KNOWLEDGE, ATTITUDE, AND PRACTICES OF OPHTHALMIC SELF-MEDICATION AMONG STUDENTS OF THE UNIVERSITY OF BENIN.

BY

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UNIVERSITY OF BENIN

BENIN CITY.

NOVEMBER, 2025.

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

NOVEMBER 2025.

CERTIFICATION

This is to certify that this research project titled: **KNOWLEDGE, ATTITUDE AND PRACTICES OF OPHTHALMIC SELF-MEDICATION AMONG STUDENTS OF THE UNIVERSITY OF BENIN** was carried out by **ADIGWE ENOCH DAVID** in the Faculty of Optometry, University of Benin in partial fulfillment of the requirement for the DOCTOR OF OPTOMETRY (OD) degree in the 2024/2025 Academic Session.

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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.

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Special appreciation goes to God Almighty for good health, sound mind and for preserving me throughout my stay in the University of Benin.

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ABSTRACT

Background: Ophthalmic self-medication, the practice of using drugs without the advice or prescription of a qualified eye care professional. Assessing the knowledge, attitudes, and practices of students regarding ophthalmic self-medication is important in understanding their health-seeking behavior and identifying areas that may require educational or public health attention. **Purpose:** This study aims to assess the level of knowledge, attitude, and practices of ophthalmic self-medication among students of the University of Benin, Edo State, Nigeria. **Methods:** A cross-sectional descriptive study will be conducted among undergraduate students of the University of Benin using a structured, self-administered questionnaire. The questionnaire will consist of four sections: socio-demographic characteristics, knowledge of ophthalmic self-medication, attitudes towards the practice, and reported self-medication behaviors. **Data Analysis**: Data collected will be coded and analyzed using the Statistical Package for the Social Sciences (SPSS) software version 25.0 by IBM. Descriptive statistics will be used to summarize the data, while inferential statistics such as Chi-square tests will be employed to determine associations between variables such as gender, faculty, and level of study with knowledge, attitude and practice of self-medication. **Contribution to Optometry**: The findings from this research will provide valuable insights into the extent and determinants of ophthalmic self-medication among university students. It will help guide public health interventions, enhance eye health education, and support evidence-based advocacy to reduce harmful self-medication practices. Furthermore, the study will contribute

to improving the role of optometrists in preventive eye care and health promotion among young adults.

Keywords: Ophthalmic self-medication, Knowledge, Attitude, Practice, University of Benin, Public Health, Eye Care

CHAPTER ONE

1.0 INTRODUCTION

Self-medication can be defined as the use of drugs to treat Self diagnosed conditions or symptoms or the intermittent and prolonged use of prescribed medication for chronic or recurrent symptoms or disease (World Health Organization., 2000). WHO refers to self-medication as 'the Selection and use of medicines by individuals to treat self-recognized illnesses or symptoms (Hardon and Fresle, 2004)

Self-medication is popular because it saves time and money, especially for people who are dealing with symptoms they think are familiar or moderate. Sometimes people rely on their past experiences, family or friend recommendations, or pharmacist guidance. This trend has also been aided by the growing availability of pharmacological information via internet, ads, and previous prescriptions (Kumar *et al*., 2019).

Everyday all over the world, individuals irrespective of their age, level of education, engage in the practice of self-medication without consulting a qualified healthcare professional. This behavior includes purchasing medications without a prescription, using left over doses from previous prescriptions, sharing medication with other family members and social groups or misusing the medical prescription either by prolonging, interrupting or modifying the dosage and the administration period (Layola Filho *et al.,* 2004)

The incidence of self-medication is higher in developing countries, in Nigeria medications are freely displayed for sale in places such as markets, roadside shops, bus parks, and other public places by individuals not duly licensed (Oyediran *et al.,* 2019). This practice explains why self- medication is prevalent in Nigerian communities.

Self-medication involving the eyes refers to the selection and use of ophthalmic medications by individuals to treat self-diagnosed eye symptoms without seeking advice from a qualified

eyecare professional. Self-medication is defined by the World Health Organization as the use of pharmaceuticals to treat self-recognized diseases or symptoms. This includes people applying or consuming topical treatments and eye drops without a doctor's supervision (Tadesse *et al.,* 2023). This is especially prevalent in areas with limited access to eye care professionals.

Self-Medication with ophthalmic medications is practiced for a variety of conditions such as red eye, irritation, dryness, and conjunctivitis that are thought to be minor or self-limiting. People frequently turn to using over-the-counter drops or prescription drugs without the necessary diagnosis or supervision (Tadesse *et al.,* 2023).

Previous Ocular disease, difficulty in accessing health facilities, poor awareness of the risk of self-medication, considering the illness as mild and poverty are among the factors contributing to ophthalmic self- medication (Tesfay *et al.,* 2022). This study aims to explore the awareness, attitudes, and perceptions towards the exercise of self-medicating ophthalmic medications in University of Benin.

But there are dangers associated with this practice. Inappropriate pharmaceutical use can result in drug resistance (particularly with antibiotics), adverse drug responses, misdiagnosis, and postponements in seeking medical attention. Injections and unlicensed herbal medicines are examples of self-medication in some areas, which may further raise the risk of negative consequences (Kumar *et al.,* 2019).

While using the right over-the-counter eye care products for responsible self-care can be convenient and may lessen the strain on healthcare systems, abuse is frequently the result of a lack of professional advice. Because of its dual character, ophthalmic self-medication is a "double-edged sword," offering advantages in certain situations but presenting serious risks when safety and diagnosis are jeopardized (Tadesse *et al.,* 2023).

1.1 BACKGROUND INFORMATION

The prevalence of ophthalmic self-medication among adults and young adults, particularly university students, has raised concerns in the field of public health. Ocular self-medication, which includes using over-the-counter medications, leftover prescriptions, and conventional or herbal therapies, is described as using eye medication without first consulting an eye doctor (Ogbona and Oparah, 2010). Adegbehingbe and Bisiriyu (2008) state that although self-care attempts may demonstrate independence and time savings, questions remain regarding the level of understanding on proper drug usage, dose, and possible consequences.

Studies in Nigeria reveal that ocular self-medication is common among university students and the general public, frequently as a result of low-risk perception and limited access to eye care services (Fadeyi *et al.,* 2019). More than 60% of participants in a South-West Nigerian study acknowledged using ocular medications for self-medication, citing factors such as prior experience with comparable symptoms and the expense of seeing an eye care specialist (Afolabi *et al.,* 2012). Ocular problems have become more common in university settings due to stress, academic pressure, and the use of digital devices. As a result, students are more prone to try self-treatment without the necessary understanding (Olusanya *et al.,* 2020).

Many students from all backgrounds attend the University of Benin, which is situated in Edo State, Nigeria. Preliminary findings indicate that many students prefer to self-medicate for eye-related disorders because of perceived convenience, lengthy wait times, or ignorance, even though there is a university health facility and adjacent optometry clinic (Ebeigbe, 2016). This trend might also be influenced by cultural myths and the availability of unlicensed pharmacies. In order to direct successful intervention programs, it is critical to evaluate students' knowledge, attitudes, and practices (KAP) about ocular self-medication given their increased exposure to digital screens and environmental irritants.

By investigating University of Benin students' awareness, attitudes, and behaviors around self-medication for eye conditions, this study seeks to close the knowledge gap. Data-driven insights from the findings will help guide focused health education initiatives, encourage responsible eye care practices, and lower the incidence of vision impairment in young adults. Additionally, this study supports the WHO's Global Action Plan for Universal Eye Health 2014–2019, which highlights the significance of raising awareness of eye health issues and facilitating access to eye care services, especially for vulnerable groups like young people (WHO, 2013).

1.1.1 OPHTHALMIC SELF MEDICATION

Ophthalmic self-medication refers to the use of any type of eye treatment—pharmaceutical, herbal, or alternative—without a valid prescription, diagnosis, or supervision from a qualified eye care provider such as an optometrist or ophthalmologist. This practice can be deliberate or due to ignorance, and while it may provide temporary relief, it often carries risks of improper treatment, delayed diagnosis, complications, or worsening of the original condition.

Forms of Ophthalmic Self-Medications:

1. **Over-the-Counter (OTC) Eye Drops**

These are non-prescription medications available in pharmacies and drugstores, often used to relieve common symptoms like:

a. Redness (e.g., vasoconstrictors like naphazoline)
b. Dryness (artificial tears)
c. Allergic itchiness (antihistamines)
d. Minor irritations

Products may contain vasoconstrictors, lubricants (artificial tears), or antihistamines. Several studies have noted frequent use of such agents without professional consultation (Al Hemaidi

et al., 2024). The motivations for this practice may include ease of access and prior positive outcomes (AlGhofaili, 2020).

2. **Leftover Prescription Medications**

These are drugs that were previously prescribed for a diagnosed condition but are used again later—sometimes for different symptoms or shared among family members.

Examples:

a. Antibiotic drops left over from a prior conjunctivitis case
b. Steroid drops used for eye allergies or post-surgery care

This behavior is sometimes based on symptom recurrence or medication availability in the household (Ajayi et al., 2013). Studies in various countries have documented the reapplication of medications without renewed consultation (Abera *et al.,* 2022).

3. **Traditional or Herbal Eye Remedies**

In many cultures (particularly in parts of Africa, Asia, and Latin America), herbal extracts or traditional preparations are applied directly to the eye for symptoms like pain, redness, or discharge. (Megbelayin and Babalola, 2015; Achigbu and Achigbu, 2017).

Examples:

a. Breast milk
b. Plant sap or extracts (e.g., from garlic, bitter leaf, aloe vera)
c. Charcoal, urine, or local concoctions

Research from Nigeria and other regions has shown considerable diversity in the types of substances used and the beliefs associated with them (Ukponmwan and Momoh, 2010; Aghaji, Ezeome and Ezeome, 2018).

4. **Medications Borrowed from Others**

In this case, individuals use eye medications prescribed to family or friends based on symptom similarity.

Common Misconceptions:

a. "If it worked for her, it will work for me."
b. "All red eyes are the same."

Studies have reported that individuals may rely on others' experiences or recommendations in making medication choices (Alamer *et al.,* 2023). This form of self-care may also reflect shared access to resources and mutual support in healthcare decision-making.

5. **Online-Sourced Drugs**

This includes drugs purchased from:

a. Online pharmacies (licensed or unlicensed)
b. Social media vendors
c. Informal sellers on platforms like WhatsApp or Facebook

With increased internet use, some individuals procure eye medications via online vendors, social media platforms, or informal sellers. The appeal may lie in convenience or affordability (Aghaji, Ezeome, and Ezeome, 2018). The types and sources of these medications vary widely across regions and socioeconomic groups.

1.1.2 Common Reasons for Ophthalmic Self-Medication

The decision to self-medicate for ocular symptoms is shaped by a dynamic combination of personal, cultural, social, and health-system-related factors. These motivations often reflect

perceptions of symptom severity, previous health experiences, and accessibility of formal eye care services (Alamer *et al.,* 2023; Ajayi *et al.,* 2013).

1. **Perceived Minor Nature of Eye Symptoms**

Many individuals consider symptoms such as eye redness, itching, tearing, or mild discharge as minor, self-limiting, or resulting from environmental irritants like dust or allergens (Abera *et al.,* 2022).

a. Such symptoms may not be deemed severe enough to require professional evaluation.
b. Individuals may rely on past experiences where similar symptoms resolved without medical intervention.
c. This perception often leads to the use of over-the-counter solutions, herbal remedies, or previously used prescriptions.

2. **Cost and Accessibility Issues**

Financial constraints and healthcare accessibility challenges play a significant role in influencing health-seeking behavior (Ajayi *et al*., 2013; Megbelayin and Babalola, 2015).

a. In settings where eye care services are unaffordable or distant, individuals may opt for more accessible alternatives.
b. The cost of consultations, diagnostics, and medications can be a barrier, especially in communities without health insurance schemes.
c. Transportation challenges, especially in rural areas, may also deter individuals from visiting eye clinics.

3. **Lack of Awareness about Risks of Improper Drug Use**

Limited knowledge regarding the appropriate use and potential risks of eye medications has been identified as a factor in self-medication behavior (Alghofaili, 2020).

a. Many individuals may perceive ocular medications—especially eye drops—as harmless.
b. Misconceptions about the safety of repeated or shared use of antibiotics or corticosteroids are not uncommon.
c. Public health education on ocular medication use remains limited in many low- and middle-income countries (Al Hemaidi *et al.,* 2024).

4. **Previous Experience with Similar Eye Problems**

Past successful outcomes with particular medications may lead individuals to replicate the same treatments for new symptoms (Alamer *et al.,* 2023).

a. Self-confidence in managing recurrent or familiar symptoms can reinforce self-medication habits.
b. Keeping leftover drugs for future use is often reported, especially when the original prescription had been effective.

5. **Cultural Practices and Belief in Traditional Medicine**

Cultural context strongly influences health choices, including the use of traditional or home-based remedies (Achigbu and Achigbu, 2017; Ukponmwan and Momoh, 2010).

a. In some communities, traditional remedies such as plant sap, breast milk, or herbal concoctions are culturally endorsed for eye care.
b. These practices may be encouraged by family traditions, community norms, or faith-based beliefs.
c. Traditional medicine is often perceived as more natural or accessible, especially where formal care is viewed as foreign or unaffordable (Aghaji, Ezeome and Ezeome, 2018).

6. **Long Waiting Times at Hospitals and Clinics**

Delays in service delivery and long queues at eye clinics can discourage people from seeking professional care (Megbelayin and Babalola, 2015).

•Time constraints related to work, school, or caregiving may make self-treatment appear more practical.

•In some public health settings, the perceived inefficiency of the system may motivate individuals to bypass formal care pathways.

1.1.3 Common Drugs Used

1. **Antibiotics**

Examples: Chloramphenicol, Ciprofloxacin, Gentamicin, Tobramycin

Antibiotics are frequently used to treat presumed bacterial eye infections like conjunctivitis. However, when used without medical guidance, they may be ineffective against viral or fungal conditions and contribute to antimicrobial resistance (Alamer *et al.,* 2023)

Forms: Available as eye drops, ointments, or suspensions.

Uses:

a. These drugs are effective only against bacterial pathogens. Viral, fungal, or allergic causes of red eye may not respond to them.
b. Some may use them prophylactically (preventively), especially post minor trauma or foreign body exposure, although clinical guidelines don't always support this.
c. Self-diagnosis can lead to inappropriate use, especially when redness, pain, or discharge is due to non-bacterial causes.

Figure 1.1 Image showing Chloramphenicol Eye drop a common drug used (Source: Drugmart 2019 Chloramphenicol eye drop [Photograph]. Retrieved from https://www.drugmart.com)

2. **Steroids**

Examples: Dexamethasone, Prednisolone acetate

Topical corticosteroids are potent anti-inflammatories. In self-medication settings, however, they can mask serious conditions (e.g., herpetic keratitis), exacerbate infections, and cause complications such as cataract and glaucoma (Kadri *et al.,* 2023)

a. Forms: Usually in combination with antibiotics (e.g., dexamethasone + chloramphenicol) or as stand-alone steroid drops.

Uses:

a. These drugs are highly effective at suppressing inflammation and immune responses.
b. Because of their potency, precise diagnosis and timing of use are crucial.
c. In expert hands, steroids are invaluable in reducing tissue damage caused by inflammation.

d. However, in self-medication contexts, non-experts may not distinguish between conditions that require steroids and those that do not, such as differentiating herpetic keratitis (which steroids can worsen) from allergic conjunctivitis (which steroids can relieve).

Fig.1.2. Predisolone eye drops

(Source: Prednisolone eye drops [Photograph]. Retrieved from https://www.dockpharmacy.com)

3. **Decongestants**

Examples: Naphazoline, Tetrahydrozoline

These agents temporarily relieve redness via vasoconstriction but may produce rebound hyperemia (rhinitis medicamentosa analogy) and overlook underlying conditions (Soparkar *et al.,* 2023)

Forms: Often available OTC as redness-relieving drops.

Uses:

a. Provide temporary relief from eye redness and minor irritation.
b. Popular among users seeking cosmetic improvement of red eyes.
c. Their vasoconstrictive effect gives quick visible results, which may be interpreted as improvement.
d. However, underlying inflammatory, infectious, or allergic conditions may remain untreated, and prolonged use can lead to rebound redness or tolerance.

4. **Lubricating Drops (Artificial Tears)**

Examples: Carboxymethylcellulose, Hydroxypropyl methylcellulose, Polyethylene glycol

Typical agents like carboxymethylcellulose and polyethylene glycol are considered safe but can cause corneal epithelial toxicity if preserved and overused (Kadri *et al.,* 2023)

Forms: Available as drops, gels, or ointments, often preservative-free for sensitive users.

Uses:

a. Generally regarded as safe and well-tolerated, even for long-term use.
b. Commonly used for symptoms of grittiness, burning, or mild foreign body sensation.
c. Can improve comfort, especially in computer users, the elderly, or those with dry climates.
d. Do not address underlying pathology, so they may offer only symptomatic relief.

Fig.1.3. Different Products of Artificial Tears

(Source: Wikipedia. (n.d.). Artificial tears [Photograph]. Retrieved from https://en.wikipedia.org/wiki/Artificial_tears)

5. **Antifungals/Antivirals**

Examples:

a. Antifungals: Natamycin, Amphotericin B
b. Antivirals: Acyclovir (topical or oral), Ganciclovir

These are less commonly self-prescribed but essential for herpes or fungal keratitis. Misuse or delay in their use risks severe outcomes (Alamer *et al.,* 2023; Indian study)

Uses:

a. Rarely used in self-medication due to limited availability, high cost, and complex dosing schedules.

b. Their effectiveness depends heavily on accurate diagnosis, which is difficult without out laboratory support.
c. Viral and fungal eye conditions often mimic bacterial conjunctivitis, increasing the likelihood of misapplication or delay in appropriate therapy.

6. **Traditional Eye Preparations**

Examples: Herbal extracts, breast milk, sugar solution, coconut water, urine (in rare traditional beliefs)

While some evidence suggests breast milk might speed corneal epithelial healing in animal models (Asena *et al.,* 2017; Zhang *et al.,* 2023), clinical data are inconclusive. Conversely, serious complications like endophthalmitis following breast milk use have been recorded (Ukponmwan *et al.,* 2008). Herbal materials like aloe vera and high-pH extracts can damage corneal tissue or introduce infection (Alamer *et al.,* 2021). Honey has antimicrobial and wound-healing potential but poses risks of contamination and protozoal keratitis (Alamer *et al.,* 2021)

Uses:

a. These remedies are deeply rooted in cultural beliefs and regional practices.
b. Some herbal extracts contain active ingredients with anti-inflammatory or antimicrobial potential, though not rigorously studied.
c. Breast milk contains antibodies and lactoferrin, which have antimicrobial properties, but it's not sterile and may introduce pathogens if improperly handled.
d. The safety and efficacy of these traditional treatments remain largely anecdotal and lack standardization.
e. Variability in composition, contamination risks, and inappropriate use are concerns.

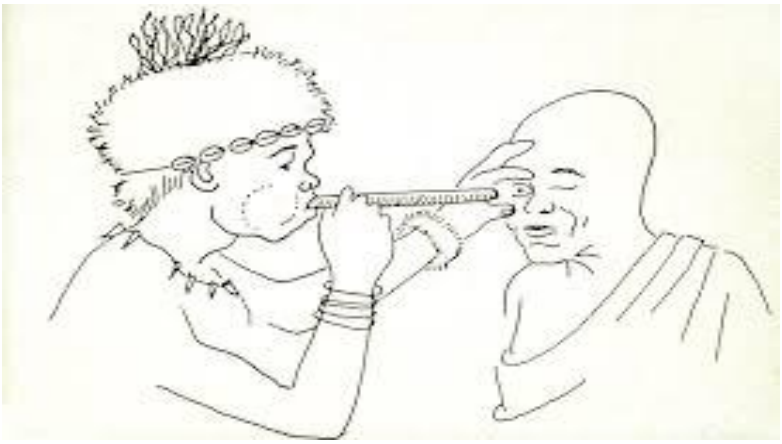


Fig.1.4. Traditional healer blowing medicine into the eye

(Source: Flickr. (n.d.). Traditional healer blowing medicine into the eye [Photograph]. Retrieved from https://www.flickr.com)

1.1.4 Risks and Consequences

1. **Incorrect Diagnosis**

a. Many eye symptoms (e.g., redness, discharge, photophobia) overlap between different diseases.
b. Bacterial conjunctivitis vs. viral or allergic conjunctivitis
c. Herpes simplex keratitis vs. dry eye or iritis
d. Without professional assessment, there's a high risk of misinterpreting symptoms, leading to wrong drug use and potentially worsening the underlying condition.

2. **Delayed Treatment**

•By opting for self-treatment, individuals may postpone seeking professional care.

•Progressive conditions like glaucoma, keratitis, or uveitis may cause irreversible vision loss if not managed promptly.

•Masking of symptoms (e.g., by decongestants or steroids) can provide false reassurance and delay diagnosis.

3. **Drug Resistance**

a. Antibiotic resistance can develop when these medications are used without clear indication or stopped prematurely.
b. Topical antibiotic misuse contributes to broader issues of microbial resistance, affecting both ocular and systemic infections.
c. Resistance may limit options for treating severe infections in the future.

4. **Side Effects and Complications**

a. Steroid-induced Glaucoma or Cataract

•Prolonged or inappropriate steroid use can lead to increased intraocular pressure, risking optic nerve damage (glaucoma).

•Also linked to the development of posterior subcapsular cataracts, especially with long-term use.

b. Allergic Reactions

•Some individuals may develop hypersensitivity to preservatives, antibiotics (e.g., neomycin), or herbal components.

•Symptoms may include itching, swelling, redness, and in severe cases, angioedema or anaphylaxis.

c. Corneal Toxicity

•Some eye drops, especially those with preservatives or inappropriate pH, can damage the corneal epithelium, leading to dryness, punctate keratitis, or ulceration.

d. Eye Infections

e. Use of non-sterile preparations (e.g., traditional or homemade solutions) can introduce pathogens.

f. Contaminated eye drop bottles or incorrect application techniques can cause secondary infections, sometimes worse than the original condition.

5. **Masking of Serious Conditions**

a. Steroids, in particular, can suppress signs of inflammation while worsening infections, especially:
b. Herpetic keratitis: Steroids can enable viral replication and deeper stromal involvement, leading to scarring or vision loss.
c. Fungal keratitis: Steroids reduce host immune response, allowing fungi to invade more deeply into the cornea.

1.1.5 Prevalence in Nigeria

Several studies and surveys have revealed a high prevalence of ophthalmic self-medication in Nigeria:

a. Estimated prevalence ranges from 30% to 85% in different Nigerian communities and settings.
b. Urban vs. Rural: Prevalence is high in both, but motivations differ (urban: time-saving; rural: accessibility).
c. Youth and students: Often use OTC eye drops for cosmetic reasons (e.g., eye whitening agents).
d. A study in Benin City reported 85% of respondents had self-medicated for eye symptoms.

e. Another in Enugu State showed 74% engaged in self-medication, with antibiotics and steroids being the most common.

f. Traditional eye medicine use remains prevalent, especially in rural communities and among older populations.

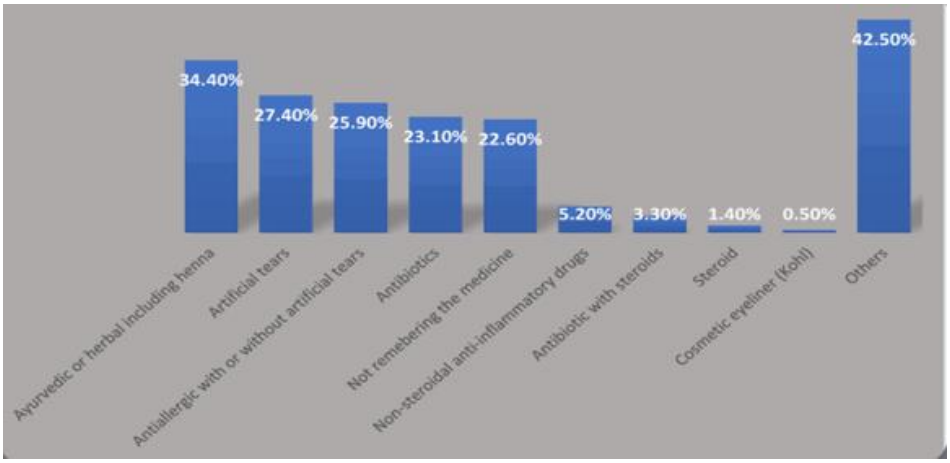


Figure 1.5 Image showing the medication categories used in Ophthalmic Self- Medication(

Source: MDPI. (n.d.). Medication categories used in ophthalmic self-medication [Photograph]. Retrieved from https://www.mdpi.com)

1.1.6 Contributing Factors in Nigeria

1. Poor Regulation of Pharmaceutical Sales.

2. Pharmaceutical oversight in Nigeria is still developing, allowing the widespread sale of both prescription and non-prescription medications without adequate controls. This lax regulation creates an environment where potent ophthalmic drugs, including antibiotics and steroids, can be obtained and used without professional guidance.

3. Easy Access to Medications Without Prescriptions.

4. Many community pharmacies, patent medicine stores, and informal vendors sell eye medications over the counter without requiring a valid prescription. This convenience often encourages individuals to bypass formal healthcare consultations, especially for recurring or perceived minor symptoms.

5. Limited Number of Eye Specialists.

6. Nigeria has an uneven distribution and an overall shortage of trained eye care professionals, particularly in rural or underserved regions. The limited availability of optometrists and ophthalmologists may make access to timely and professional eye care challenging, prompting people to seek alternative methods such as self-treatment.

7. Low Public Awareness of Eye Health.

8. General knowledge about eye diseases, proper eye care practices, and the risks of unsupervised medication use remains low in many communities. Without targeted public health education or outreach, many people may not recognize when professional intervention is necessary or may underestimate the risks of incorrect treatment.

9. High Level of Trust in Traditional Healers.

10. Cultural and historical reliance on traditional medicine persists in many parts of Nigeria. Traditional healers are often trusted figures in the community and may be the first point of consultation for eye-related complaints. This cultural inclination may reduce the likelihood of seeking orthodox eye care services.

11. Economic Constraints and Poverty.

12. Financial hardship remains a barrier to accessing professional healthcare services in Nigeria. For many individuals, the cost of consultation, diagnostic tests, and

prescribed medication is prohibitive. As a result, self-medication—whether with over-the-counter drugs or traditional remedies—is often seen as a more affordable and immediate option.

1.1.7 Control Measures and Recommendations

1. Public health education: Inform communities of the risks
2. Pharmaceutical regulation: Control OTC access to eye medications
3. Training for pharmacists: Encourage referral to eye care professionals
4. Strengthening primary eye care: Make it more accessible
5. Encourage routine eye check-ups through outreach and subsidies
6. Collaboration with traditional healers: Educate and integrate them into referral networks

1.2 STATEMENT OF PROBLEM

A common occurrence among university students is self-medication, which is driven by factors including accessibility, perceived knowledge, and the need for immediate treatment without seeking medical advice. Despite access to the optometry clinic, many students self-medicate with ophthalmic medications from pharmacies, friends or online recommendations. The patterns of knowledge, attitude, and behaviors surrounding ocular self-medication among university of Benin students are mostly unknown.

It is essential to comprehend these aspects in order to evaluate students' perceptions of eye health, the reasons behind their self-medication, and the common actions related to it. (James *et al.,* 2006)

1.3 AIM AND OBJECTIVES

1.3.1 AIM

The aim of this study is to evaluate the knowledge, attitudes, and practices towards the exercise of self-medicating ophthalmic medications in University of Benin.

1.3.2 OBJECTIVES

i. To assess the level of awareness among students of the University of Benin regarding ophthalmic self-medication.

ii. To examine the attitudes and beliefs that influence Student's decision to engage in ophthalmic self-medication.

iii. To identify common practices of ophthalmic self-medication among students, such as frequency, sources of information, and decision-making processes.

iv. To determine relationship between socio-demographics and the knowledge, attitude, and practices of ophthalmic self- medication among students of the University of Benin.

1.4 RESEARCH QUESTION

i. What is the level of awareness of ophthalmic self-medication among students at the University of Benin?

ii. What are the attitudes of students towards the safety and effectiveness of ophthalmic self-medication?

iii. What are the common reasons students at the University of Benin engage in ophthalmic self-medication?

iv. What are the common sources of information and drugs used for ophthalmic self-medication among students?

v. Are there significant demographic factors (e.g Age, gender, faculty) associated with the likelihood of engaging in ophthalmic self-medication?

1.5 SIGNIFICANCE OF STUDY

1. This research will provide data on the knowledge, attitude and practices of Students in the University of Benin towards Ophthalmic self-medication.

2. The results of this study would contribute to existing literature on the subject of Ophthalmic self-medication.

3. This study will assess the knowledge, attitude, and practices of students towards ophthalmic self-medication, with the hope of having a better understanding of student's health related behavior and decision-making patterns regarding eye care.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Knowledge Towards Ophthalmic Self-Medication

Al Hemaidi *et al.* (2025) investigated the knowledge, attitudes, and behaviors (KAP) of the Saudi populace as a whole about the over-the-counter (OTC) use of topical eye treatments. These medications are increasingly available over-the-counter, which is a major public health problem. The study recruited 601 adult participants from across Saudi Arabia using a descriptive cross-sectional design and an online Arabic questionnaire that was dispersed by convenience and snowball sampling. The study examined people's understanding of the safe use of over-the-counter eye drugs, their actual usage patterns, and their perceptions of risk in order to better understand the consequences of self-medication on ocular health.

The study's conclusions showed that OTC topical eye treatments are widely used, with a sizable percentage of participants taking them to treat recurrent symptoms or minor eye irritations. Although the majority of respondents did not report any negative effects, a small but substantial minority did, and there was a statistically significant correlation between the frequency of usage and the incidence of complications ($p = 0.05$). This trend highlights the possible risks of unsupervised ocular self-medication, particularly for those who depend on long-term or frequent use without seeking medical advice. The survey revealed a troubling knowledge gap despite the widespread use of these drugs: many participants were unaware of the possible hazards, frequently believing that availability without a prescription meant safety. This misunderstanding was made worse by the propensity to consult non-medical people—such as friends, family, or pharmacists—instead of trained eye care specialists.

Al Hemaidi *et al.* (2025) persuasively argue for focused interventions, ranging from community health campaigns to more stringent pharmaceutical restrictions, by demonstrating

how a lack of awareness can result in unsafe practices. By doing this, they contribute to the expanding corpus of research that emphasizes that public health should never be sacrificed for convenience and calls for a balance between safety and accessibility while using ophthalmic drugs. The study as a whole emphasizes that enhancing ocular health literacy involves more than just disseminating knowledge; it also entails addressing behavioral tendencies and cultural beliefs regarding self-care activities.

Ojabo and Efu (2020) evaluated the frequency and contributing factors of ocular self-medication among Benue State University's College of Health Sciences staff in Makurdi, Nigeria, using a population-based survey. To investigate the frequency of self-medication, the kinds of drugs often used, and the reasons behind this behavior, the researchers collected information from 146 participants using standardized questionnaires.

The study revealed a high prevalence of ocular self-medication, with 73.96% of respondents admitting to using eye medications without professional consultation. The most commonly reported symptom prompting self-treatment was painful red eye, accounting for 40% of cases. Antibiotics were the most frequently used drugs, reported by 75% of participants, followed by steroids at 15.74%. This finding is particularly concerning given the potential for inappropriate steroid use to cause serious ocular complications if not properly monitored.

The high prevalence of self-medication was attributed to a number of variables. These included having firsthand experience with eye disorders, believing that symptoms were minor and controllable without the help of a doctor, getting advice from friends and relatives, and delaying seeking professional medical attention. The majority of respondents bought their prescription drugs from neighborhood patent medicine businesses, which frequently function without stringent regulations or pharmacist supervision.

The study emphasized the possible dangers of self-diagnosis and self-treatment, such as the development of antibiotic resistance and unpleasant drug reactions. In their conclusion,

Ojabo and Efu emphasized the critical need for public health education that aims to raise knowledge of the risks associated with using ophthalmic drugs without supervision and to facilitate prompt access to quality eye care services.

Shetty *et al,.* (2023) investigated South Indian rural residents' knowledge and habits about ophthalmic self-medication, specifically in relation to ophthalmic crises. Very little knowledge of the dangers associated with using eye medicines without supervision was found in the cross-sectional survey of 100 individuals. There is a clear knowledge gap since none of the respondents stated that they were aware of the potential negative consequences of self-medicating. Nevertheless, for symptoms like wetness, pain, redness, or a feeling of a foreign body in the eyes, participants often turned to employing antibiotic drops (24%), steroid drops (20%), expired drugs (23%), and traditional or herbal therapies (15% and 12%, respectively).

The results showed that misunderstandings and a lack of health literacy were the main causes of self-medication. Many respondents underestimated the possible risks of incorrect or prolonged drug use, viewing common eye symptoms as small and controllable without professional care. Serious consequences resulted from this ignorance; after self-medicating, about one-third of patients got infected keratitis, and others suffered conjunctivitis, epithelial abnormalities, and even glaucoma. Barriers like poverty, belief in local healers, dependence on family and friend advice, and distance from medical facilities all contributed to the lack of awareness.

The research calls for interventions to promote safer health practices and reduce preventable vision loss caused by irrational self-treatment (Shetty et al., 2023). This study underscores the lack of knowledge regarding the negative consequences of ophthalmic self-medication, highlighting a critical need for community-based health education and awareness campaigns. Strengthening primary eye care services and ensuring regulated access to ophthalmic medications could help bridge this knowledge gap.

Tariq *et al.,* (2024) examined patients' knowledge and practices of ophthalmic self-medication at Al-Khidmat Teaching Hospital in Lahore, paying close attention to the kinds of medications taken and the problems that may arise from them. 117 patients who were admitted to the hospital with a history of taking over-the-counter (OTC) or traditional eye medications (TEM) were included in the cross-sectional study. Since most patients thought these treatments were adequate and safe for treating common ocular symptoms, the results showed a lack of knowledge about the hazards associated with self-medicating eye disorders.

The study revealed that rosewater was the most frequently used traditional eye remedy (54.7%), reflecting cultural practices and misconceptions about its safety and efficacy. Steroid-antibiotic combination drops or ointments were also widely used (31.6%), despite their potential for causing severe complications if used without medical supervision. Symptoms such as redness (64.1%), watering (35.9%), and itching (32.5%) were the most common triggers for self-medication. However, knowledge about the potential dangers of these practices was minimal, with many patients unaware of risks like corneal damage, drug resistance, or worsening of ocular conditions.

The results of self-medication served as additional evidence of the negative effects of ignorance. Twelve percent of the patients experienced problems such corneal ulcers, oedema, or vascularization, 26.5% finally needed a formal ophthalmology consultation, and more than half of the patients (54.7%) said their symptoms had not improved. These findings show that patients' dependence on unproven cures and abuse of prescription medications resulted from their ignorance of the value of a qualified diagnosis and course of therapy.

This study emphasizes how urgently public education initiatives are needed to dispel myths and advance understanding of ophthalmic self-medication. To lower avoidable problems and

encourage safer eye care practices, it is crucial to increase knowledge of potential risks and enforce stronger laws governing the sale of over-the-counter eye treatments.

2.2 Prevalence and Practices Of Ophthalmic Self- Medication

Alessa *et al.,* (2022) assessed the general Saudi population's knowledge, attitudes, and practices about self-medication for eye symptoms by a cross-sectional online survey. 524 people who were at least 18 years old participated in the study; the majority of them were female (79.4%) and under 40.

The results showed that 62.4% of respondents used eye drops without a doctor's supervision, suggesting that self-medication is very common. Antibiotic and antiallergic drops were used next, while artificial tears were the most popular. Convenience, lengthy clinic wait times, moderate or recurring illnesses, and a desire to save time and money were the main drivers of self-medication.

The study demonstrated no significant relationship between self-medication behavior and knowledge level, even though 51% of individuals showed high awareness of ophthalmic medicines and their hazards ($p = 0.153$). This implies that even knowledgeable people could underestimate the dangers, perhaps as a result of arrogance or cultural expectations for self-care. The majority of participants valued professional eye care; however, this belief was not always reflected in their practices, indicating a disconnect between awareness and behavior. The authors cautioned that prolonged unmonitored pharmaceutical usage, particularly of steroids and antibiotics, may result in side effects such antimicrobial resistance, worsening symptoms, or delayed diagnosis.

The study concludes that convenience and perceived familiarity with symptoms, rather than ignorance, are the main reasons Saudi Arabians self-medicate for eye problems. To lessen risky self-treatment behaviors, the authors suggest increased access to professional eye care services and better public education.

A cross-sectional study was carried out by Alqudah *et al.* (2023) to investigate the prevalence and correlates of self-medication among Jordanian ophthalmic patients. Assessing the prevalence of self-medication among patients with eye conditions, determining the factors that influence these practices, and learning more about patients' attitudes toward administering eye treatments without professional guidance were the main goals of the study. Using standardized questionnaires, the study gathered information from 1,000 patients who had attended ophthalmology clinics located around Jordan.

According to the findings, a sizable percentage of individuals admitted to taking eye drugs without first seeing a doctor. Over-the-counter eye drops and antibiotics were frequently self-administered, suggesting a propensity to treat mild infections or ocular symptoms like redness on one's own. Self-medication was closely associated with a number of contributing factors. These included the perception that the symptoms were too minor to necessitate seeing an eye care specialist, simple availability to over-the-counter drugs, and prior personal experience with comparable eye issues.

Despite the prevalent utilization of ophthalmic drugs, numerous individuals exhibited insufficient understanding of the possible hazards linked to unsupervised application. This lack of information sparked worries about issues including improper medication use, delayed diagnosis, and resistance development, especially with regard to antibiotic drops. The study came to the conclusion that combating self-medication in ophthalmology necessitates two strategies: raising public knowledge of the dangers involved and enforcing stronger laws governing the availability of ocular medications to guarantee safer patient procedures.

Abokyi *et al.* (2014) assessed the prevalence and attitude regarding ocular self-medication among 421 people using a cross sectional study conducted in Cape Coast Metropolis, Ghana. Structured interviews were used to gather information about self-care habits, symptoms, and demographics. The most common symptom of ocular self-medication, which was 23.3%

prevalent, was itchy eyes. 25.5% of users experienced side effects, and pharmacies were the primary source of medication. Remarkably, there was no discernible correlation between medical expertise and the propensity to self-medicate. Attitudes showed a careless handling of eye problems and a lack of awareness of the hazards. The study found that self-medication was widespread and frequently ill-informed, and it suggested more public health education to reduce the hazards.

Interestingly, there was no discernible relationship between participants' propensity to self-medicate with their medical training or experience. This implies that the likelihood of engaging in potentially harmful behaviors is the same for people who are medically knowledgeable and those who are not. The attitudes found in the survey demonstrated a general lack of concern for the treatment of eye diseases as well as a lack of knowledge about the potential risks of using medications incorrectly.

Ocular self-medication was found to be common and poorly understood in the population, according to Abokyi *et al.* They suggested expanding public health education programs to promote prompt consultation with trained eye care providers and increase knowledge of the dangers of unsupervised eye procedures.

A study by Alamer *et al.* (2023) looked into the unsupervised use of topical corticosteroid eye drops by adult ophthalmic patients in Riyadh, Saudi Arabia, in order to better understand ophthalmic self-medication behaviors. Although they are useful in reducing inflammation, ophthalmic steroids can cause major side effects such as cataracts, glaucoma, and an increased risk of infection if taken excessively. Despite possible risks to eye health, the increasing worry that these medications are commonly obtained without prescriptions served as the impetus for the investigation. About 29.8% of 308 individuals who participated in the study acknowledged using steroid eye drops for self-medication. Important motivators were prior prescriptions, peer recommendations, and individual presumptions of adequate

competence. The repercussions of unsupervised usage are highlighted by the startling number of users who were ignorant of the possible risks and some who reported negative effects.

Ophthalmic self-medication, according to the study, is the autonomous use of eye medications without a doctor's advice. In addition to describing the negative clinical consequences associated with overuse, it looks at elements including peer pressure, accessibility, convenience, and health literacy as behavioral determinants.

The study used a cross-sectional design, and questionnaires and interviews were used to gather data. The use of self-reporting, which could add recollection or social desirability bias, and the limitation to ophthalmology clinic attendees, which restricts generalizability, are two drawbacks of this methodology, despite the fact that it offers helpful descriptive insights. The study identifies important gaps, especially the scant investigation of self-medication behaviors in non-clinical populations, like adolescents or community members. Finally, the prevalence and dangers of unsupervised steroid eye drop usage are emphasized by Alamer *et al.* (2023), underscoring the necessity of focused programs to raise awareness and control access to these drugs.

A cross-sectional, questionnaire-based study was conducted in central India by Chakrabarty (2021) to look into the prevalence and trends of ophthalmic self-medication among adult patients who visit a private eye clinic. In the 1,490-person survey, over one-third (29%) of participants said they had taken eye drugs without first seeing an ophthalmologist. For symptoms including burning (39%), watering of the eyes (38%), and ocular itching (41%), self-medication was frequently used. People sought therapy for these ailments on their own using over-the-counter drugs, even though they were frequently moderate.

The most commonly utilized drug kinds showed alarming patterns. The most popular eye drops (21%), which reflected accessibility and cultural customs, were ayurvedic and herbal.

Traditional medications, like antibiotics (17%) and antibiotic-steroid combos (10%), were also often abused, increasing the risk of drug resistance, concealing underlying illnesses, and perhaps causing long-term problems. Instead of trained healthcare professionals, people tended to turn to non-medical sources including friends, family, and pharmacists for advice on self-medication. This dependence on unofficial guidance suggests a lack of knowledge on the risks associated with inappropriate use of ophthalmic drugs.

Analysis of sociodemographic data showed clear trends. Self-medication was much more common among men, married people, and people living in rural regions; age and educational attainment did not significantly correlate with self-medication. These results imply that lifestyle and cultural factors can have a greater impact on self-medication behaviors than educational background. The study highlights how common and arbitrary ophthalmic self-medication is in India, indicating a public health issue that needs to be addressed right away. In order to restrict unsupervised access to ocular medications, the research highlights the possible hazards and sociodemographic factors that contribute to this behavior. It also recommends more stringent training for pharmacists, regulatory control, and focused educational efforts. Reducing abuse and protecting eye health in disadvantaged areas requires increased health literacy and public awareness.

Ezinne *et al.* (2021) investigated the prevalence and characteristics of ophthalmic self-medication among patients who visited a tertiary eye care facility in a Nigerian suburb. A significant portion of patients self-medicated before seeking official ophthalmic care, according to the cross-sectional descriptive study, demonstrating the prevalence of the practice. Because they believed that symptoms like redness, itching, soreness, and blurred vision were minor issues that did not require immediate medical attention, patients frequently turned to self-treatment for these conditions.

Antibiotics, steroid-antibiotic combos, and traditional eye treatments were the most commonly utilized drugs, according to the study. These were usually purchased over-the-counter from pharmacies or neighborhood stores without prescriptions. Patterns of use revealed a dependence on previously prescribed prescriptions, suggestions from individuals who are not medical professionals, and, in certain situations, unused pharmaceuticals from past illnesses. An alarming number of patients reported using these preparations for extended periods of time without supervision, which is indicative of the normalization of self-medication practices and the lack of medical supervision.

These trends were also significantly shaped by accessibility and cultural considerations. Deeply ingrained beliefs in alternative therapies for eye diseases are demonstrated by the prevalence of traditional and herbal medications. Furthermore, continuous abuse was encouraged by the ease of getting over-the-counter ophthalmic medications and the absence of regulatory enforcement. The results showed that the majority of patients saw self-medication as a quick, easy, and economical way to deal with eye pain rather than as a dangerous habit.

This study highlights the pervasiveness of self-medication behaviors and the risks associated with them, such as drug-induced ocular problems, misdiagnosis, and antibiotic resistance. To deter unsupervised usage and encourage safer health-seeking practices, the authors advocate for more public health education, stricter control over the distribution of ophthalmic drugs, and community engagement initiatives.

2.3 Attitudes towards Self-Medication

A cross-sectional study was carried out by Abuageelah *et al.* (2023) to assess the Jazan region of Saudi Arabia's knowledge, attitudes, and perceptions on self-medication for eye diseases. The study sought to ascertain the incidence of using over-the-counter eye medications, gauge

individuals' knowledge of the hazards involved, and investigate attitudes toward this practice in general. An online poll that was directed at people who were at least 18 years old and had previously taken over-the-counter eye drugs was utilized to gather data.

The study involved 1,010 participants, and the results showed a fairly high prevalence of self-medication, with 97.6% of them admitting to taking over-the-counter eye medications. Despite this extensive use, there was a notable lack of drug understanding as only 24.1% of individuals could accurately identify the kind of medication they were taking. Eye dryness and redness were the most often reported symptoms that were treated by self-medication, and the most often utilized medications were lubricant eye drops.

The survey also revealed a worrying ignorance of the dangers of using powerful eye drugs like corticosteroids without a doctor's supervision. Regarding the possible risks of using eye medications without the appropriate medical supervision, the majority of respondents showed a careless attitude. This carelessness and poor drug identification accuracy point to a general underestimating of the negative effects of self-treatment. The habit of self-medicating eye diseases is quite common and frequently uninformed in the Jazan region, according to Abuageelah *et al.* They suggested focused educational initiatives to increase public knowledge of the possible risks associated with using ophthalmic drugs without supervision.

To determine the prevalence and attitudes toward self-medication among patients undergoing treatment at a tertiary eye care center in a Nigerian suburb, Ajayi *et al.* (2013) conducted a cross-sectional study. The purpose of the study was to assess patients' decisions and behaviors around the use of ophthalmic medications and to determine the prevalence of self-treatment for eye disorders in the general population. In all, 470 individuals answered questions regarding their usage of eye drugs before consulting a doctor.

According to the study, 73.6% of participants admitted to taking drugs without first seeing an eye care specialist, indicating a high incidence of self-medication. Concerns regarding

possible pharmaceutical abuse are raised by the startling fact that 31.3% of these people were unable to identify the drugs they had taken. The bulk of people got their meds from unofficial sources such acquaintances, patent medicine vendors, or self-selection based on past experience, whereas only 14.9% had consulted a doctor before using the pills.

Self-treatment was frequently started for symptoms including eye irritation and hazy vision. Nonetheless, the study discovered that about 90% of the drugs prescribed were unsuitable for the symptoms mentioned. This suggests that there is a sizable knowledge and comprehension gap regarding eye health in the general public. Patients were reluctant to seek expert assistance because they frequently thought their symptoms were modest or treatable.

Ajayi *et al.* concluded that unsafe self-medication practices were widespread and largely driven by misinformation, poor regulation, and limited access to affordable eye care. The study emphasized the need for increased public health education, stricter drug regulation policies, and broader availability of professional eye care services to reduce the risks associated with unmonitored ophthalmic self-medication.

Sontakke *et al.* (2015) looked into the beliefs and behaviors of patients who visited outpatient ophthalmology departments in India with regard to ocular self-medication. According to the cross-sectional, questionnaire-based study, a sizable percentage of patients turned to self-medication for eye disorders, frequently because they thought that minor ocular symptoms didn't need to be seen by a professional. Using over-the-counter medications, drops that had already been prescribed, or guidance from friends and pharmacists, many participants thought that self-medication was a practical and affordable option.

Patients commonly underestimated the possible risks of unsupervised ophthalmic drug use, including delayed diagnosis, improper treatment, and drug-related problems, according to the study, which revealed a concerning trend in attitudes. The widespread belief that eyes drops were safe and that reoccurring symptoms could be controlled without medical monitoring

was the cause of this complacency. Concerns over antimicrobial resistance and deteriorating ocular morbidity were raised by the findings, which also showed that antibiotics and preparations based on steroids were frequently abused.

It was discovered that opinions regarding self-medication were influenced by sociodemographic characteristics. Self-treatment was more likely to be justified by people who lived in rural areas or who were less aware of the risks to their eye health. These lax attitudes were influenced by a number of factors, including a lack of health knowledge, easy access to prescription-free ophthalmic treatments, and the belief that eye issues are not significant. A wider cultural acceptability of self-care methods in healthcare is also reflected in the confidence that some participants felt in their own capacity to identify and treat common eye ailments.

By underscoring these attitudes, the study emphasizes the urgent need for educational interventions that correct misconceptions about the safety of self-medicating eye conditions. Strengthening regulatory frameworks to restrict over-the-counter availability of ophthalmic drugs and improving patient counseling could help shift attitudes toward safer practices. Ultimately, fostering a more cautious and informed outlook among patients is essential to reducing the prevalence and risks of ophthalmic self-medication.

In their cross-sectional study of 402 participants, Adimassu *et al.* (2020) investigated the prevalence of ophthalmic self-medication among adult patients at Borumeda Hospital in Northeast Ethiopia. They found that 28.6% of patients self-medicated for eye problems, with attitudes heavily influenced by socioeconomic, experiential, and accessibility factors. Patients frequently saw self-medication as a practical solution, especially when confronted with obstacles like long travel times to medical facilities and the lack of health insurance.

The study's examination of the ways in which social and personal experiences shaped perceptions about self-medication was noteworthy. Self-treatment methods were

substantially more common among those who had a history of ocular sickness or who had friends and family who had gone through comparable experiences. This reinforced permissive attitudes toward avoiding professional advice by demonstrating a sense of confidence based on familiarity with symptoms. Younger adults, especially those between the ages of 29 and 42, also showed a greater propensity to justify self-medication, perhaps as a result of convenience and efficiency beliefs.

The study also emphasized how these perceptions are shaped by systemic issues. Financial hardships and limited access to eye care services caused many patients to accept self-medication as a reasonable initial treatment for ocular complaints. This mindset was exacerbated by ignorance of the possible dangers, such as drug abuse and delayed diagnosis. Rather than seeing self-medication as detrimental, several participants saw it as a necessary coping strategy that was appropriate for their situation.

By emphasizing these behavioral tendencies, the research underscores the urgent need for educational interventions to reshape public attitudes and promote safer practices. It calls for improving healthcare accessibility, strengthening insurance coverage, and raising awareness about the dangers of unsupervised ophthalmic drug use. Changing attitudes is vital to curbing the prevalence of self-medication and protecting long-term eye health.

2.4. Awareness Of The Risks Associated With Ophthalmic Self-Medication

Using a tertiary hospital in Nigeria, Abah *et al.* (2014) investigated the knowledge and practice of ocular self-medication among patients in order to determine the degree of awareness regarding the dangers and repercussions of unsupervised eye medicine usage. 43.7% of respondents to the cross-sectional survey of 183 said they self-medicate for eye issues, frequently as a result of a lack of knowledge about the risks involved. There was little awareness of the possible risks, such as drug abuse, delayed diagnosis, or problems from

incorrect therapy, because the majority of participants thought self-treatment was a convenient and safe way to deal with mild symptoms.

According to the survey, steroid-containing drops, traditional herbal medicines, and chloramphenicol were among the most often used self-medication medications. Previous prescriptions, recommendations from pharmacists, or counsel from friends or family frequently served as a guide for patients' decisions. The dangers of prolonged or improper use, such as antibiotic resistance, steroid-induced glaucoma, or concealment of underlying eye conditions, were not well understood by many responders, though. Rather, self-medication was promoted by the belief that these drugs were safe and easily accessible.

The knowledge gap was further impacted by sociodemographic characteristics. The negative consequences of ophthalmic self-medication were more likely to be poorly understood by younger adults and those living in rural locations. Misconceptions regarding the need for professional evaluation for common ocular problems such as redness, discomfort, or discharge were exacerbated by low health literacy and limited access to health care.

The study emphasizes these gaps in knowledge, underscoring the pressing need for public health campaigns to raise awareness of the dangers of self-medication. Stricter control over the sale of over-the-counter medications, educational campaigns, and community outreach initiatives are advised to increase awareness and promote safer health-seeking practices. Reducing avoidable ocular problems and encouraging sensible eye care practices depend on closing these gaps.

CHAPTER THREE

3.0 MATERIALS AND METHODS

3.1 RESEARCH DESIGN

The study was a questionnaire based cross-sectional design.

3.2 STUDY AREA

The study was conducted at the University of Benin (Ugbowo, Campus), Benin City, Edo State, Nigeria. The study included eight (8) randomly selected faculties within this location.

3.3 STUDY PERIOD

The study was carried out for a duration of three (3) months.

3.4 STUDY POPULATION

The population for this study was drawn from the students in University of Benin, who were within the range of 16-29 years and were willing to participate in the study.

3.5 SAMPLE SIZE

The sample size for this study was calculated using Fischer's formula

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

Where; n = minimum sample size

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

P= estimated proportion 73.96% =0.7396 (Onoja et al., 2024)

d= Confidence interval (±5%, d = 0.05)

$$= \frac{1.96^2 \text{ X } 0.7396\text{X } (1 - 0.7396)}{}$$

$$(0.05)2$$

$$= \frac{3.8416 \text{ X } 0.7396\text{X}0.2604}{0.0025}$$

$$= 295.944 \approx 296$$

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

0.1 x 295.944 = 29.59 ≈ 30

Final sample size = 296 + 30

= 326

However, a total of 470 participants were used for this study.

3.6 RESEARCH MATERIALS

i. Informed Consent form.

ii. Structured Questionnaire: This was developed to assess the knowledge, attitudes, and practices towards ophthalmic self-medication. The questionnaire included sections on demographic information, Knowledge on self-medication, attitudes towards self-medication and practices of self-medicating ocular medicine.

iii. Digital data collection tools (Google forms).

3.7 QUESTIONNAIRE DESIGN

The questionnaire for this study was carefully designed to ensure the collection of relevant and reliable data aligned with the research objectives. It was structured into distinct sections, each addressing specific aspects of the study. A combination of closed-ended and open-ended questions was used to enable both quantitative and qualitative data collection. This approach provided a comprehensive understanding of participants' perspectives and experiences.

The first section of the questionnaire focused on demographic information, collecting details about participants' age, gender, faculty, department, educational level, occupation, and

residence in the study area. These variables were essential for analyzing patterns and correlations within the data.

The second section aimed to assess participants' awareness and knowledge levels related to the study topic. This part of the questionnaire included multiple-choice and dichotomous-scale items to measure the extent of awareness, sources of information, and familiarity with specific issues.

In the third section, questions were designed to explore participants' perceptions, beliefs, and attitudes. A Likert-scale item and close-ended formats allowed participants to provide detailed responses. The final section focused on identifying participants' practices and behaviors, with questions addressing their habits and adherence to recommendations.

The questionnaire was made into online questionnaire. The online questionnaire was created with google forms and included a consent form. Participant had the option to either agree and proceed with filling the questionnaire or decline to participate.

The questionnaire design adhered to key principles of clarity, relevance, and logical flow. Questions were written in plain language to ensure they were easily understood by individuals with varying literacy levels. Each question was directly tied to the research objectives, ensuring that the data collected was pertinent to the study. The questions were arranged in a logical sequence, beginning with general inquiries and progressing to more specific ones, to maintain participant engagement and facilitate ease of response.

To enhance the reliability of the instrument, the questionnaire underwent pilot testing with a small sample representative of the study population. Feedback from the pilot test was used to refine questions, improve clarity, and ensure the tool effectively captured the required information. Closed-ended questions were used for standardization and ease of analysis, while open-ended questions provided opportunities for participants to elaborate on their

responses, offering deeper insights into their opinions and experiences. This combination of question types ensured the collection of comprehensive data, facilitating robust analysis and meaningful conclusions.

3.8 VALIDITY AND RELIABILITY

Validity

The validity of the study was a critical aspect considered during the research design and implementation. To ensure that the questionnaire accurately measured the constructs of interest, the study relied on established and relevant literature. Specifically, the questionnaire was crafted based on adaptations of instruments from a previous study (Tesfay *et al.,* 2022). These sources provided a validated structure and relevant items that were modified to fit the unique context of this study.

Reliability

To enhance reliability, the questionnaire underwent a pilot testing phase before the main data collection. This initial testing involved a small sample of participants, which allowed for the identification and correction of any issues related to question clarity, wording and overall functionality. The feedback obtained from this pilot testing was used to refine the questionnaire, ensuring that it was both clear and effective in capturing the intended data.

Additionally, the study employed a standardized data collection procedure, with all questionnaires being administered in a consistent manner to minimize variations in responses. This included using the same format and instructions for every participant, thereby ensuring that any differences in responses were attributable to the participants' views rather than to inconsistencies in the administration process.

3.9 SAMPLING TECHNIQUE

A systematic random sampling technique was used to select every other faculty from a randomly starting point among UNIBEN'S 16 faculties. Next, a stratified sampling approach within each department that ensured proportional representation across academic levels.

3.8 DATA COLLECTION PROCEDURE

1. **Pilot Study**

The questionnaire guide was pilot tested on a small sample of students to identify any issue with clarity and relevance. Necessary revisions were made based on the feedback.

2. **Survey Administration**

The structured questionnaire was administered to students in the selected eight (8) faculties who met the inclusion criteria. The faculties selected were: Agric, Arts, Education, Engineering, Law, Management sciences, Physical sciences, Social Sciences. The faculties selected were all located in the University of Benin Ugbowo campus.

3.9 INCLUSION CRITERIA

i. Participants must be 16 years or older to ensure informed consent.

ii. Participants must provide informed consent and express a willingness to take part in the study.

iii. Participants must have the ability to understand English language, which will be used to present the educational content.

iv. Participants must have previously self-medicated with any ophthalmic self-medication

3.10 EXCLUSION CRITERIA

i. Individuals who do not meet the inclusion criteria.

ii. Individuals who are studying Optometry or other medical related courses.

3.11 LIMITATIONS OF STUDY

Social Desirability Bias: Due to the nature of the study, students might have provided responses they believe are socially acceptable rather than their true attitudes and practices.

3.12 ETHICAL CONSIDERATIONS

1. Ethical Approval

Ethical clearance was obtained from the Departmental Research and Ethics Committee of the Department of Optometry, University of Benin, Benin City, in accordance with the tenets of the Declaration of Helsinki.

2. Confidentiality:

All data collected was kept confidential and used solely for the purposes of this study.

Participants' identities were anonymized in the reporting of findings.

3. Respect for Participants:

The study was conducted with respect for all participants, ensuring their dignity and autonomy. Cultural sensitivities were observed throughout the research process.

3.13 DATA ANALYSIS

The gathered data was entered into Microsoft Excel 2016 spreadsheet. The Statistical Package for the Social Sciences (SPSS), Version 25.0 (IBM Corp., Armonk, New York, USA), was then used to conduct statistical analysis. Descriptive statistics including frequency, mean, standard deviation, and percentages were utilized to analyze the data. Also, inferential analysis was performed to test relationships. To provide a visual representation of the data,

the findings were presented using tables and figures, including pie charts and column charts. These tools were also employed to examine associations between demographic variables and levels of knowledge, attitudes, and perceptions.

CHAPTER FOUR

4.0 RESULTS AND DATA ANALYSIS

Table 4.1: Demographic Profile of Survey Respondents

		N	N %
Age Range	16 – 20	266	56.60
	21-24	174	37.00
	25-29	30	6.40
	Total	470	100.00
Gender	Male	212	45.10
	Female	258	54.90
	Total	470	100.00
Faculty	Agric	53	11.30
	Art	52	11.10
	Education	50	10.60
	Engineering	57	12.10
	Law	51	10.90
	Management.	62	13.20
	Physical	93	19.80
	Social	52	11.10
	Total	470	100.00
Level	100	95	20.20
	200	97	20.60
	300	90	19.10

Table 4.1: Demographic Profile of Survey Respondents

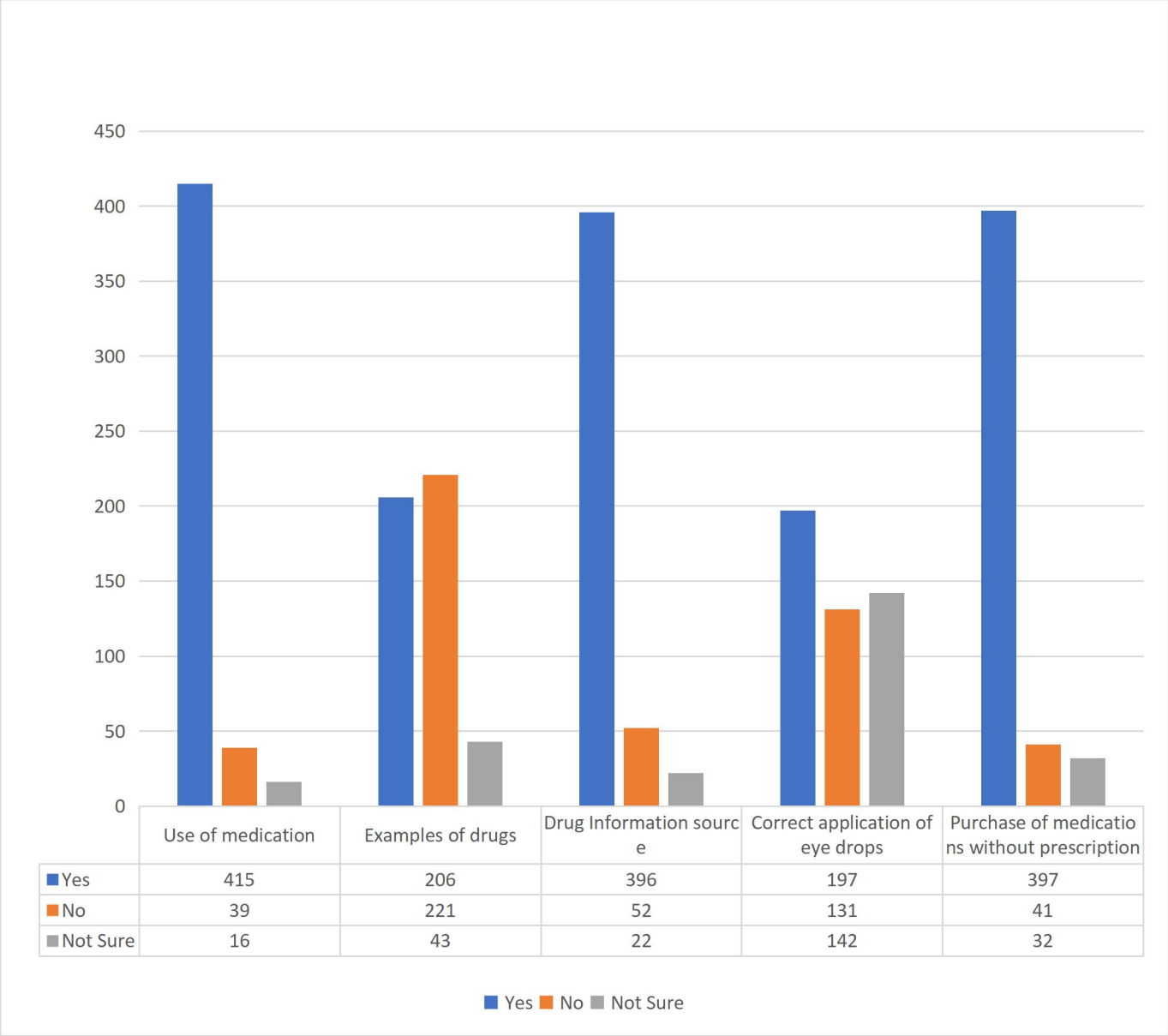
		N	N %
Level	400	141	30.00
	500	47	10.00
	Total	470	100.00
Residence	Off-Campus	284	60.40
	On-Campus	186	39.60
	Total	470	100.00

Total = 470

Mean Age 20 ± 2

There were 470 people who answered the survey. The majority (56.6%) were in the 16–20 age

range, followed by those in the 21–24 age range (37.0%) and a tiny group in the 25–29 age range (6.4%). The average age was around 20. More female students (54.9%) than male students (45.1%) responded to the survey. A wide range of faculties were represented, with the physical sciences accounting for the largest share (19.8%), followed by management (13.2%) and engineering (12.1%). By academic level, final-year students (500 level) accounted for 10.0%, 100–300 level students contributed roughly 19–21%, and the majority (30.0%) were in the 400 level. 39.6% of residents lived on campus, whereas 60.4% lived off.



	Use of medication	Examples of drugs	Drug Information source	Correct application of eye drops	Purchase of medications without prescription
Yes	415	206	396	197	397
No	39	221	52	131	41
Not Sure	16	43	22	142	32

Fig 4.1 General Knowledge on Self-Medication with Ophthalmic Medication

Many respondents (415) know about self-medicating with ophthalmic medications, but only 206 know examples of Ophthalmic medication, and only 197 believe they know the right way to apply ophthalmic medications.

Table 4.2A Use Of Medication Without Consulting An Eye Specialist

		Yes N (%)	No N (%)	Not Sure N (%)	Total N (%)
Age Range	**16 – 20**	230(86.47)	24(9.02)	12(4.51)	266(56.60)
	21-24	156(89.66)	15(8.62)	3(1.72)	174(37.02)
	25-29	29(96.67)	1(3.33)	0(0.00)	30(6.38)
	Total	266(56.60)	174(37.02)	30(6.38)	470(100)
Gender	**Female**	231(89.53)	18(6.98)	9(3.49)	258(54.89)
	Male	184(86.79)	21(9.91)	7(3.30)	212(45.10)
	Total	415(88.30)	39(8.30)	16(3.40)	470(100)
Faculty	**Agric**	49(92.45)	3(5.66)	1(1.89)	53(11.28)
	Art	46(88.46)	4(7.69)	2(3.85)	52(11.06)
	Education	45(90.00)	4(8.00)	1(2.00)	50(10.64)
	Engineering	50(87.72)	6(10.53)	1(1.75)	57(12.13)
	Law	45(88.24)	4(7.84)	2(3.925)	51(10.85)
	Management	51(82.26)	5(8.06)	6(9.68)	629(13.19)
	Physical	79(84.95)	12(12.90)	2(2.15)	93(19.79)
	Social	50(96.15)	1(1.92)	1(1.92)	52(11.06)
	Total	415(88.30)	39(8.30)	16(3.40)	470(100)
Level	**100**	72(75.79)	18(18.95)	5(5.26)	95(20.21)
	200	86(88.66)	5(5.15)	6(6.19)	97(20.64)
	300	83(92.22)	4(4.44)	3(3.33)	90(19.15)

Table 4.2B Use Of Medication Without Consulting An Eye Specialist

		Yes	No	Not Sure	Total
		N (%)	N (%)	N (%)	N (%)
	400	130(92.20)	9(6.38)	2(1.42)	141(30.0)
	500	44(93.62)	3(6.38)	0(0.00)	47(10.00)
	Total:	415(88.30)	39(8.30)	16(3.40)	470(100)
Residence	**Off-Campus**	248(87.32)	24(8.45)	12(4.23)	284(60.43)
	On-Campus	167(89.78)	15(8.06)	4(2.15)	186(39.57)
	Total	415(88.30)	39(8.30)	16(3.40)	470(100)

The study found that awareness of self-medicating with ophthalmic medications was highest amongst older respondents 25-29 and lowest among those aged 16-20, with females being more likely to know than males, and academic level playing a role.

Table 4.3A Knowledge of medications commonly used for eye conditions.

		Yes N (%)	No N (%)	Not Sure N (%)	Total N (%)
Age Range	**16 – 20**	106(39.85%)	137(51.50)	23(8.65)	266(56.60)
	21-24	80(45.98)	78(44.83)	16(9.20)	174(37.02)
	25-29	20(66.67)	6(20.00)	4(13.33)	30(6.38)
	Total	206(43.83)	221(47.02)	43(9.15)	470(100)
Gender	**Female**	119(25.32)	116(24.68)	23(4.89)	258(54.89)
	Male	87(18.51)	105(49.53)	20(4.26)	212(45.11)
	Total	206(43.83)	221(47.02)	43(9.15)	470(100)
Faculty	**Agric**	21(39.62)	29(54.72)	3(5.66)	53(11.28)
	Art	23(44.23)	26(50.00)	3(5.77)	52(11.06)
	Education	30(60.00)	17(34.00)	3(6.00)	50(10.64)
	Engineering	22(38.60)	27(47.37)	8(14.04)	57(12.13)
	Law	19(37.25)	25(49.02)	7(13.73)	51(10.85)
	Management	22(35.48)	34(54.84)	6(9.68)	62(13.19)
	Physical	46(49.46)	41(44.09)	6(6.45)	93(19.79)
	Social	23(44.23)	22(42.31)	7(13.46)	52(11.06)
	Total	206(43.83)	221(47.02)	43(9.15)	470(100)
Level	**100**	43(45.26)	39(41.05)	13(13.68)	95(20.21)
	200	39(40.21)	50(51.55)	8(8.25)	97(20.64)

Table 4.3B Knowledge of medications commonly used for eye conditions

		Yes N (%)	No N (%)	Not Sure N (%)	Total N (%)
	300	39(43.33)	44(48.89)	7(7.78)	90(19.15)
	400	65(46.10)	69(48.94)	7(4.96)	141(30.00)
	500	20(42.55)	19(40.43)	8(17.02)	47(10.00)
	Total:	206(43.83)	221(47.02)	43(9.15)	470(100)
Residence	**Off-Campus**	123(43.31)	135(47.34)	26(9.15)	284(60.43)
	On-Campus	83(44.62)	86(46.24)	17(9.14)	186(39.57)
	Total	206(43.83)	221(47.02)	43(9.15)	470(100)

Despite high knowledge on self-medicating with ophthalmic medications, knowledge of the type of drug used is significantly lower among individuals aged 16-20, with females (25.32%) slightly more likely to identify the drugs used than males (18.51%). University levels play an important role, with 400 Level student having the highest recognition rates.

Table 4.4A Source of information about eye drugs, particularly the use of non-medical sources.

		Yes N (%)	No N (%)	Not Sure N (%)	Total N (%)
Age Range	**16 – 20**	220(82.71)	31(11.65)	15(5.64)	266(56.60)
	21-24	150(86.21)	18(10.34)	6(3.45)	174(37.02)
	25-29	26(86.67)	3(10.00)	1(3.33)	30(6.38)
	Total	396(84.26)	52(11.06)	22(4.68)	470(100)
Gender	**Female**	219(84.88)	26(10.08)	13(5.04)	258(54.89)
	Male	177(83.49)	26(5.53)	9(4.25)	212(45.10)
	Total	396(84.26)	52(11.06)	22(4.68)	470(100)
Faculty	**Agric**	44(83.02)	4(7.55)	5(9.43)	53(11.28)
	Art	41(78.85)	9(17.31)	2(3.85)	52(11.06)
	Education	44(88.00)	5(10.00)	1(2.00)	50(10.64)
	Engineering	50(87.72)	7(12.28)	0(0.00)	57(12.13)
	Law	43(84.31)	4(7.84)	4(7.84)	51(10.85)
	Management	48(70.59)	9(14.52)	5(8.06)	62(13.19)
	Physical	76(81.72)	13(13.98)	4(4.30)	93(19.70)
	Social	50(96.15)	1(1.92)	1(1.92)	52(11.06)
	Total	396(84.26)	52(11.06)	22(4.68)	470(100)
Level	**100**	73(76.84)	17(17.89)	5(5.26)	95(20.12)
	200	85(87.63)	9(9.28)	3(3.09)	97(20.64)
	300	77(85.56)	8(8.89)	5(5.56)	90(19.15)

Table 4.4B Source of information about eye drugs, particularly the use of non-medical sources.

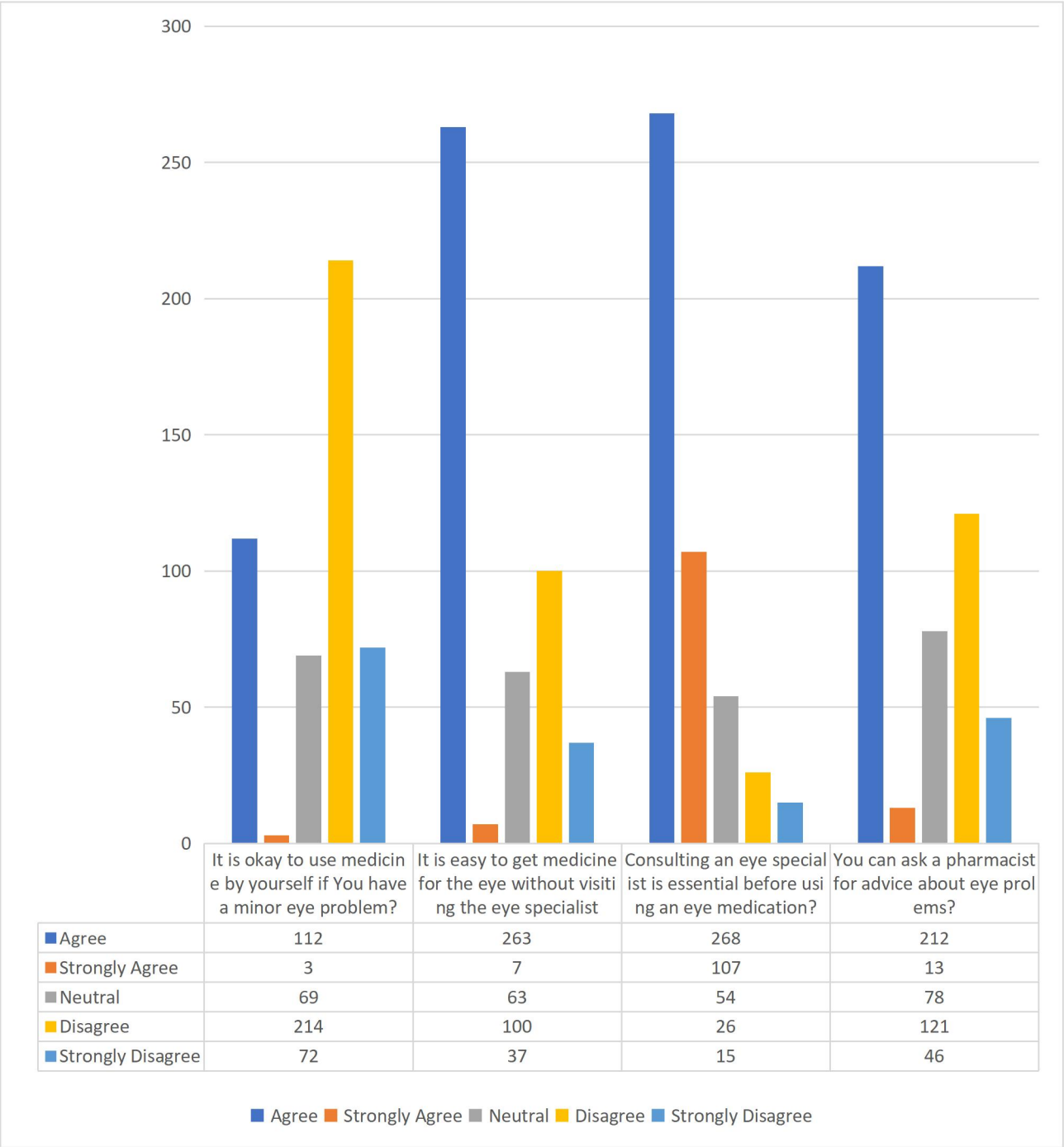
		Yes	No	Not Sure	Total
		N (%)	N (%)	N (%)	N (%)
	400	118(83.69)	16(11.34)	7(4.96)	141(30.00)
	500	43(91.49)	2(4.25)	2(4.25)	47(10.00)
	Total:	396(84.26)	52(11.06)	22(4.68)	470(100)
Residence	**Off-Campus**	246(86.62)	25(8.80)	13(4.58)	284(60.43)
	On-Campus	150(80.65)	27(14.52)	9(4.84)	186(39.57)
	Total	396(84.26)	52(11.06)	22(4.68)	470(100)

The belief that people get information about Eye medication from non-medical sources varies across demographics, with highest belief among individuals aged 25-29(86.67%), and females (84.88%), university level also plays a significant role with highest belief among students in 500 Level (91.49%).

Table 4.5 Relationship Between Demographics And Knowledge

	Age	Gender	Faculty	Level	Residence
Use of medication without consulting an eye Specialist	0.224	0.518	0.331	**0.001**	0.468
Knowledege of Medications commonly used	**0.023**	0.539	0.318	0.228	0.539
Source of Information	0.814	0.710	0.146	0.386	0.149

There was a significant link between level of study and self-medication ($p = 0.001$) and between age and knowledge of eye medications ($p = 0.023$). This indicates that study level influences self-medication, while age affects awareness. Other factors—gender, faculty, and residence—showed no significant relationship ($p > 0.05$).



	It is okay to use medicine by yourself if You have a minor eye problem?	It is easy to get medicine for the eye without visiting the eye specialist	Consulting an eye specialist is essential before using an eye medication?	You can ask a pharmacist for advice about eye problems?
Agree	112	263	268	212
Strongly Agree	3	7	107	13
Neutral	69	63	54	78
Disagree	214	100	26	121
Strongly Disagree	72	37	15	46

Fig 4.2 General Attitude on Self-Medication with Ophthalmic Self-Medication

About 24% supported self-medicating for minor eye issues, 56% reported easy access to eye drugs, and 45% trusted pharmacists to prescribe them. Only a few disagreed on the need to see an eye specialist first.

Table 4.6: Attitudes toward self-medicating for minor eye problems.

		Agree	Strongly Agree	Neutral	Disagree	Strongly Disagree	Total
		(N %)	N (%)	N (%)	N (%)	N (%)	N (%)
Age Range	**16-20**	66 (24.81)	2 (0.75)	37 (13.91)	124 (46.62)	37(13.91)	266(56.60)
	21-24	45 (25.86)	1 (0.57)	24 (13.79)	76 (43.68)	28(16.09)	174(37.02)
	25-29	1 (3.33)	0 (0.00)	8 (26.67)	14 (46.67)	7 (23.33)	30 (6.38)
	Total	112 (23.83)	3 (0.64)	69 (14.68)	214(45.53)	72(15.32)	470 (100.0)
Gender	**Female**	48 (18.60)	1 (0.39)	41 (15.89)	130(50.39)	38 (14.73)	258 (54.89)
	Male	64 (30.19)	2 (0.94)	28 (13.21)	84 (39.62)	34 (16.04)	212 (45.11)
	Total	112 (23.83)	3 (0.64)	69 (14.68)	214(45.53)	72(15.32)	470 (100.0)
Faculty	**Agric**	17(32.08)	0(0.00)	5(9.43)	21(39.62)	10(18.87)	53(11.28)
	Art	15(28.85)	0(0.00)	11(21.15)	22(42.31)	4(7.69)	52(11.06)
	Education	14(28.0)	0(0.00)	7(14.0)	23(46.00)	6(12.0)	50(10.64)
	Engineering	16(28.07)	0(0.00)	7(12.28)	19(33.33)	15(26.32)	57(12.13)
	Law	8(15.69)	0(0.00)	8(15.69)	29(56.86)	6(11.76)	51(10.85)
	Management	9(14.52)	0(0.00)	8(12.90)	34(54.4)	11(17.74)	62(13.19)
	Physical	15(16.13)	2(2.15)	21(22.58)	40(43.01)	15(16.13)	93(19.79)
	Social	18(34.62)	1(1.92)	2(3.85)	26(50.0)	5(9.62)	52(11.06)
	Total	112 (23.83)	3 (0.64)	69 (14.68)	214(45.53)	72(15.32)	470 (100.0)

Level	**100**	23 (24.21)	1 (1.05)	13(13.68)	42(44.21)	16 (16.84)	95 (20.21)
	200	28 (28.87)	0 (0.00)	18 (18.56)	38 (39.18)	13 (13.40)	97 (20.64)
	300	19 (21.11)	0(0.00)	10 (11.11)	42(46.67)	19 (21.11)	90 (19.15)
	400	29 (20.57)	2(1.42)	22 (15.60)	70 (49.65)	18 (12.77)	141 (30.0)
	500	13 (27.66)	0 (0.00)	6 (12.77)	22 (46.81)	6 (12.77)	47 (10.0)
	Total	112(23.83)	3 (0.64)	69 (14.68)	214 (45.53)	72 (15.32)	470 (100.0)
Residence	**Off Campus**	64 (22.54)	2 (0.70)	48 (16.90)	126 (44.37)	44 (15.49)	284 (60.43)
	On Campus	48 (25.81)	1 (0.54)	21 (11.29)	88 (47.31)	28 (15.05)	186 (39.57)
	Total	112 (23.83)	3 (0.64)	69 (14.68)	214 (45.53)	72 (15.32)	470

Age did not significantly impact attitude, though younger respondents (16–20) showed slightly

higher agreement (24.81%). Males (30.2%) were more likely than females (18.6%) to agree with self-medication. Faculty differences existed, with Agriculture (32.1%) and Social Sciences (34.6%) showing higher agreement, while Law students mostly disagreed (56.9%). Higher-level students (400–500) showed stronger disagreement compared to lower levels. Residence had minimal influence, though off-campus students showed slightly higher agreement (22.5%).

Table 4.7A: Beliefs regarding the necessity of visiting an eye specialist for all eye problems.

		Agree	Strongly Agree	Neutral	Disagree	Strongly Disagree	Total
		(N %)	N (%)	N (%)	N (%)	N (%)	N (%)
Age Range	**16-20**	86 (32.33)	2 (0.75)	33 (12.41)	41 (41.35)	35(13.16)	266(56.60)
	21-24	63 (36.21)	4 (2.30)	21 (12.07)	63 (36.21)	23(13.22)	174(37.02)
	25-29	4 (13.33)	2 (6.67)	6 (20.00)	12 (40.00)	6 (20.00)	30 (6.38)
	Total	153 (32.55)	185(39.36)	60 (12.77)	185(39.36)	64(13.62)	470 (100.0)
Gender	**Female**	71 (27.52)	2 (0.78)	33 (12.79)	109(42.25)	43 (16.67)	258 (54.89)
	Male	212 (38.68)	6 (2.83)	27 (12.74)	76 (35.85)	21 (9.91)	212 (45.11)
	Total	153 (32.55)	185(39.36)	60 (12.77)	185(39.36)	64(13.62)	470 (100.0)
Faculty	**Agric**	19(35.85)	0(0.00)	7(13.21)	20(37.74)	7(13.21)	53(11.28)
	Art	23(44.23)	1(1.92)	7(13.46)	18(34.62)	3(5.77)	52(11.06)
	Education	16(32.00)	1(2.00)	5(10.00)	22(44.00)	6(12.0)	50(10.64)
	Engineering	21(36.84)	0(0.00)	5(8.77)	23(40.35)	8(14.04)	57(12.13)
	Law	16(31.37)	2(3.92)	6(11.76)	23(45.10)	4(7.84)	51(10.85)
	Management	15(24.19)	1(1.62)	8(12.90)	26(41.94)	12(19.35)	62(13.19)
	Physical	26(27.96)	2(2.15)	19(20.43)	30(32.26)	16(17.20)	93(19.79)
	Social	17(32.69)	1(1.92)	3(5.77)	23(44.23)	8(15.38)	52(11.06)

Table 4.7B: Beliefs regarding the necessity of visiting an eye specialist for all eye problems.

		Agree	Strongly Agree	Neutral	Disagree	Strongly Disagree	Total
		(N %)	N (%)	N (%)	N (%)	N (%)	N (%)
	Total	15 (32.55)	185 (39.36)	60 (12.77)	185 (39.36)	64(13.62)	470(100.0)
Level	**100**	33 (34.74)	2 (2.11)	10 (10.53)	36(37.89)	14 (14.74)	95 (20.21)
	200	37 (38.14)	1 (1.03)	11 (11.34)	37 (37.11)	12 (12.37)	97 (20.64)
	300	24 (26.67)	2 (2.22)	11 (12.22)	37(41.11)	16 (17.78)	90 (19.15)
	400	39 (27.66)	2 (1.42)	22 (15.60)	61(43.26)	17 (12.06)	141 (30.00)
	500	20 (42.55)	1 (2.13)	6 (12.77)	15 (31.91)	5 (10.64)	47 (10.00)
	Total	153 (32.55)	185(39.36)	60 (12.77)	185(39.36)	64(13.62)	470 (100.0)
Residence	**Off Campus**	92 (32.39)	5(1.76)	45(15.85)	104(36.62)	38(13.38)	284(60.43)
	On campus	61(32.80)	3(1.61)	15(8.06)	81(43.55)	26(13.98)	186(39.57)
	Total	153 (32.55)	185(39.36)	60 (12.77)	185(39.36)	64(13.62)	470 (100.0)

Age and residence had little effect, but 21–24-year-olds (36.2%) and males (38.7%) showed more agreement that not all eye problems need specialist care. Arts (44.2%) and Social Sciences (32.7%) students agreed more, while Management (19.4%) strongly disagreed. Agreement was higher among 500-level students (42.6%) than lower levels.

Table 4.8A: Perception of the importance of consulting an eye specialist before using eye medications.

		Agree	Strongly Agree	Neutral	Disagree	Strongly Disagree	Total
		(N %)	N (%)	N (%)	N (%)	N (%)	N (%)
Age Range	**16-20**	165(62.03)	51 (19.17)	26 (9.77)	15 (5.64)	9(3.38)	266(56.60)
	21-24	88 (50.57)	48 (27.59)	23 (13.22)	11 (6.32)	4(2.30)	174(37.02)
	25-29	15 (50.00)	8 (26.67)	5 (16.67)	0 (0.00)	2 (6.67)	30 (6.38)
	Total	268 (57.02)	107(22.77)	54 (11.49)	26 (5.53)	15(3.19)	470 (100.0)
Gender	**Female**	154 (59.69)	66 (25.58)	21 (8.14)	9(3.49)	8 (3.10)	258 (54.89)
	Male	114 (53.77)	41 (19.34)	33 (15.57)	17 (8.02)	7 (3.30)	212 (45.11)
	Total	268 (57.02)	107(22.77)	54 (11.49)	26 (5.53)	15(3.19)	470 (100.0)
Faculty	**Agric**	34(64.15)	6(11.32)	8(15.09)	5(9.43)	0(0.00)	53(11.28)
	Art	34(65.38)	8(15.38)	5(9.62)	4(7.69)	1(1.92)	52(11.06)
	Education	36(72.00)	1(2.00)	3(6.00)	2(4.00)	1(2.00)	50(10.64)
	Engineering	29(50.88)	17(29.82)	7(12.28)	3(5.26)	1(1.75)	57(12.13)
	Law	31(60.78)	10(19.61)	8(15.69)	2(3.92)	0(0.00)	51(10.85)
	Management	34(54.84)	16(25.81)	4(6.45)	5(8.06)	3(4.84)	62(13.19)
	Physical	42(45.16)	30(32.26)	13(13.98)	3(3.23)	5(5.38)	93(19.79)
	Social	28(53.85)	12(23.08)	6(11.54)	2(3.85)	4(7.69)	52(11.06)

Table 4.8B: Perception of the importance of consulting an eye specialist before using eye medications.

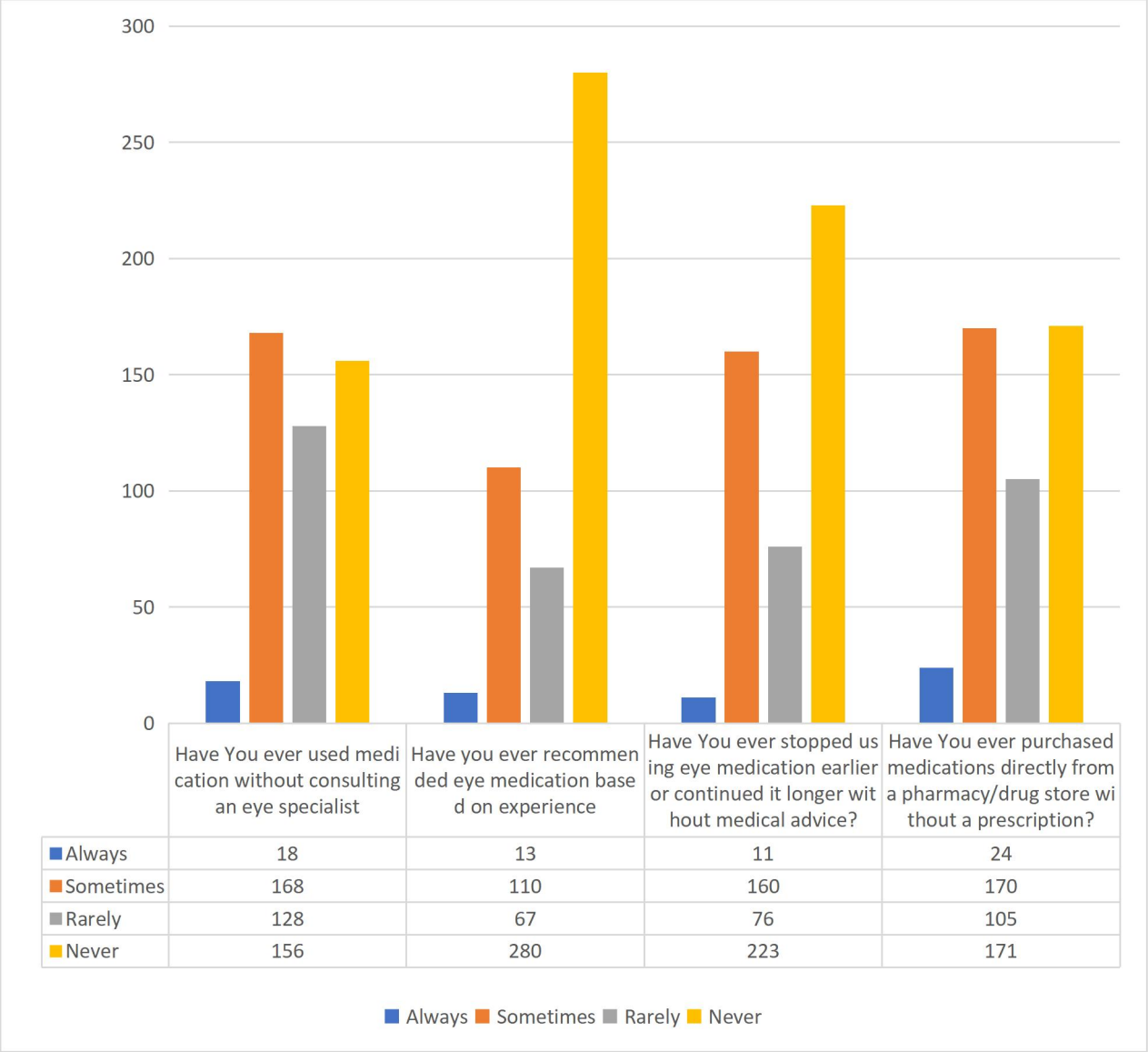
		Agree	Strongly Agree	Neutral	Disagree	Strongly Disagree	Total
		(N %)	N (%)	N (%)	N (%)	N (%)	N (%)
	Total	268 (57.02)	107 (22.77)	54 (11.49)	26 (5.53)	15(3.19)	470(100.0)
Level	**100**	63 (66.32)	18(18.95)	7(7.37)	5(5.26)	2 (2.11)	95 (20.21)
	200	67 (69.07)	14 (14.43)	8 (8.25)	5 (5.15)	3 (3.09)	97 (20.64)
	300	43 (47.78)	25 (27.78)	8 (8.89)	5 (5.56)	9 (10.00)	90 (19.15)
	400	68 (48.23)	42 (29.79)	21 (14.89)	9(6.38)	1 (0.71)	141 (30.00)
	500	27 (42.55)	8 (17.02)	10 (21.28)	2 (4.26)	0 (0.00)	47 (10.00)
	Total	268 (57.02)	107(22.77)	54 (11.49)	26 (5.53)	15(3.19)	470 (100.0)
Residence	**Off Campus**	160 (56.34)	65(22.89)	36 (12.68)	14 (4.93)	9(3.17)	284(60.43)
	On campus	108 (58.06)	42 (22.58)	18 (9.68)	12 (6.45)	6(3.23)	186(39.57)
	Total	268 (57.02)	107(22.77)	54 (11.49)	26 (5.53)	15(3.19)	470 (100.0)

Younger students (16–20) showed the strongest agreement (62%) that consulting a specialist is essential. Females (59.7%) agreed more than males (53.8%). Education (72%) and Arts (65.4%) students agreed most, while Physical Sciences had the least (45.2%). Lower-level students (100–200) agreed more (66–69%) than higher levels (42.6%), and residence showed little difference.

Table 4.9 Relationship Between Demographics And Attitude

	Age	Gender	Faculty	Level	Residence
Attitude towards Self-medicating For minor eye Problems	0.203	**0.029**	**0.031**	0.745	0.526
Visiting an eye specialist for all eye problems	0.104	**0.014**	0.662	0.871	0.150
Consulting an Eye Specialist is Before Using any eye Medication	0.176	**0.013**	0.167	**0.001**	0.150

Students' attitudes toward eye self-medication were significantly influenced by gender across all items ($p = 0.029, 0.014, 0.013$), indicating differing views between males and females. Level of study also affected belief in seeing a specialist before medication ($p = 0.001$), and faculty influenced acceptance of self-medicating for minor issues ($p = 0.031$). Age and residence showed no significant effect ($p > 0.05$).



	Have You ever used medication without consulting an eye specialist	Have you ever recommended eye medication based on experience	Have You ever stopped using eye medication earlier or continued it longer without medical advice?	Have You ever purchased medications directly from a pharmacy/drug store without a prescription?
Always	18	13	11	24
Sometimes	168	110	160	170
Rarely	128	67	76	105
Never	156	280	223	171

Fig 4.3 General Practice on Self-Medication with Ophthalmic Medication

Most students admitted to self-medicating with eye drugs at some point 35.7% sometimes and

27.2% rarely, while 33.2% never did so. A large majority (59.6%) had never recommended eye

drugs to others based on experience , though 23.4% sometimes did. About 34% sometimes stopped or extended prescribed treatment without advice, while 47.4% never did. When it comes to buying drugs directly, 36.2% sometimes and 22.3% rarely bought without a prescription, while 36.4% never did.

Table 4.10A Use of eye medication without consulting an eye specialist

		Always N (%)	Never N (%)	Rarely N (%)	Sometimes N (%)	Total N (%)
Age Range	**16 – 20**	13(4.89)	91(34.21)	76(28.57)	86(32.33)	266(56.60)
	21-24	4(2.30)	56(32.18)	43(24.71)	71(40.80)	174(37.02)
	25-29	1(3.33)	9(30.00)	9(30.00)	11(36.67)	30(6.38)
	Total	18(3.83)	156(33.19)	128(27.23)	168(35.74)	470(100.00)
Gender	**Female**	5(1.94)	85(32.95)	79(30.62)	89(34.50)	258(54.89)
	Male	13(6.13)	71(33.49)	49(23.10)	79(37.26)	212(45.11)
	Total	18(3.83)	156(33.19)	128(27.23)	168(35.74)	470(100.00)
Faculty	**Agric**	3(5.66)	13(24.53)	12(22.64)	25(47.17)	53(11.28)
	Art	1(1.92)	14(26.92)	15(28.85)	22(42.31)	52(11.06)
	Education	2(4.00)	18(36.00)	15(30.00)	15(30.00)	50(10.64)
	Engineering	2(3.51)	21(36.84)	13(22.81)	21(36.84)	57(12.13)
	Law	1(1.96)	14(27.45)	17(33.33)	19(37.25)	51(10.85)
	Management	2(3.23)	25(40.32)	18(29.03)	17(27.42)	62(13.19)
	Physical	4(4.30)	37(39.78)	24(25.81)	28(30.11)	93(19.79)
	Social	3(5.77)	14(26.92)	14(26.92)	21(40.38)	52(11.06)
	Total	18(3.83)	156(33.19)	128(27.23)	168(35.74)	470(100.0)
Level	**100**	4(4.21)	41(43.16)	23(24.21)	27(28.42)	95(20.21)
	200	1(1.03)	36(37.11)	25(25.77)	35(36.08)	97(20.64)
	300	6(6.67)	27(30.00)	24(26.67)	30(33.33)	90(19.15)

Table 4.10B Use of eye medication without consulting an eye specialist

		Always N (%)	Never N (%)	Rarely N (%)	Sometimes N (%)	Total N (%)
	400	4(2.84)	40(28.37)	43(30.50)	54(38.30)	141(30.00)
	500	3(6.38)	12(25.53)	13(27.66)	19(40.43)	47(10.00)
	Total:	18(3.83)	156(33.19)	128(27.23)	168(35.74)	470(100.00)
Residence	**Off-Campus**	12(4.23)	102(35.92)	71(25.00)	99(34.86)	284(60.43)
	On-Campus	6(3.23)	54(29.03)	57(30.65)	69(37.10)	186(39.57)
	Total	18(3.83)	156(33.19)	128(27.23)	168(35.74)	470(100.00)

Age, gender, level, faculty and residence doesn't significantly affect responses, as most respondents reported that they self-medicate with ophthalmic medications sometimes 168(35.74%), while only 18(3.83%) reported that they always self-medicate.

Table 4.11A Recommendation of eye medication based on experience

		Always N (%)	Never N (%)	Rarely N (%)	Sometimes N (%)	Total N (%)
Age Range	**16 – 20**	7(2.63)	170(63.91)	31(11.65)	58(21.80)	266(56.60)
	21-24	3(1.72)	97(55.75)	30(17.24)	44(25.29)	174(37.02)
	25-29	3(10.00)	13(43.33)	6(20.00)	8(26.67)	30(6.38)
	Total	13(2.76)	280(59.57)	67(14.26)	110(23.40)	470(100.00)
Gender	**Female**	9(3.49)	164(63.57)	30(11.63)	55(21.32)	258(54.89)
	Male	4(1.89)	116(54.72)	37(17.45)	55(25.94)	212(45.11)
	Total	13(2.76)	280(59.57)	67(14.26)	110(23.40)	470(100.00)
Faculty	**Agric**	3(5.66)	28(52.83)	10(18.87)	12(22.64)	53(22.64)
	Art	0(0.00)	32(61.54)	7(13.46)	13(25.00)	52(11.06)
	Education	3(6.00)	32(64.00)	5(10.00)	10(20.00)	50(10.64)
	Engineering	2(3.51)	32(56.14)	8(14.04)	15(26.32)	57(12.13)
	Law	0(0.00)	29(56.86)	5(9.80)	17(33.33)	51(10.85)
	Management	1(1.61)	40(64.52)	9(14.52)	12(19.35)	62(13.19)
	Physical	3(3.23)	56(60.22)	14(15.05)	12(12.90)	93(19.79)
	Social	1(1.92)	31(59.62)	9(17.31)	11(21.15)	52(11.06)
	Total	13(2.76)	280(59.57)	67(14.26)	110(23.40)	470(100.0)
Level	**100**	2(2.11)	61(64.21)	13(13.68)	19(20.00)	95(20.21)
	200	3(3.09)	61(62.89)	10(10.31)	23(3.71)	97(20.64)
	300	4(4.44)	51(56.67)	16(17.78)	19(21.11)	90(19.15)

Table 4.11B Recommendation of eye medication based on experience

		Always N (%)	Never N (%)	Rarely N (%)	Sometimes N (%)	Total N (%)
Level	**400**	3(2.13)	81(57.45)	22(15.60)	35(24.82)	141(30.00)
	500	1(2.13)	26(55.32)	6(12.77)	14(29.79)	47(10.00)
	Total:	13(2.76)	280(59.57)	67(14.26)	110(23.40)	470(100.0)
Residence	**Off-Campus**	10(3.52)	171(60.21)	41(14.44)	62(21.82)	284(60.43)
	On-Campus	3(1.61)	109(58.60)	26(13.98)	48(25.81)	186(39.57)
	Total	13(2.76)	280(59.57)	67(14.26)	110(23.40)	470(100.00)

Most respondents reported never recommending eye medication (59.6%), though about a quarter (23.4%) did so "sometimes." Males were slightly more likely (25.9%) than females (21.3%) to recommend medication occasionally. Across faculties, Law (33.3%) and Engineering (26.3%) had higher "sometimes" recommendations, while Management and Education leaned more toward "never." Students in higher levels (400–500) showed a modest increase in recommending medications compared to lower levels. Residence had little effect, though on-campus students (25.8%) were slightly more likely to recommend "sometimes" than off-campus (21.8%).

Table 4.12A Purchase of eye medication without a prescription

		Always	Never	Rarely	Sometimes	Total
		N (%)	N (%)	N (%)	N (%)	N (%)
Age Range	**16 – 20**	13(4.89)	93(34.96)	71(26.69)	89(33.46)	266(56.60)
	21-24	10(5.75)	66(37.93)	29(16.67)	69(39.66)	174(37.02)
	25-29	1(3.33)	12(40.00)	5(16.67)	12(40.00)	30(6.38)
	Total	24(5.11)	171(36.38)	105(22.34)	170(36.17)	470(100.0)
Gender	**Female**	7(2.71)	91(35.27)	68(26.36)	92(35.66)	258(54.89)
	Male	17(8.02)	80(37.74)	37(17.45)	78(36.79)	212(45.11)
	Total	24(5.11)	171(36.38)	105(22.34)	170(36.17)	470(100.0)
Faculty	**Agric**	4(7.55)	12(22.64)	12(22.64)	25(47.17)	53(22.64)
	Art	3(5.77)	11(21.15)	17(32.69)	21(40.38)	52(11.06)
	Education	3(6.0)	21(40.38)	11(22.00)	15(30.0)	50(10.64)
	Engineering	2(3.51)	22(38.60)	9(15.79)	24(42.11)	57(12.13)
	Law	3(5.88)	16(31.37)	12(23.53)	20(39.22)	51(10.85)
	Management	4(6.45)	27(43.55)	13(20.97)	18(29.03)	62(13.19)
	Physical	2(2.15)	45(48.39)	18(19.35)	28(30.11)	93(19.79)
	Social	3(5.77)	17(3.62)	13(25.00)	19(36.54)	52(11.06)
	Total	24(5.11)	171(36.38)	105(22.34)	170(36.17)	470(100.0)
Level	**100**	4(4.21)	48(50.53)	19(20.00)	24(25.26)	95(20.21)
	200	3(3.09)	27(27.84)	28(28.87)	39(40.21)	97(20.64)
	300	9(10.00)	31(34.44)	17(18.89)	33(36.67)	90(19.15)

Table 4.12B Purchase of eye medication without a prescription

		Always N (%)	Never N (%)	Rarely N (%)	Sometimes N (%)	Total N (%)
	400	6(4.26)	51(36.17)	31(21.99)	53(37.59)	141(30.00)
	500	2(2.13)	14(29.79)	10(21.28)	21(44.68)	47(10.00)
	Total:	24(5.11)	171(36.38)	105(22.34)	170(36.17)	470(100.0)
Residence	**Off-Campus**	18(6.34)	105(36.97)	62(21.83)	98(34.51)	284(60.43)
	On-Campus	6(3.23)	65(34.95)	43(23.12)	72(38.71)	186(39.57)
	Total	24(5.11)	171(36.38)	105(22.34)	170(36.17)	470(100.0)

While 36.4% never purchased prescription-free eye drugs, 36.2% did so occasionally, suggesting a close equilibrium. Men were more likely to buy (8.0% always) than women (2.7% always). The most purchases were made by students who studied engineering (42.1%) and agriculture (47.2% rarely), whereas students who studied physical sciences (48.4% never) tended to be more frugal. When compared to students at other levels, those at the 300 level (10.0% always) were the most vulnerable. Occasionally, off-campus students were slightly lower (34.5%) than on-campus students (38.7%).

Table 4.13 Relationship Between Demographics And Practice Of Self-Medication

	Age	Gender	Faculty	Level	Residence
Use of medication for an eye problem without consulting an eye Specialist	0.560	**0.046**	0.833	0.339	0.401
Recommending Eye medication based on Experience	**0.048**	0.092	0.874	0.915	0.512
Purchase of eye medication without a prescription?	0.306	**0.013**	0.298	0.060	0.401

The findings indicate that gender has an impact on both using drugs without a prescription (p =0.046) and using eye medication without a prescription (p = 0.013). Students' age also had an

impact on whether they suggested eye medications to others (p = 0.048). Study level, residence,

and faculty had little bearing.

CHAPTER FIVE

5.0 DISCUSSION

The study assessed the knowledge, attitude and practices of ophthalmic self-medication amongst students of the University of Benin, Edo state. It sought to find a relationship between socio-demographic factors and the knowledge, attitude, and practices of ophthalmic self-medication among students of the University of Benin.

Table 4.1, a total of 470 participants were recruited for this study. The mean age of the participants was 20.24 ± 2.77 years, with ages for both male and female ranged from
16 to 29 years. The majority of the respondents (56.6%) were within the 16–20 years age group, followed by 21–24 years (37.0%), while 6.4% were aged 25–29 years. This indicates that most respondents were within the typical undergraduate age range. In terms of gender distribution, 258 respondents (54.9%) were female, while 212 (45.1%) were male, showing a slight female predominance among participants.

Across faculties, the highest number of respondents (19.8%) were from the Faculty of Physical Sciences, followed by Management Sciences (13.2%) and Engineering (12.1%). The Faculties of Agriculture (11.3%), Arts (11.1%), and Social Sciences (11.1%) had comparable representations, while Law (10.9%) and Education (10.6%) had the lowest proportions. This distribution reflects good participation from a wide range of academic disciplines within the university.

Regarding academic level, 400-level students constituted the largest proportion (30.0%), followed by 200-level (20.6%), 100-level (20.2%), and 300-level (19.1%) students. The 500-level group formed the smallest category (10.0%). This indicates that both lower and upper-

level students were adequately represented, ensuring diverse academic exposure and experience among respondents.

Concerning place of residence, 284 participants (60.4%) lived off-campus, while 186 (39.6%) resided on-campus. This finding suggests that a greater proportion of students preferred off-campus accommodation, which may influence their access to and pattern of ophthalmic self-medication practices.

5.1 KNOWLEDGE TOWARDS SELF-MEDICATION WITH OPHTHALMIC DRUGS

The second section of the questionnaire assessed students' awareness and knowledge regarding ophthalmic self-medication. It examined whether respondents had heard about the use of eye medications without consulting an eye specialist, their beliefs about non-medical sources of such drugs, their familiarity with commonly used eye medications, and their understanding of proper application methods.

Figure 4.1 presents the general knowledge of ophthalmic self-medication among the respondents. A majority of students (88.3%) had heard about people using medicines for their eyes without visiting an eye specialist, indicating a high level of general awareness of the practice. However, only 43.8% could correctly identify examples of medications commonly used for eye conditions, suggesting limited specific knowledge. Furthermore, 84.3% of respondents believed that people obtain information about eye medications from non-medical sources, while 84.5% were aware that some eye medications can be bought without a doctor's prescription. Despite this, only 41.9% reported knowing the correct way to apply eye medications, showing a noticeable gap between awareness and practical knowledge.

The high level of awareness recorded in this study aligns with findings from a study conducted in Saudi Arabia, where most respondents were aware of ocular self-medication

practices but lacked proper knowledge regarding drug use and safety (Alessa *et al.,* 2022). Similarly, a Nigerian study by Ajayi *et al.,* (2013) reported that many patients engaged in self-medication with eye drops obtained from non-medical sources, often without adequate understanding of their potential risks or proper application techniques.

Table 4.2A and 4.2B presents the demographic influence on knowledge regarding the use of eye medications without consulting an eye specialist. When awareness was analyzed across different demographic categories, slight variations were observed. Awareness was highest among older respondents aged 25–29 years (96.7%), followed by those aged 21–24 years (89.7%), while respondents within 16–20 years showed a slightly lower awareness level (86.5%). This trend may be attributed to increased maturity, exposure, and health information access among older students.

Gender distribution revealed that females (89.5%) were slightly more likely than males (86.8%) to have heard about self-medication practices, suggesting a marginal gender influence on awareness. Across faculties, awareness was highest among students in the Faculty of Social Sciences (96.2%) and Agriculture (92.5%), while the lowest was recorded in Management Sciences (82.3%). This difference could be linked to variations in academic exposure and health literacy emphasis within disciplines.

Regarding academic level, knowledge of ophthalmic self-medication increased progressively with class level, from 75.8% among 100-level students to 93.6% among 500-level students. This shows that students in higher academic levels are generally more informed about self-medication practices, possibly due to greater academic exposure, peer interaction, and digital access to health information. In relation to residence, awareness was slightly higher among students living on-campus (89.8%) compared to those off-campus (87.3%), suggesting that proximity to health facilities or campus health campaigns may influence awareness levels.

Overall, these findings indicate that while awareness of ophthalmic self-medication is generally high across all demographic groups, it tends to improve with increasing age, academic level, and educational exposure. This pattern aligns with findings by Ajayi *et al.,* (2013), who reported that self-medication knowledge and practices were more prevalent among educated and urban populations due to easier access to health information and pharmacies.

Table 4.3A and 4.3B shows how knowledge about examples of medications used for eye conditions varied across demographic groups. In total, 43.83% (206/470) of respondents affirmed they knew common ophthalmic medications, 47.02% (221/470) reported they did not, and 9.15% (43/470) were unsure.

When broken down by age, the highest proportion of correct knowledge was observed in the 25–29 years group (66.67%), compared to 45.98% for those aged 21–24 years, and 39.85% in the 16–20 years group. This suggests that older students may acquire more exposure to health information or self-directed learning about eye care.

Looking at gender, female respondents showed marginally greater knowledge (25.32%) than males (18.51%). Although the difference is modest, it suggests that female students might engage more with health information or preventive eye care practices. By faculty, students in Education (60.00%) and Physical Sciences (49.46%) had relatively higher knowledge levels, whereas faculties such as Management (35.48%) and Law (37.25%) had lower representation of correct knowledge. This may reflect varying curricular exposure to health or science-related content across faculties.

Considering academic level, 400-level students exhibited the highest proportion with knowledge (46.10%), followed by 100-level (45.26%), 300-level (43.33%), and 200-level (40.21%) students. This pattern indicates that progression through university may enhance

awareness of ophthalmic medications. Interestingly, 500-level students had 42.55% knowledge, slightly lower than the 400-level group.

Regarding residential status, knowledge levels were quite similar: 44.62% for on-campus residents versus 43.31% for off-campus students, suggesting that living arrangement had minimal influence on this specific aspect of knowledge.

These findings indicate that while general awareness may be widespread, specific knowledge of ocular medications remains moderate, and tends to be higher among older, more advanced students, or those in faculties with possible exposure to health or scientific content.

Comparable studies support such trends. For instance, in Nigeria, Ajayi *et al.,* (2013) found that many patients engaging in ophthalmic self-medication could not name the drugs they used, demonstrating a substantial gap in specific drug knowledge (Ajayi, Omotoye, Ajite, Fadamiro, and Ajayi, 2013). Similarly, a Saudi Arabian KAP study on eye self-medication reported that although many were aware of eye drop use, fewer participants correctly identified drug names or understood safe practices (Alessa et al., 2022).

Table 4.4A and 4.4B presents findings on participants' knowledge regarding where people obtain information about eye medications. A large proportion of respondents (84.3%) believed that people often get information about ophthalmic drugs from non-medical sources. Awareness was relatively consistent across age groups, with the highest level observed among respondents aged 25–29 years (86.7%). Gender distribution showed that females (84.9%) were slightly more likely than males (83.5%) to acknowledge the role of non-medical information sources. Across faculties, Social Science students had the highest awareness (96.2%), while Management students recorded the lowest (70.6%). Awareness appeared to improve with educational level, peaking among 500-level students (91.5%).

Similarly, off-campus residents (86.6%) demonstrated slightly higher awareness than on-campus students (80.7%).

These findings indicate that informal sources—such as peers, family members, social media platforms, and community pharmacies—play a significant role in shaping students' knowledge and practices related to ophthalmic drug use. This aligns with previous studies conducted in Nigeria and other countries, which reported that a large proportion of individuals obtain medication-related information from non-professional channels, contributing to the prevalence of self-medication practices (Ajayi, 2013; Alessa *et al.,* 2022; Tesfay *et al.,* 2022).

Table 4.5 shows the relationship between selected demographic variables and respondents' knowledge of ophthalmic self-medication using the Chi-square test of association. The results of this study reveal that age and level of study showed statistically significant associations with knowledge and practice of ophthalmic self-medication ($p = 0.023$ and $p = 0.001$ respectively), whereas gender, faculty, and residence did not show significant relationships ($p > 0.05$). This suggests that maturity and academic exposure may positively influence awareness of eye medications and responsible use. These findings are consistent with those of Ajayi (2014), who reported that age and educational attainment significantly affected self-medication behavior among Nigerian patients, while gender differences were not significant. Similarly, Tesfay *et al.* (2022) found that older participants were more likely to self-medicate, but gender had no effect. In a comparable study, Alessa *et al.,* (2022) observed that educational level was significantly associated with self-medication among Saudi adults, though no meaningful gender variation was recorded. The current findings therefore support previous evidence that age and academic level are stronger determinants of knowledge and practice of ophthalmic self-medication than gender or residential status.

5.2 ATTITUDE TOWARDS SELF MEDICATION WITH OPHTHALMIC IC DRUGS

Figure 4.2 reveals that while a minority of respondents (24.4%) agreed or strongly agreed that using eye medicine by oneself for minor eye problems was acceptable, the majority (60.8%) disagreed or strongly disagreed, indicating a predominantly cautious attitude toward self-medication. Although 57.5% believed that it was easy to obtain eye medications without visiting a specialist, a large majority (79.8%) either agreed or strongly agreed that consulting an eye specialist before using any eye medication is essential. Regarding pharmacists' role, 47.9% of respondents were positive (agree/strongly agree) about consulting a pharmacist for advice on eye problems, suggesting moderate confidence in pharmacists as accessible health resources.

These attitudes align with findings from other ophthalmic self-medication studies. A study in Eritrea showed that accessibility and familiarity were common justifications for self-medication, even among populations aware of associated risks (Tesfay *et al.,* 2022). Another study of ophthalmic self-medication practices in general reported that despite good general awareness, actual safe practices were hindered by ease of drug access and limited consultation behavior (Alamer *et al.,* 2022).

Table 4.6 presents the relationship between demographic characteristics and respondents' attitudes toward self-medicating for minor eye problems. The findings show that while 24.4% of participants agreed or strongly agreed that it was acceptable to use medicine without professional consultation for minor eye problems, the majority (60.8%) either disagreed or strongly disagreed. This reflects a generally cautious and health-conscious disposition among respondents toward unsupervised use of ophthalmic drugs.

A closer look across age groups indicates that younger participants aged 16–20 years (46.6%) and 21–24 years (43.7%) largely disagreed with the idea of self-medication, suggesting that

awareness campaigns within this age bracket may have contributed to better understanding of the risks associated with improper drug use. Gender analysis showed that females (50.4%) were more likely to disagree with self-medication compared to males (39.6%), indicating a slightly stronger preference among women for professional eye care. Similarly, faculty-based differences revealed that Law (56.9%), Management (54.4%), and Education (46.0%) students were among the most likely to reject self-medication practices, possibly reflecting differences in health literacy and exposure to eye health education across academic disciplines.

Respondents in higher academic levels, particularly 400- and 500-level students, demonstrated greater resistance to self-medication (around 49.6% and 46.8%, respectively) compared to lower levels, implying that knowledge and maturity may influence healthcare decision-making. Likewise, off-campus residents (44.4%) and on-campus residents (47.3%) both showed substantial opposition to self-medication, with no major variance based on residence status.

These findings align with previous research showing that demographic factors—particularly education, gender, and exposure to medical information—play significant roles in shaping attitudes toward ophthalmic self-medication. For example,
Alamer *et al.,* (2023) found that education level and gender influenced health-seeking behaviors regarding eye drug use, with higher educational exposure correlating with reduced self-prescription tendencies (Alamer *et al.,* 2022)

Table 4.7A and 4.7B presents the respondents' views on whether all eye problems require consultation with an eye specialist. The overall findings revealed that about 39.4% of participants agreed that not all eye problems warrant visiting an eye specialist, while 52.9% (disagree + strongly disagree) maintained that professional consultation is necessary for

proper diagnosis and management. This indicates that although a fair proportion of students recognize the value of eye care specialists, misconceptions about the severity and self-management of eye conditions still persist.

Across age categories, participants between 16–20 years (41.4%) and 21–24 years (36.2%) most commonly disagreed that minor eye problems could be managed without an expert, demonstrating moderate awareness of ocular health risks. However, a smaller percentage of older respondents (25–29 years) strongly agreed that some eye conditions could be handled without consultation (6.7%), suggesting that increased independence may influence self-care choices.

Gender analysis showed a similar pattern: females (42.3%) disagreed more strongly than males (35.9%), implying that women tend to be more health-cautious in seeking specialist care. In contrast, males had a slightly higher proportion (38.7%) who believed not all eye problems required professional attention, possibly reflecting confidence in over-the-counter or self-guided management.

By faculty, disagreement with self-management was highest among Law (45.1%), Education (44.0%), and Social Science (44.2%) students, while Management and Physical Sciences recorded a relatively higher acceptance of self-medication (41.9% and 32.3%, respectively). This variation may reflect differences in academic exposure to health-related content or risk perception. Similarly, higher-level students (400- and 500-level) tended to demonstrate stronger disagreement with self-treatment (43.3% and 31.9%), implying that advancing academic maturity correlates with a more cautious health attitude.

These findings reinforce existing evidence that education, age, and gender significantly influence perceptions about ophthalmic self-care. A cross-sectional study in Saudi Arabia by Alghamdi et al. (2021) found that 45% of university students practiced ocular self-

medication, with those of higher educational levels being less likely to do so (Alghamdi *et al.,* 2022).

Table 4.8A and 4.8B presents the distribution of respondents' attitudes toward consulting an eye specialist before using ophthalmic medication across various demographic groups. The findings show that a majority (57.0%) agreed that consulting an eye specialist is essential before using any eye medication, while 22.8% strongly agreed, suggesting a generally positive attitude toward professional consultation before self-medicating. However, 11.5% remained neutral, and a small portion (8.7%) either disagreed or strongly disagreed, indicating the persistence of unsafe self-medication behaviour among a minority of respondents.

Age appeared to have some influence on attitude. Respondents aged 16–20 years had the highest agreement (62.0%), followed by those aged 21–24 years (50.6%), while those aged 25–29 years also showed similar agreement levels (50.0%). This suggests that younger respondents were more likely to recognize the importance of consulting an eye specialist, possibly due to increased awareness from school-based health education programs. Gender differences were minimal, as 59.7% of females and 53.8% of males agreed that consulting an eye specialist was essential.

Across faculties, the Faculty of Education (72.0%) and Arts (65.4%) showed the most positive attitude toward consultation, while Physical Sciences (45.2%) had comparatively lower agreement levels, suggesting that disciplinary background and exposure to health-related topics may shape students' health attitudes. Similarly, students in the 100 and 200 levels showed higher agreement rates (66.3% and 69.1% respectively) than those in the 400 and 500 levels, indicating a possible decline in caution with academic progression, as older students may have become more confident in self-medicating.

Residence also appeared to play a role — on-campus students (58.1%) were slightly more likely to agree than off-campus students (56.3%), possibly because of closer proximity to campus health facilities and greater access to peer health education.

These findings align with the general trend observed in similar studies such as Alghamdi *et al.,* (2021), which reported varying attitudes toward consulting eye specialists before using ophthalmic medications, often influenced by accessibility, convenience, and personal beliefs about eye conditions. In your study, the results suggest that while a majority of respondents agreed that consulting an eye specialist is essential before using any eye medication, others expressed neutrality or disagreement, reflecting diverse attitudes among students. This indicates that although awareness of professional consultation exists, the degree of adherence to this belief differs across demographic groups such as age, gender, faculty, and level of study.

Table 4.9 presents the relationship between demographic variables and respondents' attitudes toward ophthalmic self-medication using the Chi-square test of association. The results indicate that there was a statistically significant relationship between level of study and the belief that consulting an eye specialist is essential before using any eye medication ($p = 0.001$). This suggests that students in higher academic levels are more likely to appreciate the importance of professional consultation before administering ophthalmic drugs, possibly due to increased exposure to health education and awareness of the risks associated with self-medication.

Conversely, there were no significant relationships between other demographic variables—age, gender, faculty, and residence—and any of the attitude items ($p > 0.05$). This implies that students' general attitudes toward self-medication practices were largely similar across different age groups, genders, faculties, and living conditions. The uniformity may reflect the

widespread accessibility of over-the-counter ophthalmic drugs and shared peer influence within the university environment, regardless of demographic differences.

These findings align with prior research conducted in similar populations, where educational level was found to influence health-seeking behavior and attitudes toward medication use, while factors such as gender or field of study showed minimal effect (Abokyi *et al.,* 2014)

5.3 PRACTICE OF SELF-MEDICATION WITH OPHTHALMIC DRUGS

Figure 4.3 presents respondents' general practices concerning the self-use and recommendation of ophthalmic medications. Findings revealed that 39.5% of respondents had engaged in self-medication for eye problems—either always (3.8%), sometimes (35.7%), or rarely (27.2%)—while 33.2% reported never using eye medication without consulting an eye specialist. This suggests that self-medication remains a relatively common behavior among university students, likely due to easy access to over-the-counter (OTC) ophthalmic drugs and a tendency toward self-diagnosis for minor ocular discomforts.

When asked whether they had ever recommended eye medication to others based on personal experience, 26.2% admitted doing so (either always or sometimes), while a larger proportion (59.6%) had never done so. This indicates that although many students self-medicate, a smaller group extends this practice to others—demonstrating an awareness of the possible risks of sharing medical advice without professional input.

Regarding adherence to prescribed medication, 36.3% of respondents acknowledged that they had either stopped using or continued using prescribed medication without medical advice, while 47.4% had never done so. This highlights a significant level of non-compliance, which can lead to treatment failure or drug resistance, as noted in previous studies on ophthalmic self-medication among university students (Alessa *et al.,* 2022).

Finally, when questioned about purchasing eye medications without a prescription, 41.3% of respondents admitted doing so (either always or sometimes), while 36.4% had never done so. This finding underscores the widespread availability of ophthalmic medications over the counter in Nigeria, and the weak enforcement of prescription regulations for topical eye preparations. Similar trends were reported in a study among Saudi Arabian adults, where 45.2% of participants obtained ophthalmic medications without prescriptions, primarily antibiotics and lubricants (Alessa *et al.,* 2022).

These results align with the findings of Esan et al. (2018), who reported a high prevalence of self-medication practices among Nigerian university students, driven by convenience, cost, and perceived mildness of symptoms. Collectively, the data suggest that while a substantial proportion of respondents occasionally engage in self-medication, the majority still acknowledge the importance of consulting qualified eye care professionals before initiating treatment.

Table 4.10A and 4.10B present the demographic influence on the practice of ocular self-medication among respondents. When asked whether they had ever used any medication for an eye problem without consulting an eye specialist, 35.7% reported doing so sometimes, 27.2% rarely, 33.2% never, and 3.8% always. The data revealed that age, gender, faculty, level of study, and residence all had varying degrees of influence on the tendency to self-medicate. The practice was most common among respondents aged 21–24 years (40.8%) and slightly lower among those aged 16–20 years (32.3%), suggesting that self-medication is most prevalent among young adults.

Gender-wise, males (37.3%) were slightly more likely to self-medicate compared to females (34.5%). Faculty analysis showed higher practices among students in Agriculture (47.2%), Arts (42.3%), and Social Sciences (40.4%), indicating that students from non-health-related faculties were more prone to using ophthalmic drugs without professional consultation.

Similarly, by level of study, senior students, particularly those in 400 (38.3%) and 500 levels (40.4%), reported higher tendencies to self-medicate, possibly due to increased academic stress, confidence in personal experience, and easier access to drug stores.

Furthermore, residence appeared to influence practice, as students living off-campus (34.9%) reported higher rates of self-medication compared to those residing on-campus (37.1%), likely due to greater accessibility to pharmacies and patent medicine vendors.

These findings share similarities with the study conducted by Ojabo and Efu (2020) among staff of the College of Health Sciences, Benue State University, Makurdi, where a significant proportion of respondents admitted to using eye medications without professional guidance. The researchers observed that accessibility, convenience, and perceived minor nature of eye problems were the main reasons for ocular self-medication. Hence, the pattern observed in this study reinforces the view that self-medication is influenced by sociodemographic factors such as age, occupation, and accessibility to eye care services, as similarly noted in the Benue State study.

Table 4.11A and 4.11B illustrate the demographic influence on the practice of recommending eye medications to others based on personal experience. The findings show that a majority of respondents (59.6%) reported never recommending ophthalmic medication to someone else, while 23.4% admitted doing so sometimes, 14.3% did so rarely, and only 2.8% indicated that they always recommend medications.

This distribution indicates that although most respondents avoid advising others on the use of eye medications, a considerable number still engage in informal recommendations, likely driven by personal familiarity with common over-the-counter (OTC) eye drops or prior successful experiences with self-treatment. Age distribution revealed that this behavior was more common among respondents aged 25–29 years (26.7%) and 21–24 years (25.3%),

suggesting greater confidence and autonomy in health-related decisions among older students.

Gender analysis showed that males (25.9%) were more likely to recommend eye medications than females (21.3%). This trend is consistent with the findings of Al Hemaidi *et al.,* (2025), who observed that individuals with limited professional knowledge often rely on self-perceived familiarity and peer recommendations when selecting or advising on topical ophthalmic medications. Their study, which assessed the knowledge, attitude, and practice regarding over-the-counter prescription of topical eye medications among the Saudi population, found that many participants lacked adequate awareness of the risks associated with unsupervised use, yet still engaged in such practices due to perceived safety and accessibility of these products.

By faculty, students in Law (33.3%), Engineering (26.3%), and Arts (25.0%) reported the highest tendency to recommend eye medication, whereas lower rates were recorded among Education (20.0%) and Management (19.4%) students—differences likely linked to varying levels of health literacy and exposure to ocular health education. Similarly, students in higher academic levels (400–500 level) demonstrated a greater tendency to advise others on medication, possibly due to increased self-confidence in health management. Furthermore, those residing on-campus (25.8%) were more likely to recommend medications compared to those off-campus (21.8%), reflecting the influence of close peer interactions and communal living on self-medication behavior.

Overall, these findings reinforce the notion that peer influence, self-confidence, and easy access to topical ophthalmic products continue to drive self-medication and informal advisory behaviors among young adults, consistent with the broader behavioral patterns reported by Al Hemaidi *et al.,* (2025).

Tables 4.12A and 4.12B present the demographic influence on the practice of purchasing eye medication without a doctor's prescription. The results show that 36.4% of respondents had never purchased eye medication without a prescription, while 36.2% admitted doing so sometimes, 22.3% rarely, and 5.1% always. This indicates that a significant proportion of students still engage in unsupervised self-medication practices.

Age distribution revealed that respondents aged 21–29 years were more likely to purchase eye medications without prescriptions, reflecting greater independence and confidence in self-treatment. Males were slightly more inclined toward this practice than females, possibly due to lower health-seeking tendencies among young men. Furthermore, students in faculties such as Agriculture, Engineering, and Arts showed higher rates of self-purchasing behavior compared to others, likely due to limited exposure to eye health education.

Table 4.13 shows the chi-square relationships between demographic variables (age, gender, faculty, level of study, residence) and several self-medication practices: using eye medication without seeing a specialist; recommending medications based on experience; and purchasing eye medication without a prescription. Notably, gender ($p = 0.046$) had a significant relationship with using medication without consulting an eye specialist, and age ($p = 0.048$) was significantly related to recommending medication based on experience. Other demographic variables did not show significance across most practices, suggesting these behaviors are fairly widespread across academic backgrounds and living situations.

These findings align with Ajayi *et al.,* (2013), who observed that self-medication was common among ophthalmic patients in Nigeria, with age and gender being key determinants. Their study reported that women and older adults were more likely to use non-prescribed eye medications, driven by convenience, previous experience, or peer influence. This correlation pattern mirrors the trend found in the present data.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATION

6.1 CONCLUSION

The results of this study indicated that although a large proportion of University of Benin students were aware of ophthalmic self-medication, their level of specific knowledge regarding the appropriate use and application of eye medications varied. Awareness was found to increase with age and academic level, indicating that maturity and educational exposure positively influence understanding of ocular drug use. However, there were still gaps in understanding safe self-care techniques and recognizing common ophthalmic medications.

The study also showed that most students recognized the value of seeing an eye specialist before taking any eye medication, indicating that they generally had a cautious attitude toward self-medicating for eye conditions. Also, a sizable percentage continued to acknowledge self-medication and buying medications without a prescription, or suggesting

drugs to colleagues. Peer pressure, perceived symptom mildness, and the availability of over-the-counter drugs all had a significant impact on these behaviors.

According to statistical analyses, knowledge and practice of ophthalmic self-medication were significantly correlated with age and educational attainment, but not with gender, faculty, or place of residence. This implies that exposure and educational attainment have a significant impact on how students behave when seeking health care.

6.2 RECOMMENDATION

The results of this study show that although University of Benin students were generally aware of ophthalmic self-medication, variations existed in their level of specific knowledge and practices. Strengthening eye health education within academic settings may help improve understanding of ophthalmic medication use. Providing students with access to accurate and evidence-based information could enhance their overall awareness and promote more informed health-related decisions.

The University Health Services, pertinent medical departments, and professional associations may work together to promote proper eye care procedures. Periodic seminars, workshops, or awareness campaigns centered on the proper use of ophthalmic medications and the value of expert consultation are examples of such initiatives. Including quick lectures on medication safety and eye health in student orientation programs could also raise awareness early in the university.

Medication misuse may also be decreased by making sure that drug vendors and pharmacists only dispense ophthalmic medications with legitimate prescriptions and offer suitable counseling on how to use them. Pharmacists can also be helpful by teaching patients about the proper dosage, storage, and potential adverse effects of prescription eye drugs. When needed, they can also refer patients with eye complaints to licensed eye care specialists. Such

cooperative efforts between eye care professionals and pharmacists may help encourage students to use ophthalmic medications in a safer manner.

Finally, routine vision exams and counseling services offered in academic settings may aid in the early detection of possible eye issues and promote the need for appropriate medical care. Therefore, persistent educational and preventive initiatives may help raise students' general eye health literacy and lessen their propensity for self-medication.

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APPENDIX I
A PROVISIONAL QUESTIONNAIRE ON KNOWLEDGE, ATTITUDE AND PRACTICES OF OPHTHALMIC SELF-MEDICATION AMONG STUDENTS OF THE UNIVERSITY OF BENIN

My Name is Adigwe Enoch David , a 600level Optometry Student at the University of Benin. In fulfillment of my undergraduate dissertation requirements, I humbly request your valued participation in this questionnaire survey.

Be rest assured that all the information gathered will be treated with utmost confidentiality and anonymized before being presented in my work adhering to the data protection act and ethical research guidelines.

Your contribution will be greatly appreciated and the survey will only take a few minutes of your time.

•Please answer all questions to the best of your knowledge.

•There are no right or wrong answers; we are interested in your honest opinions and experiences.

•Your responses will remain confidential and will be used to better understand students Experience.

Part 1: Demographic Information

Part 1: Demographic Data

- Age: --------- Gender [ ]Male [ ]Female
- Faculty [ ]Arts [ ]Agric [ ]Education [ ]Engineering [ ] Law [ ] Management sciences [ ] Physical sciences [ ] Social Sciences
- Residence [ ]On Campus [ ] Off campus
- Level [ ]100 [ ]200 [ ] 300 [ ] 400 [ ] 500

Part 2: Knowledge of Opthalmic self-medication

1. Have you heard about people using medicines for their eyes without seeing an eye specialist?

   [ ] Yes [ ] No [ ] Not sure

2. **Do you believe people get information about eye medications from non-medical sources?**

   [ ] Yes [ ] No [ ] Not sure

3. **Do you know examples of medications commonly used for eye conditions without a prescription?**

   [ ] Yes [ ] No [ ] Not sure

4. **Do you know examples of medications commonly used for eye conditions without a prescription?**

   [ ] Yes [ ] No [ ] Not sure

5. Do you know that some eye medicines can be bought without a doctor's prescription

   [ ] Yes [ ] No [ ] Not sure

6. Do you know the correct way to apply eye medication?

[ ] Yes [ ] No [ ] Not sure

Part 3: Attitude towards Opthalmic self-medication

7. It is okay to use eye medication if you feel you have a minor eye problem?

   [ ] Strongly Agree [ ] Agree [ ] Neutral [ ] Disagree [ ] Strongly Disagree

8. It is easy to get eye medication without visiting an eye specialist?

[ ] Strongly Agree [ ] Agree [ ] Neutral [ ] Disagree [ ] Strongly Disagree

9. Not all eye problems require a visit to the eye specialist?

   [ ] Strongly Agree [ ] Agree [ ] Neutral [ ] Disagree [ ] Strongly Disagree

10. Consulting on eye specialists is essential before using an eye medication?

    [ ] Strongly Agree [ ] Agree [ ] Neutral [ ] Disagree [ ] Strongly Disagree

11. You can ask the pharmacist for advice concerning any eye problem?

    [ ] Strongly Agree [ ] Agree [ ] Neutral [ ] Disagree [ ] Strongly Disagree

Part 3: Practice on Opthalmic self-medication

12. Have you ever used any medication for an eye problem without consulting an eye specialist?

    [ ] Always [ ] Sometimes [ ] Rarely [ ] Never

13. Have you ever recommended a medication to someone based on your experience?

    [ ] Always [ ] Sometimes [ ] Rarely [ ] Never

14. Do you usually check the instructions before using an eye medication?

    [ ] Always [ ] Sometimes [ ] Rarely [ ] Never

15. Do you continue using the same eye medication if symptom persist without consulting an eye specialist?

    [ ] Always [ ] Sometimes [ ] Rarely [ ] Never

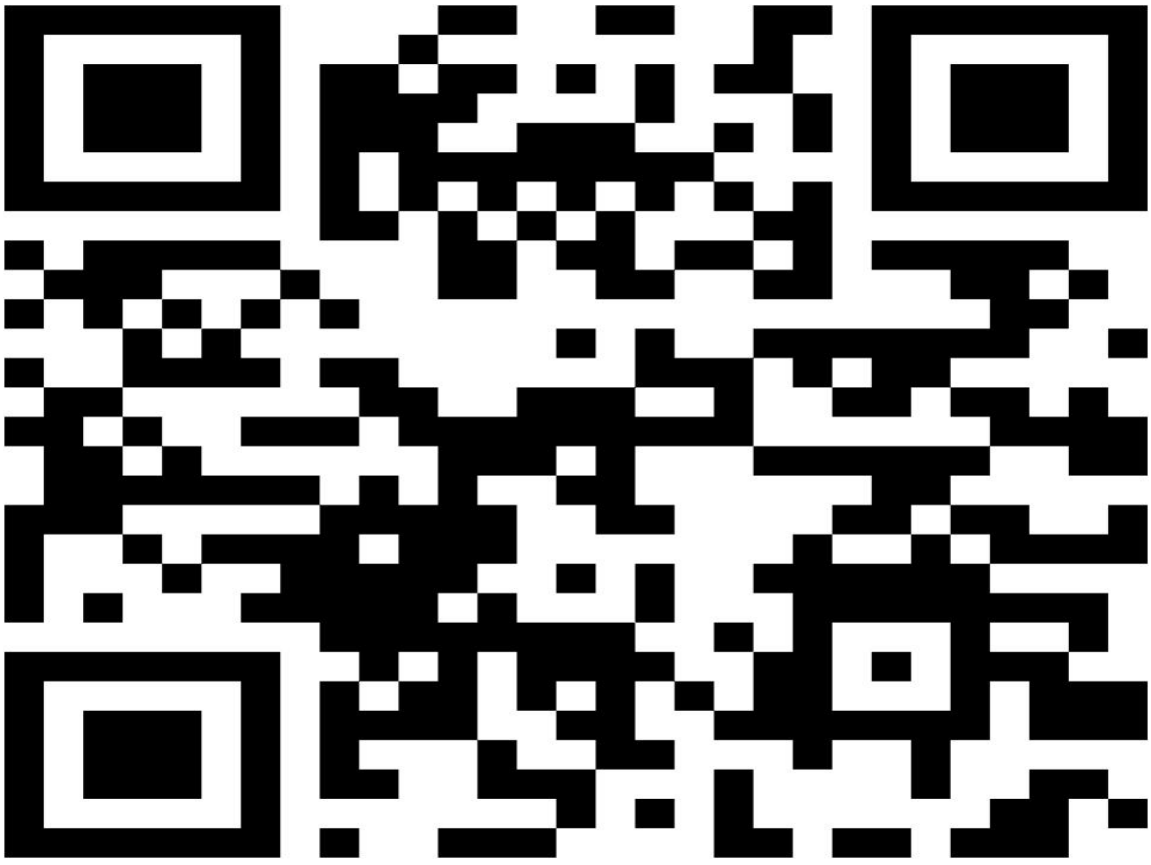
16. Have you ever stopped using eye medication's earlier or continue it longer than prescribed?

    [ ] Always [ ] Sometimes [ ] Rarely [ ] Never

17. Have you ever purchased a medication directly from a pharmacy or drugstore without a prescription?

    [ ] Always [ ] Sometimes [ ] Rarely [ ] Never

APPENDIX II



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APPENDIX III

Plagiarism Test Result for my Thesis