

**THE ASSESSMENT OF GENERALIZED ANXIETY DISORDER IN
SECOND-YEAR PHARMACY STUDENTS IN THE UNIVERSITY OF
BENIN**



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**A DISSERTATION SUBMITTED TO THE DEPARTMENT OF CLINICAL
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DOCTOR OF PHARMACY (PHARM. D) DEGREE OF THE UNIVERSITY
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CERTIFICATION

We the undersigned hereby agree that this work was carried out by **Halim Elaine Anwuli** with matriculation number PHA1908493, in the Department of Clinical Pharmacy and Pharmacy Practice, Faculty of Pharmacy, University of Benin, Benin City, in partial fulfilment of the requirement for the award of Doctor of Pharmacy (Pharm D) degree

HALIM ELAINE ANWULI
(PROJECT STUDENT)

DATE

PROF. VALENTINE U. ODILI
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DATE

DR. M.I. OSARENMWINDA
(HEAD OF DEPARTMENT)

DATE

DEDICATION

I dedicate this project to my parents, Prof and Mrs. Halim, whose unwavering love and support have been my foundation.

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I sincerely appreciated God Almighty for His guidance, wisdom and strength throughout this project. Without His help, this work would not have been possible.

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TABLE OF CONTENTS

TITLE PAGE	i
CERTIFICATION	iii
DEDICATION.....	iv
ACKNOWLEDGEMENT.....	v
TABLE OF CONTENTS.....	vi
LIST OF TABLES.....	viii
LIST OF FIGURES.....	ix
ABSTRACT	x
CHAPTER ONE	1
1.1 INTRODUCTION AND BACKGROUND OF STUDY	1
1.2 STATEMENT OF PROBLEM.....	6
1.3 RESEARCH QUESTIONS	6
1.4 JUSTIFICATION OF STUDY	7
1.5 LITERATURE REVIEW	9
1.6 AIM AND OBJECTIVE OF STUDY	25
CHAPTER TWO	27
2.1 METHODS.....	27
2.1.1 STUDY SETTING.....	27
2.1.2 STUDY DESIGN.....	27
2.1.3 STUDY POPULATION.....	27
2.1.4 DATA COLLECTION.....	29
2.1.5 DATA ANALYSIS	30
2.1.6 ETHICAL CONSIDERATION.....	31

CHAPTER THREE	32
3.1 RESULTS AND DATA PRESENTATION	32
CHAPTER FOUR	47
4.0 DISCUSSION	47
4.1 LIMITATIONS OF THE STUDY	52
CHAPTER FIVE	54
5.1 CONCLUSION	54
5.2 RECOMMENDATIONS:	55
REFERENCES	57
APPENDIX	67

LIST OF TABLES

Table 3.1: Socio-Demographics	33
Table 3.2: Anxiety Levels	35
Table 3.3: GAD-7 Scale Measurement Of Anxiety	36
Table 3.4: Functional Issues	37
Table 3.5: Stress Levels	38
Table 3.6: Academic Impact	39
Table 3.7: Suggestions	42
Table 3.8: Association Between Socio-Demographics And Anxiety Levels	44
Table 3.9: Association between Stress levels and Gad-7 Anxiety Levels	46

LIST OF FIGURES

Figure 3.0: Effect of Anxiety Levels on Academic Performance

41

ABSTRACT

Introduction/Background: Mental health is a critical determinant of academic success, particularly in demanding professional programs like pharmacy. Generalized Anxiety Disorder (GAD), characterized by persistent and uncontrollable worry, is a prevalent and disabling condition globally. University students, especially those in health professions, are recognized as a high-risk group due to academic pressures, transitional challenges, and systemic stressors. In the Nigerian context, these challenges are intensified by institutional constraints and cultural stigma surrounding mental health. Despite this, there is a scarcity of research focusing specifically on GAD among pharmacy students in Nigeria, creating a significant gap in understanding and addressing this issue.

Objective: The objective of this study to assess the prevalence and severity of Generalized Anxiety Disorder among second-year pharmacy students at the University of Benin.

Method: All eligible and consenting participants were included in the study through a census technique. Data were collected using a structured, self-administered questionnaire comprising a socio-demographic section and the standardized Generalized Anxiety Disorder 7-item (GAD-7) scale. Data analysis was performed using the Statistical Package for the Social Sciences (SPSS) version 27.0, utilizing descriptive statistics and Chi-square tests to determine associations, with a p-value of less than 0.05 considered statistically significant.

Results: The study revealed a high prevalence of anxiety, with 75.5% of students reporting some level of clinically significant symptoms. The distribution of anxiety severity was 32.9% mild, 30.1% moderate, and 12.6% severe. The most common symptoms were “worrying too much about different things,” “feeling nervous, anxious or on edge,” and “not being able to stop or

control worrying.” A strong majority (75.5%) of students believed that anxiety negatively affected their academic performance. Key contributing stressors included pressure to maintain high grades (72.7%), heavy academic workload (61.5%), and large study materials (51.0%). A statistically significant association was found between gender and anxiety levels, with female students reporting higher levels of moderate anxiety. Help-seeking behaviour was low, with only 18.2% of students having ever sought psychological counselling. A significant association between stress levels and anxiety levels ($\chi^2 = 33.8, p < 0.001$). Individuals reporting low stress primarily experienced minimal anxiety (76.9%) and those reporting extreme stress showed the highest rates of moderate anxiety (37.5%) and severe anxiety (25.0%).

Conclusion: The findings indicate a high burden of generalized anxiety among second-year pharmacy students at the University of Benin, which is significantly intensified by increasing overall stress levels and strongly linked to academic stressors and results in significant self-reported functional and academic impairment. There is an urgent need for the institution to implement proactive interventions, including enhanced and accessible counselling services, routine mental health screening, academic policy reforms to reduce workload pressure, and initiatives to destigmatize help-seeking behaviour.

Keywords: Generalized Anxiety Disorder, Pharmacy Students, University of Benin, GAD-7 Scale, Academic Stress, Mental Health, Prevalence, Nigeria.

CHAPTER ONE

1.1 INTRODUCTION AND BACKGROUND OF STUDY

Mental health is now widely acknowledged as a core determinant of overall wellbeing and academic achievement. Over recent decades, there has been an increasing global emphasis on mental health, reflecting recognition of its influence on individual functioning, community productivity, and long term socio economic development. Anxiety disorders, particularly Generalized Anxiety Disorder (GAD), represent some of the most common and disabling psychiatric conditions worldwide. GAD is characterized by excessive worry that individuals find difficult to control, accompanied by symptoms such as irritability, restlessness, difficulties concentrating, muscle tension, and sleep disturbance (American Psychiatric Association, 2013). According to the World Health Organization (2017), more than 275 million people globally experience anxiety disorders, with GAD accounting for a significant proportion of this figure.

Unlike situational worry, GAD is chronic and typically persists for at least six months, often without a specific trigger. It is frequently underdiagnosed due to its gradual onset and the tendency for individuals to normalize stress or attribute symptoms to academic or environmental pressures (Beesdo *et al.*, 2009). When untreated, GAD can severely impair daily functioning and academic or occupational performance, and it is associated with comorbidities including depression, panic disorder, and substance misuse, which add to the negative effects (Kessler *et al.*, 2005).

University students represent a population at increased risk of experiencing anxiety. This group is often undergoing complex developmental transitions, including adjusting to academic independence, managing financial responsibilities, and planning future careers. Evidence

suggests that university students report higher levels of anxiety compared to the general population (Ibrahim *et al.*, 2013; Regehr *et al.*, 2013). Many students experience increasing worry driven by internal pressures, such as fear of failure and perfectionism (Conroy, 2001; Hill & Curran, 2016). This worry is also driven by external pressures, including competitive environments and intense assessment schedules (Dyson & Renk, 2006; Pekrun *et al.*, 2002).

The consequences of untreated anxiety among students can be substantial. GAD has been linked with reduced academic performance, low productivity, social withdrawal, and increased dropout rates. Students experiencing persistent anxiety may struggle with concentration and develop low self esteem. Stigma and poor awareness often hinder help seeking behaviours, with many resorting to maladaptive coping strategies such as excessive caffeine intake, substance use, or social media dependence, which may increase emotional strain (Eisenberg *et al.*, 2007).

Pharmacy students appear to be particularly vulnerable. Pharmacy training is intensive, demanding mastery of scientific foundations, laboratory skills, and clinical applications. Coursework load, frequent assessments, and high academic expectations may contribute to elevated psychological stress in this group. Evidence from rigorous health professional training programs (Dyrbye *et al.*, 2006) is consistently mirrored in findings specific to pharmacy students (Garber *et al.*, 2021). Notably, second-year pharmacy students often experience a critical transition period, moving from introductory sciences to core pharmacy modules. This shift is academically demanding and frequently marks the point at which students begin confronting the realities of the profession and the pressure to achieve academic excellence.

In Nigerian universities, these academic stressors are intensified by structural and institutional challenges. Nigerian tertiary institutions, including the University of Benin, face issues such as large student populations, inadequate staff to student ratios, periodic academic disruptions,

outdated infrastructure, and financial pressures. These systemic limitations can amplify stress and reduce coping capacity. Additionally, cultural stigma toward mental health concerns remains strong, often discouraging students from seeking psychological support or openly discussing emotional distress (Ola and Ayinde, 2019).

Despite these realities, literature specifically examining GAD among Nigerian university students is still developing. Although several studies have addressed general mental health and stress in Nigerian undergraduates, such as Dabana, A., *et al.* (2020), few have focused specifically on GAD, and even fewer on pharmacy students. There is also a tendency for some studies to use non standardized measures, limiting comparability and diagnostic accuracy. This emphasizes the need for research focused on GAD among pharmacy students in Nigeria, given their increased vulnerability and academic demands.

1.1.1 Key Definitions and Diagnostic Criteria

Generalized Anxiety Disorder (GAD) is characterized by persistent and excessive worry that occurs more often than not across a period of at least six months and relates to a variety of events or activities (American Psychiatric Association, 2013). Individuals with GAD typically struggle to regulate their worry, and this is accompanied by symptoms such as restlessness or heightened tension, easy fatigue, difficulty concentrating or mental blanks, irritability, increased muscle tension, and disturbances in sleep. For a diagnosis to be established, these symptoms must result in notable distress or impair functioning in social, academic, or occupational settings, and they must not be better explained by a medical condition, substance use, or another psychiatric disorder (American Psychiatric Association, 2013).

Similarly, the International Classification of Diseases 11th edition (ICD-11) describes GAD as a prolonged period, typically several months, of pronounced and excessive worry, apprehension, and heightened tension in relation to everyday situations (World Health Organization, 2019). Both the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) and ICD-11 emphasise that the worry is difficult to control and significantly interferes with daily functioning. In addition, clinicians must consider and exclude physical or other psychiatric causes before confirming the diagnosis.

1.1.2 Measurement and Screening Tools

Accurate identification and assessment of Generalized Anxiety Disorder are essential for early intervention, particularly in demanding academic settings such as universities. Several screening measures exist; however, the Generalized Anxiety Disorder 7-item scale (GAD-7) is recognized as one of the most reliable and widely used instruments for detecting probable GAD in clinical practice and research (Spitzer *et al.* 2006). The tool comprises seven symptom-based questions, each scored on a four-point response scale ranging from 0 (not at all) to 3 (nearly every day), reflecting how frequently individuals have experienced specific anxiety symptoms over the previous two weeks.

The cumulative score ranges from 0 to 21, with higher scores reflecting greater symptom severity. Scores typically fall into four categories, ranging from minimal anxiety at the lower end to severe symptoms at the upper end. Evidence demonstrates that the GAD-7 has strong psychometric properties, including high internal reliability (Cronbach's alpha of 0.92) and excellent sensitivity and specificity for identifying GAD, while also showing utility for screening

related disorders such as social anxiety, panic disorder, and post-traumatic stress presentations (Löwe *et al.* 2008).

A key advantage of the GAD-7 is its versatility across diverse populations and cultural contexts. It has been translated into numerous languages and successfully validated in various regions worldwide, including among student populations in sub-Saharan Africa (Tesfaye *et al.*, 2021), although research use within Nigerian universities is still developing (Sawyer *et al.* 2021). The tool is freely available, simple to administer, and does not require specialist training for scoring or interpretation, making it especially useful for large academic institutions and public health screening initiatives.

Beyond its value as a screening instrument, the GAD-7 also assists in guiding clinical follow-up. Individuals with elevated scores, particularly in the moderate to severe range, may benefit from further assessment through formal diagnostic interviews or referral to mental health professionals. For higher-education institutions, implementing such screening tools provides a practical strategy for monitoring student wellbeing and developing targeted mental health support programs.

Increasing the use of validated measures such as the GAD-7 in Nigerian tertiary institutions is vital for generating accurate data on student mental health, promoting early identification of anxiety symptoms, and informing the development of tailored intervention programs. This approach enables universities, including the University of Benin, to better understand the emotional challenges faced by students, evaluate the effectiveness of support services, and create inclusive academic environments that promote both psychological and educational growth.

1.2 STATEMENT OF PROBLEM

Although mental health concerns among university students are increasingly recognized worldwide, anxiety disorders, including Generalized Anxiety Disorder (GAD), remain insufficiently identified and managed within Nigerian tertiary institutions. Pharmacy students represent a particularly vulnerable group because the program requires intensive academic engagement, long study hours, and high performance expectations. The second year of study is especially challenging, as students begin to encounter core pharmaceutical science courses and heavier academic demands, which may heighten psychological stress and trigger anxiety symptoms.

While several international studies have documented elevated anxiety levels among pharmacy undergraduates, there is a lack of Nigerian-based research that focuses specifically on students at particular academic stages or within individual faculties. At the University of Benin, students may additionally experience structural challenges such as overcrowded learning environments, financial strain, and limited availability of counseling services. These issues, combined with cultural stigma surrounding mental health, low help-seeking rates, and absence of routine mental health screening, suggest that anxiety may be underestimated and under-treated in this population. Consequently, this study seeks to fill this gap by examining the prevalence and severity of GAD symptoms among second-year pharmacy students and generating evidence to support targeted mental health strategies within the institution.

1.3 RESEARCH QUESTIONS

1. What is the prevalence of Generalized Anxiety Disorder among second-year pharmacy students at the University of Benin?

2. What is the severity of anxiety symptoms experienced by these students as measured by the GAD-7 scale?
3. Are there any associations between demographic factors (such as age, gender, or marital status) and levels of anxiety among second-year pharmacy students?
4. What academic or psychosocial factors are most commonly associated with elevated anxiety levels in this student population?
5. How does the experience of anxiety affect the academic performance and daily functioning of second-year pharmacy students?
6. What coping strategies, if any, do students with symptoms of GAD report using to manage their anxiety?

1.4 JUSTIFICATION OF STUDY

Mental health has become a recognized determinant of academic performance, particularly in academically demanding programs such as pharmacy. Anxiety disorders, including Generalized Anxiety Disorder (GAD), can impair concentration, motivation, and overall productivity. Yet, despite their relevance, these conditions remain largely understudied in many Nigerian universities. Second-year pharmacy students often face heightened academic demands, increased expectations, and limited experience with coping strategies, making them susceptible to anxiety symptoms. Unfortunately, there is limited structured support and a lack of empirical data to guide intervention within this context. This study therefore aims to provide much-needed evidence on anxiety among second-year pharmacy students and to support informed institutional planning. The justifications for conducting this research include the following:

- Heightened susceptibility of second-year pharmacy students: The second year of pharmacy training typically marks the beginning of advanced disciplinary coursework. Students may struggle with increased academic load, demanding schedules, and complex subject content. Without empirical investigation, these stressors and their impact on mental wellbeing remain poorly understood.
- Under-utilization of mental health services: Universities, including the University of Benin, offer counseling services, yet many students hesitate to use these facilities due to stigma, lack of awareness, or concerns about confidentiality. Consequently, students with GAD may remain undiagnosed and unsupported, emphasizing the need for proactive research and screening.
- Requirement for data-driven intervention strategies: Institutional decisions regarding student welfare are often made without robust scientific data. This study may provide evidence to support structured interventions such as awareness programs, coping-skills workshops, academic mentorship initiatives, and modifications to learning support systems.
- Potential contribution to policy development: Mental health approaches in Nigerian tertiary institutions tend to be reactive rather than preventive. Generating contemporary and context-specific evidence may support policy formation at both institutional and national levels aimed at strengthening student mental health frameworks.

This research is essential for improving both academic and emotional outcomes for pharmacy students at the University of Benin. By providing evidence to support tailored mental health initiatives, the study may contribute to a more responsive and supportive academic environment.

As mental health continues to become a priority in higher education discourse globally, findings from this research may help build a foundation for healthier learning environments in Nigerian universities and support the wellbeing of future healthcare professionals.

1.5 LITERATURE REVIEW

Across international research settings, Generalized Anxiety Disorder (GAD) has consistently been identified as one of the most common and disabling anxiety disorders, affecting diverse population groups and contributing substantially to the global mental health burden (Baxter *et al.*, 2014; Kessler *et al.*, 2005). What distinguishes GAD from other anxiety disorders is not only its relatively high lifetime prevalence but also its early onset and chronic course across the lifespan, resulting in significant personal, academic, occupational, and social impairment (Hofmann *et al.*, 2012; Ruscio *et al.*, 2017). Scholars increasingly highlight that while GAD shares symptomatic features with other anxiety conditions, its hallmark persistent and pervasive worry distinguishes it as a unique clinical entity that warrants focused attention in research and practice (Stein & Sareen, 2015).

GAD has gradually shifted from being viewed solely as an isolated psychological problem to being recognized as a major public health priority (Wittchen *et al.*, 2000). This is particularly evident in high-income countries where extensive economic and epidemiological analyses have emphasized the disorder's far-reaching societal cost (Wittchen *et al.*, 2011). Longitudinal studies from North America and Europe demonstrate that untreated GAD is associated with substantial healthcare utilization, decreased productivity, functional disability, and increased long-term economic burden (Degnan *et al.*, 2023). As noted by Hofmann *et al.* (2012), individuals with chronic anxiety frequently present with somatic complaints such as cardiovascular symptoms,

chronic pain syndromes, and gastrointestinal disturbances. These physical manifestations often prompt repeated visits to primary care settings, where the underlying psychological distress may remain undetected, resulting in unnecessary medical investigations and ineffective treatment plans (Sareen *et al.*, 2016). Consequently, health-care systems face escalating expenditures that could be alleviated through early identification and psychological intervention. The accumulating evidence therefore positions GAD not only as a mental health priority but as a disorder with significant implications for healthcare planning, early screening policies, and resource allocation. As global mental health efforts continue to evolve, GAD remains a central point of concern due to its persistent nature, high comorbidity with other psychiatric disorders, and association with decreased quality of life and academic functioning (Beesdo-Baum & Knappe, 2012; Charlson *et al.*, 2019).

1.5.1 Cultural Variability in the Expression of Anxiety

In many Western settings, psychological symptoms are characterized by individuals being more likely to articulate internal emotional states, concerns about the future, and difficulties controlling anxious thoughts (Chentsova-Dutton & Tsai, 2010). However, in regions across Asia, the Middle East, and Africa, anxiety is more commonly expressed in somatic or physical terms, including dizziness, heart palpitations, headaches, chest tightness, fatigue, and gastrointestinal upset (Ndeti *et al.*, 2013; Okasha, 2002). This somatic expression is influenced by cultural norms that include lack of emotional disclosure, stigma associated with mental illness, and long-standing beliefs that psychological problems are more acceptably presented as bodily symptoms (Patel *et al.*, 2018). In such contexts, emotional distress may be communicated indirectly through physical complaints, traditional idioms of suffering, or culturally specific expressions such as

“thinking too much” or “weak nerves,” which are widely reported in African and Asian mental health research (Kohrt *et al.*, 2014).

These cultural variations have profound diagnostic implications. Clinicians who rely solely on Western diagnostic markers or who are insufficiently trained in cultural psychiatry may misinterpret somatic symptoms as primary physical illness, leading to unnecessary medical investigations and missed opportunities for psychological intervention (Kirmayer & Ryder, 2016). Consequently, individuals may receive treatment for physical ailments while the underlying anxiety remains unaddressed. Also, socioeconomic context influences symptom expression and help-seeking patterns. Populations in lower-income settings, who often face chronic daily stressors such as political instability, financial insecurity, and limited access to healthcare, may normalize worry and anxiety as part of daily life, thus reducing recognition and treatment (Patel *et al.*, 2018; World Health Organization, 2021). Additionally, cultural explanatory models, such as beliefs attributing anxiety to supernatural causes, fate, or spiritual imbalance, may lead individuals to seek help from traditional or religious healers before formal healthcare systems (Gureje *et al.*, 2015; Odejide, 2020). Overall, cultural variability in the manifestation of GAD emphasizes the importance of culturally informed screening tools, awareness programs, and diagnostic practices. Understanding how anxiety is expressed within different sociocultural settings enhances clinical accuracy, promotes early intervention, and supports the development of culturally sensitive mental health strategies, particularly in diverse environments such as Nigeria where biomedical, spiritual, and traditional understandings of illness coexist.

1.5.2 Global Treatment Gap and Cultural Barriers

A major challenge in the worldwide management of Generalized Anxiety Disorder (GAD) may be the treatment gap, which persists across both developed and developing health systems. Evidence indicates that a large proportion of individuals with anxiety disorders never receive appropriate professional care (Alonso *et al.*, 2018). The World Health Organization (2021) reports that even in high-income settings with established mental-health infrastructure, significant numbers of people with anxiety remain untreated due to factors such as limited service availability and long waiting times. This treatment deficit becomes far more pronounced in low- and middle-income countries (LMICs), where mental-health services are scarce and mental-health expenditure typically accounts for less than 2% of national health budgets (Patel *et al.*, 2016; WHO, 2021).

In LMIC contexts, under-investment in mental health intersects with structural barriers, including severe shortages of trained professionals, limited integration of mental-health services into primary care, and low levels of public mental-health literacy (Gureje *et al.*, 2020; Saxena *et al.*, 2007). Many countries in sub-Saharan Africa, for example, have fewer than one psychiatrist per 100,000 population, resulting in inadequate detection and management of anxiety disorders (WHO, 2021). Stigma and misconceptions about mental illness further discourage help-seeking behaviour. Cultural explanations of distress, such as spiritual causation or moral weakness, remain common in many regions, influencing reliance on traditional healers and religious interventions rather than psychological or medical treatment (Odejide, 2020). Although evidence-based treatments such as cognitive behavioural therapy and pharmacotherapies, particularly selective serotonin reuptake inhibitors (SSRIs), are well-established in global clinical

guidelines (Baldwin *et al.*, 2021; Barlow, 2002), access remains deeply unequal. In rural and underserved communities, such treatments are not merely limited, they are often unavailable, unknown, or unaffordable (Saraceno *et al.*, 2007). Accordingly, many individuals rely on informal support networks, spiritual counseling, or culturally embedded coping strategies. While community-based and traditional systems of support may hold cultural significance, they may fail to adequately manage chronic anxiety conditions and, in some cases, delay access to effective care (Gureje *et al.*, 2015; Kohrt & Hruschka, 2020).

1.5.3 Anxiety and Global Crises

Emerging global research increasingly highlights the influence of large-scale systemic, environmental, and sociopolitical stressors on anxiety disorders, including Generalized Anxiety Disorder (GAD) such as Reiss, F. (2019). Macrosocial factors such as widening inequality, economic instability, gender-based vulnerabilities, geopolitical tensions, climate-related stress, and technological disruptions have been linked to increased anxiety symptoms across diverse populations (APA, 2023; United Nations, 2022). These stressors intensify feelings of uncontrollability and uncertainty, two core psychological mechanisms associated with GAD development and persistence (Borkovec *et al.*, 2004; Grupe & Nitschke, 2013).

The COVID-19 pandemic particularly intensified global mental-health challenges. A wide range of longitudinal and cross-sectional studies recorded substantial increases in anxiety symptoms worldwide during the pandemic period, with university students emerging as one of the most psychologically affected groups (Cao *et al.*, 2020; Xiong *et al.*, 2020). Academic disruptions, abrupt transitions to online learning, and prolonged physical isolation undermined emotional stability and academic continuity. Students reported stress related to unreliable internet access,

reduced peer engagement, limited academic support, and increased academic pressure while studying remotely (Aristovnik *et al.*, 2020; Hasan & Bao, 2020). For students in rigorous fields such as pharmacy and other health sciences, the fear of infection, uncertainty about professional training, and anxiety about future employment prospects further exacerbated distress (Savitsky *et al.*, 2020). Beyond the immediate crisis, post-pandemic research emphasizes the enduring mental-health effects of COVID-19. Persistent increases in anxiety symptoms have been documented even after the resumption of physical academic activities, suggesting that temporary disruptions produced lasting psychological consequences and altered coping capacity among young adults (Daly & Robinson, 2022; Son *et al.*, 2020). Moreover, pandemic-related uncertainty has been intensified by ongoing global crises, including inflation, conflict, and climate emergencies, contributing to a sustained climate of insecurity that continues to shape student mental health worldwide (Organization for Economic Co-operation and Development, 2023; Schwab, 2023).

1.5.4 Generalized Anxiety Disorder in the Student Population

University students are a high-risk demographic for Generalized Anxiety Disorder due to the academic, developmental, and psychosocial pressures associated with higher education (Auerbach *et al.*, 2018; Eisenberg *et al.*, 2007). Research consistently demonstrates that competitive academic environments and high performance expectations significantly contribute to anxiety symptoms among students, particularly in science-intensive and health-related programs (Bayram & Bilgel, 2008; Regehr *et al.*, 2013). Students entering university undergo significant transitions, including increased academic responsibility, financial strain, and the development of new social networks, all of which elevate anxiety levels (Brougham *et al.*, 2009;

Gallagher, 2014). Eisenberg *et al.* (2007) identified anxiety as one of the most common mental-health concerns among university students, sometimes surpassing depression in prevalence. A large-scale study in Turkey reported that approximately 47% of university students experienced moderate to severe anxiety (Bayram & Bilgel, 2008), while Hunt and Eisenberg (2010) found that over 40% of American university students reported anxiety-related challenges affecting academic performance and daily functioning. Chronic worry associated with GAD interferes with concentration, motivation, and learning efficiency, ultimately undermining academic achievement and increasing dropout risk (Andrews & Wilding, 2004; Son *et al.*, 2020).

Within the wider student population, pharmacy students appear particularly susceptible to anxiety due to the demanding and cumulative nature of their academic workload (Garber *et al.*, 2021). The demanding pharmacy curriculum requires sustained mastery of complex biomedical content, frequent assessments, laboratory courses, and preparation for future professional responsibilities, all of which may possibly elevate stress levels. While Dyrbye *et al.* (2006) and Watson *et al.* (2008) focused on medical and nursing students, their findings emphasize the heightened psychological strain commonly observed across rigorous health sciences programs. Second-year pharmacy students often experience increased psychological strain, as this phase typically represents a transition from foundational sciences to advanced pharmaceutical sciences and more intensive coursework (Al-Qahtani, 2015). Increased workload, reduced academic predictability, and pressure to maintain high academic standards can intensify anxiety symptoms, yet targeted support systems for this specific academic stage remain limited in many institutions, including those in Nigeria (Adewuya *et al.*, 2019; Gureje *et al.*, 2015).

1.5.5 Gender Disparities and Social Pressures

Gender differences in anxiety prevalence among university students have been widely documented. A meta-analysis by Ibrahim *et al.* (2013) reported that anxiety symptoms are significantly more common in female students than in males. Similar findings across global studies attribute this disparity to gendered socialization processes, differences in coping strategies, and increased societal expectations placed on female students (Bayram & Bilgel, 2008; Haque *et al.*, 2021). In many sociocultural contexts, female students face additional stressors, including academic pressure, gender-role expectations, concerns about personal safety, and social discrimination, all of which may contribute to increased vulnerability to anxiety disorders (Dutta *et al.*, 2019; Verma *et al.*, 2021). Research indicates that internalized societal demands, such as pressure to excel academically and meet familial obligations, can exacerbate emotional distress and hinder effective coping (Al-Qahtani, 2015). These dynamics emphasize the need for mental-health programs that recognize gender-specific stressors and provide culturally responsive support systems within university settings. Despite the high burden of anxiety, many students fail to recognize their symptoms as clinically significant and often delay seeking help. Barriers such as limited mental-health awareness, stigma, self-reliance beliefs, and fear of negative judgement contribute to prolonged untreated anxiety (Eisenberg *et al.*, 2007; Hunt & Eisenberg, 2010). This delay in treatment allows anxiety symptoms to intensify, potentially resulting in academic decline, physical health complaints, and persistent impairment if left unaddressed (Son *et al.*, 2020).

1.5.6 Academic Environment in Developing Countries

Anxiety among university students may be further aggravated by socioeconomic and environmental challenges that are especially pronounced in developing regions. Financial strain, food insecurity, inadequate sleep, and concerns about future employment have all been identified as significant contributors to psychological distress among students, particularly in low- and middle-income contexts (Bruffaerts *et al.*, 2018; Eisenberg *et al.*, 2007). In many African countries, including Nigeria, higher education institutions frequently operate under resource constraints, characterized by large class sizes, insufficient learning infrastructure, limited instructional materials, and reduced access to student support services (Afolayan *et al.*, 2019; Gureje *et al.*, 2020). Research has shown that Nigerian students often encounter systemic academic disruptions, including prolonged industrial strikes, inconsistent academic calendars, administrative bottlenecks, and inadequate lecturer-student interaction, all of which undermine academic stability and contribute to increased anxiety levels (Adewuya *et al.*, 2021; Nwankwo & Eze, 2019). These institutional challenges place students in prolonged states of uncertainty and academic pressure, thereby amplifying psychological vulnerability and reducing their capacity to cope effectively with academic demands.

1.5.7 Consequences of Unaddressed GAD in Students

Unaddressed Generalized Anxiety Disorder among university students has extensive consequences that span academic, psychological, physiological, social, and long-term professional domains. Persistent anxiety interferes directly with academic functioning by impairing attention, decision-making, and working memory, ultimately affecting learning and academic performance (Moran, 2016; Owens *et al.*, 2012). Students with chronic worry often

struggle to concentrate during lectures, retain information, and meet academic deadlines, which places them at risk of lower grades, course withdrawal, or delayed graduation (Beiter *et al.*, 2015; Son *et al.*, 2020). Physiologically, GAD is associated with sleep disturbances, fatigue, muscle tension, headaches, and gastrointestinal discomfort, and prolonged exposure to stress can contribute to long-term cardiovascular and immune dysfunction (Bandelow *et al.*, 2017; Hofmann *et al.*, 2012). Students experiencing unmanaged anxiety may also adopt maladaptive coping behaviours, including substance misuse, social avoidance, and excessive caffeine consumption, which further exacerbate anxiety and physical symptoms (Eisenberg *et al.*, 2011; Stallman, 2010).

Psychologically, untreated GAD increases vulnerability to comorbid conditions such as depression, panic disorder, and suicidal ideation (Auerbach *et al.*, 2018; Kessler *et al.*, 2005). Academic setbacks caused by anxiety can reinforce hopelessness and reduced self-efficacy, worsening emotional distress (Pedrelli *et al.*, 2015). Socially, anxiety tends to hinder interpersonal relationships, limit participation in campus activities, and hinder the development of communication and teamwork skills that are essential for future careers (Brougham *et al.*, 2009; Hunt & Eisenberg, 2010). This raises concerns not only for student well-being but also for future healthcare quality, suggesting that unresolved anxiety in training may translate into reduced clinical performance and poorer patient outcomes later in professional practice (Rotenstein *et al.*, 2016).

1.5.8 Pharmacy Students and Academic Burnout

Pharmacy students are widely recognized as experiencing some of the highest levels of academic stress within the health sciences. The workload, pace of instruction, and pressure to maintain high

academic performance contribute to frequent reports of anxiety and exhaustion among this student group (Eisenberg *et al.*, 2007; Garber *et al.*, 2021). Studies also demonstrate high anxiety levels among pharmacy students globally. For instance, Al-Hanawi *et al.* (2020) found that nearly half of pharmacy students in Saudi Arabia experienced moderate to severe anxiety symptoms. Similar findings have been reported in the United States, where pharmacy students routinely report high stress, poor sleep, and symptoms of psychological strain (Garber *et al.*, 2021; Hirsch *et al.*, 2020). Evidence indicates that second-year pharmacy students may be particularly vulnerable, as this stage often marks the transition into more intensive core pharmaceutical coursework, resulting in increased academic pressure and emotional strain (Sharma & Sharma, 2015). This pattern is consistent with research on other health professionals, which suggests that increased psychological distress often coincides with the heightened academic and clinical demands of mid-training years (Rotenstein *et al.*, 2016).

1.5.9 Relevance to Nigerian Universities and the University of Benin

At the University of Benin, preliminary reports and internal student observations suggest that learners in competitive programs such as pharmacy encounter substantial psychological strain, driven by rigorous coursework, high performance expectations, and uncertain career pathways (Akhuemokhan *et al.*, 2014; Okeke *et al.*, 2017). Although counseling services exist, they remain under-utilized due to inadequate publicity, staffing shortages, and cultural attitudes that often frame mental health problems in spiritual or moral terms rather than clinical ones (Okasha, 2002; Olanrewaju *et al.*, 2022). Second-year pharmacy students appear particularly susceptible, as this academic phase marks the transition into more demanding pharmaceutical science modules, increased workload, and increased fear of failure, corresponding with recognized triggers for

anxiety disorders in student populations (Garber *et al.*, 2021; Sharma & Sharma, 2015). In the absence of proper support systems, these stressors may contribute to persistent worry, concentration difficulties, sleep disturbance, and academic withdrawal, which are consistent with core symptoms of GAD (APA, 2013). Consequently, the University of Benin serves as a relevant case example for understanding student anxiety within Nigerian universities and emphasizes the need for targeted mental-health interventions.

1.5.10 Implications for Policy and Practice

Evidence from the literature shows that unaddressed anxiety in university students has significant implications, affecting not only academic functioning but also long-term professional competence (Auerbach *et al.*, 2018; Eisenberg *et al.*, 2007). For pharmacy students, the impact is particularly concerning, as they must eventually operate in high-pressure clinical and pharmaceutical environments where precision, ethical judgement, and emotional stability are critical (Garber *et al.*, 2021). Persistent anxiety has been linked to impaired concentration, reduced communication skills, poor decision-making, and difficulty regulating emotions, all of which can undermine safe and effective patient care (Pedrelli *et al.*, 2015; Rotenstein *et al.*, 2016). As such, student mental-health support should be regarded as a strategic academic and professional priority rather than a purely personal or welfare matter. Universities, particularly those training health-care professionals, must adopt proactive, structured mental-health policies that include early screening, mental-health literacy programs, accessible counseling services, and stigma-reduction initiatives to protect student well-being and professional readiness (Gureje *et al.*, 2020; WHO, 2021).

1.5.11 The Case for Targeted Research and Localized Interventions

A growing body of evidence highlights the need for context-specific research on student mental health in low- and middle-income settings, including Nigeria, where cultural, academic, and systemic factors uniquely shape the manifestation of anxiety disorders (Gureje *et al.*, 2020; Patel *et al.*, 2018). Despite increasing global attention to anxiety among university students, much of the existing research in Nigeria has focused on general psychological distress rather than clinically defined disorders, emphasizing the need for studies that employ validated diagnostic instruments such as the GAD-7 to generate accurate prevalence estimates and identify meaningful risk patterns (Adewuya *et al.*, 2006; Afolabi *et al.*, 2020). Targeting specific subgroups, such as second-year pharmacy students, allows for tailored interventions that reflect academic demands, institutional culture, and student-level vulnerabilities (Garber *et al.*, 2021; Nwankwo & Eze, 2019). Localized, evidence-driven research strengthens institutional capacity to design culturally relevant mental-health programs, enhance early detection systems, and implement preventive services within university environments (Olanrewaju *et al.*, 2022; WHO, 2021). As academic and societal pressures escalate, the urgency for university-centered mental-health strategies in Nigeria becomes increasingly clear, making local research not only timely but essential for improving student well-being and long-term academic outcomes (Hunt & Eisenberg, 2010; Saraceno *et al.*, 2007).

1.5.12 Gaps in the Literature

Although numerous studies have examined mental health concerns such as stress and depression among university students in Nigeria, there remains a lack of research focusing specifically on

Generalized Anxiety Disorder (GAD). Previous investigations have primarily addressed general psychological distress or depressive symptoms without differentiating GAD as a unique clinical entity. For instance, Adewuya *et al.* (2006) examined depressive and comorbid anxiety symptoms among Nigerian undergraduates, while Afolayan *et al.* (2019) explored academic stress as a predictor of psychological wellbeing among university students. Similarly, Afolabi *et al.* (2020) and Nwankwo & Eze (2019) investigated perceived stress and emotional adjustment, and Olanrewaju *et al.* (2022) analyzed stigma and mental health literacy. Although these studies provide useful insight into student well-being, their focus on broad emotional distress rather than clinically defined GAD limits diagnostic precision and the applicability of findings to anxiety-specific interventions. In contrast, research in higher income settings routinely employs validated tools such as the Generalized Anxiety Disorder 7-item scale (GAD-7) to establish disorder-specific prevalence and severity levels (Löwe *et al.*, 2008; Spitzer *et al.*, 2006).

Several studies across global and regional contexts have examined the relationship between academic stress, program intensity, and anxiety among students such as a study by Aparicio-López *et al.*, 2023, yet Nigerian research remains largely underdeveloped in this regard. Dyrbye, Thomas and Shanafelt (2006), in a systematic review of North American medical students, reported that anxiety and depressive symptoms significantly increased during the middle years of professional training, coinciding with greater workload and clinical exposure. Similarly, Regehr, Glancy and Pitts (2013) demonstrated that increased academic pressure and inadequate coping strategies were key predictors of anxiety and burnout among undergraduates. Garber, Hagger and Saini (2021) observed that pharmacy students were particularly vulnerable to stress-related anxiety due to the combined academic and practical demands of their programs. Comparable findings were reported by Al-Qahtani (2015) in Saudi Arabia, who identified second-year health

sciences students as the most psychologically distressed cohort due to escalating course complexity. However, in Nigeria, studies that focus specifically on program-related anxiety are limited. Adewuya *et al.* (2021) assessed psychological distress among undergraduates but did not differentiate students by year of study or academic discipline. Similarly, Afolabi, Eze and Olatunji (2020) explored general academic stress without distinguishing pharmacy or health-related students from other faculties. Consequently, there is a lack of data identifying whether certain academic levels or professional programs, such as pharmacy, predispose students to greater risk of developing GAD.

Beyond academic workload, contextual and sociocultural factors also play a significant role in shaping anxiety experiences, yet few Nigerian studies have adequately explored these dimensions. Internationally, the Lancet Commission on Global Mental Health (Patel *et al.*, 2018) emphasized that social and cultural determinants, including stigma, economic hardship, and institutional support, significantly affect mental health outcomes among young adults. Gureje, Lasebikan, Kola and Makanjuola (2015), through the Nigerian Survey of Mental Health and Wellbeing, confirmed that socioeconomic background and limited access to care were strongly associated with anxiety and depression in the Nigerian population. Despite this, university-based studies have rarely incorporated these variables in their analyses. Ola and Ayinde (2019), for example, examined perceptions of mental illness among Nigerian students and found that stigma and cultural misconceptions discouraged help-seeking behaviour. While these studies provide valuable sociocultural insights, they focus mainly on attitudes rather than measuring how such factors influence the manifestation or severity of GAD among students. A more integrated approach linking cultural beliefs, institutional conditions, and mental health outcomes remains

missing in Nigerian research, leaving an incomplete understanding of how these contextual factors shape anxiety patterns in higher education.

Institutional practices and mental health infrastructure present another major gap. Globally, universities are increasingly incorporating wellness policies, psychological screening, and counseling frameworks to monitor student well-being (Auerbach *et al.*, 2018; Eisenberg *et al.*, 2007). For example, Eisenberg *et al.* (2007) documented that American universities with institutional mental health programs reported higher levels of awareness, reduced stigma, and improved help-seeking behaviour. Similarly, Auerbach *et al.* (2018), in the World Health Organization's World Mental Health Surveys, demonstrated that early detection systems in universities helped reduce the prevalence and severity of untreated mental disorders. In contrast, Nigerian universities often lack such structured systems. Obikeze, Nnorom and Ezebialu (2022) reported that most Nigerian tertiary institutions have minimal mental health infrastructure and that student support services are underfunded, inconsistent, and reactive. The World Health Organization (2021) also highlighted Nigeria's significant shortage of university-based mental health services and monitoring mechanisms. These institutional shortcomings result in fragmented interventions and a persistent absence of longitudinal data on student mental health. Consequently, Nigerian universities are unable to track the progression of anxiety disorders or assess the effectiveness of interventions over time, a limitation that impedes evidence-based policy design.

A further methodological limitation concerns the underutilization of standardized and validated instruments in existing Nigerian studies. Internationally, standardized screening tools such as the Generalized Anxiety Disorder 7-item scale (GAD-7) and the Patient Health Questionnaire (PHQ-

9) are widely used to measure anxiety and depression with high reliability (Löwe *et al.*, 2008; Spitzer *et al.*, 2006). The GAD-7, developed by Spitzer *et al.* (2006), has been validated across diverse populations, offering precise cut-off points for mild, moderate, and severe anxiety symptoms. Löwe *et al.* (2008) further confirmed its cross-cultural validity and sensitivity in general populations. However, within Nigerian tertiary education, these tools remain underutilized. While some studies, such as Adewuya, Ola and Aloba (2006), utilized the validated Hospital Anxiety and Depression Scale (HADS), many others rely on general stress scales or researcher-designed questionnaires that lack the GAD-7's diagnostic specificity (Sawyer *et al.*, 2021). This methodological inconsistency makes it difficult to compare prevalence rates with global findings and undermines the reliability of anxiety estimates. Moreover, the limited use of standardized diagnostic instruments prevents early identification of students at risk for clinical GAD and hinders the creation of data-driven interventions within university systems (Gureje, Oladeji and Montgomery, 2020; WHO, 2021). Given these limitations, there is a clear need for research that combines validated screening instruments with contextually grounded analyses of academic and sociocultural determinants. The present study seeks to address these gaps by focusing on second-year pharmacy students at the University of Benin, a population likely to experience elevated anxiety due to academic intensity and transitional stress. By applying the GAD-7 to measure anxiety levels and examining associated academic and contextual variables, this study aims to provide evidence that can guide culturally responsive interventions and strengthen institutional support frameworks for student mental health.

1.6 AIMS AND OBJECTIVES OF THE STUDY

The primary aim of this study is to assess the prevalence and severity of Generalized Anxiety Disorder (GAD) among second year pharmacy students at the University of Benin using a standardized diagnostic tool. The study also seeks to explore the academic and personal implications of anxiety symptoms in this population and to provide evidence-based recommendations for institutional support systems.

Specific Objectives include:

- To determine the prevalence of Generalized Anxiety Disorder among second year pharmacy students at the University of Benin.
- To assess the severity levels of anxiety symptoms in this population using the GAD 7 screening tool.
- To identify the most common symptoms and patterns of anxiety experienced by the students.
- To examine the relationship between anxiety severity and self-reported academic performance.
- To explore factors that may contribute to anxiety, including academic workload, institutional stressors, and psychosocial pressures.
- To recommend strategies for the development of targeted mental health support and early intervention systems for pharmacy students at the University of Benin.

CHAPTER TWO

2.1 METHODS

2.1.1 STUDY SETTING

This study was conducted in the Faculty of Pharmacy at the University of Benin, a well-known federal university in the southern part of Nigeria. The school is located in Benin City, which is the capital of Edo State and one of the oldest and most respected cities in the country.

2.1.2 STUDY DESIGN

This study employed a cross-sectional descriptive design to assess the prevalence and severity of Generalized Anxiety Disorder (GAD) among second-year pharmacy students at the University of Benin. This design was particularly suitable given the study's focus on identifying the proportion of students experiencing anxiety symptoms and exploring potential demographic or academic factors associated with GAD. A self-administered questionnaire incorporating the Generalized Anxiety Disorder 7-item (GAD-7) scale was used for data collection, ensuring uniformity and ease of analysis across respondents.

2.1.3 STUDY POPULATION

The study population consisted of second-year undergraduate pharmacy students enrolled in the Faculty of Pharmacy at the University of Benin during the 2024/2025 academic session. These students were specifically chosen due to their transitional academic stage, which involved movement from general science modules to core pharmaceutical courses. This academic shift

was accompanied by increased workload, professional pressure, and exposure to more complex material, all of which could contribute to psychological distress and anxiety.

The complete list of registered second-year students was obtained from the Faculty Office and served as the sampling frame. Students who met the inclusion criteria were approached, and those who agreed completed the questionnaire. Participation was entirely voluntary, and respondents were assured of confidentiality and anonymity.

Sample Size

The sample size for this study was determined using Taro Yamane's formula stated as follows:

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

With a study population of 199 second-year pharmacy students and a margin of error of 5%, the calculation yielded a minimum sample size of 133. To account for the possibility of non-response, the sample size was adjusted by an additional 10 participants, giving a final target of 143 participants.

Sample Technique

All eligible and consenting participants were included in the study through a census technique. This method was considered appropriate because it provided a true and complete measure of the population, eliminating the possibility of sampling error and allowing for highly accurate and reliable results for the specific group under study. A complete list of the 199 second-year pharmacy students was obtained, and participants were chosen until the required sample size was achieved.

Inclusion Criteria:

Students were included in the study if:

- They were officially registered as second-year pharmacy undergraduates at the University of Benin during the 2024/2025 academic session.
- They were present and available during the period of data collection.
- They provided informed consent and completed the entire questionnaire.

Exclusion Criteria:

Students were excluded from the study if:

- They were probating students.
- They were absent during the data collection period or were on leave of absence.
- They declined to provide informed consent or submitted incomplete responses.
- They reported having a previously diagnosed psychiatric illness or were undergoing active treatment for a mental health disorder at the time of the study.

2.1.4 DATA COLLECTION

Data collection was conducted using a structured, self-administered questionnaire designed to assess symptoms of Generalized Anxiety Disorder (GAD). The instrument incorporated two sections. The first section gathered demographic information including age, gender, marital status, and living arrangement. The second featured the Generalized Anxiety Disorder 7-item (GAD-7) scale developed by Spitzer *et al.* (2006), which is a validated screening tool widely used in mental health research.

The questionnaires were distributed physically to eligible students during lecture hours. The rationale and purpose of the study were clearly explained to all potential participants before the questionnaires were handed out. Students who agreed to participate gave informed consent and completed the questionnaire independently in a supervised environment. The completed questionnaires were collected immediately to minimize the risk of loss or peer influence on responses. This approach ensured high response rates and improved the integrity of the data.

2.1.5 DATA ANALYSIS

The data, when collected, was carefully reviewed for completeness and accuracy before being entered into the Statistical Package for the Social Sciences (SPSS) version 25.0 for analysis. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarize demographic variables and GAD-7 scores.

GAD severity levels were categorized using established GAD-7 score thresholds:

- 0–4 = minimal anxiety
- 5–9 = mild anxiety
- 10–14 = moderate anxiety
- 15–21 = severe anxiety

Chi-square tests were utilized to explore associations between categorical variables such as gender, living conditions, and severity of GAD. A p-value of less than 0.05 was considered statistically significant. The results were presented using tables and charts to facilitate interpretation.

2.1.6 ETHICAL CONSIDERATION

All participants received detailed informed consent outlining their right to anonymity and confidentiality, as well as their freedom to withdraw from the study at any time without penalty.

To safeguard their privacy, all data was anonymized and stored securely.

CHAPTER THREE

3.1 RESULTS

A total of 143 questionnaires were distributed. The study participants consisted of 63 (44.1%) males and 80 (55.9%) females. Majority 102 (71.3%) were within the age of 15 to 20 years, none were within the age of 31 to 35 years and only one (0.7%) was above 36 years. Almost all respondents 140 (93.9%) were single. A larger proportion

136 (95.1%) are Christians. Regarding residence, most students lived off- campus 63 (44.1%) or on-campus 56 (39.2%). The other socio-demographic information is as shown in Table 3.1.

The distribution of anxiety severity among the respondents from the Generalized Anxiety Disorder 7-item (GAD-7) scale reveals that most second year students experienced mild anxiety 47(32.9) or experienced moderate anxiety 43(30.1%).

Conversely, lower incidences were recorded for minimal and high anxiety as seen in Table 3.2.

Responses from the Generalized Anxiety Disorder 7-item (GAD-7) scale reveal that a high proportion of second year students reported worrying too much about different things (mean = 2.5), feeling nervous, anxious or on edge (mean = 2.4), not being able to stop or control worrying (mean = 2.3).

The majority of students 82(57.3%) reported that these problems made it “somewhat difficult” to handle their daily activities. The detailed distribution of difficulty (mean= 2.0) is as shown in Table 3.4.

Table 3.1: Socio-Demographics

Variables	Groups	Frequency(n=143)	Percentage (%)
Age(years)	15-20	102	71.3
	21-25	38	26.6
	26-30	2	1.4
	31-35	0	0
	36-40	1	0.7
Gender	Male	63	44.1
	Female	80	55.9
Marital Status	Single	140	93.9
	Married	3	6.1
Religion	Christianity	136	95.1
	Islam	4	2.8
	Traditional	2	1.4
	Others	1	0.7
Living arrangement	On-campus hostel	56	39.2
	Off-campus accommodation	63	44.1
	With Parents/guardians	24	16.8

Do you have a part-time job or business while schooling	Yes	100	69.9
	No	43	30.1
Have you ever talked to a doctor about how you were feeling mentally or emotionally	Yes	13	9.1
	No	130	90.9
Have you ever sought psychological or counseling services	Yes	26	18.2
	No	117	81.8

Table 3.2: Anxiety Levels

Anxiety Category	GAD-7 Range	Frequency (n=143)	Percentage Score (%)
Minimal anxiety	0-4	35	24.5
Mild Anxiety	5-9	47	32.9
Moderate Anxiety	10-14	43	30.1
High Anxiety	15-21	18	12.6

Variable	Not at all (%)	Several days (%)	More than half the days (%)	Nearly everyday (%)	Mean± SD
Feeling nervous, anxious or on edge	28(19.6)	58(40.6)	29(20.3)	28(19.6)	2.4 ± 1.0
Not being able to stop or control worrying	38(26.6)	48(33.6)	33(23.1)	24(16.8)	2.3 ± 1.0
Worrying too much about different things	26(18.2)	52(36.4)	32(22.4)	33(23.1)	2.5 ± 1.0
Trouble relaxing	44(30.8)	61(42.7)	25(17.5)	13(9.1)	2.0 ± 0.9
Being so restless that it is hard to sit still	64(44.8)	38(26.6)	27(18.9)	14(9.8)	1.9 ± 1.0
Becoming easily annoyed or irritable	47(32.9)	51(39.7)	31(21.7)	14(9.8)	2.1 ± 0.9
Feeling afraid as if something might happen	44(30.8)	51(31.7)	21(14.7)	27(18.9)	2.2 ± 1.1

Table 3.3: GAD-7 Scale Measurement Of Anxiety

Table 3.4: Functional Issues

Variable	Not difficult at all (%)	Somewhat difficult (%)	Very difficult (%)	Extremely difficult (%)	Mean± SD
If you checked off any problems, how difficult have these problems made it for you to do your work , take care of things at home, or <i>get along</i> with other people	34(23.8)	82(57.3)	18(12.6)	9(6.3)	2.0 ± 0.8

Table 3.5: Stress Levels

Stress Level	Frequency (n=143)	Percentage (%)
No stress (1-3)	13	9.1
Moderate (4-7)	82	57.3
Extreme (8-10)	48	33.6

Table 3.5 is based on a direct rating scale where the highest proportion of students 82(57.3%) reported experiencing moderate stress and only 13(9.1%) reported experiencing no stress.

Table 3.6: Academic Impact

Variables	Groups	Frequency(n=143)	Percentage (%)
Do you believe that anxiety affects your academic performance	Yes	108	75.5
	No	19	19.3
	Not sure	16	11.2
What is the most stressful aspect of your course of study	Pressure to maintain good grades	104	72.7
	Heavy academic workload	88	61.5
	Large study materials	73	51
	Laboratory report writing	63	44.1
	Lack of leisure time	59	41.3
	What course in your curriculum gives you the most stress	ANA 202	59
ANA 203		5	3.5
BCH 202		44	30.8
PCH 202P		10	7.0
PHM 201P		2	1.4
PIO 202		7	4.9
PCT 202		1	0.7

	PCT 204	2	1.4
	None	5	3.5
How often do you feel overwhelmed by your academic workload	Never	8	5.6
	Occasionally	62	43.4
	Often	48	33.6
	Always	25	17.5
Would you consider speaking to a professional counselor if you were experiencing anxiety	Yes	55	38.5
	No	41	28.7
	Maybe	46	32.2

Table 3.6 details perceptions by students of the academic effects of anxiety. Majority of students, 75.5% (108), reported that anxiety affects their academic performance and only 19 (19.3%) believed anxiety does not affect their performance. The top three most stressful aspects of their course of study were: Pressure to maintain good grades (72.7%, n=104). Heavy academic workload 88(61.5%) and Large study materials 73(51.0%). Respondents identified the following as the courses giving them the most stress: ANA 202 (Neuroanatomy) was the most frequently cited course 59(41.3). BCH 202 (Introductory Molecular Biology) was the second most stressful 44(30.8%). When asked, "How often do you feel overwhelmed by your academic workload?": Occasionally was the most common response 62(43.4%). When asked, "Would you consider speaking to a professional counselor if you were experiencing anxiety: The responses were majorly Yes 55(38.5%).

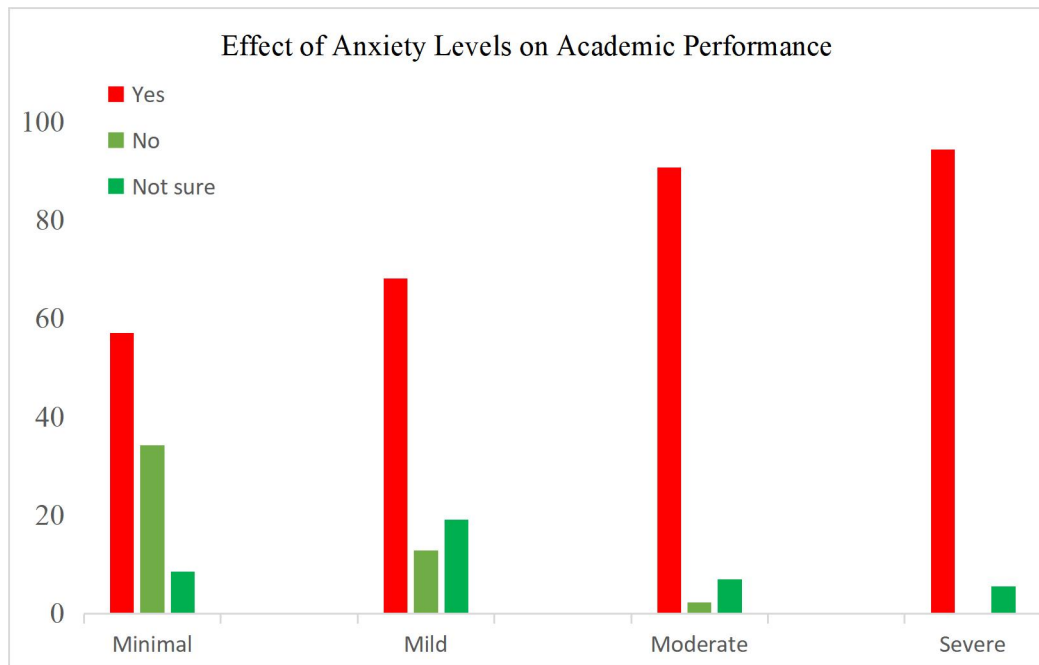


Fig 3.0: Effect of Anxiety Levels on Academic Performance

Figure 3.0 illustrates the relationship between anxiety severity and the perceived impact on academic performance. The analysis reveals a strong positive association, with the proportion of students affirming that anxiety affects their performance increasing with anxiety severity from 57.1% in the minimal anxiety to 94.4% in the severe anxiety group. Concurrently, the proportion of students denying any impact declined sharply, from 34.3% (minimal) to 0% (severe).

Table 3.7: Suggestions

Variables	Groups	Frequency(n=143)	Percentage (%)
What helps you feel less anxious	Friends	54	37.8
	Prayer	94	65.7
	Music	91	63.6
	Sleep	87	60.8
	Exercise	24	16.8
	Reading	35	24.5
	Counselor	11	7.7
Any suggestion for easing your anxiety as a student	Others	20	14.0
	Reduced workload	69	48.3
	Lower credit requirement	28	19.6
	Extra tutorials for difficult courses	50	35.0
	More time between exams or test	80	55.9
	Flexible timetable	66	46.2
More counseling support	22	15.4	

Others	14	9.8
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Table 3.7 displays suggestions for support measures that could help alleviate anxiety among students. The three most frequently selected suggestions by respondents were more time between exams or tests 80(55.9), reduced workload 69(48.3) and flexible timetable 66(46.2).

Table 3.8: Association between Socio-demographics and Anxiety Levels

Variables	Minimal Anxiety (%)	Mild Anxiety (%)	Moderate anxiety (%)	Severe Anxiety (%)	Chi-square	P-value
Age(years)					5.499	0.139
15-20	28(26.7)	29(27.6)	35(33.3)	13(12.4)		
21-25	7(18.4)	18(47.4)	8(21.1)	5(13.2)		
Gender					9.871	0.020
Male	22(34.9)	20(31.7)	12(19.0)	9(14.3)		
Female	13(16.3)	27(33.8)	31(38.8)	9(11.3)		
Marital Status					3.784	0.286
Single	35(26.1)	46(34.3)	39(29.1)	14(10.4)		
Married	0(0.0)	2(11.1)	0(0.0)	1(33.3)		
Religion					2.639	0.451
Christianity	34(25.0)	44(32.4)	32(30.9)	16(11.8)		
Islam	1(14.3)	3(42.9)	1(14.3)	2(28.6)		
Living arrangement					3.796	0.704
On-campus	10(17.9)	19(33.9)	18(32.1)	9(16.1)		
Off-campus accommodation	18(28.6)	19(30.2)	20(31.7)	6(9.5)		
With parents/guardian	7(29.2)	9(37.5)	5(20.8)	3(12.5)		
Do you have a part-time job or business while schooling					2.680	0.444

Yes	14(32.6)	11(25.6)	13(30.2)	5(11.6)		
No	21(21.0)	36(36.0)	30(30.0)	13(13.0)		
Have you ever talked to a doctor about how you were feeling mentally or emotionally					3.835	0.280
Yes	5(38.5)	3(23.1)	2(15.4)	3(23.1)		
No	30(23.1)	44(33.8)	31(31.5)	15(11.5)		
Have you ever sought psychological or counseling services					6.498	0.090
Yes	6(23.1)	8(30.8)	5(19.2)	7(26.9)		
No	29(24.8)	39(33.3)	28(32.5)	11(9.4)		

Table 3.8 displays the result of the Chi-square analysis to determine the association between socio-demographic variables and anxiety levels (Minimal, Mild, Moderate, Severe). The analysis revealed a statistically significant association between anxiety levels and Gender ($\chi^2 = 9.871$, $p = 0.020$). Females showed a peak in Moderate anxiety (38.8%) and a lower incidence of Minimal anxiety 13(16.3%) compared to males. Males showed high percentages in Minimal anxiety 22(34.9%) and Mild anxiety 20(31.7%). The remaining variables showed no statistically significant association with anxiety levels. The variable of having sought psychological or counseling services showed an association approaching statistical significance ($\chi^2 = 6.498$, $p = 0.090$). The remaining variables showed no statistically significant association with anxiety levels.

Table 3.9: Association between Stress levels and Gad-7 Anxiety Levels

Stress Levels	Minimal Anxiety	Mild Anxiety	Moderate Anxiety	Severe Anxiety	Chi-square	p-Value
Low stress	10(76.9)	3(23.1)	0(0.0)	0(0.0)	33.8	<0.001
Moderate stress	19(23.2)	32(39.0)	25(30.5)	6(7.3)		
Extreme stress	6(12.5)	12(25.0)	18(37.5)	12(25.0)		

Table 3.9 shows a significant association ($\chi^2 = 33.8, p < 0.001$) between stress levels and GAD-7 anxiety levels. Individuals with low stress mostly experienced minimal anxiety (76.9%), while those with extreme stress recorded much higher rates of moderate (37.5%) and severe anxiety (25.0%). This indicates that as stress levels increase, the severity of anxiety rises correspondingly.

CHAPTER FOUR

4.0 DISCUSSION

This study examined the prevalence and severity of generalized anxiety symptoms among second year pharmacy students at the University of Benin, exploring associated academic and psychosocial stressors, coping strategies, and potential areas for institutional intervention. The findings provide valuable insight into the mental health challenges faced by this specific academic group and highlight a clear need for improved student well-being support systems within the institution.

The profile of the students who participated shows a group that is typically young and mostly single. There were more female students than male students, which is important because research consistently shows that female students often report higher levels of anxiety (McLean *et al.*, 2011). A large majority of the students identified as Christian, which is common in the region and can influence how students cope with stress, often turning to prayer (Gureje *et al.*, 2015). Many students also reported having a part-time job, pointing to potential financial pressures that can add to their stress. A very concerning finding was that very few students had ever spoken to a doctor or sought counseling for their mental well-being, highlighting a major gap between their need for support and their willingness or ability to seek it, often due to stigma (Gulliver *et al.*, 2010).

The distribution of anxiety severity revealed that while a significant majority of students experienced clinically significant symptoms, the portion classified with severe anxiety was smaller than those with mild or moderate symptoms. This pattern, where the highest severity level is less common, has been observed in other student populations. For instance, studies

among pharmacy students in Saudi Arabia also reported a lower prevalence of severe anxiety compared to milder forms (Kandasamy *et al.*, 2025; Samreen *et al.*, 2020). Consistent with these findings, Martínez-Vázquez *et al.* (2023) reported that a substantial proportion of nursing students experienced moderate to severe anxiety highlighting that elevated anxiety levels are a common concern within student populations. Contrastingly, a study by Savitsky *et al.* 2020 on nursing students during the pandemic found that a high proportion of students experienced severe anxiety levels. This highlights that within the high-stress environment of health education, and intensified by a global crisis, the rate of severe anxiety can be very high.

However, the importance of this finding lies in its clinical significance. This smaller subgroup represents a highly vulnerable portion of students, as individuals with severe scores on the GAD-7 are the most likely to meet the full diagnostic criteria for Generalized Anxiety Disorder (Spitzer *et al.*, 2006).

When we look at the specific symptoms students reported, the most common were “worrying too much about different things” (mean = 2.5), “feeling nervous, anxious or on edge” (mean = 2.4), and “not being able to stop or control worrying” (mean = 2.3). These are classic signs of Generalized Anxiety Disorder (American Psychiatric Association, 2013). This pattern makes sense in the context of a competitive pharmacy program, where students face constant pressure from exams, vast amounts of complex material, and high expectations, similar to the stresses documented in medical training (Dyrbye *et al.*, 2006). Other symptoms such as “trouble relaxing” (mean = 2.0), “being so restless that it is hard to sit still” (mean = 1.9), “becoming easily annoyed or irritable” (mean = 2.1), and “feeling afraid as if something might happen” (mean = 2.2) further show that the anxiety experienced by these students manifests both

emotionally and behaviourally. This reflects a pattern consistent with GAD symptom clusters where cognitive worry and physiological arousal co-exist.

It is also worth noting that the students in this study reported these psychological symptoms clearly. In some cultures, anxiety is expressed more through physical complaints like headaches (Patel *et al.*, 2018). The fact that these students reported feelings and worries so directly suggests that screening tools like the GAD-7, which was developed in Western countries, can be effectively used in this Nigerian student population (Löwe *et al.*, 2008; Sawyer *et al.*, 2021).

This anxiety was not just about feelings, it had a real impact on the lives of students. Most students said that anxiety made their daily activities at least “somewhat difficult” to handle (mean = 2.0). This fits with other studies showing that anxiety can interfere with concentration and productivity in academic settings (Owens *et al.*, 2012; Eisenberg *et al.*, 2007).

The students’ own rating of their stress levels confirmed these findings. An overwhelming majority reported experiencing moderate to extreme stress.. This aligns with the findings of Bayram and Bilgel (2008), who observed that about three-quarters of university students experienced some level of stress.

The findings in the study also demonstrate a significant positive relationship between stress and anxiety levels, suggesting that individuals with higher stress are more likely to experience elevated anxiety symptoms. This result aligns with previous research indicating that stress is a major predictor and contributing factor to anxiety disorders. According to Cohen *et al.* (2007), persistent stress exposure can dysregulate emotional and physiological processes, leading to heightened anxiety responses. Similarly, studies by Lazarus and Folkman (1984) emphasized that ineffective coping with stressors can precipitate anxiety through constant psychological strain.

In academic contexts, Misra and McKean (2000) also reported that students experiencing higher academic stress tend to show greater anxiety and emotional distress, particularly when workload and performance pressure are high. Likewise, Bayram and Bilgel (2008) found a strong correlation between perceived stress and anxiety among university students, supporting the present finding that increasing stress levels are associated with more severe anxiety.

The students themselves made a strong connection between their anxiety and their academic performance. As the severity of a student's anxiety increased, so did their belief that it was affecting their grades. This relationship showed that the higher a student's anxiety level, the more likely they were to report that anxiety had a negative effect on their academic performance. This perception is backed by research showing that anxiety is linked to worse performance of tasks (Moran, 2016). This finding in general also aligns with Mofatteh (2020), who also reported that heavy academic workload and pressure to attain good grades contribute significantly to the anxiety of students.

The sources of this anxiety were found to be academic. The top stressors identified were the pressure to get good grades, the heavy workload, and the large volume of study materials. Specific courses, such as ANA 202 (Neuroanatomy) and BCH 202 (Introductory Molecular Biology), were pointed out as particularly stressful. These findings are consistent with previous studies that found that university students, particularly in the early professional years, experience increased anxiety due to intensive academic demands (Garber *et al.*, 2021; Regehr *et al.*, 2013).

When asked how they cope, students showed a strong preference for personal and informal strategies. The most common methods were prayer, listening to music, and sleep. Very few had sought help from a counsellor. This reliance on personal and religious coping over professional

help is a well-documented pattern in Nigeria, where stigma and strong faith traditions often shape how people deal with mental distress (Gureje *et al.*, 2015; Odejide, 2020).

When students were asked for suggestions to reduce their anxiety, their answers focused on changes to their academic environment. The most popular recommendations were having more time between exams, reducing the workload, and creating a more flexible timetable. These practical requests were much more common than asking for more counseling. This tells us that students see the root of the problem in the structure of their academic program itself. It suggests that the most effective solutions would be preventative, involving a review of the curriculum and assessment schedule, rather than just offering counseling to help students cope with a high-stress system.

Also, the analysis found one key demographic link: gender. Female students showed a significantly higher prevalence of moderate anxiety compared to male students. This finding is consistent with a large body of global research that consistently finds higher anxiety levels among female university students (Ibrahim *et al.*, 2013; Auerbach *et al.*, 2018). Other factors like age, marital status, and living arrangements did not show a significant link to anxiety levels. This suggests that the pressure of the pharmacy program is such a powerful stressor that it affects students across different backgrounds fairly equally.

The findings of this study directly align with its research objectives. The prevalence of generalized anxiety was clearly demonstrated, severity levels were quantified using the GAD-7 tool, and common symptoms such as excessive worry, tension, and difficulty relaxing were identified. Academic strain was shown to significantly influence anxiety and self-reported academic performance, while demographic analysis revealed gender-based differences. Contributing stressors such as workload intensity, examination pressure, and limited leisure time

were highlighted, and students proposed institutional strategies to reduce anxiety. Collectively, these results urge the need for targeted mental health interventions, structured counseling services, and academic schedule reforms to protect student wellbeing and enhance academic success within the University of Benin, Faculty of Pharmacy.

4.1 LIMITATIONS OF THE STUDY

1. Self-Report Bias

The study relied on self-administered questionnaires, which may have introduced bias due to inaccurate or socially desirable responses. Some students might have under-reported their anxiety symptoms because of stigma or fear of judgement.

2. Cross-Sectional Design

Since the research used a cross-sectional approach, it captures data at a single point in time. This limits the ability to establish a cause-and-effect relationship between academic workload and anxiety levels.

3. Limited Generalizability

The study focused exclusively on second-year pharmacy students at the University of Benin, which may not fully represent students in other faculties or universities with different academic environments.

4. Cultural Interpretation

Cultural perceptions of mental health might have influenced how respondents interpreted and answered the GAD-7 questions, possibly affecting the accuracy of self-reported anxiety symptoms.

5. Lack of Qualitative Depth

The study did not include qualitative methods such as interviews or focus groups that could have provided richer insights into students' lived experiences, coping strategies, and personal perspectives on anxiety.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 CONCLUSION

The results demonstrated that anxiety is highly prevalent within this cohort, with almost half of the respondents experiencing moderate to severe anxiety symptoms. These symptoms were predominantly characterized by persistent worry, nervousness, and difficulty controlling anxious thoughts, accompanied by functional impairment in daily tasks and academic responsibilities. A substantial majority of students reported that anxiety negatively impacted their academic performance, citing pressure to maintain high grades, a heavy workload, and large volumes of academic material as key stressors.

Demographically, most students were young, single, and predominantly female, and gender was the only variable that showed a significant relationship with anxiety levels, with female students reporting higher anxiety. The low level of engagement with formal mental health services, despite high symptom burden, emphasizes the influence of stigma, gaps in mental health literacy, and limited access to counseling services within the institution.

The findings also confirmed a significant and direct relationship between increasing stress levels and higher anxiety severity. This highlights that effective stress management is crucial for preventing the development and escalation of anxiety symptoms.

Students employed personal coping strategies such as prayer, music, and sleep more frequently than seeking professional support, and highlighted a need for structured academic reforms, expanded counseling services, and wellness-focused student support systems.

Overall, this study reveals a significant mental health challenge among second year pharmacy students and emphasizes the need for targeted interventions to promote psychological wellbeing, academic success, and professional development. It also emphasizes the importance of early mental health screening and proactive institutional support in mitigating anxiety-related functional and academic difficulties.

5.2 RECOMMENDATIONS

Based on the findings, the following recommendations are proposed:

- **Strengthen Mental Health Support Services:** The University should enhance access to campus counseling centers, ensure trained mental health professionals are available, and establish confidential student mental health clinics. Awareness programs should be introduced to reduce stigma and encourage help-seeking behaviour.
- **Implement Mental Health Screening and Early Intervention:** Routine mental health screening using standardized tools like the GAD-7 should be integrated into student health assessments, particularly for students in high-pressure programs such as pharmacy.
- **Review Academic Workload and Examination Structure:** Faculty should consider restructuring academic schedules, reducing clustering of examinations, and ensuring adequate time between assessments. Workload distribution and lecture delivery formats should be reviewed to minimize student burnout.

- Introduce Faculty-Based Mental Health and Academic Support Programs: Workshops on stress management, time management, effective study techniques, and resilience building should be regularly organized. Establishing peer-support groups and mentorship systems within the Faculty of Pharmacy may also promote a supportive academic environment.
- Provide Flexible Support Systems for Students: Implement flexible timetables where possible and ensure opportunities for physical activities, recreational breaks, and rest to encourage holistic student wellbeing.
- Promote a Supportive Educational Environment: Lecturers and academic advisers should be trained on identifying signs of student distress and providing supportive academic counseling. Policies that promote open communication between students and faculty should be encouraged.

REFERENCES

- Dyson, R. and Renk, K. (2006) 'Stress, coping, and anxiety in college students', *Journal of Clinical Psychology*, 62(5), pp. 591–602.
- Hill, A. P. and Curran, T. (2016) 'Multidimensional perfectionism and burnout: A meta-analysis', *Personality and Social Psychology Review*, 20(3), pp. 269–288.
- Pekrun, R., Goetz, T., Titz, W. and Perry, R. P. (2002) 'Academic emotions in students' self-regulated learning and achievement: A program of qualitative and quantitative research', *Educational Psychologist*, 37(2), pp. 91–105.
- Adewuya, A.O., Ola, B.A. and Aloba, O.O. (2006) 'Prevalence of major depressive disorders and a validation of the Beck Depression Inventory among Nigerian adolescents', *European Child & Adolescent Psychiatry*, 16(5), pp. 287-292.
- Adewuya, A.O., Ola, B.A., Aloba, O.O., Mapayi, B.M. and Oginni, O.O. (2006) 'Depression amongst Nigerian university students: Prevalence and sociodemographic correlates', *Social Psychiatry and Psychiatric Epidemiology*, 41(8), pp. 674-678.
- Adewuya, A.O., Ola, B.A., Olutayo, O.A., Famuyiwa, O.O. and Adegbiyi, O.A. (2021) 'The prevalence and correlates of psychological distress in a sample of Nigerian undergraduates', *Journal of Child and Adolescent Mental Health*, 33(1), pp. 45-53.
- Afolabi, M.O., Eze, C.U. and Olatunji, O.O. (2020) 'Perceived stress and emotional adjustment among Nigerian university students', *Ife Psychologia*, 28(1), pp. 1-12.
- Afolayan, J.A., Olawole, O.I. and Ogunjimi, J.O. (2019) 'Academic stress as a predictor of psychological well-being among university students', *Journal of Education and Practice*, 10(5), pp. 122-128.

- Akhuemokhan, I.M., Omoaregba, J.O. and Lawani, A.O. (2014) 'Substance use among students of a Nigerian university', *African Journal of Drug and Alcohol Studies*, 13(1), pp. 39-46.
- Al-Hanawi, M.K., Alsharqi, O., Almulhem, A., Vaidya, K., Alshamsan, R. and Al-Tattan, G. (2020) 'The psychological well-being of pharmacy students in Saudi Arabia: A cross-sectional study', *Journal of Pharmaceutical Health Services Research*, 11(4), pp. 359-366.
- Al-Qahtani, M.F. (2015) 'Comparison of depression, anxiety and stress levels between medical and non-medical students in Saudi Arabia', *International Journal of Medicine and Medical Sciences*, 7(10), pp. 195-204.
- American Psychiatric Association (2013) *Diagnostic and statistical manual of mental disorders*. 5th edn. Arlington, VA: American Psychiatric Publishing.
- American Psychiatric Association (APA) (2023) *Stress in America 2023: A nation recovering from collective trauma*. Washington, DC: APA.
- Andrews, B. and Wilding, J.M. (2004) 'The relation of depression and anxiety to life-stress and achievement in students', *British Journal of Psychology*, 95(4), pp. 509-521.
- Aparicio-López, C., Buéla-Casal, G., & Girela-Serrano, M. (2023). Academic stress as a predictor of mental health in university students. *Cogent Education*, 10(1).
- Auerbach, R.P., Mortier, P., Bruffaerts, R., Alonso, J., Benjet, C., Cuijpers, P., Demyttenaere, K., Ebert, D.D., Green, J.G., Hasking, P., Murray, E., Nock, M.K., Pinder-Amaker, S., Sampson, N.A., Stein, D.J., Vilagut, G., Zaslavsky, A.M. and Kessler, R.C. (2018) 'WHO World Mental Health Surveys International College Student Project: Prevalence and distribution of mental disorders', *Journal of Abnormal Psychology*, 127(7), pp. 623-638.
- Baldwin, D.S., Anderson, I.M., Nutt, D.J., Allgulander, C., Bandelow, B., den Boer, J.A., Christmas, D.M., Davies, S., Fineberg, N., Lidbetter, N., Malizia, A., McCrone, P., Nabarro, D., O'Neill, C., Scott, J., van der Wee, N. and Wittchen, H.U. (2021)

- ‘Evidence-based pharmacological treatment of anxiety disorders, post-traumatic stress disorder and obsessive-compulsive disorder: A revision of the 2005 guidelines from the British Association for Psychopharmacology’, *Journal of Psychopharmacology*, 28(5), pp. 403-439.
- Baxter, A.J., Vos, T., Scott, K.M., Ferrari, A.J. and Whiteford, H.A. (2014) ‘The global burden of anxiety disorders in 2010’, *Psychological Medicine*, 44(11), pp. 2363-2374.
- Bayram, N. and Bilgel, N. (2008) ‘The prevalence and socio-demographic correlations of depression, anxiety and stress among a group of university students’, *Social Psychiatry and Psychiatric Epidemiology*, 43(8), pp. 667-672.
- Beesdo, K., Knappe, S. and Pine, D.S. (2009) ‘Anxiety and anxiety disorders in children and adolescents: developmental issues and implications for DSM-V’, *Psychiatric Clinics of North America*, 32(3), pp. 483-524.
- Beesdo-Baum, K. and Knappe, S. (2012) ‘Developmental epidemiology of anxiety disorders’, *Child and Adolescent Psychiatric Clinics of North America*, 21(3), pp. 457-478.
- Bruffaerts, R., Mortier, P., Kiekens, G., Auerbach, R.P., Cuijpers, P., Demyttenaere, K., Green, J.G., Nock, M.K. and Kessler, R.C. (2018) ‘Mental health problems in college freshmen: Prevalence and academic functioning’, *Journal of Affective Disorders*, 225, pp. 97-103.
- Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J. and Zheng, J. (2020) ‘The psychological impact of the COVID-19 epidemic on college students in China’, *Psychiatry Research*, 287, 112934.
- Chentsova-Dutton, Y.E. and Tsai, J.L. (2010) ‘Self-focused attention and emotional reactivity: The role of culture’, *Journal of Personality and Social Psychology*, 98(3), pp. 507-519.
- Cohen, S., Janicki-Deverts, D. and Miller, G.E., 2007. Psychological stress and disease. *JAMA*, 298(14), pp.1685–1687.

- Conroy, D. E. (2001) 'Fear of failure: An exemplar of the study of achievement emotions', *Achievement Goals and Emotions in Achievement Settings*, pp. 229–254.
- Dabana, A., Sani, S. S., Aluh, D. O., Abubakar, A., Ejembi, E., Aliyu, A., & Muhammad, R. S. (2020) 'Prevalence and correlates of depression, anxiety and stress among undergraduate pharmacy students in Nigeria', *Pharmacy Education*, 20(2), pp. 293–305.
- Dutta, A., Sharma, A. and Das, S. (2019) 'Academic stress and mental health among Indian students', *Journal of Mental Health and Human Behaviour*, 24(2), pp. 91-97.
- Dyrbye, L.N., Thomas, M.R. and Shanafelt, T.D. (2006) 'Systematic review of depression, anxiety, and other indicators of psychological distress among U.S. and Canadian medical students', *Academic Medicine*, 81(4), pp. 354-373.
- Eisenberg, D., Gollust, S.E., Golberstein, E. and Hefner, J.L. (2007) 'Prevalence and correlates of depression, anxiety, and suicidality among university students', *American Journal of Orthopsychiatry*, 77(4), pp. 534-542.
- Garber, M.C., Hagger, M.S. and Saini, P. (2021) 'Psychological distress among pharmacy students: A systematic review', *American Journal of Pharmaceutical Education*, 85(8), 8453.
- Gureje, O., Lasebikan, V.O., Kola, L. and Makanjuola, V.A. (2015) 'Lifetime and 12-month prevalence of mental disorders in the Nigerian Survey of Mental Health and Well-Being', *The British Journal of Psychiatry*, 188(5), pp. 465-471.
- Gureje, O., Nortje, G., Makanjuola, V., Oladeji, B.D., Seedat, S. and Jenkins, R. (2015) The role of global traditional and complementary systems of medicine in the treatment of mental health disorders. *The Lancet Psychiatry*, 2(2), pp. 168–177.
- Haque, M., Alghamdi, A.S., Alshehri, N.N., Alshehri, W.M., Alotaibi, R.S., Alzahrani, M.S. and Islam, T. (2021) 'Prevalence and predictors of depression, anxiety and stress among

- university students in Saudi Arabia during the COVID-19 pandemic', *Journal of Taibah University Medical Sciences*, 16(6), pp. 834-842.
- Hasan, N. and Bao, Y. (2020) 'Impact of "e-Learning crack-up" perception on psychological distress among college students during COVID-19 pandemic: A mediating role of "fear of academic year loss"', *Children and Youth Services Review*, 118, 105355.
- Hirsch, J.D., Nemire, R., Boyle, M.G., Galinski, K.A., Haines, S.T., Pierson, C.A., Roche, V.F. and Soisson, E.L. (2020) 'A model for assessing the quality of pharmacy student education and well-being', *American Journal of Pharmaceutical Education*, 84(6), 7631.
- Hunt, J. and Eisenberg, D. (2010) 'Mental health problems and help-seeking behavior among college students', *Journal of Adolescent Health*, 46(1), pp. 3-10.
- Ibrahim, A.K., Kelly, S.J., Adams, C.E. and Glazebrook, C. (2013) 'A systematic review of studies of depression prevalence in university students', *Journal of Psychiatric Research*, 47(3), pp. 391-400.
- Kandasamy, G., Almanasef, M., Almeleebia, T. *et al.* Prevalence of anxiety and depression among university students in Southern Saudi Arabia based on a cross sectional survey. *Sci Rep* 15, 15482 (2025).
- Kessler, R.C., Berglund, P., Demler, O., Jin, R., Merikangas, K.R. and Walters, E.E. (2005) 'Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication', *Archives of General Psychiatry*, 62(6), pp. 593-602.
- Kirmayer, L.J. and Ryder, A.G. (2016) 'Culture and psychopathology', *Current Opinion in Psychology*, 8, pp. 143-148.
- Kohrt, B.A., Rasmussen, A., Kaiser, B.N., Haroz, E.E., Maharjan, S.M., Mutamba, B.B., de Jong, J.T. and Hinton, D.E. (2014) 'Cultural concepts of distress and psychiatric disorders: literature review and research recommendations for global mental health epidemiology', *International Journal of Epidemiology*, 43(2), pp. 365-406.

Lazarus, R.S. and Folkman, S., 1984. *Stress, Appraisal, and Coping*. New York: Springer.

Löwe, B., Decker, O., Müller, S., Brähler, E., Schellberg, D., Herzog, W. and Herzberg, P.Y. (2008) 'Validation and standardization of the Generalized Anxiety Disorder Screener (GAD-7) in the general population', *Medical Care*, 46(3), pp. 266-274.

Martínez- Vázquez, R., Martínez- Galiano, J.M., Peinado- Molina, R.A. &

Hernández- Martínez, A. (2023) Magnitude of general anxiety disorder among nursing students and its associated factors. *PMC Public Health*.

McLean, C.P., Asnaani, A., Litz, B.T. and Hofmann, S.G. (2011) 'Gender differences in anxiety disorders: Prevalence, course of illness, comorbidity and burden of illness', *Journal of Psychiatric Research*, 45(8), pp. 1027-1035.

Misra, R. and McKean, M., 2000. College students' academic stress and its relation to their anxiety, time management, and leisure satisfaction. *American Journal of Health Studies*, 16(1), pp.41–51.

Mofatteh, M. (2020) Risk factors associated with stress, anxiety, and depression among university undergraduate students. *AIMS Public Health*, 8(1), pp.36–65.

Moran, T.P. (2016) 'Anxiety and working memory capacity: A meta-analysis and narrative review', *Psychological Bulletin*, 142(8), pp. 831-864.

Muriithi, B.W., Khasakhala, L.I. and Mathai, M. (2024) 'The role of family support and age in the mental health of Kenyan university students', *East African Medical Journal*, 101(1), pp. 12-20.

Ndetei, D.M., Khasakhala, L.I., Mutiso, V., Ongecha-Owuor, F.A. and Kokonya, D.A. (2013) 'Patterns of drug abuse in public secondary schools in Kenya', *Substance Abuse*, 34(2), pp. 159-165.

- Nwankwo, C.O. and Eze, J.U. (2019) 'Perceived stress and emotional adjustment among undergraduates in a Nigerian university', *Journal of Education and Practice*, 10(18), pp. 34-41.
- Obikeze, D.L., Nnorom, C.C. and Ezebialu, C.U. (2022) 'Mental health services in Nigerian universities: A review of current status and challenges', *Journal of Educational and Social Research*, 12(1), pp. 112-122.
- Odejide, A.O. (2020) 'Mental health and psychosocial support in Nigeria: The need for a paradigm shift', *Journal of Mental Health*, 29(1), pp. 1-3.
- Okasha, A. (2002) 'Mental health in Africa: the role of the WPA', *World Psychiatry*, 1(1), pp. 32-35.
- Okeke, S.R., Olorunfemi, O.S. and Ojo, O.M. (2017) 'Pattern of psychoactive substance use among university students in Benin City, Nigeria', *Journal of Substance Use*, 22(5), pp. 505-509.
- Olanrewaju, M.K., Adewuya, A.O. and Ola, B.A. (2022) 'Stigma and mental health literacy among Nigerian university students', *International Journal of Mental Health Systems*, 16(1), p. 8.
- Organization for Economic Co-operation and Development (OECD) (2023) *OECD Economic Outlook, Volume 2023 Issue 1*. Paris: OECD Publishing.
- Owens, M., Stevenson, J., Hadwin, J.A. and Norgate, R. (2012) 'Anxiety and depression in academic performance: An exploration of the mediating factors of worry and working memory', *School Psychology International*, 33(4), pp. 433-449.
- Patel, V., Saxena, S., Lund, C., Thornicroft, G., Baingana, F., Bolton, P., Chisholm, D., Collins, P.Y., Cooper, J.L., Eaton, J., Herrman, H., Herzallah, M.M., Huang, Y., Jordans, M.J.D., Kleinman, A., Medina-Mora, M.E., Morgan, E., Niaz, U., Omigbodun, O., Prince, M., Rahman, A., Saraceno, B., Sarkar, B.K., De Silva, M., Singh, I., Stein, D.J., Sunkel, C.

- and Unützer, J. (2018) 'The Lancet Commission on global mental health and sustainable development', *The Lancet*, 392(10157), pp. 1553-1598.
- Regehr, C., Glancy, D. and Pitts, A. (2013) 'Interventions to reduce stress in university students: A review and meta-analysis', *Journal of Affective Disorders*, 148(1), pp. 1-11.
- Reiss, F. (2019) 'Socioeconomic inequalities in mental health problems in children and adolescents: a systematic review', *Social Science & Medicine*, 237, 112450
- Rotenstein, L.S., Ramos, M.A., Torre, M., Segal, J.B., Peluso, M.J., Guille, C., Sen, S. and Mata, D.A. (2016) 'Prevalence of depression, depressive symptoms, and suicidal ideation among medical students: a systematic review and meta-analysis', *JAMA*, 316(21), pp. 2214-2236.
- Ruscio, A.M., Hallion, L.S., Lim, C.C.W., Aguilar-Gaxiola, S., Al-Hamzawi, A., Alonso, J., Andrade, L.H., Borges, G., Bromet, E.J., Bunting, B., Caldas de Almeida, J.M., Demyttenaere, K., Florescu, S., de Girolamo, G., Gureje, O., Haro, J.M., He, Y., Hinkov, H., Hu, C., de Jonge, P., Karam, E.G., Lee, S., Lepine, J.P., Levinson, D., Mneimneh, Z.N., Navarro-Mateu, F., Posada-Villa, J., Slade, T., Stein, D.J., Torres, Y., Uda, H., Wojtyniak, B., Kessler, R.C. and Scott, K.M. (2017) 'Cross-sectional comparison of the epidemiology of DSM-5 generalized anxiety disorder across the globe', *JAMA Psychiatry*, 74(5), pp. 465-475.
- Sareen, J., Jacobi, F., Cox, B.J., Belik, S.L., Clara, I. and Stein, M.B. (2016) 'Disability and poor quality of life associated with comorbid anxiety disorders and physical conditions', *Archives of Internal Medicine*, 166(19), pp. 2109-2116.
- Savitsky, B., Findling, Y., Erel, A. and Hendel, T. (2020) 'Anxiety and coping strategies among nursing students during the covid-19 pandemic', *Nurse Education in Practice*, 46, 102809.
- Sawyer, A.T., Harris, S.L. and Koenig, H.G. (2021) 'Illness perception and depression in anxiety disorders', *General Hospital Psychiatry*, 68, pp. 45-50.

- Schwab, K. (2023) The Global Risks Report 2023. 18th edn. Geneva: World Economic Forum.
- Son, C., Hegde, S., Smith, A., Wang, X. and Sasangohar, F. (2020) 'Effects of COVID-19 on college students' mental health in the United States: Interview survey study', *Journal of Medical Internet Research*, 22(9), e21279.
- Spitzer, R.L., Kroenke, K., Williams, J.B.W. and Löwe, B. (2006) 'A brief measure for assessing generalized anxiety disorder: The GAD-7', *Archives of Internal Medicine*, 166(10), pp. 1092-1097.
- Stallman, H.M. (2010) 'Psychological distress in university students: A comparison with general population data', *Australian Psychologist*, 45(4), pp. 249-257.
- Stein, M.B. and Sareen, J. (2015) 'Generalized Anxiety Disorder', *New England Journal of Medicine*, 373(21), pp. 2059-2068.
- United Nations (2022) World Economic Situation and Prospects 2022. New York: United Nations.
- Verma, R., Balhara, Y.P.S. and Gupta, C.S. (2021) 'Gender differences in stress response: Role of developmental and biological determinants', *Industrial Psychiatry Journal*, 20(1), pp. 4-10.
- Watson, R., Deary, I., Thompson, D. and Li, G. (2008) 'A study of stress and burnout in nursing students in Hong Kong: A questionnaire survey', *International Journal of Nursing Studies*, 45(10), pp. 1534-1542.
- World Health Organization (2017) Depression and Other Common Mental Disorders: Global Health Estimates. Geneva: World Health Organization.
- World Health Organization (2019) International Classification of Diseases for Mortality and Morbidity Statistics. 11th edn. Geneva: World Health Organization.

World Health Organization (2021) Mental Health Atlas 2020. Geneva: World Health Organization.

Xiong, J., Lipsitz, O., Nasri, F., Lui, L.M.W., Gill, H., Phan, L., Chen-Li, D., Iacobucci, M., Ho, R., Majeed, A. and McIntyre, R.S. (2020) 'Impact of COVID-19 pandemic on mental health in the general population: A systematic review', Journal of Affective Disorders, 277, pp. 55-64.

APPENDIX

QUESTIONNAIRE:

THE ASSESSMENT OF GENERALIZED ANXIETY DISORDER IN SECOND-YEAR PHARMACY STUDENTS IN THE UNIVERSITY OF BENIN

Introduction:

This questionnaire aims to understand the anxiety experienced by second-year pharmacy students and ways to manage it. Kindly answer all questions honestly and completely. This is an anonymous and confidential study for research purposes only. There are no right or wrong answers. Participation is voluntary, and you may withdraw at any time.

SECTION A: SOCIODEMOGRAPHIC DATA

1. **Age:** _____years
2. **Gender:**
Male Female
3. **Marital Status:**
Single Dating Married
4. **Religion:**
Christianity Islam Traditional Other: _____
5. **Living Arrangement:**

On-campus hostel Off-campus accommodation With parents/guardians

Other: _____

6. **Do you have a part-time job or business while schooling?**

Yes No

7. **Have you ever talked to a doctor about how you were feeling mentally or emotionally?**

Yes No

8. **Have you ever sought psychological or counseling services?**

Yes No

SECTION B

Over the last two weeks, how often have you been bothered by the following problems?
(Please tick the option that best corresponds to your experience in the last two weeks.)

S/N	Over the last 2 weeks, how often have you been bothered by any of the following problems?	Not at all	Several days	More than half the days	Nearly every day
1	Feeling nervous, anxious, or on edge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Not being able to stop or control worrying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Worrying too much about different things	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Trouble relaxing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Being so restless that it is hard to sit still	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Becoming easily annoyed or irritable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Feeling afraid as if something awful might happen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or <i>get along</i> with other people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SECTION C: ACADEMIC IMPACT

1. **On a scale of 1 to 10, how would you rate your current academic stress levels?**
(1 = no stress, 10 = extreme stress) score:

2. **Do you believe that anxiety affects your academic performance?**

Yes No Not sure

3. **What is the most stressful aspect of your course of study? (Tick all that apply)**

Pressure to maintain good grades Heavy academic workload

Large study materials Laboratory report writing Lack of leisure time

4. **What course in your curriculum gives you the most stress?**

ANA 202 – Neuroanatomy

ANA 203 – Histology

BCH 202 – Introductory Molecular Biology

PCH 202 – Inorganic Pharmaceutical Chemistry

PCH 202P – Inorganic Pharmaceutical Chemistry Practical

PHM 201 – Introduction to Pharmaceutical Microbiology

PHM 201P – Introduction to Pharmaceutical Microbiology Practical

PIO 202 – Neurophysiology and Special Senses

PCT 202 – Pharmaceutical Preparations and Calculations

PCT 204 – Dispensing Practical II

5. **How often do you feel overwhelmed by your academic workload?**

Never Occasionally Often Always

6. **Would you consider speaking to a professional counselor if you were experiencing anxiety?**

Yes No Maybe

SECTION D: SUGGESTIONS

(Please tick all that apply.)

1. **What helps you feel less anxious?**

Friends Prayer Music Sleep Exercise Reading Counselor

Other: _____

2. **Any suggestions for easing your anxiety as a student?**

Reduced workload Lower credit requirements Extra tutorials for difficult courses
 More time between exams or tests Flexible timetable
More counseling support Other: _____

Thank you for your participation.