Community Health, University of Benin for the opportunity to carry out this study.

We want to specially appreciate our great supervisors, Prof A.N. Ofili for her patience, advise, care, understanding and guidance during the course of this project. May God meet you at the point of your needs.

I owe an immeasurable debt of gratitude to my elder brother, Abraham Ijogi Ominyi, and my elder sister, Mrs. Helen Arugwu, who have been far more than siblings to me — you have been parents in every sense of the word. Your unwavering love, guidance, and sacrifice have shaped who I am today. I cannot thank you enough.

To my siblings, Engineer Anthony Ijogi, Mr. Godwin Ogbu and my nephew, Engineer Ijogi Arugwu — your encouragement and support throughout this academic journey have meant a great deal to me. I am truly blessed to have you in my corner.

I express my heartfelt appreciation to my Pastors: Apostle James Adejo and Pastor John Paul Dike. Your prayers, counsel, and spiritual covering have been a pillar of strength throughout this programme. Thank you for always pointing me to God.

To my wonderful friends — Ehitiemoria Ihenyen, Ugwu Donatus, Osayande Joseph Ogieva, Chima Perfection, Emmanuel Azeez Abikama, Goddowell Godwin, David Praise Timilehin, Bejosetale, Ayomide Eniafe, and Daniel Ediri — you have been a constant source of joy, motivation, and laughter. The memories we have built together are ones I will always treasure. Thank you for standing by me.

To everyone who contributed in ways both seen and unseen — your kindness has not gone unnoticed. May God reward you all abundantly.

-IJOGI JOSEPH OBOH

I am deeply grateful to my parents, Dr. Osagie Lawani and Mrs. Ime Lawani, for their immense support and invaluable contributions to my development—first as their child and now as a medical student.

-LAWANI KORLYNS EHIGIE

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

BDI	Beck Depression Inventory
CES-D	Centre for Epidemiology Studies Depression Scale
CDMs-D	Cognitive Diagnosis Models- Depression
DASS	Depression and Anxiety Stress Scale
DCET	Depression Clinical Evaluation Test
DSM	Diagnostic and Statistical Manual
IRT	Item Response Theory
JUPEB	Joint University Preliminary Examination Board
GPA	Grade Point Average
LGA	Local Government Area
MDD	Major Depressive Disorder
PHQ-9	Patient Health Questionnaire - 9
PMS	Premenstrual Syndrome
PTSD	Post Traumatic Stress Disorder
SPSS	Statistical Package for the Social Sciences
USDI	University Student Depression Inventory

DEFINITION OF TERMS

ANXIETY: A normal and adaptive response to stress and danger which is pathological if prolonged, severe, or out of keeping with the real threat of the external situation.

DEPRESSION: A common and serious medical illness that negatively affects how you feel, the way you think and how you act.

PHARMACY STUDENT: A person enrolled in a pharmacy school who is training to become a pharmacist.

STRESS: The process by which we perceive and respond to certain events, called stressors, which we appraise as threatening or challenging

SUICIDE: An act of killing oneself, most often because of depression or other mental illnes

ABSTRACT

Background: Depression is a significant mental health concern among university students worldwide, with pharmacy students particularly vulnerable due to the demanding nature of their academic programmes. Despite growing evidence of its prevalence in Nigerian universities, institution-specific data from the University of Benin (UNIBEN) remains limited.

Objectives: This study aimed to determine the prevalence of depression among undergraduate pharmacy students at the University of Benin, identify the key determinants of depression within this population, and assess its impact on their academic performance and psychosocial well-being.

Methods: A descriptive cross-sectional study was conducted among 428 undergraduate pharmacy students across academic levels 200 to 600 at the Faculty of Pharmacy, University of Benin, Benin City, Edo State, Nigeria. Participants were selected using a stratified sampling technique with proportional allocation. Data were collected through a self-administered, structured online questionnaire comprising five sections: sociodemographic characteristics, the Beck Depression Inventory (BDI) for depression screening, determinants of depression, impact of depression, and effects on academic performance. Data were analysed using IBM SPSS version 27.0, with chi-square and Fisher's exact tests employed to assess associations between variables. Statistical significance was set at $p < 0.05$.

Results: The overall prevalence of depression was 20.1%, with 11.7% of respondents experiencing mild depression, 6.1% moderate depression, and 2.3% severe depression. Age ($p = 0.043$) and level of study ($p = 0.015$) were significantly associated with depression severity; younger students (15–19 years) and those in lower academic levels (especially 200 level) exhibited the highest rates of depressive symptoms, while final-year (600 level) students had the lowest prevalence. Sex,

religion, marital status, residential location, accommodation type, and source of funding did not show statistically significant associations with depression. The principal determinants identified were academic stress (45.3% reported difficulty coping with workload), prolonged academic stay (25.2%), poor accommodation (18.9%), sleep disturbances (16.6%), financial difficulties (40.7%), and traumatic experiences including examination failure (30.3% of those with trauma) and heartbreak (24.4%). Among the 105 students (24.5%) with active depressive symptoms, 60.0% found it harder to concentrate, 50.5% reported impaired academic performance, 32.4% missed classes or examinations, and 27.6% had failed courses due to poor mental health. Notably, nearly half (45.7%) of symptomatic students reported suicidal ideation, yet only 26.7% had sought any form of help.

Conclusion: Depression affects approximately one in five pharmacy students at the University of Benin, with younger students and those in early academic years at greatest risk. Academic stress, financial difficulties, and traumatic life events are the predominant determinants, while the condition substantially impairs concentration, attendance, and academic outcomes. The alarmingly low rate of help-seeking despite high suicidal ideation underscores an urgent need for targeted mental health screening, accessible counselling services, and institutional policies that address academic stressors and reduce the stigma surrounding mental health care.

Keywords: Depression, Pharmacy students, Prevalence, Determinants, Academic performance, Beck Depression Inventory, University of Benin, Nigeria.

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND OF STUDY

Depression among university students is a significant global concern, impacting their academic performance and overall well-being. Studies from various countries highlight the prevalence and determinants of depression among pharmacy students, providing an international perspective on this issue.

Research indicates a high prevalence of depression among pharmacy students across different regions. For instance, a study conducted at Umm Al-Qura University in Saudi Arabia found that 62.8% of pharmacy students experienced depression, with academic stress being a significant predictor.[1]

Similarly, in Malaysia, 50.7% of pharmacy students reported symptoms of depression, with stressors such as fear of failing and academic overload being major contributors.[2] These findings are consistent with studies from other regions, such as Ethiopia, where 28.2% of students at Jimma University were found to be depressed.[3] A study on clinical medical students in Nigeria found a staggering 75.4% prevalence of depression, with female students being more affected. Factors contributing to depression included heavy academic workloads and financial constraints, which are likely relevant to pharmacy students as well.[4]

Key determinants identified include gender, academic stress, and social support. For instance, female students often report higher levels of depression compared to their male counterparts.[5] The COVID-19 pandemic has exacerbated mental health issues, increasing academic stress and disengagement among students.[6] Depression has been shown to significantly impair academic

performance, with studies indicating that changes in depression levels can explain up to 37.8% of variations in students' academic outcomes.[7] Students experiencing severe depression are less likely to achieve high academic performance, as evidenced by a study that found a significant association between severe depression and lower cumulative grade point averages (CGPA)[5]

While the focus is on the negative impacts of depression, it is essential to recognize that mental health awareness and interventions can foster resilience and improve academic outcomes. Addressing mental health proactively can mitigate the adverse effects of depression on students' academic journeys.

1.2 **STATEMENT OF PROBLEM**

The prevalence of depression among university students, particularly pharmacy students, is a growing concern in Nigeria. Studies have shown that mental health disorders, including depression, anxiety, and stress, are prevalent among this demographic, with significant implications for their academic performance and overall well-being.[8] For instance, a study conducted among pharmacy students in Nigeria found a high prevalence of depression (44.6%), anxiety (63.5%), and stress (35%), with these conditions strongly correlated with perceived academic performance and year of study.[9] Similarly, research on Nigerian university students highlighted that depression is significantly associated with sociodemographic factors such as accommodation issues, family size, and substance use, further complicating the students' academic and social experiences.[10]

The impact of depression on academic performance is profound, as emotional difficulties can impair cognitive function and lead to lower academic achievements. A study among Emirati university students demonstrated that those experiencing depressive symptoms had lower GPAs

and were less satisfied with their studies, underscoring the negative impact of depression on academic outcomes.[11] Furthermore, pharmacy students in Nigeria perceive that mental disorders, including depression, significantly affect their academic performance, which can lead to severe consequences such as expulsion or rejection from pharmacy programs.[12]

Given these findings, it is crucial to address the determinants and impacts of depression among pharmacy students at the University of Benin, Benin City, Edo State, Nigeria. Understanding these factors can inform the development of targeted interventions to support students' mental health and academic success.

1.3 JUSTIFICATION OF STUDY

The study of depression among pharmacy students at the University of Benin is crucial due to its significant prevalence and impact on academic performance. Understanding the determinants of depression and its effects can inform interventions that enhance student well-being and academic success. This justification is supported by various studies highlighting the relationship between mental health and academic outcomes.

A study found that 44.6% of pharmacy students in Nigeria experience depression, highlighting a significant mental health concern that warrants further investigation at University of Benin (UNIBEN).[9] While the focus on depression is critical, it is also essential to consider the broader context of student life, including social support systems and academic pressures, which can influence both mental health and academic performance. Addressing these factors holistically may lead to more effective interventions.

In Nigeria, a vast majority of pharmacy students perceive that depression and anxiety negatively impact their academic success.[12] Understanding this relationship at UNIBEN can help in developing targeted interventions to support students' mental health and academic achievements.

While there is data on the prevalence of depression among pharmacy students in Nigeria, specific studies focusing on UNIBEN are lacking. Conducting this study will provide localized data that can inform university-specific mental health policies and support systems.

This study aims to fill this gap in the existing literature by providing a comprehensive analysis of the factors that contribute to depression among pharmacy students at the University of Benin, and the potential implications for their academic and personal growth. By shedding light on this important issue, we hope to raise awareness and advocate for the implementation of evidence-based strategies to address and mitigate the negative effects of depression among this vulnerable population.

1.4 GENERAL OBJECTIVES

To investigate the prevalence and determinants of depression among pharmacy students at the University of Benin, and to assess its impact on their academic performance, thereby providing insights for potential interventions to enhance student well-being and academic success.

1.5 SPECIFIC OBJECTIVES

- To investigate the prevalence of depression among pharmacy students in the University of Benin.
- To identify the factors contributing to depression among pharmacy students in the University of Benin.

- To investigate the impact and effects of depression among undergraduate pharmacy students at the University of Benin.

1.6 RESEARCH QUESTIONS:

- What is the prevalence rate of depression among pharmacy students at the University of Benin?
- What factors are associated with higher levels of depression among pharmacy students?
- What is the relationship between depression levels and academic performance (CGPA) among pharmacy students?
- What are the perceptions of pharmacy students regarding the impact of depression on their academic performance?

1.7 HYPOTHESES

1. Ho: There is no depression among pharmacy students at the University of Benin.

   Hi: There is depression among pharmacy students at the University of Benin.

2. Ho: There is no significant association between identified factors and the occurrence of depression among pharmacy students.

   Hi: There is a significant association between identified factors and the occurrence of depression among pharmacy students.

3. Ho: Depression has no significant impact on the academic performance and overall well-being of undergraduate pharmacy students at the University of Benin.

   Hi: Depression has a significant impact on the academic performance and overall well-being of undergraduate pharmacy students at the University of Benin.

1.8 INSTRUMENTS FOR MEASURING DEPRESSION.

Instruments for measuring depression are essential for accurate diagnosis and treatment monitoring. Various tools have been developed, each employing different methodologies to enhance measurement precision and reliability. The following sections outline key instruments and their characteristics.

Commonly Used Instruments

- Beck Depression Inventory (BDI): The Beck Depression Inventory (BDI) is a 21-item

self-report rating tool designed to assess depression-related attitudes and symptoms. It measures various aspects such as mood, pessimism, sense of failure, self-dissatisfaction, guilt, punishment, self-dislike, self-accusation, suicidal thoughts, crying, irritability, social withdrawal, indecisiveness, body image changes, work difficulties, insomnia, fatigue, loss of appetite, weight loss, and somatic preoccupation. Each item is scored on a scale from 0 to 3, with total scores ranging from 0 to 63, where higher scores indicate greater severity of depressive symptoms. The BDI will be used in this study over other instruments due to its robust psychometric properties, suitability for research in academic settings, and ability to distinguish between different levels of depression severity. Specifically, the BDI has demonstrated high internal consistency, with a Cronbach's alpha typically ranging from 0.81 to 0.86 for non-clinical populations. It also exhibits good sensitivity (approximately 88%) and specificity (around 92%) in detecting depressive symptoms, making it a reliable tool for identifying both mild and severe cases of depression. Furthermore, its comprehensive structure allows for a nuanced assessment

of the prevalence, determinants, and impact of depression, aligning well with the objectives of this study, which seeks to explore how depression affects academic performance among pharmacy students at the University of Benin. Compared to shorter tools like the PHQ-9, the BDI provides a broader spectrum of symptom coverage, making it more appropriate for an in-depth investigation of depression's impact in a high-demand academic context like pharmacy education. The BDI's established use in similar research contexts, its ease of administration in self-report format, and its relevance to both clinical and non-clinical populations make it a suitable and effective instrument for this study population.[13]

- **Patient Health Questionnaire-9 (PHQ-9)**: This instrument will be used and it is widely utilized as a self-report tool that assesses depressive symptoms. It has a high sensitivity and specificity in detecting depressive symptoms, ensuring reliable identification of affected students. It is a widely recognized and validated tool for assessing depression in various populations, including university students. With only nine items, PHQ-9 is quick and easy to administer, making it suitable for large-scale student surveys without causing response fatigue. Recent advancements include an Item Response Theory (IRT) based web calculator that enhances measurement precision by converting scores into T-scores, allowing for better comparability across populations.[14]

- **University Student Depression Inventory (USDI)**: This instrument was refined using the Rasch model, which improved its reliability by identifying and removing misfit items, thus ensuring a more accurate assessment of depression among college students.[15]

- **Depression Clinical Evaluation Test (DCET)**: A comprehensive tool with 196 items covering various depressive symptoms. It employs network analysis to identify central symptoms, enhancing its diagnostic utility.[16]

- **Cognitive Diagnosis Models (CDMs-D)**: This new instrument focuses on detailed symptom-level assessment, providing insights into specific symptoms while measuring overall severity. It aligns with ICD-10 and DSM-5 criteria, making it particularly useful for clinical diagnostics.[17]

CHAPTER TWO

2.0 LITERATURE REVIEW

Depression is a prevalent mental health issue among pharmacy students, significantly impacting their academic performance and overall well-being. Research indicates that the prevalence of depressive symptoms within this demographic can reach alarming rates, with approximately 60.34% of pharmacy students showing tendencies toward depression and 31.84% experiencing mild to severe symptoms.[18]

The rigorous demands of pharmacy programs, characterized by high academic workloads, financial stress, and the pressures of clinical training, contribute to this heightened vulnerability. Given the critical role that mental health plays in academic success, understanding the prevalence, determinants, and effects of depression among pharmacy students is essential for developing effective support strategies.

2.1 Prevalence of depression among undergraduate pharmacy students:

The prevalence of depression among pharmacy students is a significant concern globally, with various studies highlighting alarming rates of mental health issues within this demographic. Research indicates that pharmacy students experience high levels of depression and anxiety, which can adversely affect their academic performance and overall well-being.

A descriptive cross-sectional study aimed at investigating the prevalence of Pharmacy students who had tendency to be depressed and prevalence of students who had mild symptoms or above and to determine factors associated with depression was conducted in Thailand in 2024. Online questionnaire was used to gather data. They consist of 3 parts; 1) general information and factors associated 2) 2Q depression screening form 3) 9Q depression severity assessment form. Descriptive statistical, Fisher's exact test, independent t-test and multiple logistic regression were

used for data analysis. The results revealed that 60.34% of 179 participants had a tendency to be depressed and 31.84% had mild symptoms or above (9Q≥7). First-year students had tendency to be depressed more than second-, third-, fourth-, or fifth-year students.[18]

A cross-sectional observational study was conducted to evaluate the prevalence or occurrence of depressive symptoms among pharmacy students using a validated screening tool. Two independent investigators performed the study selection, data extraction, and quality assessment using the Joanna Briggs Institute (JBI) checklist for prevalence studies. The estimate of depressive symptoms was summarized as a narrative synthesis using structured tables. 695 records were retrieved in the search, 19 studies met the eligibility criteria. The number of pharmacy students ranged from 30 to 610. Most studies were conducted in Asia (n = 9) and the Americas (n = 7), and included only public university students (n = 12). The studies used several instruments to screen students for depressive symptoms, mainly Patient Health Questionnaire-9 (n = 7), Beck Depression Inventory (n = 5), and Depression, Anxiety, and Stress Scale 21 (n = 4). Most studies (n = 15) evaluated only the prevalence of depressive symptoms. The estimate of overall, mild, moderate, and severe depressive symptoms ranged from 4.8% to 78.8%, 9.1% to 42.1%, 5.8% to 30.0%, and 0% to 50.0%, respectively.[19]

An online-based descriptive cross-sectional survey aimed at examining the occurrence of depression, anxiety, stress and associated sociodemographic factors among undergraduate pharmacy students in Nigeria was conducted in 2019 among students from seven pharmacy schools in Nigeria. Students were recruited via their class WhatsApp groups and a link to a Google Form was provided for those who agreed to participate in the study. In this study, a total of 408 students out of approximately 3,068 students responded to the survey (response rate: 13.32%). The overall prevalence of depression, anxiety and stress was 44.6 %, 63.5%, and 35% respectively.

Severe depression, anxiety and stress prevalence was 4.9 %, 8.8%, and 6.1% respectively. While 4.2%, 14.0%, and 1.5% of the students had extremely severe depression, anxiety, and stress.[9]

A cross-sectional study aimed at assessing the prevalence and severity of depression, anxiety and stress symptoms and also to assess the relationship between these symptoms with stressors faced by the students was carried out. In this study, a sample of 223 students from Kulliyyah (faculty) of Pharmacy, International Islamic University Malaysia was used. Regarding the distribution of students; 72, 76 and 75 students participated from year1, year2 and year3 respectively. Depression Anxiety, Stress Scale (DASS-21) was used to assess the emotional disturbances by determining the prevalence and severity of depression, anxiety and stress (DAS) symptoms. The sources of stressors were identified by giving the students a list of the most possible source of stressors which were chosen depending on previous studies, and then the severity of stressors and their relationship with these symptoms were assessed. The overall prevalence of depression, anxiety and stress symptoms was 50.7 %, 72.2%, % and 42.2% respectively but it was found that 11.7%, 33.6 % and 11.7% of pharmacy students have clinically significant depression, anxiety and stress respectively. Stressors such as fear of failing, academic overload, fear of unemployment after graduation, exams, and problems in time management were considered the most potent stressors and were significantly associated with DAS symptoms. Symptoms of depression, anxiety and stress are significantly existent among pharmacy students which need to be early detected. Academic related factors can be viewed as sources of stressors that may induce emotional disturbances among the pharmacy students.[20]

2.2 Factors contributing to depression among undergraduate pharmacy students:

Identifying the factors contributing to depression among pharmacy students is crucial for improving their mental health and academic performance.

A cross-sectional study was conducted using an online questionnaire distributed to 19 institutions in Malaysia offering a Bachelor of Pharmacy degree program. The study aimed to identify university students' sociodemographic, psychosocial and academic backgrounds and performance associated with depression symptoms for the development of primary and secondary preventive strategies for mental health. The self-rated Depression Anxiety Stress Scale (DASS-42) was used to assess depression symptoms. Pearson's chi-square test and Fisher's exact test were used to assess the investigated variables with depression symptoms. Independent T-test and one-way ANOVA were used to compare means of depression score across variables. Binary logistic regression was employed to examine the relationship between the investigated variables and depression symptoms. A total of 610 pharmacy students participated, of which 47% (n = 289/610) were having depression symptoms. Students who smoke nicotine and those who have separated parents, family history of mental illness, and poor academic performance were associated with depression symptoms ($p < 0.05$). Differences in geographical areas, race and religion also showed significant associations with depression symptoms. Parental marital status, poor academic performance, history of mental illness and comorbidities were statistically predicting depression symptoms ($p < 0.05$).[21]

A cross-sectional study aimed at assessing the relationship between smartphone addiction, mental health and sleep quality among undergraduate pharmacy students was conducted in a Nigerian university. Data was collected using self-administered questionnaires, including Smartphone Addiction Scale-Short version, Patient Health Questionnaire, Generalized Anxiety Disorder Scale and Pittsburgh Sleep Quality Index. The data obtained were analyzed using descriptive statistics, the chi-square test and the Pearson correlation. Probability values less than 0.05 were considered statistically significant. In this study, a total of 410 undergraduate pharmacy students participated,

giving a response rate of 95.57%. The prevalence of smartphone addiction, depression and anxiety symptoms were 40.24%, 28.30% and 23.66%, respectively. Most students had poor sleep quality (96.10%). The prevalence of smartphone addiction had a moderate positive correlation with the severity of depression (r = 0.363, p & lt; 0.01) and anxiety (r = 0.261, p & lt; 0.01) symptoms. Nevertheless, smartphone addiction showed no connection with sleep quality (r = 0.022, p = 0.663).[22]

An observational cross-sectional study aimed at assessing rates of self-reported depressive symptoms among student pharmacists enrolled in the first three years (P1-P3) of four-year Doctor of Pharmacy (Pharm.D.) curricula was conducted at Washington State University, College of Pharmacy and Pharmaceutical Sciences (WSU) and the University of Arkansas for Medical Sciences, College of Pharmacy (UAMS). Student pharmacists in the first three years of pharmacy school (P1-P3) of the Pharm.D. curricula were invited to voluntarily complete the Center for Epidemiologic Studies Depression Scale (CES-D) to collect self-reported measures of depression. The CES-D is a validated 20-item instrument using a 4-point Likert scale. In this study, a total of 1795 surveys were evaluated from P1-P3 students at WSU and UAMS over a four-year period (2019-2022). Overall, 1150 (64.1%) surveys indicated the presence of depressive symptoms on CES-D. The highest rate of reported depressive symptoms was recorded in 2021 (71.4%), notably during the coronavirus disease 2019 (COVID-19) pandemic, whereas the lowest rate was pre-pandemic in 2019 (57.8%). The P1 cohort had the highest depression rate in 2020 and 2021 whereas the P2 cohort was highest in 2019 and 2022. The P3 cohort screening positive for depression increased from 52.6-69.3% over the four-year period. This multisite, longitudinal study confirms that self-reported depressive symptoms in student pharmacists are significantly higher than what is reported in undergraduate students.[23]

In another descriptive cross-sectional study aimed at assessing the prevalence of depression and anxiety among pharmacy students at different Libyan universities using the Hospital Anxiety and Depression Scale (HADS) in 2023, involving 1197 pharmacy students, shows that 42.8% of the participants had depression symptoms, and 44.5% had borderline depression symptoms, 39% of the participants had anxiety symptoms, while 33% reported borderline anxiety symptoms. This is as a result of the accumulative effect of high academic workload and pressure to perform well. A significant negative association was found between depressive status and sleeping hours. The average night sleeping time of all participants was 6.5 hours, with the majority (43.2%) reporting sleeping less than 7 hours per night.[24]

2.3 Impact of depression among pharmacy students

Another descriptive cross-sectional study aimed at examining and comparing the prevalence of mental health problems, help-seeking attitudes and perceptions about mental health problems among US pharmacy students was carried out in 2019. A total of 159 pharmacy students across 17 institutions in the United States to examine the prevalence, effects, and impacts of depression. The results showed that approximately 18.3% of the total sample, met the clinical cut-off for depression symptoms in the past two weeks. In addition, 13.9% of the sample reported having received a diagnosis of depression from a mental health professional. Among those reporting serious suicidal ideation in the past year (over 4%), 41.1% had created a plan, and 21.17% had attempted suicide. These findings highlight the serious mental health risks associated with depression in this population. Despite these challenges, 36.18% of students, did not seek informal support (such as from friends or family) in the past year, suggesting a concerning level of isolation or stigma. Furthermore, pharmacy students were less likely to agree that therapy is effective for treating depression and more likely to believe that others think less of individuals who receive mental health treatment—highlighting persistent stigma and barriers to

care.[25]

A cross-sectional survey aimed at examining pharmacy undergraduate students' perceptions of the impact of mental illnesses on pharmacy education, it was conducted in 2022 among pharmacy students from six Nigerian universities. The data were collected using a modified self-administered paper based Mental Illness Performance Scale. Descriptive statistics, Student t-test, and One-way analysis of variance were used for the data analysis. The study received responses from 496 pharmacy students, yielding a 93.2% response rate. The male and female genders were nearly equally represented (49.4% vs 50.6%). The majority of those who responded were between the ages of 21 and 25 (71.8%). The vast majority of the students were single with respect to their marital status (98.4%). About 31% have had mental health symptoms in the past or know a family member who suffers from mental illness. According to the findings, 81% of students strongly agree that depression has an impact on pharmacy students' academic performance. A vast majority of the students agreed or strongly agreed that depression (98.7%), anxiety (98.4%), and substance abuse (83.9%) affect pharmacy students' academic performance. The results also revealed that, approximately 31% of those surveyed agreed or strongly agreed that depression would be grounds for expulsion from pharmacy school. Mania (45.8%) and anxiety disorder (37.9%) were viewed as reasons for dismissing a student from a pharmacy programme by less than half of those polled.[12]

A descriptive cross-sectional study aimed at assessing depression and suicidal ideation among undergraduates in the state tertiary institutions in Lagos, Nigeria was carried out among undergraduates in two state tertiary institutions in Lagos, Nigeria using self-administered questionnaire. A total of 750 respondents were recruited using the multistage sampling technique. A total of 780 questionnaires were administered, 750 were adequately completed and analysed making a response rate of 96.2%. More than half of the respondents (54%) were females. More of

the respondents and almost all the respondents were single (98.1%). The prevalence of depression in this study was 22.5% and the prevalence of suicidal ideation among the respondents was found to be 21.6%. Among the respondents with minimal depressive symptoms, prevalence of suicidal ideation was among only 4% of them. But among the respondents with moderate depressive symptoms, suicidal ideation was present among about 41.3% and prevalence of suicidal ideation was 83.3% among respondents with severe depressive symptoms. Positive history of sexual assault, bullying and being hit by a partner were statistically significantly associated with depression. Other risk factors that were significantly associated with depression among the respondents were low self-esteem, poor academic performance, alcohol dependence. Depression was statistically significantly associated with suicidal ideation ($p < .001$). Risk factors that were statistically significantly associated with depression and suicidal ideation were low self-esteem ($p < .001$), intake of recreational drugs ($p < .001$), alcohol dependence ($p < .001$), and positive history of bullying ($p < .001$).[26]

CHAPTER THREE

3.0 MATERIALS AND METHODS

3.1 STUDY AREA

The study was conducted at the University of Benin, located in Benin City, Edo State, one of Nigeria's 36 states situated in the South-South region. Edo State covers an area of 19,743 sq/km and is positioned between latitudes 6°23'55"N to 6°27'39"N and longitudes 5°36'18"E to 5°44'18"E. The state is home to one federal university, two state universities, and six private universities. The University of Benin operates on two main campuses, Ekehuan and Ugbowo, both situated in Ovia North East Local Government Area. Established in 1970 as an Institute of Technology, it was granted full university status by the National Universities Commission (NUC) on July 1, 1971. In April 1972, it was renamed the University of Benin, and by 1975, it attained federal university status. The institution offers programs at undergraduate, postgraduate, JUPEB, and certificate levels across 13 faculties. It currently has 13 faculties and a student enrolment range of 40,000-44,999 comprising of part- time and full-time. Among the faculties is the Faculty of Pharmacy which began in 1970 as a department in the Faculty of Medicine and Pharmacy. It became a school in 1975, then a faculty in 1981, and then a school again in 1988. In 1991, the faculty regained its status as a faculty, and in 1993 it became an independent faculty.

3.2 STUDY DESIGN

A descriptive cross-sectional study design was used for this study.

3.3 STUDY POPULATION

The study was carried out among the undergraduate students in the University of Benin, Benin City, Edo State.

3.3.1 INCLUSION CRITERIA

I. Full-time undergraduate student who is currently enrolled in the University of Benin.

II. Undergraduate students who will give consent to the study.

III. Pharmacy students from 200L to 600L who had sat for at least one professional pharmacy exam.

3.3.2 EXCLUSION CRITERIA

I. Undergraduate students in their first year (100 level) who have not yet taken any professional pharmacy examination.

II. Students who are ill at the time of data collection and are not willing or able to participate in the study.

3.4 STUDY DURATION

The study was carried out from January 2025 to January 2026.

3.5 STUDY SCOPE

This study focuses on the prevalence, determinants, impact of depression, and its effects on academic performance among pharmacy students at the University of Benin, Benin City, Edo State, Nigeria. The study aims to assess the extent of depression among students, identify key factors contributing to depression, evaluate its impact on daily functioning, and analyze how it affects academic performance.

3.6 SAMPLE SIZE DETERMINATION

The sample size (n) was calculated using Cochran's formula for descriptive studies.[26]

$n = \underline{Z^2pq}$

d^2

Where:

n = Minimum sample size

z = Standard normal deviation set at 1.96 (at 95% confidence interval)

p = Estimated proportion of an attribute that is present in a population

d = Desired level of precision

q = 1 – p

A p value of 44.6% was used, which is the prevalence of depression among undergraduate pharmacy students in the University of Nigeria Nsukka, Nigeria.[9]

p = 44.6%

= 44.6/100

= 0.446

q = 1-0.446 = 0.554

d = 0.050

Substituting in the above formula,

$n = \frac{(1.96)^2 \times (0.446)(0.554)}{(0.050)^2} = \frac{3.8416 \times 0.247}{0.0025} = \frac{0.948}{0.0025}$

n = 379.2 ≈ 379

To make room for non-response, 10% non-response rate was added to the minimum sample size, utilizing the formula for non-response rate.

$nf = \frac{n}{1-nr}$

n = Minimum sample size = 379

nr = Non-response rate = 10% = 0.10

n_f = Final minimum sample size

$$n = \frac{379}{1 - 0.10} = \frac{379}{0.90} = 421.11 \approx 421$$

Thus, the minimum sample size for this study was 421.

3.7 SAMPLING TECHNIQUE

A stratified sampling method was utilized in this study to choose respondents from the overall population. By using this technique, a proportional allocation was implemented to select students from each stratum, with each class serving as a distinct stratum.

The total number of students in the Faculty of Pharmacy, from 200L to 600L, is 1010, which includes:

200L- 187 students

300L- 211 students

400L- 219 students

500L- 217 students

600L- 176 students

Sampling fraction = n/N

Where n = sample size = 421

N = total population = 1010

Sampling fraction $= \frac{421}{1010} = 0.417 \approx 0.42$

The sample size of each stratum (level) was calculated using the formula:

Sample size = Sampling fraction × Population of students in each stratum

Proportional allocation of students:

200L = 0.42 x 187 = 78.54 ≈ 79

300L = 0.42 x 211 = 88.62 ≈ 89

400L = 0.42 x 219 = 91.98 ≈ 92

500L = 0.42 x 217 = 91.14 ≈ 91

600L = 0.42x 176 = 73.2 ≈ 73

Total = 424

Given that the Stratified Sampling Technique was utilized, the Design Effect, a constant value of 1.5, was employed to adjust the estimated sampling variance.

200L = 0.42 x 187 = 79 x 1.5 = 118.5 ≈ 119

300L = 0.42 x 211 = 89 x 1.5 = 133.5 ≈ 134

400L = 0.42 x 219 = 92 x 1.5 = 138

500L = 0.42 x 217 = 91 x 1.5 = 136.5 ≈ 137

600L= 0.42 x 176 = 73 x 1.5 = 109.5 ≈ 110

Total; 638

To select the respondents, a simple random sampling technique through balloting was employed. Each class member was assigned a number based on their serial number. These serial numbers were written on individual pieces of paper and placed in a box. The papers were mixed thoroughly, and numbers were drawn randomly from the box. When a number was selected, the student corresponding to that serial number was included in the study. This process was continued until the required sample size was achieved.

3.8 DATA MANAGEMENT

3.8.1 DATA COLLECTION METHOD

Adapted standardised, structured, self-administered, online questionnaires were used to collect data. The questionnaires were created using Google Forms and distributed to students across the faculty.

3.8.2 TOOLS FOR DATA COLLECTION

A quantitative instrument was utilized to gather data in response to the study's objectives. The questionnaire was carefully standardized and designed in alignment with these objectives, incorporating both open-ended and closed-ended questions. It was structured into four main sections.

SECTION A: SOCIODEMOGRAPHIC CHARACTERISTICS

The aim of this section is to collect data on the socio-demographic characteristics of respondents, including their age (as of their last birthday), gender, religion, ethnic group, academic level, marital status, current living arrangements, and who is financially responsible for them.

SECTION B: PREVALENCE OF DEPRESSION

This section used the Beck Depression Inventory (BDI). It is commonly used to evaluate the severity of depression in patients diagnosed with depressive disorders, and has also been utilized in research with general populations to detect depression or depressive thoughts.[17]

SCORING SYSTEM FOR THE BECK DEPRESSION INVENTORY (BDI)

The Beck Depression Inventory (BDI) is a widely recognized and validated self-report questionnaire designed to assess the presence and severity of depressive symptoms. It consists of 21 items, each relating to a specific symptom or attitude associated with depression, such as sadness, pessimism, past failure, self-dislike, and fatigue.

Each item on the BDI is scored on a four-point Likert scale ranging from 0 to 3, with higher scores indicating more severe depressive symptoms. Respondents are required to select the statement in each item that best describes how they have been feeling over the past two weeks, including the day of response.

The total score is calculated by summing the individual scores for all 21 items, yielding a minimum score of 0 and a maximum score of 63. The severity of depression is interpreted based on the following standard cutoff ranges:

- **0–13**: Minimal or no depression
- **14–19**: Mild depression
- **20–28**: Moderate depression
- **29–63**: Severe depression

This scoring system allows researchers to categorize respondents according to their level of depressive symptoms, thereby facilitating the analysis of depression prevalence and severity within the study population. The BDI is both reliable and sensitive for use among various populations, including university students, making it a suitable tool for this research.

SECTION C: DETERMINANTS OF DEPRESSION

This section examined various factors that contribute to the occurrence of depression among pharmacy students. The determinants assessed included academic stress, financial constraints,

social relationships, psychological well-being, family background, lifestyle habits, and medical history.

SECTION D: IMPACT OF DEPRESSION

This section explored how depression affected the daily lives of students. It assessed the emotional, physical, and behavioral effects of depression, including changes in mood, motivation levels, energy levels, interpersonal relationships, and general well-being.

SECTION E: EFFECTS ON ACADEMIC PERFORMANCE

This section will analyze how depression influences students' academic performance. It will be focusing on concentration levels, class attendance, exam performance, assignment completion, participation in academic activities, and overall productivity. Additionally, it will be exploring coping mechanisms and support systems utilized by affected students.

3.8.3 DATA ANALYSIS

The data from the responses were contained in Google Sheet and imported into the IBM Product, Statistical Package for Social Sciences Version 27 (SPSS 27.0) for analysis.

3.8.4 DATA PRESENTATION

1. Tables (For Categorical and Numerical Data)

i. Frequency Tables – To present sociodemographic characteristics, such as age distribution, gender, academic level etc.

ii. Descriptive Statistics Tables – Mean, standard deviation, and percentages for continuous variables like age.

2. Graphs and Charts (For Visual Representation)

i. Bar Charts – To compare different categories, such as the prevalence of depression across different academic levels.

ii. Pie Charts – To show proportions, such as the percentage of students experiencing mild, moderate, or severe depression.

iii. Histogram – To display the distribution of continuous variables like depression scores from the BDI.

3. Cross-tabulation (Contingency Tables) and Chi-Square Analysis (For Relationships Between Variables)

Helps show the relationship between determinants of depression (e.g., financial stress, academic pressure) and depression prevalence.

4. Correlation and Regression Analysis Output

The impact of depression on academic performance was examined, using scatter plots or regression tables to illustrate relationships between depression scores and GPA or attendance rates.

5. Thematic Summary

The questionnaire included qualitative responses, that summarized key themes in a table or narrative format.

3.9 ETHICAL CONSIDERATION

Ethical approval was obtained from the Ethics and Research Committee of the University of Benin Teaching Hospital (UBTH) with the protocol number: ADM/E22/A/VOL.VII/148654912570, as well as permission from the School of Medicine, University of Benin. Verbal informed consent was obtained from the respondents after they were briefed on the study's purpose and assured of the confidentiality of their information. They were informed of their right to withdraw from the interview at any time without any consequences or harm.

CHAPTER FOUR

RESULTS

A total of 428 respondents participated in the study giving a response rate of 100%. The results are presented in the following sections in line with the specific objectives.

SECTION A: Socio-demographic characteristics of respondents

SECTION B: Prevalence of depression among respondents

SECTION C: Factors contributing to depression among respondents

SECTION D: Impact and effects of depression among respondents

Table 1a: Socio-demographic, Socioeconomic characteristics of respondents

Variables	Frequency (n=428)	Percent (%)
Age (years)		
15 – 19	125	29.2
20 – 24	265	61.9
≥ 25	38	8.9
Mean ± SD = 21.06 ± 2.96		
Sex		
Female	236	55.1
Male	192	44.9
Ethnic group		
Benin	155	36.2
Igbo	74	17.3
Esan	58	13.6
Urhobo	47	11.0
Yoruba	40	9.3
Afemai	26	6.1
Niger Delta	16	3.7
Benue	8	1.9
Others*	4	0.9
Religion		
Christianity	399	93.2
Islam	27	6.3
Others**	2	0.5
Marital status		
Single	418	97.7
Married	10	2.3
Level of study		
200 level	96	22.4
300 level	80	18.7

400 level	92	21.5
500 level	77	18.0
600 level	83	19.4

*Others = Ibibio, Tiv **Others = African traditional religion, Buddhism

Table 1a summarizes the socio-demographic characteristics of the 428 respondents who participated in the study. The mean age of the students was 21.06 ± 2.96 years, with the majority of the population (61.9%) falling within the 20–24 years age bracket, followed by late adolescents aged 15–19 years (29.2%). There was a slightly higher proportion of female respondents (55.1%) compared to males (44.9%).

Regarding ethnicity, the predominant group was Benin (36.2%), followed by Igbo (17.3%) and Esan (13.6%). Christianity was the overwhelmingly dominant religion among the students, accounting for 93.2% of the sample, while Islam accounted for 6.3%. The vast majority of the respondents were single (97.7%), with only a small fraction (2.3%) reporting being married. The distribution of students across the academic levels was relatively even, ranging from the 200 level to the 600 level, with the highest proportion of respondents currently in their 200 level of study (22.4%).

Table 1b: Socio-demographic, Socioeconomic characteristics of respondents continued.

Variables	Frequency (n=428)	Percent (%)
Residence location		
Off campus	262	61.2
On campus	166	38.8
Accommodation		
With roommates		
Alone	117	27.3
With parents	57	13.3
With relatives	57	13.3
Source of funding for fees and expenses		
Parents	359	83.9
Self	34	7.9
Relatives	29	6.8
Benefactors	6	1.4

Table 1b continues the socio-demographic profiling of the respondents, focusing on their living arrangements and primary sources of financial support. A clear majority of the students (61.2%) resided off-campus, while the remaining 38.8% lived in on-campus facilities.

In terms of specific accommodation types, living with roommates was the most common arrangement (accounting for approximately 46.0% of the cohort), followed by students who lived alone (27.3%). Equal proportions of the respondents reported living with their parents (13.3%) or with other relatives (13.3%).

Regarding the source of funding for school fees and daily expenses, the data highlights a high level of familial dependence. The vast majority of the students (83.9%) relied on their parents as their

primary financial sponsors. Only a small minority were self-funded (7.9%), supported by relatives (6.8%), or reliant on other benefactors (1.4%).

Table 2a: Depressive symptoms among respondents using the Beck Depression Inventory

Variables	Frequency (n=428)	Percent (%)
Sadness		
I do not feel sad	307	71.7
I feel sad	108	25.2
I am sad all the time and can't snap out of it	7	1.6
I am so sad and unhappy that I can't stand it	6	1.4
Feelings about the future		
I feel hopeful about the future	397	92.8
I feel discouraged about the future	15	3.5
I feel I have nothing to look forward to	14	3.3
The future seems hopeless	2	0.5
Sense of failure		
I do not feel like a failure	370	86.4
I feel I have failed more than average	36	8.4
As I look back, I see a lot of failures	15	3.5
I feel like a complete failure	7	1.6
Interest in usual activities		
I have as much interest in activities as before	252	58.9

I have less interest than before	146	34.1
I have lost most of my interest in activities	21	4.9
I have lost all interest in activities	9	2.1
Feelings of guilt		
I do not feel guilty	321	75.0
I feel guilty a good part of the time	80	18.7
I feel quite guilty most of the time	24	5.6
I feel guilty all of the time	3	0.7
Feelings of punishment		
I don't feel I am being punished	361	84.3
I feel I may be punished	46	10.7
I expect to be punished	6	1.4
I feel I am being punished	15	3.5

Table 2a details the initial cognitive and affective depressive symptoms reported by the respondents based on the Beck Depression Inventory criteria. Across most parameters, the majority of the students reported no significant depressive indicators. For instance, 71.7% stated they did not feel sad, 92.8% felt hopeful about their future, and 86.4% did not feel like a failure.

However, a notable proportion of the cohort exhibited mild to severe symptoms. A quarter of the respondents (25.2%) reported feeling sad, with an additional 3.0% experiencing severe, persistent sadness. One of the most prevalent symptoms was a decline in engagement; 34.1% of students indicated having less interest in usual activities than before, and a further 7.0% had lost most or

all of their interest. Internalized distress was also evident among a subset of the population, as 18.7% felt guilty a good part of the time, and 10.7% expressed a feeling that they may be punished.

Table 2b: Depressive symptoms among respondents using the Beck Depression Inventory continued.

Variables	Frequency (n=428)	Percent (%)
Feelings about self		
I feel the same about myself as ever	369	86.2
I am disappointed in myself	47	11.0
I am disgusted with myself	5	1.2
I hate myself	7	1.6
Self-criticism		
I don't feel worse than anybody else	264	61.7
I am critical of myself for weakness or mistakes	120	28.0
I blame myself all the time for my faults	35	8.2
I blame myself for everything bad that happens	9	2.1
Suicidal thoughts		
I do not have thoughts of killing myself	381	89.0
I have thoughts of killing myself, but I would not act on them	42	9.8
I would like to kill myself	0	0.0
I would kill myself if I had the chance	5	1.2
Crying		
I do not cry more than usual	334	78.0
I cry more than I used to	35	8.2
I cry all the time now	16	3.7

I used to cry but can't cry anymore	43	10.0
Ability to make decisions		
I make decisions about as well as ever	304	71.0
I delay decisions more	79	18.5
I have greater difficulty making decisions than before	42	9.8
I cannot make decisions at all anymore	3	0.7
Feelings about appearance		
I feel I look about the same as ever	347	81.1
I am worried that I look worse than I used to	58	13.6
I feel there are permanent changes that make me unattractive	13	3.0
I believe I look ugly	10	2.3

Table 2b further delineates the depressive symptoms among the respondents, focusing on self-perception, self-criticism, and emotional stability. The majority of the students maintained a positive baseline, with 86.2% feeling the same about themselves as ever and 89.0% reporting no thoughts of self-harm.

However, cognitive symptoms of depression, particularly self-criticism, were notably prevalent. More than a quarter of the respondents (28.0%) reported being critical of themselves for weaknesses or mistakes, while an additional 10.3% severely blamed themselves for their faults or for everything bad that happens. Alarmingly, 11.0% of the students admitted to experiencing suicidal ideation; while 9.8% had thoughts of killing themselves but would not act on them, 1.2% stated they would kill themselves if they had the chance.

Emotional dysregulation and cognitive impairment were also observed. A significant proportion of the cohort struggled with emotional blunting or affective shifts; while 11.9% cried more than usual or all the time, 10.0% reported that they used to cry but cannot cry anymore. Additionally, 18.5% of students noticed they delay decisions more than usual, and 10.5% had greater difficulty or a complete inability to make decisions compared to before.

Table 2c: Depressive symptoms among respondents using the Beck Depression Inventory continued.

Variables	Frequency (n=428)	Percent (%)
Fatigue		
I do not get more tired than usual	256	59.8
I get tired more easily than usual	128	29.9
I get tired from almost anything	38	8.9
I am too tired to do anything	6	1.4
Appetite		
My appetite is no worse than usual	314	73.4
My appetite is not as good as it used to be	92	21.5
My appetite is much worse now	18	4.2
I have no appetite at all	4	0.9
Weight loss		
I have not noticed any weight loss	306	71.5
I have lost more than 2 kg	79	18.5
I have lost more than 5 kg	28	6.5
I have lost more than 7 kg	15	3.5
Irritability		
I am not more irritable than usual	296	69.2
I am more irritable than usual	71	16.6
I am quite irritable most of the time	48	11.2

I am irritable all the time	13	3.0
Interest in people		
I have not lost interest in other people	264	61.7
I am less interested in other people than before	126	29.4
I have lost most of my interest in people	27	6.3
I have lost all interest in people	11	2.6
Sleep		
I sleep as well as usual	272	63.6
I don't sleep as well as I used to	134	31.3
I wake up earlier than usual and find it hard to get back to sleep	15	3.5
I wake up several hours earlier and cannot get back to sleep	7	1.6

Table 2c outlines the somatic, physical, and interpersonal symptoms of depression among the respondents. A substantial portion of the cohort reported physical manifestations often associated with depressive episodes, particularly regarding energy levels and sleep patterns. While 59.8% did not experience abnormal fatigue, 29.9% reported getting tired more easily than usual, and an additional 10.3% experienced severe exhaustion (getting tired from almost anything or being too tired to do anything). Similarly, sleep disturbances were highly prevalent, with 31.3% noting they do not sleep as well as they used to, and 5.1% struggling with early morning awakenings and insomnia.

Changes in eating habits and weight were also notable. Although 73.4% of students maintained a normal appetite, over a quarter of the respondents experienced a decline, including 4.2% whose appetite was much worse and 0.9% who had no appetite at all. Correspondingly, 28.5% of the students had noticed some degree of recent weight loss, with 3.5% reporting a significant loss of more than 7 kg.

In terms of interpersonal functioning and emotional reactivity, signs of social withdrawal and irritability were evident. While most students (61.7%) retained their normal interest in other people, 29.4% were less interested than before, and nearly 9.0% had lost most or all interest in socializing. Additionally, 30.8% of the respondents reported heightened levels of irritability, ranging from being more irritable than usual (16.6%) to being irritable all the time (3.0%).

Table 2d: Depressive symptoms among respondents using the Beck Depression Inventory continued.

Variables	Frequency (n=428)	Percent (%)
Concern about health		
I am not more worried about my health than usual	285	66.6
I am worried about minor health problems	123	28.7
I am very worried about my health and find it difficult to focus on other things	14	3.3
I am completely preoccupied with my health	6	1.4
Sexual interest		
I have not noticed any recent change in my interest in sex	302	70.6
I am less interested than before	41	9.6
I have almost no interest in sex	48	11.2
I have lost interest in sex completely	37	8.6

Table 2d concludes the presentation of the Beck Depression Inventory results by highlighting symptoms related to health concerns and sexual interest among the respondents. A significant majority of the students (66.6%) reported no abnormal worry regarding their physical health. However, somatic hypervigilance was present in roughly a third of the cohort; 28.7% expressed worry over minor health problems, and a cumulative 4.7% experienced severe health anxiety that either disrupted their focus or completely preoccupied their thoughts.

Regarding sexual interest, the data reveals a notable impact on libido within a subset of the population. While 70.6% of the students noticed no recent changes in their sexual interest, nearly three in ten respondents (29.4%) reported a decline. Specifically, 9.6% were less interested than before, 11.2% had almost no interest, and 8.6% stated they had lost interest in sex completely.

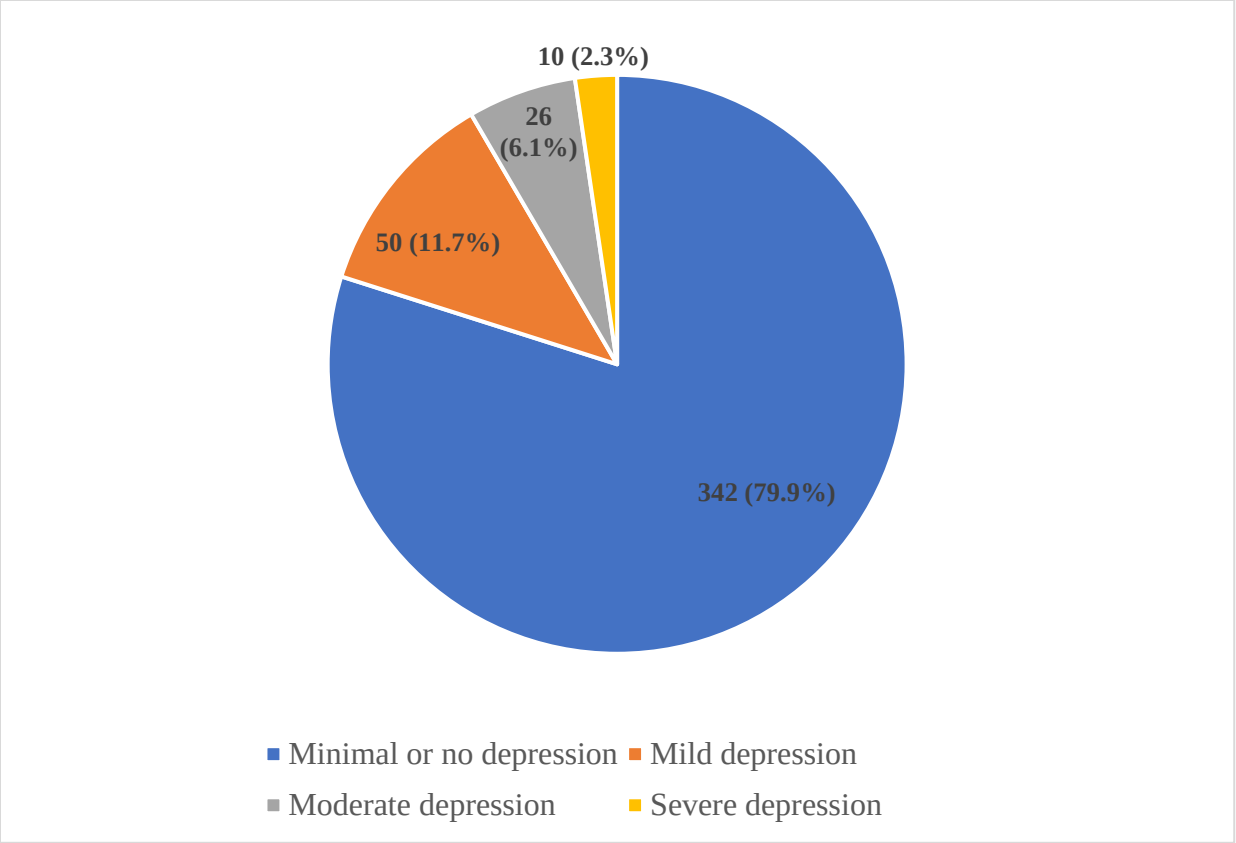

Figure 1: Prevalence of depression among respondents using the Beck Depression Inventory

Figure 1 illustrates the overall prevalence and severity of depression among the respondents, as categorized by their cumulative Beck Depression Inventory (BDI) scores. The vast majority of the study population (79.9%) fell into the normal range, exhibiting minimal or no depression. However, a cumulative 20.1% of the students met the diagnostic threshold for active depressive symptoms. When broken down by severity, 11.7% of the respondents experienced mild depression, 6.1% exhibited moderate depression, and a critical 2.3% were classified as having severe depression.

Table 3a: Sociodemographic characteristics and prevalence of depression among respondents

Variables	Prevalence of Depression (Beck Depression Inventory)				Test statistic	p-value
	Minimal (n=342) Frequency (%)	Mild (n=50) Frequency (%)	Moderate (n=26) Frequency (%)	Severe (n=10) Frequency (%)		
Age (years)						
15 – 19	90 (72.0)	20 (16.0)	10 (8.0)	5 (4.0)	12.172**	**0.043***
20 – 24	219 (82.6)	27 (10.2)	16 (6.0)	3 (1.1)		
≥ 25	33 (86.8)	3 (7.9)	0 (0.0)	2 (5.3)		
Sex						
Male	161 (83.9)	18 (9.4)	8 (4.2)	5 (2.6)	4.460	0.216
Female	181 (76.7)	32 (13.6)	18 (7.6)	5 (2.1)		
Religion						
Christianity	320 (80.2)	45 (11.3)	25 (6.3)	9 (2.3)	12.179**	0.052
Islam	22 (81.5)	4 (14.8)	1 (3.7)	0 (0.0)		
Others	0 (0.0)	1 (50.0)	0 (0.0)	1 (50.0)		
Marital status						
Single	335 (80.1)	47 (11.2)	26 (6.2)	10 (2.4)	3.060**	0.344
Married	7 (70.0)	3 (30.0)	0 (0.0)	0 (0.0)		

*** Statistically significant ** Fisher Exact Test**

Table 3a illustrates the association between the sociodemographic characteristics of the respondents and the prevalence of depression. A statistically significant relationship was observed

between age and depression severity ($p = 0.043$). Specifically, respondents in the youngest age bracket (15 – 19 years) exhibited the highest proportions of both mild (16.0%) and severe (4.0%) depression compared to the older cohorts, while the vast majority of students aged 25 and above (86.8%) reported minimal to no depression.

Conversely, there was no statistically significant association found between sex and the prevalence of depression ($p = 0.216$), although females displayed slightly higher descriptive rates of mild (13.6%) and moderate (7.6%) depressive symptoms than their male counterparts. Similarly, neither religion ($p = 0.052$) nor marital status ($p = 0.344$) demonstrated a statistically significant relationship with depression levels at the standard 0.05 level of significance.

Table 3b: Sociodemographic characteristics and prevalence of depression among respondents

Variables	Prevalence of Depression (Beck Depression Inventory)				Test statistic	p-value
	Minimal (n=342) Frequency (%)	Mild (n=50) Frequency (%)	Moderate (n=26) Frequency (%)	Severe (n=10) Frequency (%)		
Level of study						
200 level	70 (72.9)	18 (18.8)	6 (6.3)	2 (2.1)	24.980	**0.015***
300 level	66 (82.5)	8 (10.0)	5 (6.3)	1 (1.3)		
400 level	74 (80.4)	6 (6.5)	6 (6.5)	6 (6.5)		
500 level	57 (74.0)	11 (14.3)	8 (10.4)	1 (1.3)		
600 level	75 (90.4)	7 (8.4)	1 (1.2)	0 (0.0)		
Residence location						
On campus	133 (80.1)	17 (10.2)	13 (7.8)	3 (1.8)	2.186	0.535
Off campus	209 (79.8)	33 (12.6)	13 (5.0)	7 (2.7)		
Accommodation						
Alone	88 (75.2)	14 (12.0)	9 (7.7)	6 (5.1)	11.676**	0.194
With roommates	164 (83.2)	22 (11.2)	7 (3.6)	4 (2.0)		
With parents	46 (80.7)	5 (8.8)	6 (10.5)	0 (0.0)		
With relatives	44 (77.2)	9 (15.8)	4 (7.0)	0 (0.0)		
Source of funding for fees and expenses						
Self	28 (82.4)	4 (11.8)	1 (2.9)	1 (2.9)	6.517**	0.588
Parents	285 (79.4)	44 (12.3)	22 (6.1)	8 (2.2)		

Relatives	24 (82.8)	2 (6.9)	3 (10.3)	0 (0.0)
Benefactors	5 (83.3)	0 (0.0)	0 (0.0)	1 (16.7)

*** Statistically significant ** Fisher Exact Test**

Table 3b further examines the association between academic and living-related sociodemographic factors and the prevalence of depression. A statistically significant relationship was found between the respondents' level of study and their depression severity ($p = 0.015$). Students at the 200 level exhibited the highest overall prevalence of depressive symptoms, with 18.8% experiencing mild depression and 8.4% experiencing moderate to severe depression. Conversely, depressive symptoms were notably lowest among final-year students (600 level), where the vast majority (90.4%) reported minimal or no depression.

In contrast, environmental and financial support structures did not demonstrate a statistically significant impact on depression levels within this cohort. Whether a student resided on campus or off campus ($p = 0.535$) had no significant bearing on their Beck Depression Inventory scores. Similarly, the specific type of accommodation—such as living alone, with roommates, or with family—showed no significant association ($p = 0.194$). The primary source of funding for school fees and living expenses ($p = 0.588$) also did not statistically influence depression prevalence.

Table 4a: Determinants of depression among respondents

Variables	Frequency (n=428)	Percent (%)
Previous diagnosis of depression		
Yes	45	10.5
No	331	77.3
I don't know	52	12.1
Family history of depression		
Yes	38	8.9
No	302	70.6
I don't know	88	20.6
Difficulty coping with school workload	194	45.3
Recent traumatic event	119	27.8
Traumatic event experienced (n=119)		
Examination failure	36	30.3
Heartbreak	29	24.4
Sexual abuse	5	4.2
Physical abuse	5	4.2
Illness	5	4.2
Academic stress	8	6.7
Bereavement	4	3.4
Accident	4	3.4

Financial/material loss	5	4.2
Verbal abuse/Emotional trauma	4	3.4
Unspecified	14	11.8
Major challenges that may lead to depression* (n =428)		
Repeating a class/Academic stress	109	25.5
Long travel time	53	12.4
Prolonged academic stay	108	25.2
Poor accommodation	81	18.9
Sleep problems	71	16.6
Financial problems	14	3.3
Intrapersonal and psychosocial struggles	4	0.9
Bereavement	3	0.7
Health problems	2	0.5

*Multiple response question

Table 4 outlines the clinical history and academic coping mechanisms of the 428 respondents. Only a minority of the students reported a previous personal diagnosis of depression (10.5%) or a known family history of the condition (8.9%). However, a substantial proportion of the cohort (45.3%) admitted to experiencing difficulty coping with their current school workload.

Regarding recent traumatic experiences, 27.8% of the study population (119 students) reported having encountered a traumatic event. Among these 119 respondents, academic and interpersonal issues were the most prominent sources of trauma; examination failure was the most frequently

cited event (30.3%), closely followed by heartbreak (24.4%). Other reported traumas included academic stress (6.7%), sexual and physical abuse (4.2% each), illness (4.2%), and financial or material loss (4.2%).

When asked to identify major challenges that may lead to depression, academic factors were again the most dominant. Repeating a class or academic stress was cited by 25.5% of the respondents, while prolonged academic stay was reported by 25.2%. Environmental and physiological stressors were also significant, with 18.9% pointing to poor accommodation and 16.6% identifying sleep problems as major challenges. Less frequently reported challenges included financial problems (3.3%), intrapersonal and psychosocial struggles (0.9%), and bereavement (0.7%).

Table 4b: Determinants of depression among respondents continued.

Variables	Frequency (n=428)	Percent (%)
Financial difficulty	174	40.7
Verbally attacked or embarrassed by lecturers	94	22.0
Sexual harassment	66	15.4
Chronic illness	17	4.0
Recent bereavement	80	18.7
Alcohol consumption	51	11.9
Alcohol is a source of concern (n=51)	8	15.7
Would like help to stop drinking (n=51)	7	13.7
Use of other substances	16	3.7
Substances used (n=16)*		
Cannabis	7	43.8
Tramadol	7	43.8
Cocaine	5	31.2
Codeine	3	18.8
Cigarette	2	12.5
Fentanyl	2	12.5

Table 3b details specific environmental stressors, interpersonal challenges, and substance use patterns among the respondents. Financial difficulty was the most prevalent stressor, affecting 40.7% of the study population. Interpersonal trauma within the academic and personal environment was also notably reported; 22.0% of students had been verbally attacked or

embarrassed by lecturers, 18.7% had experienced a recent bereavement, and 15.4% reported having been sexually harassed. A small minority (4.0%) reported dealing with a chronic illness.

The table also highlights the prevalence of substance use as a potential determinant or coping mechanism. Alcohol consumption was reported by 11.9% of the respondents. Among the 51 students who consume alcohol, 15.7% indicated that their drinking is a source of concern to them, and 13.7% expressed a desire for help to stop drinking.

Furthermore, the use of other psychoactive substances was reported by 3.7% of the total sample (16 students). Within this specific subset of substance users, Cannabis and Tramadol were the most frequently utilized, each reported by 43.8% of the users. This was followed by the use of Cocaine (31.2%) and Codeine (18.8%), while Cigarettes and Fentanyl were each used by 12.5% of this group

Table 5: Impact of depression among respondents

Variables	Frequency (n=428)	Percent (%)
Presence of depressive symptoms	105	24.5
Depression affected relationship with peers or lecturers (n=105)	66	62.9
Depression affected interest in social or extracurricular activities (n=105)	73	69.5
Often isolates self when feeling depressed (n=105)	83	79.0
Depression led to suicidal thoughts or attempts (n=105)	48	45.7
Sought help (formal/informal) for depressive symptoms (n=105)	28	26.7
Feels supported by friends, family or the school (n=105)	67	63.8

Table 4 illustrates the profound psychosocial and interpersonal impact of depression on the affected respondents. Out of the total study population, 105 students (24.5%) reported the presence of active depressive symptoms. The subsequent metrics in this table evaluate the specific impact within this symptomatic subgroup (n=105).

Depression severely hindered the social functioning and interpersonal relationships of these students. A vast majority (79.0%) reported that they often isolate themselves when feeling depressed. Furthermore, 69.5% noted a detrimental effect on their interest in social or extracurricular activities , and 62.9% indicated that their depressive symptoms negatively affected their relationships with peers or lecturers.

Crucially, the data reveals a severe psychological burden coupled with a concerning gap in mental health utilization. Alarmingly, nearly half of the symptomatic students (45.7%) reported that their depression had escalated to suicidal thoughts or attempts. Despite this high level of acuity, help-seeking behavior was remarkably low; only 26.7% of these students had sought any formal or informal help for their symptoms. Interestingly, this low rate of help-seeking exists despite a majority of the affected students (63.8%) stating they feel supported by friends, family, or the school.

Table 6: Effects of depression on academic performance among respondents

Variables	Frequency (n=428)	Percent (%)
Presence of depressive symptoms	**105**	**24.5**
Depression affected academic performance (n=105)	53	50.5
Finds it harder to concentrate in class or while studying (n=105)	63	60.0
Failed any course(s) due to poor mental health (n=105)	29	27.6
Missed classes or exams due to depression (n=105)	34	32.4
Believes academic potential is limited due to depression (n=105)	46	43.8
Academic support or mental health counseling would improve performance (n=105)	59	56.2

Table 5 details the specific impact of depression on the academic performance of the 105 respondents (24.5% of the total sample) who reported experiencing active depressive symptoms. Within this symptomatic subgroup, depression substantially impaired educational functioning. Half of these respondents (50.5%) explicitly acknowledged that depression negatively affected their overall academic performance, while an even larger majority (60.0%) reported finding it harder to concentrate in class or while studying.

Beyond cognitive difficulties, depressive symptoms translated into tangible, adverse academic outcomes. Nearly one-third of the affected students (32.4%) reported missing classes or examinations due to their depression, and more than a quarter (27.6%) had actually failed one or more courses as a direct consequence of their poor mental health.

Consequently, the psychological burden altered the students' self-efficacy, with 43.8% believing that their true academic potential was being actively limited by their depression. Despite these detrimental effects, there is a clear recognition of the value of intervention; over half of the symptomatic group (56.2%) agreed that receiving academic support or mental health counseling would improve their educational performance.

CHAPTER FIVE

DISCUSSION

Approximately one-fifth (20.1%) of the respondents experienced some level of depression, with the majority presenting with mild to moderate symptoms. Although most students fell within the minimal or no depression category, the presence of depressive symptoms in a substantial minority highlights an important mental health burden among pharmacy students. This prevalence is comparable to findings from other studies among university students in Nigeria and globally, where depression rates ranging from 20% to over 40% have been reported.[9, 18] The relatively lower prevalence observed in this study compared to some reports may reflect differences in study populations, sociocultural context, or the use of different screening instruments. Nevertheless, the findings underscore that depression remains a significant public health concern in this population. From a broader perspective, even mild depressive symptoms can impair daily functioning and academic productivity, and may progress to more severe forms if not addressed early, thereby increasing the long-term burden of mental health disorders. Beyond overall prevalence, the study demonstrated that a considerable proportion of respondents exhibited cognitive, emotional, and somatic features of depression. Commonly reported symptoms included reduced interest in usual activities, fatigue, sleep disturbances, and self-critical thoughts. These findings are consistent with previous studies that identified anhedonia, low energy, and negative self-perception as core features of depression among university students.[5, 18] Notably, a subset of respondents reported suicidal ideation, which, although relatively low in proportion, represents a critical clinical concern. The presence of such symptoms in this study underscores the need for early mental health screening and timely intervention, as untreated depression may progress to self-harm or suicide, particularly in high-pressure academic environments.

The study further identified age and level of study as significant factors associated with depression. Younger students, particularly those aged 15–19 years, and those in lower academic levels (especially 200 level), exhibited higher levels of depressive symptoms compared to older and more advanced students. This pattern may be explained by the challenges associated with transitioning into university life, including academic pressure, adaptation to a new environment, and limited coping mechanisms. Similar findings have been reported in other studies, where early-year students were more vulnerable to psychological distress due to adjustment difficulties and uncertainty about academic expectations.[6,18] Conversely, final-year students demonstrated lower levels of depression, possibly due to increased resilience, better coping strategies, and familiarity with the academic system. These findings suggest that interventions should be targeted particularly at students in their early years to support adjustment and prevent the development of mental health problems.

In contrast, other sociodemographic variables such as sex, religion, marital status, residence location, accommodation type, and source of funding did not show statistically significant associations with depression. Although female students demonstrated slightly higher levels of depressive symptoms descriptively, the difference was not statistically significant. This aligns with findings from some studies that suggest gender differences in depression may not always be consistent across populations, and may be influenced by contextual and cultural factors.[5] Similarly, the lack of association with financial support and living arrangements suggests that depression in this population is multifactorial and may be more strongly influenced by psychological and academic stressors than by basic demographic characteristics alone. This highlights the complexity of depression and the need for comprehensive approaches that go beyond demographic risk profiling.

The determinants of depression identified in this study were largely centered around academic, psychosocial, and environmental stressors. A significant proportion of respondents reported difficulty coping with academic workload, prolonged academic stay, and academic-related stress as major challenges. These findings are consistent with existing literature, which identifies academic pressure as one of the strongest predictors of depression among pharmacy and other health science students.[1,2] Additionally, financial difficulties, traumatic experiences such as examination failure and heartbreak, and negative interpersonal experiences (including verbal abuse from lecturers and sexual harassment) were notable contributors. These factors reflect the multidimensional nature of depression, where academic demands interact with personal and environmental stressors to influence mental health outcomes. From a public health standpoint, these findings highlight the need for institutional interventions aimed at reducing academic stress, improving student–faculty relationships, and creating a supportive learning environment.

Substance use and exposure to adverse life events also emerged as important determinants of depression in this study. A proportion of students reported alcohol consumption and the use of psychoactive substances such as cannabis, tramadol, and cocaine. These substances may be used as maladaptive coping mechanisms for stress and emotional distress, as documented in previous studies among university students.[10] Furthermore, experiences such as bereavement, chronic illness, and interpersonal trauma were reported by a notable proportion of respondents. These findings underscore the complex interplay between psychological, behavioral, and environmental factors in the development of depression. The implication is that mental health interventions should not only address academic stress but also incorporate substance use prevention and yupsychosocial support services.

The impact of depression on students' psychosocial functioning was profound. A majority of students with depressive symptoms reported social withdrawal, reduced participation in extracurricular activities, and impaired relationships with peers and lecturers. Notably, a high proportion reported isolating themselves during depressive episodes, which may further exacerbate feelings of loneliness and worsen mental health outcomes. Additionally, nearly half of the affected students reported experiencing suicidal thoughts, indicating a significant level of psychological distress. Despite this, help-seeking behavior was remarkably low, with only about one-quarter of affected students seeking any form of support. This finding is consistent with previous study that highlights low utilization of mental health services among university students, often due to stigma, lack of awareness, or perceived inadequacy of available services.[28] The discrepancy between perceived social support and actual help-seeking behavior suggests the presence of systemic and cultural barriers that need to be addressed through targeted mental health awareness campaigns and improved access to confidential counseling services.

Depression was also found to have a substantial negative impact on academic performance. Among students with depressive symptoms, a significant proportion reported difficulty concentrating, missing classes or examinations, and failing courses. Furthermore, many students perceived that their academic potential was limited by their mental health condition. These findings are consistent with previous research demonstrating a strong association between depression and poor academic outcomes, including reduced academic engagement, lower grades, and increased risk of academic failure.[7,18] The implication is that depression is not only a health issue but also a critical academic concern that can affect students' long-term career trajectories. Importantly, more than half of the affected students expressed that academic support and mental

health counseling could improve their performance, indicating a clear need and willingness for intervention.

Overall, this study demonstrates that while a majority of pharmacy students may not exhibit severe depression, a significant proportion experience varying degrees of depressive symptoms that adversely affect their psychosocial well-being and academic performance. The findings highlight that depression in this population is largely driven by academic stressors, compounded by psychosocial and environmental factors such as financial difficulties, traumatic experiences, and substance use. The study therefore emphasizes the need for comprehensive and integrated interventions, including mental health screening, counseling services, academic support systems, and policies aimed at reducing academic stress. Such holistic approaches are essential for improving student well-being, enhancing academic outcomes, and reducing the overall burden of depression in university settings.

CONCLUSION

The prevalence of depression among pharmacy students at the University of Benin was found to be notable, with about one-fifth of the respondents experiencing varying degrees of depressive symptoms. Although the majority had minimal or no depression, the presence of mild to severe cases highlights a significant mental health burden within the student population.

The determinants of depression were largely related to academic and psychosocial factors. Key contributors included academic stress, financial difficulties, traumatic experiences, and negative interpersonal interactions. Younger students and those in lower academic levels were more affected, indicating the role of adjustment challenges and academic pressure in the development of depression.

The impact of depression was evident in both psychosocial functioning and academic performance. Affected students reported reduced concentration, social withdrawal, impaired relationships, missed classes, and academic difficulties. Despite these effects, help-seeking behavior remained low, suggesting barriers such as stigma and limited access to mental health support.

Overall, these findings highlight that depression among pharmacy students is a significant and multifactorial problem, emphasizing the need for comprehensive interventions to improve mental health and academic outcomes.

RECOMMENDATIONS

FEDERAL GOVERNMENT OF NIGERIA THROUGH THE FEDERAL MINISTRY OF HEALTH

1. Should strengthen national mental health policies by integrating mental health services into primary healthcare and educational institutions to improve early detection and management of depression among young adults.
2. Should implement nationwide mental health awareness campaigns aimed at reducing stigma and promoting help-seeking behavior among students.

TO THE STATE GOVERNMENT THROUGH THE STATE MINISTRY OF HEALTH

1. Should collaborate with tertiary institutions to establish accessible and youth-friendly mental health services, including routine screening for depression among students.
2. Should support training of healthcare workers in student mental health care and counseling to ensure effective service delivery.

TO THE UNIVERSITY OF BENIN

1. Should establish or strengthen functional counseling and mental health support units that provide confidential and accessible services to students.
2. Should incorporate mental health education, stress management, and coping strategies into student orientation programs, particularly for newly admitted students.
3. Should review academic workload and scheduling to reduce excessive stress, especially among students in lower academic levels.

TO THE FACULTY OF PHARMACY

1. Should implement mentorship and academic support programs to assist students in coping with academic demands.
2. Should promote a supportive learning environment by improving student–lecturer relationships and addressing negative interpersonal interactions.

TO STUDENTS

1. Students should be encouraged to seek early help from appropriate mental health services when experiencing symptoms of depression.
2. Students should adopt healthy coping strategies such as time management, social support, and regular physical activity to manage stress.
3. Students should avoid maladaptive coping mechanisms such as substance use and instead utilize available support systems.

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APPENDIX I

INFORMED CONSENT FORM

PREVALENCE, DETERMINANTS, IMPACT OF DEPRESSION AND ITS EFFECTS ON ACADEMIC PERFORMANCE AMONG PHARMACY STUDENTS IN UNIVERSITY OF BENIN, BENIN CITY, EDO STATE, NIGERIA.

INVESTIGATORS

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FINANCIAL SPONSORSHIP

This research project is self-sponsored.

PURPOSE OF THE RESEARCH

The purpose of this study is to determine the prevalence of depression among pharmacy students at the University of Benin, identify the key determinants contributing to it, and evaluate its overall impact on their academic performance and well-being.

PROCEDURES AND PROTOCOL INVOLVED IN THE STUDY

You are kindly requested to complete a questionnaire designed to assess mental health status, contributing environmental or academic factors, and academic outcomes. This questionnaire is strictly for research purposes and will take approximately 10–15 minutes of your time.

COMPENSATION

There will be no financial compensation for participating in this study.

VOLUNTARY PARTICIPATION

Your participation in this research is completely voluntary. There will be no penalty or loss of benefit if you choose not to participate. You are free to withdraw from the study at any time, even after you have started the questionnaire.

SIDE EFFECTS

There are no anticipated physical risks or adverse effects associated with participating in this study. However, reflecting on your mental health may be sensitive; you are encouraged to skip any questions that make you feel uncomfortable.

BENEFITS

The benefit of this study includes the generation of local data to help the University and the Faculty of Pharmacy understand the mental health challenges of its students. The findings may provide a basis for evidence-based interventions and improved student support services.

CONFIDENTIALITY

All information and data obtained during this study will be kept strictly confidential. No names or identifiable personal details will be recorded on the questionnaires. All digital data will be securely stored in password-protected files, and physical copies will be kept in a locked cabinet accessible only to the investigators.

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IF THERE IS ANY PORTION OF THIS FORM YOU DO NOT UNDERSTAND, PLEASE ASK THE INVESTIGATOR BEFORE SIGNING.

Please, sign below if you have agreed to participate in the study.

CERTIFICATION OF CONSENT

I, _____ having full capacity to consent for myself, do hereby agree to my participation in this research study. The methods and objectives of the study have been explained to me. I have been given the opportunity to ask questions, and all such questions have been answered to my satisfaction. I understand that I may revoke this consent and withdraw from the study at any time without prejudice.

Name of Participant: _____

Signature of Participant: _____

Date: _____

APPENDIX II

PREVALENCE, DETERMINANTS, IMPACTS OF DEPRESSION AND ITS EFFECT ON ACADEMIC PERFORMANCE AMONG PHARMACY STUDENTS IN UNIVERSITY OF BENIN, BENIN CITY, EDO STATE, NIGERIA.

QUESTIONNAIRE

I am a 600L Medical student at the University of Benin, Benin City. This questionnaire is designed to assess the prevalence, determinants, and impact of depression and its effect on academic performance among undergraduate pharmacy students. All information provided will be treated as confidential. Kindly fill all sections appropriately. Thank you.

SECTION A

1. Age (as at last birthday): _____

2. Sex: Male ( ) Female ( )

3. Religion: Christianity ( ) Islam ( ) African Traditional Religion ( ) Others (specify): _____

4. Ethnic Group: _____

5. Level: 200 ( ) 300 ( ) 400 ( ) 500 ( ) 600 ( )

6. Marital Status: Single ( ) Married ( ) Separated ( ) Widowed ( ) Cohabiting ( ) Divorced ( )

7. Accommodation: On-campus ( ) Off-campus ( ) At home ( )

8. Who do you reside with? Alone ( ) With roommates ( ) With parents ( ) With relatives ( ) Others (Specify): _____

9. Who is responsible for your school fees and other expenses? Myself ( ) Parents ( ) Relatives ( ) Others (specify): _____

SECTION B

1. Do you feel sad?

    - I do not feel sad ( )

    - I feel sad ( )

    - I am sad all the time and can't snap out of it ( )

    - I am so sad and unhappy that I can't stand it ( )

2. How do you feel about the future?

    - I feel hopeful about the future ( )

    - I feel discouraged about the future ( )

    - I feel I have nothing to look forward to ( )

    - The future seems hopeless ( )

3. Do you feel like a failure?

    - I do not feel like a failure ( )

    - I feel I have failed more than average ( )

    - As I look back I see a lot of failure ( )

    - I feel like a complete failure ( )

4. Are you interested in your usual activities?

    - I have as much interest in activities as before ( )

    - I have less interest than before ( )

    - I have lost most of my interest in activities ( )

    - I have lost all interest in activities ( )

5. Do you feel guilty?

    - I do not feel guilty ( )

    - I feel guilty a good part of the time ( )

    - I feel quite guilty most of the time ( )

    - I feel guilty all of the time ( )

6. Do you feel punished?

    - I don't feel I am being punished ( )

    - I feel I may be punished ( )

    - I expect to be punished ( )

    - I feel I am being punished ( )

7. How do you feel about yourself?

    - I feel the same about myself as ever ( )

    - I am disappointed in myself ( )

- I am disgusted with myself ( )

- I hate myself ( )

8. What are your thoughts about yourself?

- I don't feel worse than anybody else ( )

- I am critical of myself for weakness or mistakes ( )

- I blame myself all the time for my fault ( )

- I blame myself for everything bad that happen ( )

9. Do you think of killing yourself?

- I don't have such thoughts ( )

- I have thoughts but won't act on it ( )

- I would like to kill myself ( )

- I would kill myself if I had the chance ( )

10. How often do you cry?

- I do not cry more than usual ( )

- I cry more than I used to ( )

- I cry all the time now ( )

- I used to cry but I can't cry anymore ( )

11. How irritable do you get?

- I am not more irritable than usual ( )

- I am more irritable than usual ( )

- I am quite irritable most of the time ( )

- I am irritated all the time ( )

12. Do you still have interest in people?

- I have not lost interest in other people ( )

- I am less interested in other people than before ( )

- I have lost most of my interest in people ( )

- I have lost all interest in people ( )

13. Are you able to make decisions?

- I make decisions about as well as ever ( )

- I delay decisions more ( )

- I have greater difficulty in deciding ( )

- I can’t make decisions at all anymore ( )

14. How do you feel about your appearance?

- I feel I look about the same as ever ( )

- I am worried I look worse than I used to ( )

- I feel there are permanent changes that make me unattractive ( )

- I believe I look ugly ( )

15. Are you able to work?

- I can work about as well as before ( )

- It takes extra effort to start doing something ( )

- I have to push myself very hard to do anything ( )

- I can’t do any work at all ( )

16. Do you sleep well?

- I sleep as well as usual ( )

- I don’t sleep as well as I used to ( )

- I wake earlier than usual and find it hard to go back to sleep ( )

- I wake several hours earlier and cannot return to sleep ( )

17. Do you get fatigued quickly?

- I do not get more tired than usual ( )

- I get tired more easily ( )

- I get tired from almost anything ( )

- I am too tired to do anything ( )

18. How has your appetite been?

- My appetite is no worse than usual ( )

- My appetite is not as good as it used to be ( )

- My appetite is much worse now ( )

- I have no appetite at all ( )

19. Do you think you're losing weight?

- Not much or any ( )

- Lost over 2kg ( )

- Lost over 5kg ( )

- Lost over 7kg ( )

20. Are you worried about your health?

- I am not more worried about my health than usual ( )

- I am worried about minor issues ( )

- I am very worried about my health and find it difficult to think about anything else ( )

- I am completely preoccupied with my health ( )

21. How is your sex life?

- I have not noticed any recent changes ( )

- I am less interested than before ( )

- I have almost no interest in sex ( )

- I have lost interest in sex completely ( )

SECTION C

1. Have you been previously diagnosed with depression? Yes ( ) No ( ) Don't Know ( )

2. Has any family member been diagnosed with depression? Yes ( ) No ( ) Don't know ( )

3. Have you encountered any traumatic event recently? Yes ( ) No ( )

If yes, specify: Examination failure ( ) Heartbreak ( ) Sexual abuse ( ) Physical abuse ( ) Chronic illness ( ) Others (specify): _____

4. Are you having difficulty coping with your school workload? Yes ( ) No ( )

5. What are your major challenges that may lead to depression? (Tick all that apply) Repeating a class ( ) Long travel time ( ) Prolonged academic stay ( ) Poor accommodation ( ) Sleep problems ( ) Others (specify): _____

6. Are you facing any financial difficulty? Yes ( ) No ( )

7. Have you ever been verbally attacked or embarrassed by lecturers? Yes ( ) No ( )

8. Have you ever been sexually harassed? Yes ( ) No ( )

9. Do you have any chronic illness? Yes ( ) No ( )

10. Have you lost someone close to you recently? Yes ( ) No ( )

11. Do you consume alcohol? Yes ( ) No ( )

If yes, is it a source of concern to you? Yes ( ) No ( ) Would you like help to stop drinking? Yes ( ) No ( )

12. Do you use any other substances? Yes ( ) No ( )

If yes, indicate (tick all that apply): Cannabis ( ) Cigarette ( ) Cocaine ( ) Tramadol ( ) Codeine ( ) Others (specify): _____

SCREENING QUESTION (Answer this before proceeding):

Do you often experience persistent feelings of sadness, hopelessness, or loss of interest in activities you usually enjoy?

- Yes ( )

- No ( )

- If you answered "Yes," kindly proceed to Sections D and E.

- If you answered "No," you may skip Sections D and E and submit your questionnaire. Thank you!

SECTION D

1. Has depression affected your relationship with your peers or lecturers? Yes ( ) No ( )
2. Has depression affected your interest in social or extracurricular activities? Yes ( ) No ( )
3. Do you often isolate yourself when feeling depressed? Yes ( ) No ( )
4. Has depression led you to have suicidal thoughts or attempts? Yes ( ) No ( )
5. Have you sought any help (formal/informal) for depressive symptoms? Yes ( ) No ( )
6. Do you feel supported by friends, family or the school? Yes ( ) No ( )

SECTION E

1. Has depression affected your academic performance? Yes ( ) No ( )

2. Do you find it harder to concentrate in class or while studying? Yes ( ) No ( )

3. Have you failed any course(s) due to poor mental health? Yes ( ) No ( )

4. Have you missed classes or exams due to depression? Yes ( ) No ( )

5. Do you believe your academic potential is limited due to depression? Yes ( ) No ( ) Don't know ( )

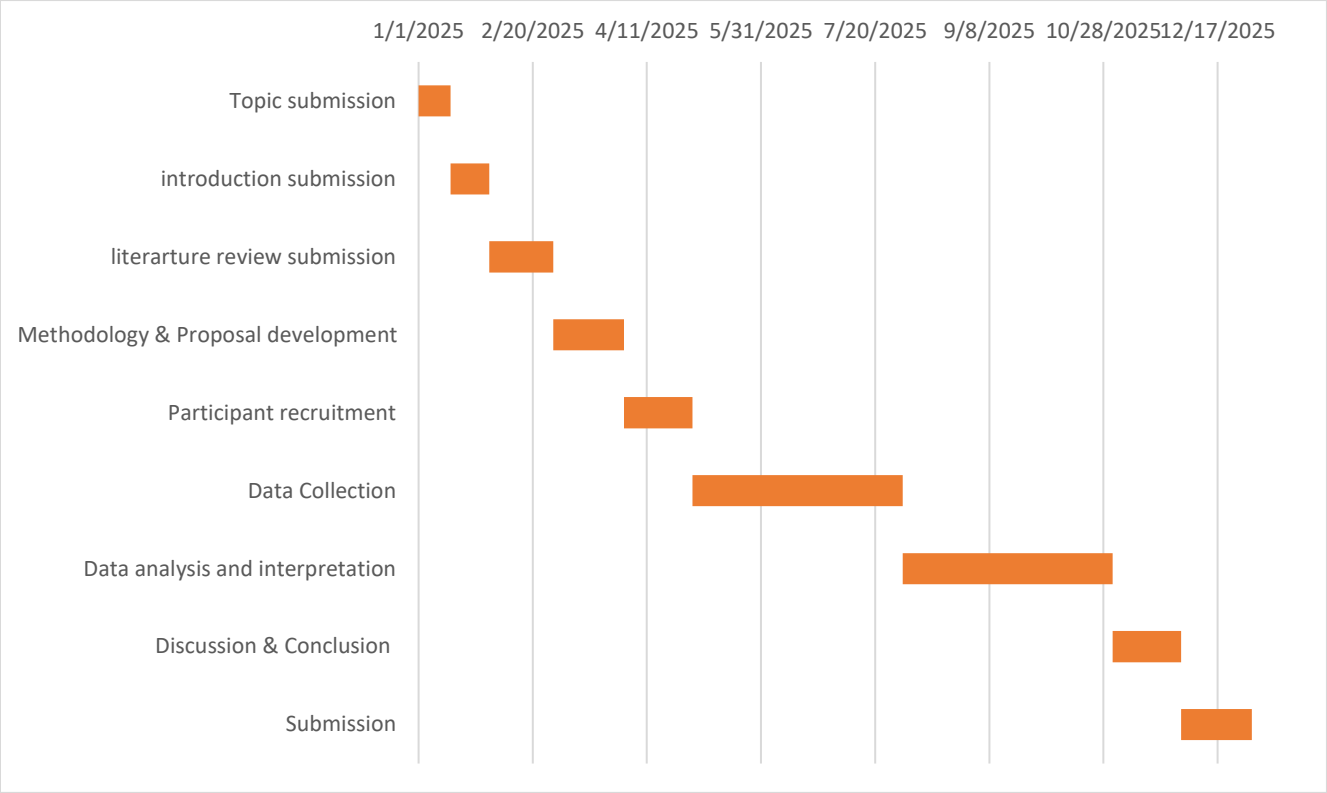
6. Would academic support services or mental health counseling improve your performance? Yes ( ) No ( ) Don't know ( )

APPENDIX III

THE MAP OF THE AREA

APPENDIX IV

WORK PLAN



A Gantt chart showing the work plan for the reasearch

APPENDIX V

ETHICAL APPROVAL FORM

HEALTH RESEARCH ETHICS COMMITTEE (HREC)

UNIVERSITY OF BENIN TEACHING HOSPITAL

P.M.B. 1111 BENIN CITY NIGERIA Telephone: 052-600418 Website: ubth.org

CHIEF MEDICAL DIRECTOR
Prof.Darlington E. Obaseki
E-mail: *darlobaseki@gmail.com*

DIRECTOR OF ADMINISTRATION
Jim Uwadie, Esq

CHAIRMAN
Prof. (Mrs.) Antoinette N. Ofili

HREC OFFICE:
Committee email: ubthresearchethics@gmail.com
Registration Number:
NHREC-UBTH-HREC/24/12/2022B

PROTOCOL NUMBER: ADM/E 22/A/VOL. VII/148654912570

PROPOSAL TITLE: **"PREVALENCE, DETERMINANTS, IMPACTS OF DEPRESSION AND IT'S EFFECT ON ACADEMIC PERFORMANCE AMONG PHARMACY STUDENTS IN UNIVERSITY OF BENIN, BENIN CITY, EDO STATE, NIGERIA"**

PRINCIPAL INVESTIGATOR(S): **IJOGI JOSEPH OBOH AND LAWANI KORLYNS EHIGIE**

DEPARTMENT/INSTITUTION: **DEPARTMENT OF PUBLIC HEALTH AND COMMUNITY MEDICINE, SCHOOL OF MEDICINE, UNIVERSITY OF BENIN, BENIN CITY, EDO STATE, NIGERIA**

DATE CONSIDERED: JUNE 10TH, 2025

DECISION OF THE COMMITTEE: APPROVED

THIS APPROVAL DATES 10/6/2025 TO 9/6/2026. IF THERE IS DELAY IN STARTING THE RESEARCH, PLEASE INFORM THE HREC SO THAT THE DATES OF APPROVAL CAN BE ADJUSTED ACCORDINGLY

REMARK:

CHAIRMAN: PROF. (MRS) A.N. OFILI **SIGNATURE & DATE**..... 10/6/2025

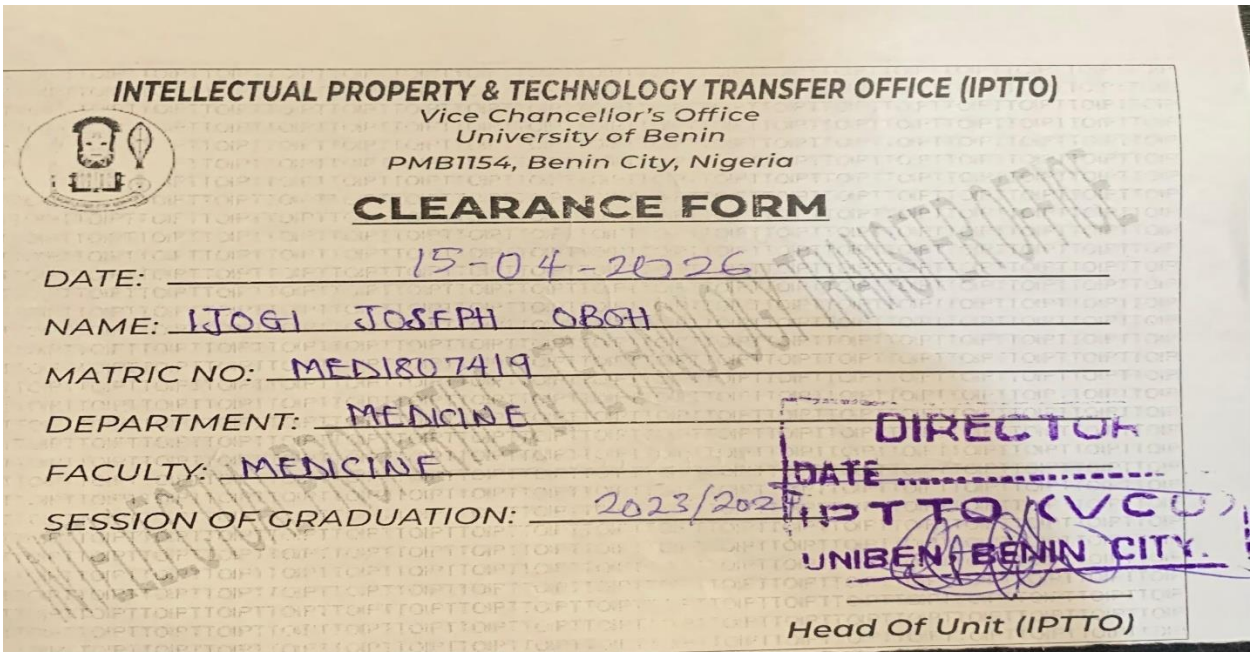
SUPERVISOR (S): PROF. (MRS) A.N. OFILI

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

Signature & Date..... 11/6/2025

APPENDIX VI

CLEARANCE FORM



INTELLECTUAL PROPERTY & TECHNOLOGY TRANSFER OFFICE (IPTTO)
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SESSION OF GRADUATION: 2023/202

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DATE .....
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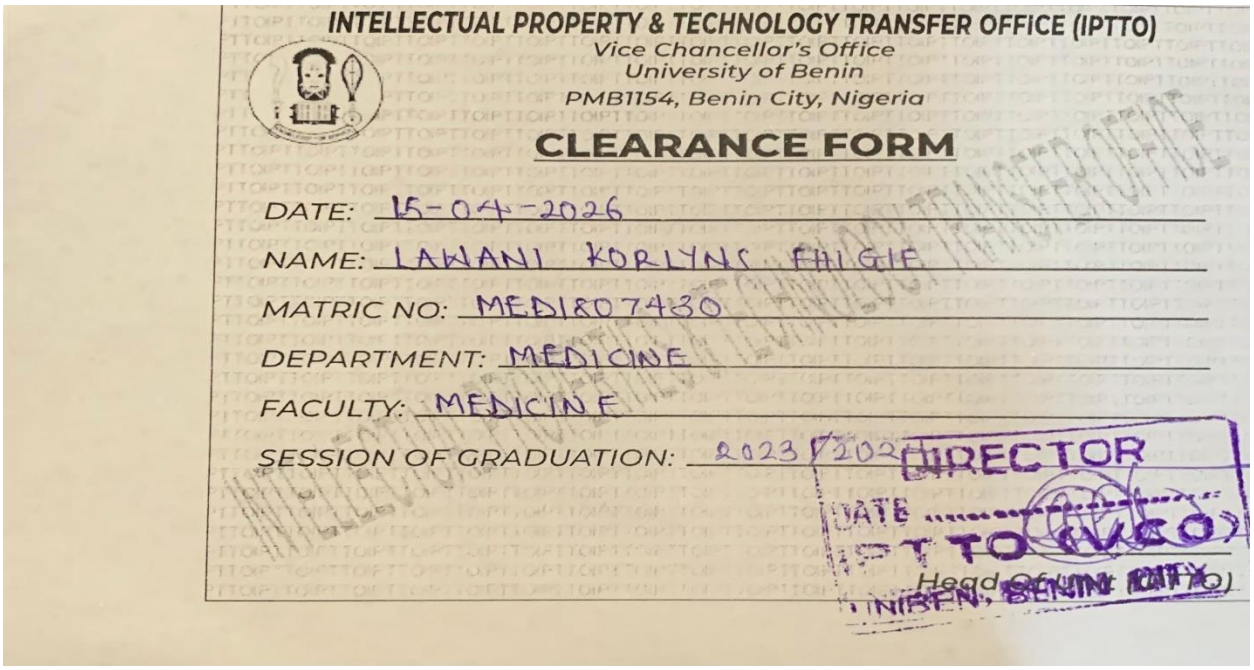
UNIBEN, BENIN CITY.
Head Of Unit (IPTTO)



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