

**IMPACT OF MYOPIA ON THE QUALITY OF LIFE AMONG UNIVERSITY OF
BENIN STUDENTS**

BY

OSARO BLESSING OSAYAMWEN

LSC1605874

FACULTY OF OPTOMETRY

UNIVERSITY OF BENIN,

BENIN CITY.

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**A PROJECT SUBMITTED TO THE FACULTY OF OPTOMETRY, UNIVERSITY OF
BENIN, BENIN CITY, IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR
THE AWARD OF DOCTOR OF OPTOMETRY (OD) DEGREE.**

OCTOBER 2025.

CERTIFICATION

This is to certify that this research project titled **IMPACT OF MYOPIA ON THE QUALITY OF LIFE AMONG UNIVERSITY OF BENIN STUDENTS** was carried out by **OSARO BLESSING OSAYAMWEN** in the Faculty of Optometry, University of Benin in partial fulfilment of the requirement for the Doctor of Optometry degree in the 2024/2025 Academic Session.

.....
DR K. N. BAZUAYE
(PROJECT SUPERVISOR)

.....
DATE

.....
DR JUNO. O. OKUKPON
(PROJECT COORDINATOR)

.....
DATE

.....
PROFESSOR. EKI OGHRE
(DEAN FACULTY OF OPTOMETRY)

.....
DATE

.....
EXTERNAL EXAMINER

.....
DATE

DEDICATION

I dedicate this project to my Creator, who has preserved my life and kept me throughout my journey at the University of Benin. I also want to dedicate this project to my amazing parents, Mr. Victor and Mrs. Edith Osayamwen for their love, and unwavering moral and financial support.

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ABSTRACT

Myopia is an increasingly common visual condition that affects millions of young adults worldwide. Among university students, prolonged near work, digital screen use, and limited outdoor exposure contribute to its rising prevalence. Beyond blurred vision, myopia can significantly affect emotional wellbeing, academic performance, and daily functioning. To assess the impact of myopia on the quality of life among students of the University of Benin. A descriptive cross-sectional study was conducted among 153 students diagnosed with myopia. Data were collected using a structured questionnaire adapted from the National Eye Institute Refractive Error Quality of Life Instrument (NEI RQL-42). Information on socio-demographics, awareness of myopia, and quality-of-life indicators was obtained. Descriptive statistics and inferential tests were used to analyze relationships between variables. All respondents were confirmed myopes, categorized as mild (53.6%), moderate (35.3%), and high (11.1%). Awareness of myopia correction was high (92.8%), but only 45.8% had undergone an eye examination in the past year. The overall mean quality-of-life score indicated a moderate impact, with the lowest scores in dependence on correction and emotional wellbeing domains. A significant negative correlation was found between severity of myopia and quality-of-life scores ($r = -0.398$, $p = 0.002$), while gender and level of study showed no significant associations ($p > 0.05$). Myopia moderately affects the quality of life of university students, particularly as severity increases. Strengthening vision screening programs, integrating visual ergonomics into academic settings, and providing psychosocial support for myopic students are essential steps toward improving overall wellbeing.

CHAPTER ONE

1.0 INTRODUCTION

Myopia, commonly referred to as short-sightedness or near-sightedness, is the most prevalent refractive error worldwide and is increasingly recognized as a major public health concern (Baird *et al.*, 2020). More than 2.6 billion people globally are affected by myopia, and nearly 312 million of these are children and adolescents (Németh *et al.*, 2021). Alarming, projections estimate that by 2050, nearly 50% of the global population (about 4.8 billion people) will be myopic, with 10% (almost 1 billion people) experiencing high myopia, which is associated with an elevated risk of vision-threatening complications such as retinal detachment, glaucoma, and myopic maculopathy (Pan *et al.*, 2025).

The burden of myopia is particularly pronounced in East and Southeast Asia, where prevalence rates among young adults reach 80–90% in countries like Singapore, China, and South Korea (Rudnicka *et al.*, 2016). In contrast, prevalence in sub-Saharan Africa has historically been lower, ranging between 4% and 10% in many population-based studies (Kobia-Acquah *et al.*, 2022). However, recent evidence suggests a rising trend in African countries, attributed to urbanization, increased near work, and prolonged use of digital devices (Németh *et al.*, 2021). This epidemiological shift highlights the need for region-specific interventions to prevent and manage myopia progression.

Nigeria, being the most populous country in Africa with over 220 million inhabitants (World Bank, 2010), is not exempt from the growing myopia epidemic. The Nigeria National Blindness and Visual Impairment Survey (2005–2007) estimated that uncorrected refractive errors, including myopia, account for 57.1% of moderate visual impairment and 27.2% of severe visual impairment (Kyari *et al.*, 2009). More recent hospital-based studies indicate that the prevalence of myopia

among young Nigerians ranges from 5.0% to 16.2%, with a higher concentration in urban and academic settings where near work demands are greater (Ovenseri-Ogbomo *et al.*, 2021).

University students represent a population at heightened risk of myopia due to their intense academic workload, prolonged reading, and extensive screen time (Ansari & Ahmad *et al.*, 2023). Furthermore, the global COVID-19 pandemic, which forced educational institutions into prolonged digital learning, has amplified the risk factors associated with myopia progression among students, including prolonged digital screen exposure and reduced outdoor activity (Althnayan *et al.*, 2023).

The University of Benin (UNIBEN), one of Nigeria's foremost federal universities, hosts a diverse student population of more than 70,000 students across various faculties. Many of these students are in the critical age range of 17–30 years, during which myopia onset and progression are most pronounced (Bullimore *et al.*, 2023). With academic demands requiring hours of sustained near work, coupled with increased reliance on digital devices, UNIBEN students are particularly vulnerable to the impact of myopia on their quality of life, academic performance, and psychosocial wellbeing.

Myopia significantly affects quality of life in several dimensions, including academic productivity, social interaction, self-esteem, and overall wellbeing. Studies using the National Eye Institute Refractive Error Quality of Life Instrument (NEI RQL-42), from which this study's questionnaire was adapted, have demonstrated that individuals with uncorrected or inadequately corrected myopia report lower satisfaction with vision, higher levels of eye strain, and increased dependency on corrective devices compared to their emmetropic peers (Queirós *et al.*, 2012). For students, these limitations may translate into difficulty reading lecture notes or slides, reduced participation in academic and extracurricular activities, and increased anxiety over future visual health.

Beyond visual function, the psychosocial burden of myopia is considerable. Young adults with myopia often report self-consciousness related to wearing spectacles, avoidance of sports and recreational activities, and frustration with the cost or maintenance of corrective devices (Dias *et al*, 2013). In Nigeria, the cost of spectacles can be quite expensive, depending on lens type and frame, while contact lenses can be significantly more expensive and less accessible (Ebri *et al.*, 2023). For students dependent on limited financial resources, such costs pose a major barrier to optimal vision correction and, consequently, quality of life.

The economic impact of untreated myopia extends beyond the individual. Globally, the productivity loss associated with uncorrected myopia is estimated at US\$244 billion annually (Naidoo *et al.*, 2019). In Nigeria, where the majority of the workforce is within the informal and academic sector, visual impairment among young people threatens future productivity and national development (Marques *et al.*, 2021). For university students, poor vision may delay academic progression, reduce employability, and diminish long-term career opportunities (Antonelli *et al.*, 2018).

Addressing the impact of myopia on students' quality of life requires a holistic approach that considers not only the clinical aspects of refractive correction but also the psychosocial and economic dimensions. Early detection through regular eye screening, provision of affordable corrective devices, and education on safe visual practices are critical strategies. However, data specific to Nigerian university students, particularly those in university of benin, remain sparse. Existing literature tends to focus on prevalence rather than the lived experience and quality of life impact of myopia, leaving a critical gap in understanding.

This study is therefore designed to investigate the impact of myopia on the quality of life among students of the University of Benin. By focusing on academic, social, psychological, and physical

dimensions of quality of life, the research aims to provide evidence-based insights that can guide university health policy, student welfare programs, and public health interventions. Ultimately, understanding the burden of myopia in this specific population will contribute not only to improving the wellbeing of students but also to enhancing academic outcomes and future workforce productivity.

1.1 BACKGROUND INFORMATION

1.1.1 Definition and Clinical Features of Myopia

Myopia, or near-sightedness, is a refractive error in which parallel rays of light entering the eye focus in front of the retina when accommodation is relaxed, resulting in blurred distance vision (Saw *et al.*, 1996). It is usually measured in diopters (D), with mild myopia defined as $\leq -2.00\text{D}$, moderate as -2.00 to -5.00D , and high myopia as $\geq -6.00\text{D}$ (Ohno-Matsui *et al.*, 2021). Beyond visual blur, myopia is clinically significant because higher degrees increase the risk of ocular pathologies such as retinal detachment, glaucoma, and myopic maculopathy (Saw *et al.*, 2005). Unlike other refractive errors, myopia often begins in childhood or adolescence and may progress into early adulthood, coinciding with the academic years of university students (Lee *et al.*, 2022).

1.1.2 Risk Factors and Progression of Myopia

Several factors contribute to the onset and progression of myopia. Genetics plays a significant role; children with one or two myopic parents have a higher risk of developing the condition (Wojciechowski, 2011). However, environmental influences such as prolonged near work, inadequate outdoor exposure, and excessive digital screen use are increasingly recognized as major drivers of the global myopia epidemic (Biswas *et al.*, 2024). University students, who spend long hours on academic tasks and electronic devices, are therefore at particular risk (Xie *et al.*, 2022). Furthermore, reduced sunlight exposure, which has been shown to protect against myopia

development, is often compromised in students with heavy indoor study schedules (Hua *et al.*, 2015).

1.1.3 Myopia and Academic Performance

Clear vision is integral to effective learning. Myopia can negatively affect academic performance if left uncorrected, as students may struggle to read lecture slides, whiteboards, or projected images during classes (Olatunji *et al.*, 2019). Studies have shown that uncorrected refractive errors significantly reduce reading speed, concentration, and comprehension in students, leading to lower academic achievement (O’Leary *et al.*, 2014). Even when corrected, students may face interruptions such as frequent prescription changes or visual fatigue associated with prolonged use of corrective devices. Thus, the academic demands of university life amplify the impact of myopia on educational outcomes (Ryu *et al.*, 2021).

1.1.4 Psychosocial and Emotional Implications

The psychosocial burden of myopia extends beyond the classroom. Wearing spectacles, for example, may affect students’ self-image and social interactions, particularly in young adults who are sensitive to peer perceptions (Yeter *et al.*, 2021). Some students report lower self-esteem, fear of being stigmatized, or avoidance of social and recreational activities due to dependence on spectacles or contact lenses (Jellesma, 2013). High myopia can also lead to anxiety about future vision loss, while the need for regular correction imposes a sense of dependency. These emotional factors collectively diminish students’ quality of life (Binder *et al.*, 2020).

1.1.5 Physical Discomfort and Health Consequences

Beyond visual blur, myopia and its correction can contribute to physical discomfort. Students with myopia often experience symptoms such as headaches, eye strain, or dryness, particularly after prolonged screen use or reading (Kaur *et al.*, 2022). Contact lens wearers may report irritation,

infection risk, or difficulties maintaining hygiene, while spectacle users face challenges like restricted peripheral vision and inconvenience during sports. Such discomforts not only interfere with academic productivity but also reduce overall wellbeing (Adrus *et al.*, 2025).

1.1.6 Economic Burden of Myopia

The financial implications of managing myopia are significant, especially for university students who may rely on limited allowances or part-time income. Costs include regular eye examinations, frequent changes of prescription lenses, and purchase of spectacles or contact lenses. These recurring costs may discourage students from seeking timely care, resulting in poor vision correction and further quality-of-life impairment.

1.1.7 Long-Term Risks and Complications of High Myopia

High myopia is not merely a refractive error but a risk factor for sight-threatening complications such as retinal detachment, myopic macular degeneration, glaucoma, and early-onset cataract (Du *et al.*, 2024). These conditions can lead to irreversible visual impairment if not properly managed. University students with high myopia may not immediately experience these complications but live with the anxiety of potential vision loss in the future. This concern adds an additional layer of psychosocial stress that impacts quality of life.

1.1.8 Quality of Life and Vision-Related Instruments

Quality of life is a multidimensional construct encompassing physical, psychological, social, and functional wellbeing. Vision-related quality of life (VR-QoL) tools, such as the National Eye Institute Refractive Error Quality of Life Instrument (NEI RQL-42), provide structured ways to measure how refractive errors like myopia affect daily living (Lipson *et al.*, 2022). Domains assessed include clarity of vision, visual function, dependence on correction, appearance, activity limitation, and emotional wellbeing. These instruments reveal that even when corrected,

individuals with myopia often score lower than their emmetropic counterparts, demonstrating the pervasive impact of the condition on lived experience.

1.1.9 The Nigerian Context

In Nigeria, awareness and utilization of eye care services remain suboptimal despite increasing prevalence of myopia among young people. Cultural misconceptions, cost of corrective devices, and inadequate access to optometric services limit proper management. For university students, these barriers intersect with academic demands, further complicating their quality-of-life outcomes (Nwachukwu *et al.*, 2024). Moreover, most existing research in Nigeria has focused on prevalence and clinical aspects of refractive errors, with little emphasis on the subjective and psychosocial consequences, particularly within higher education institutions such as the University of Benin.

1.2 STATEMENT OF PROBLEM

Myopia is rapidly emerging as one of the most significant causes of visual impairment globally, with projections indicating that by 2050, one in two people worldwide will be myopic (Holden *et al.*, 2016). While high prevalence rates are well-documented in Asia, recent studies show that Africa, including Nigeria, is not immune to this growing epidemic. In Nigeria, uncorrected refractive errors including myopia, account for 57.1% of moderate visual impairment and 27.2% of severe visual impairment (Kyari *et al.*, 2009). Despite this, awareness, screening, and correction uptake remain low among young adults.

University students constitute a particularly vulnerable group, as their academic lifestyle is characterized by prolonged near work, extended screen time and limited outdoor exposure, all of which are known risk factors for myopia development and progression. At the University of Benin, with its student population exceeding 70,000, the increasing academic and digital demands place students at high risk of visual strain and myopia-related complications. Yet, there is limited data

on how this condition affects not just vision, but also their overall quality of life, including academic performance, social interaction, self-esteem, and economic wellbeing.

Although several studies in Nigeria have explored the prevalence of refractive errors among young people, there is a critical gap in literature regarding the subjective experiences and quality of life implications of myopia in university populations. Without such evidence, student health programs and university policies may overlook the psychosocial and functional challenges faced by students living with myopia.

Furthermore, the economic burden of managing myopia remains a barrier for many Nigerian students. The cost of spectacles or contact lenses, which are even more expensive, pose a significant challenge in a student population where many rely on limited financial support. Failure to afford or access adequate correction not only compromises visual health but also reduces academic productivity and increases psychosocial stress.

If left unaddressed, the impact of myopia on students may extend beyond the classroom to affect their future employability, productivity, and contribution to national development. Therefore, there is an urgent need to investigate the extent to which myopia affects the quality of life of students at the University of Benin. Findings from this study will provide evidence to guide targeted interventions such as affordable vision correction programs, campus-based screenings, and counseling services aimed at improving both the academic success and wellbeing of affected students.

1.3 AIM AND OBJECTIVES

1.3.1 AIM

The aim of this research is to assess the impact of myopia on the quality of life among University of Benin students.

1.3.2 OBJECTIVES

- I. To assess the overall quality of life among University of Benin students with myopia.
- II. To evaluate the impact of myopia on specific domains of quality of life, as measured by the NEI RQL-42.
- III. To identify demographic or academic factors, including age, gender, level of study, faculty associated with variations in quality of life among myopic students.

1.4 RESEARCH QUESTIONS

- I. What is the overall quality of life score among University of Benin students diagnosed with myopia?
- II. Which specific domains of quality of life, as assessed by the NEI RQL-42, are most significantly impacted by myopia among University of Benin students?
- III. Do demographic factors such as age, gender, or year of study influence the perceived impact of myopia on the quality of life among University of Benin students?

1.5 SIGNIFICANCE OF STUDY

This study is significant because it addresses an important but underexplored area in Nigerian eye health research: the impact of myopia on quality of life among university students. While existing studies in Nigeria have largely focused on the prevalence and distribution of refractive errors, very few have examined the subjective experiences and psychosocial consequences of myopia. By employing a validated instrument (NEI RQL-42), this study will generate data that captures not

only the clinical burden of myopia but also its broader impact on students' academic, social, and emotional wellbeing. In doing so, it fills a critical gap in literature and contributes to the growing global discourse on vision-related quality of life.

The findings of this study will also have important implications for policy and institutional planning. At the University of Benin, where students are at heightened risk of visual strain due to academic demands, the results can inform the design of health programs such as routine vision screening, affordable correction schemes, and counseling services. Beyond the university, the study may guide state and national health authorities in developing policies that integrate vision care into student health services across Nigeria's tertiary institutions.

Clinically, the study is relevant to optometrists, ophthalmologists, and other eye care providers who require a deeper understanding of how myopia affects patients' lives beyond what is measured through visual acuity tests. By highlighting the impact of myopia on daily activities, self-esteem, and productivity, the research can promote more patient-centered approaches to eye care. From a public health perspective, the study strengthens advocacy for prioritizing student eye health and for incorporating myopia prevention and control strategies into national eye health programs.

Economically, this research draws attention to the financial barriers that hinder students from accessing adequate vision correction. The cost of spectacles or contact lenses remains prohibitive for many young people, and this often compromises their ability to maintain good vision. By emphasizing the economic burden of myopia, the study underscores the need for affordable and accessible eye care options, which can enhance students' academic productivity and long-term employability.

On a personal and community level, the study will help raise awareness among students about the importance of early eye examinations, proper correction, and healthy visual practices. It will also encourage peer advocacy within student groups, leading to stronger demand for better eye care resources on campus. Ultimately, this research bridges the gap between clinical eye health and lived experiences, providing insights that are vital for improving student wellbeing, academic success, and future workforce productivity.

1.6 DEFINITION OF TERMS

To ensure clarity and precision in the exploration of the research topic, key terms integral to the study are defined as follows:

- **Myopia:** Myopia, also known as near-sightedness, is a refractive error of the eye in which light rays from distant objects are focused in front of the retina rather than directly on it, causing blurred distance vision while near objects remain clear. It is commonly classified as mild (≤ -2.00 diopters), moderate (-2.00 to -5.00 diopters), or high (≥ -6.00 diopters).
- **Refractive Error:** A refractive error is a common vision problem that occurs when the shape of the eye prevents light from focusing correctly on the retina. The main types include myopia (short-sightedness), hyperopia (far-sightedness), astigmatism, and presbyopia. Refractive errors are the leading cause of visual impairment globally and are usually corrected with spectacles, contact lenses, or refractive surgery.
- **Quality of Life (QoL):** Quality of life refers to an individual's overall sense of wellbeing, encompassing physical health, psychological state, level of independence, social relationships, and interaction with their environment. In the context of vision, it includes the ability to perform daily tasks, academic activities, and social interactions without significant limitation or discomfort caused by visual problems.

- **Vision-Related Quality of Life (VR-QoL):** Vision-related quality of life specifically refers to how vision problems such as myopia affect an individual's daily functioning and wellbeing. It includes domains such as clarity of vision, dependence on corrective lenses, emotional wellbeing, self-esteem, social participation, and satisfaction with vision correction.
- **Visual Impairment:** Visual impairment is a functional limitation of the eye that leads to reduced ability to see, even with corrective measures such as glasses or contact lenses. It ranges from mild to severe impairment and blindness, as classified by the World Health Organization. Uncorrected myopia is a major cause of visual impairment among young people worldwide.
- **University Students:** For the purpose of this study, university students refer to young adults enrolled in undergraduate or postgraduate programs at the University of Benin, Nigeria. They represent a population that is highly susceptible to myopia due to academic pressures, prolonged near work, and increased digital screen use.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 IMPACT OF MYOPIA SEVERITY ON QUALITY OF LIFE

Osuagwu *et al.* (2023) conducted a cross-sectional study among 100 adults with high myopia in Nigeria and found that quality of life was most impaired in the physical health domain (55.3%), while psychological health fared better (67.0%). One in nine participants reported major depressive symptoms, particularly younger adults (16–29 years) and women (14.3%). Furthermore, significant negative correlations were observed between depression scores and all QOL domains, ranging from $r = -0.29$ to -0.49 ($p < 0.001$). The study concluded that people with high myopia in Nigeria generally have a moderate QOL but poor physical health and a heightened risk of depression, warranting consideration of counselling and psychosocial support as part of routine eye care.

Han *et al.* (2023) examined the effects of myopia severity on children and their parents using the Pediatric Quality of Life Inventory (PedsQL). They reported that children with high myopia had significantly lower QOL scores (median ≈ 88) compared with children who were emmetropic or had low myopia (median ≈ 96.7 ; $p < 0.001$). Interestingly, the decline in QOL was more pronounced among parents than among the children themselves, and higher parental educational attainment was associated with increased awareness of these reductions. This suggests that the impact of high myopia extends to the family unit, amplifying its psychosocial burden.

Yadav *et al.*, (2024) conducted a cross-sectional study between October 2023 and January 2024 on 248 school-aged children to assess the need for vision screening and its relation to vision-related quality of life. The majority of participants were aged 14–16 years, with mild myopia most prevalent. Findings showed that uncorrected myopia negatively affected academic performance

(39.44%), physical and sports activities (31.38%), and psychosocial wellbeing (12.90%), with distant vision tasks such as reading from the classroom board or focusing on a ball being most impaired. The study concluded that uncorrected myopia significantly hampers children's quality of life and emphasized the importance of school vision screening programs for early detection and timely intervention.

Rose *et al.* (2000) conducted a comparative study in the United Kingdom to examine the impact of varying degrees of myopia on quality of life. Using tools such as the VF-14 and VQOL questionnaires, along with semi-structured interviews, they found that individuals with high myopia (≈ -10.00 D) had significantly poorer outcomes in visual acuity, functional vision, and quality of life compared with those who had low or moderate myopia ($p < 0.001$). Interestingly, the level of impairment in high myopes was comparable to that of patients with keratoconus, underscoring the serious psychological, cosmetic, and financial consequences associated with severe myopia.

Takashima *et al.* (2002) conducted a cross-sectional study on 211 patients with pathologic myopia and 144 controls to evaluate the functional status of daily life and quality of life. Using a detailed self-rated questionnaire, the study assessed visual dependency, social and emotional handicaps, and awareness of disease. Results showed that patients with pathologic myopia had significantly reduced quality of life compared with controls, largely due to handicap, disability, and the need for support, with handicap showing the strongest correlation with QOL. The study highlights that pathologic myopia is not only a refractive disorder but also a condition with profound psychosocial and functional consequences.

2.2 INTERVENTIONS AND VISION-RELATED QUALITY OF LIFE

Lipson *et al.* (2022) carried out a comprehensive review focused on the vision-related quality of life (VR-QoL) in relation to myopia management, with a special emphasis on children. Their review examined how various interventions particularly those targeting axial elongation affect both the safety and quality of life outcomes in patients with myopia. The authors highlighted that while many interventions like orthokeratology, multifocal contact lenses, and atropine drops are clinically effective at slowing myopia progression, their broader psychosocial impacts also warrant consideration. Using validated VR-QoL instruments, the review showed that treatment outcomes are not limited to refractive improvement, but also include emotional and functional wellbeing. They argued that VR-QoL data should be integrated into clinical decision-making, as it provides a more holistic view of how myopia interventions affect young patients' lives and the appropriateness of specific treatment plans.

Saw *et al.*, (2002) conducted an evidence-based review to evaluate the efficacy of interventions such as eye drops, bifocal lenses, and contact lenses in slowing myopia progression in children. The review covered ten clinical trials published between 1968 and 2000, including studies on atropine, bifocal lenses, and soft contact lenses. Findings revealed that 0.5% atropine eye drops were effective in reducing myopia progression, whereas other pharmacological agents like tropicamide and timolol were not. Similarly, five out of six trials on bifocal spectacle lenses failed to demonstrate significant benefits, with only one showing a marginal effect ($p = 0.047$). Soft contact lenses also did not yield significant results. The authors concluded that while atropine showed promise, the overall evidence base was insufficient to recommend interventions for routine clinical use at the time, and larger long-term randomized controlled trials were necessary to establish reliable guidelines.

Yokoi *et al.*, (2014) examined the incidence of psychiatric disorders and their impact on vision-related quality of life (VR-QoL) among patients with high myopia. In a study of 205 patients with pathologic myopia (axial length ≥ 26.50 mm), the prevalence of depression and anxiety disorders was found to be 22.0% and 25.9%, respectively, as measured by the Hospital Anxiety and Depression Scale (HADS). Vision-related quality of life, assessed using the NEI VFQ-25, was significantly reduced in patients with psychiatric comorbidities. Anxiety disorder, decreased best-eye visual acuity, depression, and female gender were identified as major predictors of poorer VR-QoL. Notably, absence of children predicted depression, while a history of cataract surgery was associated with anxiety disorder. The authors also found that specific HADS items could serve as effective screening tools, correctly identifying over 70% of patients with psychiatric disorders. Overall, the study highlights that approximately one-quarter of patients with high myopia suffer from psychiatric complications, which strongly exacerbate their quality-of-life burden, underscoring the importance of integrated psychological screening in the management of high myopia.

Chen *et al.*, (2007) compared the vision-related quality of life (VR-QoL) of emmetropes, myopes wearing spectacles or contact lenses, and myopes who had undergone refractive surgery. Using the Vision Quality of Life Index, the cross-sectional study included 64 emmetropes, 66 spectacle/contact lens users, and 65 post-refractive surgery participants, all with a visual acuity of 20/40 or better and no ocular pathology. Findings showed that refractive surgery patients reported VR-QoL comparable to emmetropes, while spectacle and contact lens users experienced significantly greater functional limitations. These included concerns about injury (OR = 11.5, CI: 2.3–57.1), difficulties coping with life demands (OR = 23.6, CI: 2.8–198.1), reduced ability to fulfill roles (OR = 5.6, CI: 1.4–22.1), and decreased confidence in everyday activities (OR = 30.6,

CI: 3.2–292.3). The study concluded that refractive correction via surgery may restore quality of life to levels comparable with emmetropia, whereas dependence on spectacles or contact lenses imposes psychosocial and functional burdens.

2.3 PSYCHOSOCIAL, FAMILIAL AND SOCIETAL BURDEN OF MYOPIA

Congdon *et al.* (2019) conducted an extensive review on the multifaceted impact of uncorrected myopia, highlighting how its effects vary by age. School-aged children were particularly vulnerable due to reduced academic performance and developmental challenges. Evidence from a large randomized controlled trial in China involving 20,000 children showed that providing free spectacles significantly improved math scores, equivalent to gaining half a semester of learning, especially in classrooms reliant on blackboard teaching. However, benefits were undermined by low spectacle wear rates, often below 40%, largely due to stigma and social pressures. Beyond academics, uncorrected or high myopia was associated with lower self-esteem, heightened anxiety, and poorer psychosocial outcomes in adolescents, while adults reported financial, cosmetic, and practical burdens. Economically, the global cost of uncorrected myopia in 2015 was estimated at \$244 billion in lost productivity, with additional losses from complications such as myopic macular degeneration. The authors concluded that widescale correction, especially in children, is both a public health and economic priority, though cultural barriers to spectacle use must be addressed.

Chua and Foster (2019) emphasized that myopia exerts a significant psychosocial, familial, and societal burden, with the World Health Organization recognizing uncorrected and under-corrected myopia as a leading cause of visual impairment that compromises education, occupational performance, and daily life. Economically, the annual direct cost of correcting myopia in Asian adults is estimated at US\$328 billion, while additional expenses related to vision-threatening

complications such as myopic macular degeneration, retinal detachment, glaucoma, and cataract contribute to costs of about US\$250 billion annually. Families face financial strain from repeated corrections, specialized optical aids, and specialist care, while individuals, especially those with high myopia, report reduced quality of life due to psychological, cosmetic, practical, and financial challenges. Stigma associated with spectacle wear, dependence on expensive interventions such as orthokeratology, soft bifocal lenses, and low-dose atropine, and the anxiety of progressive vision loss further underscore that myopia is not only a refractive error but also a public health concern with far-reaching social and economic implications.

Guo *et al.*, (2020) investigated the mental health status of parents of young patients with high myopia using the Symptom Checklist-90 (SCL-90). The study involved 160 parents of children with high myopia and 80 parents of children without myopia as controls. Results showed that the total SCL-90 scores, mean scores, and positive symptom scores were significantly higher among parents of high myopia patients. Specifically, indices such as somatization, interpersonal sensitivity, depression, anxiety, hostility, psychosis, and diet and sleep disturbances were elevated in both fathers and mothers compared to the control group. These findings indicate that parents of children with high myopia are more vulnerable to mental health challenges, suggesting that psychosocial support and mental health interventions for families should be considered an integral part of managing pediatric high myopia.

Sankaridurg *et al.*, (2021) highlighted the rapidly growing global burden of myopia, affecting nearly 30% of the world's population in 2020, with projections estimating a rise to 50% by 2050. Their review summarized evidence on prevalence, pathological complications, economic costs, and quality of life (QOL) impacts. The authors noted that high myopia is increasing at a disproportionately faster rate, forecasting a surge in vision-threatening complications such as

myopic macular degeneration. Both uncorrected myopia and high myopia-related pathologies were shown to significantly reduce QOL, with additional financial burdens from direct health expenditure and indirect losses in productivity. Global economic costs run into billions annually, with higher expenditures seen among adults due to complication-related care. The review stressed that unless the prevalence trajectory changes, societal and economic burdens will continue to escalate. While novel strategies to prevent or slow myopia progression are emerging, further research is required to evaluate their long-term cost-effectiveness and impact on reducing the global burden of myopia.

2.4 GAPS IN LITERATURE

Despite the growing body of research on the impact of myopia, several gaps remain. First, while studies such as Osuagwu *et al.* (2023) and Han *et al.* (2023) have demonstrated that myopia severity negatively affects quality of life in both adults and children, most of the available evidence is concentrated in Asia and a few developed countries, with limited representation from sub-Saharan Africa. This geographical imbalance restricts the generalizability of findings to diverse populations with different cultural, educational, and socioeconomic contexts.

Second, much of the existing literature, including Yadav *et al.* (2024) and Rose *et al.* (2000), relies on cross-sectional designs, which establish associations but cannot determine causal pathways between myopia severity, psychosocial wellbeing, and long-term quality of life outcomes. Longitudinal studies are needed to clarify how myopia progression over time contributes to academic, psychological, and societal consequences.

Third, while interventions such as orthokeratology, multifocal lenses, and low-dose atropine have been shown to slow myopia progression (Lipson *et al.*, 2022; Saw *et al.*, 2002), their broader psychosocial and familial impacts remain underexplored. Existing evidence tends to focus on

clinical efficacy rather than the lived experiences of children, parents, and families who must balance financial, emotional, and lifestyle implications of these treatments.

Fourth, although studies like Guo *et al.* (2020) and Yokoi *et al.* (2014) highlight the psychosocial and mental health burden of high myopia, particularly among parents and patients, there is limited research on family-based interventions or strategies that integrate mental health support into myopia care.

Finally, global economic analyses (Chua & Foster, 2019; Sankaridurg *et al.*, 2021) provide compelling estimates of the societal costs of myopia, but they often overlook indirect consequences such as stigma, reduced social mobility, and inequitable access to care in low-resource settings. Future research should incorporate these dimensions to provide a more comprehensive understanding of the societal burden of myopia.

In summary, gaps in the literature include underrepresentation of African and other low-resource populations, reliance on cross-sectional studies, insufficient exploration of psychosocial and familial dimensions of interventions, lack of integration of mental health into myopia management, and limited evaluation of indirect societal costs. Addressing these gaps will be crucial to developing context-specific, holistic strategies for mitigating the growing burden of myopia.

CHAPTER THREE

3.0 MATERIALS AND METHODS

3.1 RESEARCH DESIGN

This study adopted a cross-sectional survey design, which was suitable for assessing the impact of myopia on the quality of life among university students at a single point in time. The design was chosen because it enabled the collection of quantitative data on both the prevalence of myopia and its psychosocial, functional, and academic consequences without manipulating variables. A cross-sectional design was also cost-effective, time-efficient, and allowed for the examination of associations between myopia and quality-of-life outcomes in a large population within a limited period.

3.2 RESEARCH LOCATION

The study was conducted at the University of Benin (UNIBEN), located in Benin City, Edo State, Nigeria. University of Benin is one of the leading federal universities in Nigeria, with a diverse student population drawn from across the country and beyond. The institution comprises multiple faculties, colleges, and institutes offering a wide range of academic programs. Its large and heterogeneous student body provided an ideal population for examining the impact of myopia on quality of life, as it included individuals with varied academic, social, and lifestyle backgrounds. Conducting the study in this setting ensured that the findings were representative of university students in a typical Nigerian tertiary educational environment.

3.3 STUDY POPULATION

The study population consisted of undergraduate and postgraduate students who were enrolled in various academic programs at the University of Benin. These students represented a diverse group in terms of age, gender, and academic disciplines, making them suitable for assessing the impact

of myopia on quality of life within a university environment. The target population specifically included students diagnosed with myopia or those who wore corrective lenses for myopia. This group was appropriate because they were directly affected by the condition under investigation, and their experiences provided relevant insights into the quality-of-life implications of myopia among young adults in a tertiary institution.

3.4 SAMPLING TECHNIQUE/SAMPLE SIZE DETERMINATION

3.4.1 SAMPLING TECHNIQUE

This study adopted a purposive sampling technique to recruit participants. Purposive sampling, a non-probability method, enabled the researcher to deliberately select students who possessed specific characteristics relevant to the study objectives. In this case, students of the University of Benin who had been diagnosed with myopia or who wore corrective lenses for myopia were specifically targeted. This technique was considered appropriate because it ensured that only individuals directly affected by myopia were included, thereby providing reliable and meaningful data on its impact on quality of life. Furthermore, purposive sampling allowed the inclusion of participants from diverse faculties and levels of study, which enhanced the representativeness of findings across the student population.

3.4.2 SAMPLE SIZE DETERMINATION

The determination of the sample size was crucial to ensure the study's statistical power and representativeness of the target population. Fischer's formula was utilized to calculate the minimum sample size required for the study, taking into account a confidence level of 95%, a standard deviation of 50%, and a confidence interval of $\pm 5\%$.

Using Fischer's formula (for an unknown population)

$$n = \frac{Z^2 P(1-P)}{d^2}$$

Where,

n = minimum sample size

Z = Z statistic level of confidence of 95% (1.96 z-score)

P = standard deviation 10% = 0.1

d = confidence interval ($\pm 5\%$, d = 0.05)

$$= 1.96^2 \times 0.1 (1 - 0.1)$$

$$0.05^2$$

$$= 3.8416 \times 0.1 (0.9)$$

$$0.0025$$

$$= 138.3$$

Minimum sample size is approximately 139.

Considering a 10% non-participation rate (attrition rate)

$$0.1 \times 139 = 13.9 \sim 14$$

$$\text{Final sample size} = 139 + 14 = 153$$

Therefore, a total of 153 students was used for this study.

3.5 MATERIALS

The primary research instrument used in this study was a semi-structured questionnaire adapted from the National Eye Institute Refractive Error Quality of Life Instrument (NEI RQL-42). The questionnaire was designed to capture information on the sociodemographic characteristics of respondents, their history of myopia and corrective lens use, and the impact of myopia on various quality-of-life domains, including academic, functional, psychosocial, and physical wellbeing.

The instrument consisted of both closed-ended and Likert-scale items to allow for quantitative analysis while also enabling respondents to provide detailed insights into their experiences. The questionnaire was pilot-tested among a small group of students to ensure clarity, relevance, and reliability, after which necessary adjustments were made before full-scale administration.

3.5.1 QUESTIONNAIRE DESIGN

Data were collected using a semi-structured questionnaire was adapted from the NEI RQL-42. The tool was divided into two sections. Section A obtained demographic information such as age, gender, level of study, faculty, duration of diagnosis, use of corrective lenses, and severity of myopia. Section B assessed quality-of-life domains, including visual function, academic activities, psychosocial impact, physical discomfort, and satisfaction with correction. Most items were structured on Likert-type scales, while some were closed-ended. The questionnaire was pretested among a small group of students to ensure clarity and reliability before final administration.

3.6 INCLUSION/EXCLUSION CRITERIA

The study verified that the selected participants matched the requirements for relevant data collection and analysis and were representative of the target community by defining clear inclusion and exclusion criteria. By guaranteeing that relevant participants were included and keeping out

those who did not fit the predetermined criteria, these criteria assisted in preserving the validity and reliability of the research findings.

3.6.1 INCLUSION CRITERIA

Students of the University of Benin were included in the study if they met the following criteria:

- I. Participants were required to be 16 years of age or older. This age range was selected to include both younger and older students enrolled in the university.
- II. Participants were included if they expressed willingness to participate in the study by signing the informed consent form. This ensured that participation was voluntary and based on the individual's informed decision.
- III. Participants were currently enrolled in an academic program (undergraduate or postgraduate) at the University of Benin. This ensured that the study population was representative of the target group.
- IV. Participants were diagnosed with myopia or were wearing corrective lenses for myopia. This criterion ensured that only individuals directly affected by the condition were included in the study.

3.6.2 EXCLUSION CRITERIA

Students of the University of Benin were excluded from the study if they met any of the following criteria:

- I. Participants with other ocular conditions such as cataracts, glaucoma, or strabismus were excluded, as these conditions could independently affect quality of life and confound the results of the study.

- II. Participants who were not diagnosed with myopia or did not use corrective lenses for myopia were excluded to ensure that only individuals affected by the condition were studied.
- III. Students who declined consent or withdrew during the course of the study were excluded to maintain ethical standards and voluntary participation.
- IV. Participants who submitted incomplete or incorrectly filled questionnaires were excluded to preserve the accuracy and reliability of the data collected.

3.7 DESCRIPTION OF PROCEDURE

The study procedure involved the use of a semi-structured questionnaire adapted from the NEI RQL-42, which was pilot-tested for clarity and refined before the main data collection. Using a purposive sampling technique, questionnaires were distributed both physically and online to students diagnosed with myopia or wearing corrective lenses who met the inclusion criteria and gave informed consent. Participants were informed of the study's purpose and their rights, including voluntary withdrawal at any time. Completed questionnaires were checked for accuracy and completeness, with incomplete responses excluded. All data were anonymized to maintain confidentiality and used solely for research purposes.

3.8 DATA ANALYSIS

Data collected was entered into Microsoft Excel 2016 spreadsheet. Then, statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS), Version 22.0 (IBM Corp., Armonk, New York, USA). The data was analysed using cross-tabulations and Chi-square tests, descriptive statistics such as frequencies, mean, standard deviation, percentages, tables and figures such as pie charts bar charts which were used to visually represent the data.

3.9 ETHICAL CONSIDERATION

The study received ethical approval from the Research and Ethics Committee of the Faculty of Optometry, University of Benin. Informed consent was obtained from all participants after providing clear information about the study's purpose and procedures. Participation was voluntary, and respondents were assured of their right to withdraw at any stage without consequences. Anonymity and confidentiality were maintained by excluding personal identifiers, and data collected were used strictly for research purposes in accordance with the principles of the Helsinki Declaration.

3.10 LIMITATIONS AND METHODS

Every research study has limitations that may influence the interpretation of its findings and the extent to which they can be generalized. The following limitations and methodological concerns were identified in this study on the impact of myopia on the quality of life among students of the University of Benin:

- I. Sampling Method: The use of purposive sampling meant that participants were selected based on predetermined criteria, which may limit the generalizability of the findings. This approach could introduce selection bias, as the sample may not fully represent the entire student population of the University of Benin.
- II. Self-Report Bias: Data collection relied on self-administered questionnaires, making the responses subject to recall errors and social desirability bias. Some students may have overstated or understated their experiences with myopia and its impact on quality of life.
- III. Limited Study Area: The study was conducted only within the University of Benin. Therefore, the findings may not be applicable to students in other universities or regions with different demographic, academic, or lifestyle characteristics.

IV. Scope of the Questionnaire: The study utilized an adapted version of the NEI RQL-42, which, while reliable, may not have captured all dimensions of the psychosocial and academic burden of myopia in the Nigerian university context. Certain culturally or institutionally specific issues may have been overlooked.

Despite these limitations, the study's findings provide valuable insights into the quality-of-life implications of myopia among university students. By recognizing these limitations, the study highlights areas for further research and contributes to the growing body of knowledge on myopia and its broader impacts.

CHAPTER FOUR

4.0 RESULT AND ANALYSIS

This chapter presents the results obtained from data collected on the impact of myopia on the quality of life among University of Benin students. A total of 153 questionnaires were distributed and correctly completed, yielding a 100% response rate. All respondents were diagnosed myopes classified into mild, moderate, or high categories based on refractive error. Data are presented in tables and figures and discussed in line with the study's objectives.

Table 4.1: Socio-demographic Characteristics of Respondents (n = 153)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	68	44.4
	Female	85	55.6
Age Group (years)	17-20	42	27.5
	21-25	80	52.3
	26-30	31	20.3
Level of Study	100-200	34	22.2
	300-400	79	51.6
	500 and above	40	26.1
Faculty	Life Sciences	41	26.8
	Social Sciences	30	19.6
	Engineering	36	23.5
	Others	46	30.1

More than half of the respondents were females (55.6%) and the majority (52.3%) were within the age range of 21-25 years. Most of the participants (51.6%) were in 300-400 level, while 26.8% belonged to the Faculty of Life Sciences.

Gender Distribution of Participants

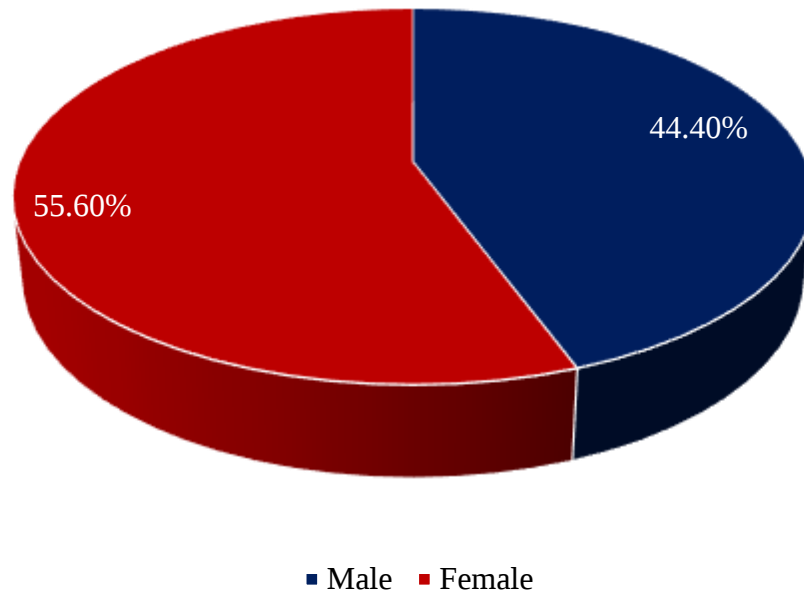


Figure 4.1: Gender Distribution of Respondents

Figure 4.1 shows that females constituted a higher proportion of the respondents compared to males.

Table 4.2: Distribution of Respondents by Severity of Myopia (n = 153)

Severity Category	Frequency (n)	Percentage (%)
Mild Myopia	82	53.6
Moderate Myopia	54	35.3
High Myopia	17	11.1
Total	153	100.0

More than half of the respondents (53.6%) had mild myopia, followed by 35.3% with moderate myopia and 11.1% with high myopia.

Distribution of Respondents by Severity of Myopia

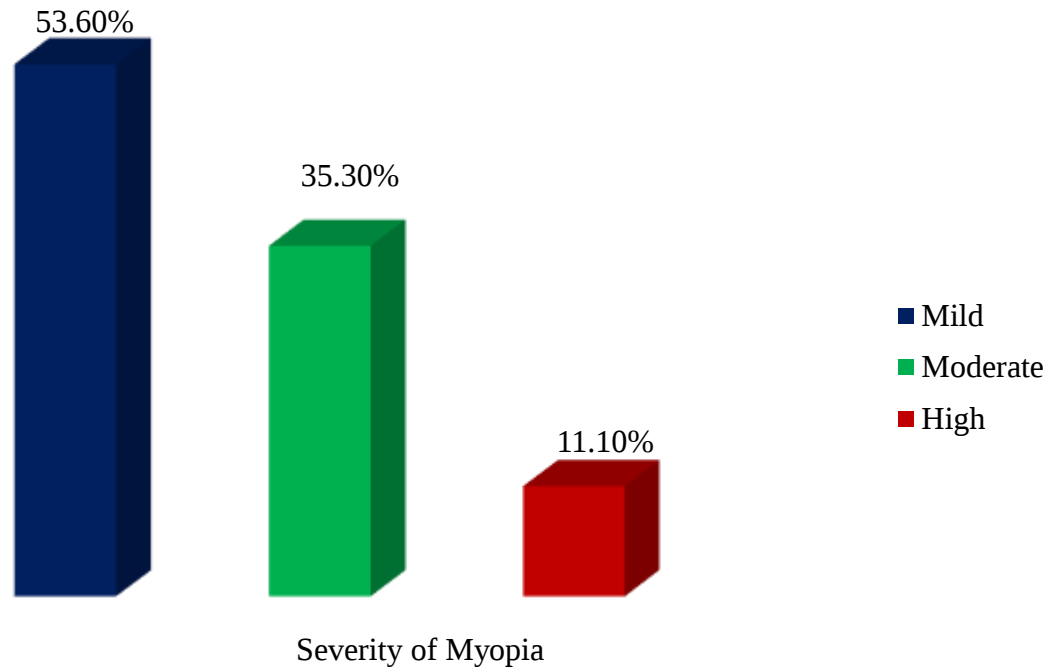


Figure 4.2: Distribution of Respondents by Severity of Myopia

Figure 4.2 graphically illustrates that mild myopia was the most prevalent type among the respondents.

Table 4.3: Awareness and Knowledge of Myopia among Respondents

Awareness Item	Yes (%)	No (%)
Aware that myopia can be corrected with spectacles or contact lenses	92.8	7.2
Aware that prolonged screen use can worsen myopia	87.6	12.4
Believe that myopia can cause permanent vision loss if untreated	62.1	37.9
Have undergone an eye examination in the past 12 months	45.8	54.2

A high percentage (92.8%) of respondents were aware that myopia can be corrected, while 87.6% recognized screen use as a contributing factor. However, fewer than half (45.8%) had undergone an eye examination in the past year.

Table 4.4: Quality-of-Life Domains Affected by Myopia

Domain	Mean Score ($\pm$ SD)	Minimum	Maximum	Remark
Clarity of Vision	64.1 $\pm$ 11.5	42	83	Moderate
Visual Function (Academic Tasks)	60.3 $\pm$ 13.2	37	84	Moderate
Dependence on Correction	49.8 $\pm$ 12.6	26	72	High dependence
Appearance and Self-Image	62.4 $\pm$ 10.8	40	80	Moderate
Emotional Wellbeing	58.2 $\pm$ 12.9	32	76	Moderate
Overall QOL Score	59.0 $\pm$ 12.1	35	79	Moderate

Respondents reported moderate impact of myopia on most quality-of-life domains, with the lowest mean score observed in “Dependence on Correction,”

Table 4.5: Relationship between Severity of Myopia and Overall Quality-of-Life Score (Pearson Correlation)

Variable	r	p-value	Remark
Severity of Myopia vs. QoL Score	−0.398	0.002*	Significant negative correlation

A significant inverse correlation ($r = -0.398$, $p = 0.002$) was observed, showing that students with higher degrees of myopia experienced lower quality-of-life scores.

Table 4.6: Association between Gender and Quality of Life among Myopic Students (Chi-square Test)

Gender	High QoL (%)	Low QoL (%)	χ^2	p-value	Remark
Male (n=29)	41.4	58.6	1.63	0.202	NS
Female (n=36)	33.3	66.7			

No significant relationship was found between gender and quality of life ($p > 0.05$), indicating that both male and female students were similarly affected.

Table 4.7: Association between Level of Study and Quality-of-Life Domains

Level of Study	Mean QoL Score ($\pm$ SD)	F-value	p-value
100 -200 Level	61.2 $\pm$ 10.7	3.04	0.051
300 - 400 Level	57.6 $\pm$ 12.1		
500 Level & above	54.8 $\pm$ 11.4		

Students in lower levels recorded slightly better quality-of-life scores than those in higher levels.

However, this was not statistically significant ($p = 0.051$).

CHAPTER FIVE

5.0 DISCUSSION

Myopia remains a growing public health concern, especially among young adults and students engaged in sustained near work and digital device use. The condition not only affects visual clarity but also impacts various domains of daily functioning and emotional wellbeing. This study assessed the impact of myopia on the quality of life among students of the University of Benin, focusing on how the severity of myopia, demographic factors, and awareness levels influence overall wellbeing.

A total of 153 questionnaires were correctly completed, yielding a 100% response rate. All respondents were confirmed myopes, classified into mild, moderate, and high categories based on refractive error. The findings are discussed below in relation to the study's objectives and compared with evidence from previous research.

The study population comprised 44.4% males and 55.6% females, with the majority (52.3%) aged 21–25 years and most (51.6%) in their 300-400 level of study. This distribution reflects the youthful composition of the university community, where students are heavily exposed to near tasks such as reading, computer use, and mobile device interaction.

This pattern aligns with Sankaridurg *et al.* (2021), who noted that myopia prevalence is increasing fastest among adolescents and young adults in higher education. The predominance of female respondents also mirrors Osuagwu *et al.* (2023), who found a slightly higher rate of visual impairment among Nigerian women. The implications of this demographic trend are clear: universities represent a high-risk population for myopia progression, and targeted eye health

programs should prioritize preventive education and regular visual screening for students, especially those within this active academic age group.

The study revealed that 53.6% of respondents had mild myopia, 35.3% had moderate myopia, and 11.1% had high myopia. This distribution suggests that while the majority of cases were mild, a notable portion of students already had significant visual impairment.

This finding is consistent with Yadav *et al.* (2024), who found mild myopia to be the most common category among school-aged children, and with Han *et al.* (2023), who reported similar trends in younger populations. The presence of 11.1% high myopia among university students, however, signals the need for attention, as severe myopia increases the risk of vision-threatening complications such as retinal detachment and macular degeneration.

The implication of this finding is that even in an academic environment with good literacy and health awareness, myopia severity can progress without adequate intervention. Routine vision assessment and early corrective care remain vital to prevent long-term ocular complications.

The study found that 92.8% of respondents were aware that myopia can be corrected with spectacles or contact lenses, and 87.6% recognized prolonged screen use as a worsening factor. However, less than half (45.8%) had undergone an eye examination in the past 12 months.

This gap between awareness and practice reflects a behavioural inconsistency that has also been documented in earlier research. Congdon *et al.* (2019) highlighted that despite widespread knowledge about myopia and its correction, compliance with spectacle use remains low, often due to social stigma and neglect. Similarly, Chua and Foster (2019) emphasized that cultural and economic barriers often prevent individuals from seeking regular eye care.

These findings imply that educational awareness alone is insufficient to influence positive health behaviour. Universities must therefore complement awareness campaigns with accessible eye screening services and integrate vision care into student health programs. Periodic checks can encourage early detection and timely correction of refractive errors before they worsen.

Results from the NEI RQL-42 assessment showed that myopia had a moderate overall impact on quality of life among respondents. The lowest scores were observed in “dependence on correction,” indicating discomfort or emotional strain related to the constant use of visual aids. Domains such as clarity of vision, academic tasks, appearance, and emotional wellbeing also recorded moderate effects.

This outcome is consistent with Osuagwu *et al.* (2023), who reported that Nigerian adults with high myopia had moderate quality of life but poorer scores in the physical and psychological domains. Similarly, Chen *et al.* (2007) found that spectacle and contact lens users experienced reduced confidence and greater functional limitations compared to those who had undergone refractive surgery.

The implication of this finding is that although optical correction restores vision, it does not fully eliminate the psychosocial impact of myopia. University students, who are often self-conscious about appearance and academic performance, may experience emotional distress related to dependence on glasses or contact lenses. Therefore, counseling and peer support programs could help students adapt better to corrective measures and maintain healthy self-esteem.

Relationship between Severity of Myopia and Quality of Life

A statistically significant negative correlation ($r = -0.398$, $p = 0.002$) was found between the severity of myopia and quality-of-life scores, indicating that students with higher degrees of myopia experienced lower quality of life.

This finding supports the results of Rose *et al.* (2000), Takashima *et al.* (2002), and Han *et al.* (2023), who all reported that higher myopia levels were associated with poorer vision-related quality of life. Takashima *et al.* (2002), for instance, showed that pathologic myopia led to strong visual dependency and reduced social functioning, while Rose *et al.* (2000) found that high myopes had impairments comparable to patients with serious ocular diseases like keratoconus.

The consistency of these results reinforces the need for differentiated care based on severity. Students with moderate and high myopia should receive specialized attention, including regular monitoring and counseling on safe visual habits. This approach could prevent further deterioration and improve their day-to-day comfort and productivity.

Although females formed the majority of respondents, there was no statistically significant difference between male and female quality-of-life scores ($p > 0.05$). This finding differs from that of Osuagwu *et al.* (2023), who reported that women with high myopia exhibited greater psychological distress than men.

The lack of difference in this study may be due to the shared academic environment of the participants, which exposes both genders to similar visual and social pressures. It could also reflect better gender inclusivity and social adaptation among university students. This suggests that interventions aimed at improving visual quality of life can be uniformly applied across both genders in similar educational settings.

The study observed that lower-level students had slightly better quality-of-life scores than those in higher levels, though the difference was not statistically significant ($p = 0.051$). This trend indicates that prolonged exposure to academic demands, digital screens, and night reading may contribute to worsening visual comfort and emotional wellbeing in senior students.

This observation is in line with Yadav *et al.* (2024), who reported that uncorrected or worsening myopia negatively influenced academic performance and visual comfort among students with heavy study workloads. The implication here is that eye strain and visual fatigue are modifiable risks. Incorporating visual ergonomics, such as scheduled eye breaks, screen filters, and adequate classroom lighting, could help maintain visual health among university students.

In conclusion, this study demonstrates that myopia significantly affects the quality of life of students at the University of Benin, particularly as severity increases. Although awareness of myopia and its correction is high, routine eye examination practices remain poor. The findings align with global evidence showing that dependence on correction, visual discomfort, and psychosocial stress are common among myopes.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATIONS

6.1 CONCLUSION

In conclusion, this study assessed the impact of myopia on the quality of life among students of the University of Benin. The research revealed that while awareness of myopia and its correction is relatively high, many students still experience a moderate decline in their quality of life, especially as the severity of myopia increases. The findings showed that mild myopia was the most prevalent type among respondents, followed by moderate and high myopia. Despite this, less than half of the participants had undergone an eye examination in the past year, indicating poor utilization of available eye care services.

The study further established a statistically significant negative relationship between the severity of myopia and overall quality-of-life scores. Students with high myopia were more likely to report reduced visual comfort, emotional strain, and dependence on corrective lenses. However, gender and level of study did not show any significant differences in quality-of-life outcomes, suggesting that myopia affects students similarly across demographic categories.

The implications of these findings show that, although corrective devices restore vision, they do not fully address the psychological and lifestyle challenges that come with long-term dependence on them.

The study concludes that myopia, though often underestimated, poses a meaningful challenge to the wellbeing of university students. Continuous visual strain from academic and digital activities, limited access to regular eye care, and the emotional burden of visual dependency all contribute to

a moderate reduction in quality of life. Early detection, behavioural change, and better support services are essential to improve both visual outcomes and overall wellbeing among students.

6.1 RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made to improve the management of myopia and enhance the quality of life of students at the University of Benin and similar academic environments:

- I. **Strengthen routine vision screening and early detection programs:** The University Health Centre should organize periodic eye screening programs for students to detect and manage myopia at an early stage. Early identification can prevent progression to higher degrees of myopia and reduce associated complications.
- II. **Integrate vision health education into student orientation and wellness programs:** Awareness campaigns should go beyond general information to emphasize the importance of regular eye examinations, proper screen use habits, and the risks of neglecting refractive correction. Educating new students early can encourage healthier visual behaviours throughout their academic life.
- III. **Improve accessibility and affordability of corrective devices:** Collaborations with optometry clinics and local lens suppliers should be established to make quality spectacles and contact lenses more affordable for students. Subsidized options can reduce the financial barriers that discourage regular correction.
- IV. **Incorporate counseling and psychosocial support into eye care services:** Eye clinics within the university should provide counseling to address emotional issues related to dependence on visual aids and self-image concerns. Such support can help students adapt positively and maintain confidence despite visual challenges.

- V. **Encourage research and policy development in vision health:** Further research should explore the long-term psychosocial impact of myopia and the effectiveness of behavioural interventions in reducing eye strain. Policy-makers and educational institutions should use such evidence to design comprehensive eye health programs for young adults.

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APPENDIX I

ETHICAL APPROVAL

APPENDIX II

Questionnaire: Impact of Myopia on Quality of Life

My name is Osaro Blessing Osayamwen, a final year optometry student of the university of benin conducting a research study on **“IMPACT OF MYOPIA ON THE QUALITY OF LIFE AMONG UNIVERSITY OF BENIN STUDENTS”**. Please kindly fill the questionnaire. All response will be kept confidential

Thank you

Adapted from NEI RQL-42

Section A: Demographics

1. Age: _____
2. Gender: ☐ Male ☐ Female ☐ Other
3. Level of Study: ☐ 100 ☐ 200 ☐ 300 ☐ 400 ☐ 500 ☐ 600
4. Faculty: _____
5. Are you currently wearing glasses or contact lenses for myopia? ☐ Yes ☐ No
6. How long have you been diagnosed with myopia?
☐ Less than 1 year ☐ 1–3 years ☐ 4–6 years ☐ Over 6 years
7. What is the severity of your myopia (if known)?
☐ Mild ($\leq -2.00D$) ☐ Moderate (-2.00 to $-5.00D$) ☐ High ($\geq -6.00D$) ☐ Not Sure

Section B: Vision-Related Activities and Quality of Life

(Tick the option that best describes your experience. Base your answers on your current or most recent vision correction.)

1. General Perception and Visual Function

1. If you had perfect vision without correction, how different would your life be?
☐ No difference ☐ Small difference for the better ☐ Large difference for the better ☐ I already have perfect vision
2. How clear is your vision using your usual correction (glasses/contacts)?
☐ Perfectly clear ☐ Pretty clear ☐ Somewhat clear ☐ Not clear at all

2. Visual Tasks and Academic Activities

3. How much difficulty do you have seeing clearly during lectures or reading from a board/screen?
☐ No difficulty ☐ A little difficulty ☐ Moderate difficulty ☐ A lot of difficulty
4. How much difficulty do you have reading small print (e.g., textbooks, handouts)?
☐ No difficulty ☐ A little difficulty ☐ Moderate difficulty ☐ A lot of difficulty
5. How often do changes in clarity of vision affect your academic productivity during the day?
☐ Never ☐ Rarely ☐ Sometimes ☐ Often ☐ Always

3. Emotional and Psychosocial Impact

6. How often do you worry about your eyesight or vision affecting your studies or social life?
☐ Never ☐ Rarely ☐ Sometimes ☐ Often ☐ Always

7. Do you feel your vision correction affects your self-esteem or appearance?

☐ Not at all ☐ A little ☐ Moderately ☐ Significantly

8. Do you avoid certain social or physical activities because of your myopia or vision correction?

☐ No ☐ Yes, a few ☐ Yes, many

4. Physical Discomfort and Symptoms

9. Do you experience headaches or eye strain after reading or screen use?

☐ Never ☐ Rarely ☐ Sometimes ☐ Often ☐ Always

10. Do you experience dryness, itching, or soreness in your eyes regularly?

☐ Not at all ☐ Mildly ☐ Moderately ☐ Severely

5. Satisfaction with Correction

11. How satisfied are you with your current vision correction (glasses/contact lenses)?

☐ Completely satisfied ☐ Somewhat satisfied ☐ Dissatisfied ☐ Very dissatisfied

12. Do you use a less effective vision correction for aesthetic reasons (e.g., because you look better)?

☐ Never ☐ Sometimes ☐ Often ☐ Always

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Thank you

Adapted from NEI RQL-42

Section A: Demographics

1. Age: 26
2. Gender: ☐ Male ☒ Female ☐ Other
3. Level of Study: ☐ 100 ☐ 200 ☐ 300 ☒ 400 ☐ 500 ☐ 600
4. Faculty: LIFE SCIENCE
5. Are you currently wearing glasses or contact lenses for myopia? ☒ Yes ☐ No
6. How long have you been diagnosed with myopia?
☐ Less than 1 year ☐ 1-3 years ☒ 4-6 years ☐ Over 6 years
7. What is the severity of your myopia (if known)?
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5. How often do changes in clarity of vision affect your academic productivity during the day?
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