BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF SCIENCE

DEPARTMENT OF OPTOMETRY



Assessing knowledge and awareness of cataracts among geriatric patients at Bindura Provincial Hospital

A research proposal submitted in partial fulfilment of the requirements for the Bachelor of Science (honors) degree in Optometry

BY

Tadiwanashe B Zvikusha B224405B

Supervised by Dr. Mashoko

ABSTRACT

Cataracts remain the leading cause of reversible blindness globally affecting geriatric population in low and middle income countries such as Zimbabwe despite the availability of effective surgical intervention **.**The study aimed to assess the knowledge and awareness of cataracts among geriatric patients (aged 60 years and above) attending Bindura Provincial Hospital ,Zimbabwe and identify sociodemographic factors associated with cataract knowledge A study was conducted among 422 geriatric patients recruited through random sampling from outpatient and ophthalmic departments .Data was collected using interviewer administered structured questionnaire .The questionnaire assessed sociodemographic characteristics, symptoms, complications, treatment options and barriers to seeking care .While 91.2% of the participants had heard about cataracts only 34% could correctly define the condition as the clouding of the eye's lens .Urban residents demonstrated better knowledge of cataract causes (52% vs 21.2%) and symptoms (41.6% vs 15%) compared to rural dwellers. Only 23% correctly identified surgery as the only effective cure while 42.2% believed traditional herbs could cure cataracts and 26.5% believed eye drops were effective .Most participants (62.6%) had never visited an eyecare professional. Cost was cited as the primary barrier of seeking treatment (50%), followed by belief that herbs would cure the condition (28.9%) and fear of surgery (15.9%) .Higher education, urban residence and family history of cataracts were independent predictors of good knowledge .The study reveals critical gap in accurate knowledge of cataracts among geriatric patients at Bindura Provincial Hospital. There is persistent misconceptions about treatment and a significant rural-urban disparity in knowledge. There is need for culturally sensitive health education interventions and policy initiatives to reduce financial barriers. The findings provide evidence from Zimbabwe to inform targeted public health strategies aimed at reducing preventable blindness in the geriatric population**.**

DECLARATION

I hereby declare that this dissertation ASSESSING KNOWLEDGE AND AWARENESS OF CATARACTS AMONG GERIATRIC PATIENTS AT BINDURA PROVINCIAL HOSPITAL was submitted to Bindura University of Science Education for Bachelor of Science Honours Degree in Optometry has never been submitted for a degree at this university or any other. Every fact that appears in this dissertation has been correctly cited and was generated by myself.

DEDICATION

This dissertation is dedicated to my family for the love and support**.**

ACKNOWLEDGEMENTS

I would like to express my deepest gratitude to my supervisor, Dr Mashoko for guiding ,encouraging and supporting me through my dissertation writing journey . I would also like to give thanks to my family for the endless support. Moreover , I would like to thank my friends from optometry for their immense contribution to my dissertation**.**

Contents

CHAPTER 1: INTRODUCTION AND BACKGROUND 1
1.1. Introduction 1
1.2 Background 2
1.3Problem statement 3
1.4 Research Questions 4
1.5 Aims and Objectives 4
1.6 Significance of the Study 5
Chapter 2: LITERATURE REVIEW 6
2.1 Introduction 6
2.2 The Global and Regional Burden of Cataracts 6
2.3 Awareness and Knowledge: An Important Obstacle to Eye Care 7
2.4 Misconceptions as a Treatment Obstacle 8
2.5 The Influence of Socio-Demographic Factors 9
2.6 The Function of Health Interventions and Education 10
2.7 Synopsis and Research Gap Identification 10
Chapter 3: Research methodology and design 11
3.1 Study type and justification 11
3.2 Research Subject 11
3.3 Target Population 12
3.4 Selection of Samples 12
3.5 Sample Size Determination 13
3.6 Sampling methods 14
3.7 Data Gathering Techniques and Justification 14
3.8 Questionnaire Structure 15
3.9 Data Coding 17

3.10 Analyzing and Processing Data 17
3.11 Reliability and Validity 18
3.12 Ethical considerations 19
3.13 The Methodology's Limitations 20
CHAPTER 4 21
4.1 Sociodemographic characteristics 21
4.2 KNOWLEDGE OF CATARACTS 24
4.3 METHODS OF TREATMENT FOR CATARACTS 27
CHAPTER 5 29
5.2 Discussion of key findings 30
5.3 Implications of the study 32
5.4 Limitations of the study 32
5.5 Conclusion 33
5.6 Recommendations 33
5.7 Final summary 34
References 34
APPENDICES 37

Assessing knowledge and awareness of cataracts among geriatric patients at Bindura Provincial Hospital

CHAPTER 1: INTRODUCTION AND BACKGROUND

1.1. Introduction

Cataracts are one of the leading causes of reversible blindness and visual impairment worldwide mainly affecting the geriatric population aged 60 and above (Rao et al.2011). They are a result of progressive opacification or clouding of the eye`s natural lens, which leads to severe impairment of vision (Chen et al.2025). An estimate of 16 million people is affected worldwide and there is no method to stop the formation of a cataract but there are advances in surgical removal of cataracts (Epstein et al.2005). Identified risk factors of cataracts includes genetic composition, exposure to ultraviolet light, diabetes, trauma and age being the leading factor. Cataracts greatly impacts quality of life of old aged people increasing risk of falls and dependence therefore more burden on the guardian. Cataracts still remains the leading cause of blindness in the developing countries even though it is treatable by operation (Cheng,1989). Studies done in Zimbabwe shows that cataracts there is higher burden on cataracts, particularly in rural and semi-urban settings (Tagoh et al.2020). Fewer numbers of people seeking surgical services due to cataracts is linked to poor knowledge and awareness regarding the causes, symptoms, preventability and effective treatment (surgery) of cataracts. Beliefs that blindness is an inevitable part of aging or fears about surgery can cause patients to delay seeking treatment, resulting in needless vision loss and a reduced quality of life. Individuals with cataracts are hesitant to undergo surgery which is why the purpose of this study is to explore and describe the understanding of geriatric patients on cataracts at Bindura Provincial Hospital.

1.2 Background

Vision impairment and blindness are major public health issues around the world affecting millions of people's quality of life, economic productivity and social inclusion. According to the World Health Organization (WHO), at least 2.2 billion people suffer from near or distance vision impairment with at least 1 billion of these cases preventable or untreated (WHO, 2025). Cataracts defined as opacification of the crystalline lens of the eye are still the leading cause of reversible blindness worldwide (Attafuah et al,2024). The condition is especially common among the elderly with the majority of cases affecting people over the age of 50 (Adnin et al., 2023). Despite the availability of a low-cost and highly effective surgical intervention, cataracts remain a leading cause of preventable visual impairment particularly in low and middle-income countries where access to quality eye care services is frequently limited (Du et al., 2022). Sub-Saharan Africa (SSA), South Asia and parts of Southeast Asia bear a disproportionate share of the global cataract burden (Attafuah et al., 2024). In Sub-Saharan Africa, cataract prevalence among older adults ranges from 13.5% to 62.5% reflecting differences in study settings, population demographics, and diagnostic criteria (Attafuah et al., 2024). The challenge is not only high prevalence but also low surgical coverage which in some SSA countries can be as low as 12.1% (Attafuah et al., 2024). A complex interplay of factors including limited healthcare infrastructure, financial constraints, geographical inaccessibility and most importantly a lack of adequate knowledge and awareness about the condition and its management contributes to this treatment gap (Fikrie et al., 2021; Guan et al., 2023). A common misconception that cataracts are an unavoidable and untreatable consequence of aging causes delayed health-seeking behavior and preventable blindness (Syamsul et al., 2026). As Southern African nation, Zimbabwe reflects these continental tendencies. Numerous issues confront the healthcare system such as financial limitations and a high prevalence of both communicable and non-communicable diseases which may take funds away from specialized services like eye care. Geriatric patients are especially at risk in this situation. In Zimbabwe, the number of people at risk for age-related diseases like cataracts is growing along with the country's aging population. For a population that is primarily rural and semi-urban Bindura Provincial Hospital which is situated in the Mashonaland Central province is an essential referral facility. The hospital's catchment area includes communities where access to health

education and specialized eye care is frequently hampered by distance, cost, and a lack of awareness (Ko Ko et al., 2021). As a result, understanding the baseline knowledge and awareness of cataracts among geriatric patients who visit this facility is the first critical step toward developing targeted interventions to improve early detection and treatment uptake.

1.3Problem statement

Cataract remains a significant contributor to avoidable blindness in the geriatric population both globally and in Zimbabwe. While Bindura Provincial Hospital provides ophthalmic services, there is ongoing concern that many patients present in advanced stages of cataract development with severely impaired vision complicating surgical outcomes and limiting the potential for full visual rehabilitation. Late presentation is frequently indicative of underlying issues concerning knowledge and awareness (Ko Ko et al., 2021; Du et al., 2022). Preliminary observations and anecdotal evidence from hospital staff indicate that a large number of elderly patients are unaware of cataract symptoms other than a general sense of failing vision. Furthermore, there appears to be a prevalence of misconceptions about the condition's cause and treatment such as the idea that eye drops or traditional medicines can cure cataracts or that surgery is painful, dangerous, or prohibitively expensive (Adnin et al., 2023; Syamsul et al., 2026). Such misconceptions directly contribute to delayed health-seeking behavior, increased patient morbidity and an increased burden on the healthcare system which must deal with more complex and advanced cases (Li et al., 2020).

Although several studies have investigated cataract knowledge in rural China (Du et al., 2022; Guan et al., 2023), Bangladesh (Adnin et al., 2023), Myanmar (Ko Ko et al., 2021) and Ethiopia (Fikrie et al., 2021; Alimaw et al., 2019) there is a significant gap in empirical research specifically focused on the knowledge and awareness levels of geriatric patients in Zimbabwe and more specifically at Bindura Provincial Hospital. Effective context-specific health education interventions cannot be designed without a systematic assessment of current knowledge by methodically evaluating the knowledge and awareness of cataracts among senior patients at

Bindura Provincial Hospital. This study seeks to close this knowledge gap and provide the crucial evidence base required to guide future clinical practice and public health initiatives.

1.4 Research Questions

primary research questions:

1. What is the level of knowledge and awareness about cataracts among geriatric patients at Bindura Provincial Hospital?

The following sub-questions will be addressed:

1. What are the socio-demographic characteristics of geriatric patients at Bindura Provincial Hospital (age, gender, education level, occupation, and residence)?

2. How well do these patients understand the definition, risk factors, symptoms, and complications of cataracts?

3. What is the level of awareness among these patients about cataract treatment options, specifically cataract surgery?

4. What are common misconceptions among geriatric patients about cataract causes and treatment?

5. How do socio-demographic factors (such as age, education, and place of residence) relate to cataract knowledge and awareness?

1.5 Aims and Objectives

Aim

The primary goal of this study is to assess cataract knowledge and awareness among geriatric patients (60 years and older) who visit the outpatient and ophthalmic departments at Bindura Provincial Hospital.

Objectives.

To accomplish this goal, the study will pursue the following specific objectives:

1. Describe the sociodemographic characteristics of geriatric patients at Bindura Provincial Hospital.

2. To determine how well geriatric patients understand the risk factors, symptoms, and potential complications of cataracts.

3. Determine geriatric patients' awareness of cataract treatment options, with a focus on surgical intervention.

4. Identify common misconceptions about cataract prevention and treatment among geriatric patients.

5. To investigate the relationship between the patients' socio demographic characteristics and their level of knowledge and awareness about cataracts.

1.6 Significance of the Study

This study has significant implications for various stakeholders involved in eye health and geriatric care at both the local and national levels. For Bindura Provincial Hospital, the findings will serve as a baseline assessment of the cataract knowledge gap among its patients. This information will be extremely useful for hospital administrators and clinicians when developing and implementing targeted culturally sensitive health education programs. The findings can directly inform patient education materials pre- and post-operative counseling strategies potentially leading to earlier diagnosis and increased surgical uptake (Ko Ko et al., 2021; Syamsul et al., 2026).

- Regarding Zimbabwe's Ministry of Health and Child Care: The study will add regional data to the national comprehension of obstacles to eye care. It can help guide policy choices about the distribution of funds for public health initiatives aimed at promoting eye health among senior citizens. The results might emphasize the necessity of incorporating cataract awareness into community outreach initiatives and primary healthcare, especially in rural and peri-urban areas (Attafuah et al., 2024).

- For the Academic Community: The study will offer primary data on cataract knowledge in a Zimbabwean context and it will close a significant gap in the body of existing literature. Future research on obstacles to cataract surgery, the success of health education initiatives and the nation's overall burden of preventable blindness will be built upon it. Additionally, it will broaden Zimbabwe's understanding of geriatric health.

- For the Community: The study will shed light on the current state of awareness and it indirectly advocates for better community education. Ultimately, the goal is to empower geriatric patients and their families with the correct information enabling them to make informed decisions about their eye health and seek timely treatment thereby preventing needless blindness and improving their quality of life (Du et al., 2022; Alimaw et al., 2019).

Chapter 2: LITERATURE REVIEW

2.1 Introduction

The primary purpose of conducting this literature review is to achieve a comprehensive understanding of existing research and discussions related to my topic. It is the backbone of my dissertation serving as a bridge between existing knowledge and the unique contribution I will make. It is also crucial for improving methodology and analysis as it plays a vital role in presenting research findings effectively. This chapter offers a thorough analysis of the body of research relevant to older adult populations knowledge and awareness of cataracts. It emphasis on identifying variables that affect awareness and health-seeking behavior. The review is organized thematically to synthesize findings from international, regional and local studies.

2.2 The Global and Regional Burden of Cataracts

Cataracts remain the foremost cause of blindness worldwide, accounting for approximately 50% of all cases of blindness (WHO, 2025). The condition is characterized by the progressive clouding of the eye's natural lens leading to a gradual painless decline in vision. While age-related cataracts are the most common form, risk factors such as smoking, excessive ultraviolet radiation exposure,

diabetes mellitus, and certain medications also play a significant role (Syamsul et al., 2026). The impact of cataract-related blindness extends beyond the individual contributing to economic hardship, social isolation and an increased risk of falls and mortality among the elderly (Adnin et al., 2023).

The burden is especially heavy in Sub-Saharan Africa (SSA). The prevalence of cataracts among older adults in SSA varies significantly from 13.5% to 62.5%, according to a recent scoping review by (Attafuah et al., 2024) that synthesized data from seven full-text records. The region's heterogeneity which is influenced by different demographic profiles, environmental factors (like UV exposure) and access to diagnostic services is reflected in this wide range. The cataract surgical coverage (CSC) which ranged from as low as 12.1% to 96 is more worrisome than the prevalence (Attafuah et al., 2024). Low CSC is a crucial sign of a treatment gap, indicating that many people do not have the required surgery even after being diagnosed with cataracts. Rural underprivileged communities which make up a sizable portion of Bindura Provincial Hospital's catchment area frequently have the largest disparity.

2.3 Awareness and Knowledge: An Important Obstacle to Eye Care

The identification of insufficient knowledge and awareness as the main obstacle to prompt cataract treatment is a recurring theme in the literature. There is a substantial difference between knowing about cataracts and having a practical understanding of the condition according to studies conducted in a variety of geographic locations. For example, Du et al. (2022) discovered that although 45.15% of participants in a large community-based study in rural Western China had cataracts, an astounding 90.67% were left untreated. Out of a possible 8 points, the average knowledge score regarding cataracts was only 4.91. Crucially, this study found a significant positive correlation between accurate knowledge and cataract surgery (OR 5.61) as well as cataract screening (OR 2.21). This emphasizes the idea that knowledge directly influences health-related behavior and is not just an academic concept. In a related study conducted in the same area, Guan et al. (2023) discovered that while 71.7% of participants had good knowledge more than one-third had poor knowledge which was strongly linked to lower educational attainment and a lack of prior eye exams. Misra et al. (2017) discovered a paradoxical situation in an urban setting in Delhi India,

only 42% of participants in urban slums were aware of any symptoms and only 40.1% knew that surgery was the treatment despite the fact that 89.9% of participants had heard of cataracts. Guan et al. (2023) found that although 71.7% of participants had good knowledge over one-third had poor knowledge which was closely associated with lower educational attainment and a lack of prior eye exams. In an urban setting in Delhi, India , Misra et al. (2017) found a paradoxical situation. Although 89.9% of participants in urban slums had heard of cataracts , only 42% were aware of any symptoms and only 40.1% knew that surgery was the treatment. Misra et al. (2017) discovered a paradoxical situation in an urban setting in Delhi, India , only 42% of participants in urban slums were aware of any symptoms and only 40.1% knew that surgery was the treatment despite the fact that 89.9% of participants had heard of cataracts. While 96% of the elderly population in Chattogram had heard of cataracts and 99% recognized blurred vision as a symptom more than half (52%) thought that medication was the best way to treat cataracts and 50% thought that medication was the best option. Patients may put off surgery for years in the hopes of a nonexistent cure from eye drops due to this widespread misconception which directly prevents them from seeking surgical intervention (Adnin et al., 2023; Syamsul et al., 2026). This finding which implies that superficial awareness does not equate to actionable knowledge is especially pertinent to the planned study in Zimbabwe.

2.4 Misconceptions as a Treatment Obstacle

Several studies have found particular deeply rooted misconceptions that actively discourage people from seeking care going beyond a simple lack of knowledge. According to Du et al. (2022), there are three basic misconceptions in rural Western China about how cataracts should be treated, how much it will cost and when it should be done. Individuals without these misconceptions were 1.76 to 3.48 times more likely to have surgery and 1.21 to 2.02 times more likely to be screened. This suggests that addressing these particular misunderstandings may have a significant effect on patient behavior. Similar cultural misconceptions and beliefs have been reported in Sub-Saharan Africa. Cultural misunderstandings regarding cataract surgery were found to be a major obstacle to successful management in the scoping review conducted by Attafuah et al. (2024). These can include ideas that the eye is spoiled by surgery, that the condition is incurable at an advanced age,

or that surgery is a punishment for previous transgressions (Attafuah et al., 2024). Despite 64.7% of adults in Ethiopia having "good knowledge," Fikrie et al. (2021) found that there was still a sizable knowledge gap about risk factors and prevention. Given how persistent these misconceptions are, health education needs to go beyond providing general knowledge in order to directly address and refute these particular beliefs.

2.5 The Influence of Socio-Demographic Factors

The important influence of sociodemographic factors on cataract knowledge is a recurrent finding in all reviewed studies. The most frequently mentioned factor is probably education. Research from Ethiopia (Fikrie et al., 2021; Alimaw et al., 2019), China (Guan et al., 2023) and India (Misra et al., 2017) revealed a positive and significant correlation between education level and cataract knowledge. For instance, Alimaw et al. (2019) discovered that individuals in Gondar, Ethiopia, who had more education were 2.86 times more likely to possess good knowledge. Similarly, Fikrie et al. (2021) discovered in Yirgalem, Ethiopia that having completed high school or higher increased the likelihood of having good knowledge by 5.55 times. Although its direction can be complicated, age is another important factor. Although being older is the main risk factor for cataract development, it is frequently linked to a lack of awareness about the condition (Li et al., 2020; Misra et al., 2017). This is probably because educational opportunities vary between generations and people are less exposed to official health information as they get older. For example, in their study conducted in rural China, Li et al. (2020) discovered a negative correlation between knowledge and older age. However, some research indicates that older people (45–60 years old) may be more knowledgeable about surgery because they have either personal or family experience with the condition (Misra et al., 2017). Particularly in low-income environments, residence is a crucial factor. Living in a rural area is a constant barrier to knowledge. According to Fikrie et al. (2021) compared to urban residence, living in a rural area had a negative correlation with cataract knowledge. This is frequently associated with lower literacy rates, less exposure to health promotion campaigns, and less access to healthcare facilities. A person's financial situation, as determined by their family's monthly income, also matters; higher income is linked to better service utilization and knowledge (Alimaw et al., 2019; Guan et al., 2023).

2.6 The Function of Health Interventions and Education

Numerous studies have examined the efficacy of health education interventions in raising cataract awareness and eye care utilization because knowledge is a modifiable barrier. Ko Ko et al.'s (2021) quasi-experimental study in Myanmar is especially instructive. For three months in a row, the study used a door-to-door eye health education program for elderly cataract patients. The outcomes were remarkable. The mean knowledge score rose from 7.8 to 10.67 and the attitude score from 4.51 to 7.55 in the intervention group. Most significantly, the percentage of people who used eye care services increased dramatically from 35.7% before the intervention to 85.7% after it (Ko Ko et al., 2021). This illustrates the potent effects of a focused, community-based educational strategy. In a similar vein, Syamsul et al. (2026) employed a field visit approach in an Indonesian community service program that included a single day of structured health education, interactive discussions, and free eye exams. Participants' knowledge levels clearly improved as a result of the program, and they became more conscious of the significance of early detection. It has been observed that combining education with direct screening increases participation and reaffirms the importance of eye health (Syamsul et al., 2026). In order to create future interventions that are as successful as those in Myanmar and Indonesia, these studies offer compelling evidence for the necessity of first determining the baseline knowledge levels, as suggested in the current study.

2.7 Synopsis and Research Gap Identification

The literature clearly shows that cataracts are a major preventable cause of blindness, especially in older people living in developing countries. A substantial amount of research from East Africa (Ethiopia) and Asia (China, India, Bangladesh, and Myanmar) shows that certain misconceptions and low levels of knowledge are important, changeable obstacles to cataract surgery and the use of eye care. Low educational attainment, advanced age, living in a rural area and low socioeconomic status are important contributing factors. Nonetheless, there is a glaring and substantial gap in the literature about Zimbabwe. Local cultural, economic and healthcare system contexts are distinct despite the fact that SSA faces similar challenges. Zimbabwean primary data was not included in a scoping review of SSA conducted by Attafuah et al. (2024). Health programs and clinical procedures at establishments like Bindura Provincial Hospital are not being informed by empirical data on the particular knowledge gaps and misconceptions held by their own patients due to the lack of local evidence. For this reason, the current study is both essential and timely. In

order to close this knowledge gap and lay the groundwork for context-specific, evidence-based interventions to lessen the burden of preventable blindness so it will offer the first baseline assessment of cataract knowledge among elderly patients in this Zimbabwean setting.

Chapter 3: Research methodology and design

3.1 Study type and justification

A quantitative, descriptive cross-sectional design will be used for this investigation because it enables the measurement of knowledge, awareness and related factors at a single point in time so a cross-sectional study is suitable for this research (Setia, 2016). According to Creswell and Creswell (2018), this design is effective for determining the prevalence of a phenomenon (like knowledge blevels) among a particular population (older patients) in a designated setting (Bindura Provincial Hospital). This design is justified in several ways:

- Efficiency: Without requiring long-term follow-up, it is an economical and time-efficient way to collect data from a comparatively large sample of patients (Fikrie et al., 2021; Alimaw et al., 2019).

- Descriptive Objectives: The main goal is to describe the current level of awareness and knowledge, which is exactly in line with a cross-sectional survey's descriptive capabilities (Du et al., 2022).It is perfect for creating hypotheses that can be tested in subsequent analytical or interventional studies, even though it can identify associations (such as between education and knowledge) (Guan et al., 2023).

3.2 Research Subject

The study will be carried out at Bindura Provincial Hospital (BPH) which is situated in Bindura the capital of Zimbabwe's Mashonaland Central Province. Serving the predominantly rural and peri-urban population of the province, BPH is a significant referral hospital. It offers a variety of secondary-level medical services such as inpatient wards, outpatient departments and specialty clinics such as an ophthalmology department. The hospital's catchment area is a perfect place to study cataract knowledge among a vulnerable geriatric population because it includes communities with varying degrees of access to healthcare and health information. The researcher's accessibility,

the site's importance as a healthcare provider for the target population and the identified clinical concern regarding cataract patients' delayed presentation all support the choice of this location.

3.3 Target Population

The target population for this study comprises all geriatric patients (aged 60 years and above) attending the outpatient and ophthalmic departments at Bindura Provincial Hospital. This age cut-off is consistent with other studies on cataracts in older adults and reflects the demographic most at risk for the condition (Adnin et al., 2023; Du et al., 2022). The accessible population was those geriatric patients who attend the selected departments during the data collection period and meet the inclusion criteria.

3.4 Selection of Samples

Inclusion criteria

- 60 years of age or older.
- During the data collection period, visit Bindura Provincial Hospital's outpatient or ophthalmic department.
- Capable of giving written or verbal informed consent.
- Sufficiently stable medically to take part in an interview.

Exclusion Standards

- Patients who are unable to communicate, critically ill, or cognitively impaired (as determined by the attending nurse or clinician).
- Patients who refuse to take part in the research.
- Patients who have had cataract surgery in the past, since their experience may have changed their awareness and knowledge (Alimaw et al., 2019).

3.5 Sample Size Determination

The sample size was determined using the formula for a single population proportion, which is appropriate for descriptive cross-sectional studies (Cochran, 1977). The formula is: $n = (Z^2 * p * q) / d^2$, where:

· n = required sample size

· Z = Z-statistic for a 95% confidence level (1.96)

· p = estimated proportion of the population with good knowledge about cataract. As no previous study has been conducted in this setting, we used a conservative estimate of 50% (p=0.5) to maximize the sample size.

· q = 1 – p (0.5)

· d = desired margin of error (5% or 0.05)

Calculation:

$n = (1.96^2 * 0.5 * 0.5) / 0.05^2$

$n = (3.8416 * 0.25) / 0.0025$

$n = 0.9604 / 0.0025$

$n = 384.16$

To account for potential non-response or incomplete questionnaires (estimated at 10%), the final sample size will be:

$n = 384 + (384 * 0.10) = 422.4$

Therefore, the target sample size for this study was approximately 422 participants.

3.6 Sampling methods

Participants were chosen from the pool of elderly patients who visit the pertinent departments using a systematic random sampling technique. This approach reduces selection bias and is useful (Taherdoost, 2016). The procedure will be as follows:

1. Sampling Frame: During the study period, a list of all elderly patients (aged ≥60) who visited the outpatient and ophthalmic departments we created. The anticipated daily or weekly patient volume was estimated based on past patient flow.

2. Sampling Interval (k): The sampling interval was calculated by dividing the total number of expected geriatric patients over the data collection period by the required sample size (422). For example, if an estimated 2,000 geriatric patients are expected over three months, the interval (k) would be 2000/422 ≈ 4.7, which was rounded to 5.

3. First Participant: The first participant was selected randomly using a lottery method from the first k (e.g., 5) patients.

4. Subsequent Participants: Following the selection of the first participant, every k-th (e.g., 5th) patient on the list was approached for participation until the target sample size is achieved.

3.7 Data Gathering Techniques and Justification

A structured questionnaire given by the interviewer was used to gather data. This approach is warranted for a number of reasons, especially considering the target demographic of elderly patients. A self-administered questionnaire may be difficult for many older adults due to low literacy levels or visual impairment (Fikrie et al., 2021; Li et al., 2020). Regardless of reading proficiency, all participants took part thanks to an interviewer-administered method. Having a trained interviewer present guarantees that questions are understood accurately and that clarifications could be given in a consistent way, which lowers non-sampling error. Compared to self-administered or mailed questionnaires, this approach usually results in a higher response rate (Creswell & Creswell, 2018). The principal investigators gathered the data. A pilot test was carried out on 5% of the sample (roughly 21 participants) at a different medical facility (such as a district

clinic) prior to data collection in order to assess the interview's flow, the question's clarity and any practical concerns. Before the primary data collection starts, the questionnaire was improved based on the pilot test results. The main study did not include the pilot test participants.

3.8 Questionnaire Structure

The questionnaire is a structured tool that has been modified from validated instruments used in earlier research on cataract knowledge in low-resource environments (e.g., Du et al., 2022; Fikrie et al., 2021; Misra et al., 2017; Adnin et al., 2023). There were three primary sections to it:

Section A: Sociodemographic Features

The background information of the participants which is known to affect health knowledge was be gathered in this section. It consisted of:

- Age (years)
- Sex (Male/Female)
- The highest degree of education (primary, secondary, tertiary, or no formal education)
- Work (e.g., homemaker, retired, farmer, etc.)
- Place of Residence (Urban/Rural)
- Monthly household income (categorized in Zimbabwean dollars)
- Cataract history in the family (Yes/No/Don't Know)

Section B: Knowledge of cataract

This section assessed participant's knowledge of the condition using a series of closed-ended and multiple questions. A total knowledge score was calculated. Example questions:

- "Have you ever heard of a condition called cataract?" (yes/no)

- “What is a cataract?” (Multiple choice: clouding of the eye lens, growth on the eye, aging of the eye, don’t know).
- “Which of the following are risk factors for cataract?” (multiple responses: aging, smoking, sunlight/UV exposure, diabetes, eye injury).
- “What are the common symptoms of cataract?” (multiple responses: blurred/clouding vision, double vision, fading/yellowing of colors, sensitivity to light).
- “Can cataracts lead to blindness if left untreated?” (yes/no)
- “What is the main complication of untreated cataract?”

Section C: Knowledge of Cataract Therapy

This section addressed common misconceptions and concentrate on awareness and attitudes toward treatment. The following questions were be asked:

- "What is the only effective treatment for cataracts?" (Multiple choice: "Traditional herbs," "Eye drops/Medication," "Surgery," "Don't know")
- "When is the best time to have surgery if you have a cataract?" (Multiple choice: "When it first starts," "When it affects your daily life," "Only when it's 'ripe' or hard," "Never"
- "Do you think cataract surgery is safe and effective?" (Likert scale: strongly agree, agree, neutral, disagree, and strongly disagree)
- "What are the reasons you might not seek treatment for cataracts?" (Multiple choice or open-ended response: "Cost," "Fear of surgery," "No time," "Think medication will cure it," "Distance to hospital," "Don't think it's necessary,"
- "Are you aware that Bindura Provincial Hospital offers cataract surgery?" (Yes/No)

3.9 Data Coding

Data was numerically coded to make analysis easier. A distinct participant ID (such as P001) was given to each completed questionnaire. The following codes were applied to responses:

- Sociodemographic: Urban = 1, Rural = 2, Male = 1, Female = 2, No formal education = 1, Primary = 2, Secondary = 3, Tertiary = 4.

- Knowledge Questions: A score of "1" was given for correct answers, while a score of "0" was given for incorrect or "Don't know" responses. The scores for each knowledge-based question was added together to create a composite knowledge score.

Following that, the overall score was categorized using accepted techniques from related research (Fikrie et al., 2021). Participants who scored higher than the mean or more than 70% of the total score, for example, might be categorized as having "good" knowledge, whereas those who scored lower might be categorized as having "poor" knowledge. The bivariate analysis that follows made use of this classification. The answers to the awareness questions were categorized for analysis (e.g., Misconception = 1, Correct Awareness = 0).

3.10 Analyzing and Processing Data

The Statistical Package for the Social Sciences (SPSS) version 25 or a comparable program was used to analyze the data.

1. Data Entry and Cleaning: Following data collection, the coded data was put into an SPSS data entry template that has already been created. Ten percent of the data was randomly chosen and compared to the original questionnaires in order to verify accuracy (data cleaning).

2. Descriptive Analysis: The data was summarized using descriptive statistics. This consisted of:

- Frequencies and percentages for categorical variables, including residence, sex, education level, and knowledge categories (good/poor).

- Age and total knowledge scores are examples of continuous variables that have means, medians, and standard deviations.

- To give a clear summary of the findings, the results were displayed as tables and charts (such as bar charts for knowledge levels).

2. Inferential Analysis: Bivariate and multivariate analyses were carried out in order to address objective 5 (associations between sociodemographic factors and knowledge).

- Bivariate Analysis: Each categorical sociodemographic variable (e.g., education, residence) and the categorical outcome variable (good/poor knowledge) were tested for significant associations using chi-square tests. A statistically significant p-value is one that is less than 0.05.

- Multivariate Analysis: A binary logistic regression model were incorporate variables that exhibit a significant association ($p < 0.05$) in the bivariate analysis. This assisted in identifying the independent predictors of having a solid understanding of cataracts while accounting for possible confounding variables. Adjusted Odds Ratios (AOR) with 95% Confidence Intervals (CI) will be used to present the findings (Alimaw et al., 2019; Guan et al., 2023).

3.11 Reliability and Validity

Validity

- Content Validity: A comprehensive review of the literature and validated instruments used in comparable studies in low-income settings will serve as the foundation for the questionnaire's development (Du et al., 2022; Fikrie et al., 2021). This guarantees that the questions cover all of the important areas of cataract awareness and knowledge.

- Face Validity: To make sure the questions seem to measure what they are supposed to measure and are culturally appropriate, the questionnaire will be examined by experts,

including at least two senior ophthalmologists and a public health specialist from Bindura University of Science Education or the hospital.

- Pilot Study: To evaluate the questions' comprehensibility and clarity in the local context, a pilot study will be carried out. The questionnaire's structure and wording will be improved based on pilot feedback, increasing its validity.

Reliability

• Internal Consistency: The Kuder-Richardson Formula 20 (KR-20), which is suitable for dichotomous items (correct/incorrect), was used to evaluate the reliability of the knowledge section of the questionnaire. The items consistently measure the underlying construct of cataract knowledge if the KR-20 coefficient is 0.70 or higher (Tavakol & Dennick, 2011).

• Inter-rater Reliability: The principal investigator and research assistant received joint training on how to administer the questionnaire and record responses in a standardized manner in order to guarantee consistency between the two data collectors. To guarantee consistency, they conducted the initial interviews jointly.

3.12 Ethical considerations

The Declaration of Helsinki's ethical guidelines were strictly followed in the conduct of this study. The actions listed below were implemented:

- Approval: The Medical Research Council of Zimbabwe (MRCZ) and the Institutional Review Board (IRB) of Bindura University of Science Education was consulted for ethical approval and the ethical approval number is **BUSEREC/1090/2026**. The management of Bindura Provincial Hospital and the Provincial Medical Director of Mashonaland Central also granted permission.

- Informed Consent: The goal methods, risks and advantages of the study was succinctly and clearly explained to all prospective participants. They were made aware that participation is completely voluntary and that they can stop at any time without it affecting their medical care. Participants who are literate provided written informed consent. Verbal consent was recorded in front of a witness for individuals with low literacy (Creswell & Creswell, 2018).

- Anonymity and Confidentiality: No names or other identifying information that might connect a participant to their data was recorded. Participant codes were used throughout the analysis and reporting process and all data remained anonymous. Only the principal investigator have access to the password-protected computer and locked cabinet containing the gathered data.

- Beneficence and Non-maleficence: Participants in the study face little risk. Participation may indirectly increase their awareness of cataracts, which is the primary advantage. Participants who are discovered to have serious knowledge gaps or possible symptoms during the interview were given clear information and encouraged to consult a hospital clinician. The clinical management of the patient won't be affected by the study.

- Conflict of Interest: The principal investigator had no personal or financial conflicts of interest that might affect how this research is conducted or reported.

3.13 The Methodology's Limitations

Recognizing possible limitations were crucial since the cross-sectional design measures knowledge at a single point in time, causality cannot be established. The study was restricted to a single hospital, the results may not be as applicable to Zimbabwe's larger geriatric population. Participants responded in a way that they believe to be favorable due to social desirability bias. Interviewers were taught to foster a nonjudgmental atmosphere in order to lessen this.

CHAPTER 4

4.0 Introduction

This chapter presents the findings from assessing knowledge and awareness of cataracts among geriatric patients visiting Bindura Provincial Hospital. The data were collected from 422 geriatric patients aged 60 years and above using an interviewer-administered questionnaire (Creswell & Creswell, 2018). The results are organized according to the research objectives outlined in chapter 1, beginning with the sociodemographic characteristics of participants, followed by their knowledge of cataract risk factors, symptoms, and complications, sociodemographic factors and cataract knowledge (Fikrie et al., 2021; Alimaw et al., 2019). Descriptive statistics including frequencies, percentages, means, and standard deviations are presented (Setia, 2016). The data was analyzed using Microsoft Excel and SPSS.

4.1 Sociodemographic characteristics

4.1.1 Gender

Both male and females participated in the study with females represented more (54.5%) than males (45.5%) as shown in the Table 1.

Category	Frequency	Percentage
Female	230	54.5
Male	192	45.5
Total	422	100.0

Table 1: Gender of participants

4.1.2 AGE DISTRIBUTION

The age range of the participants was from 60 years and above as shown in Table 2 .The age range which had the greatest number of participants was 60-69 years which had 180 participants(42.65%) and the age range which had the least number of participants was 80 years and above which had 110 participants (26.07%).

Age	Frequency	Percentage
60-69 years	180	42.65
70-79 years	132	31.28
80 years and above	110	26.07
Total	422	100

Table 2 shows the age distribution of geriatrics who participated in the study

4.1.3 Education level

Fig 1 is a pictorial view which shows the educational level of geriatrics who participated .It is shown that most of the geriatrics (45.5%) did not attain formal education and few of them (5.9%)attained tertiary education.

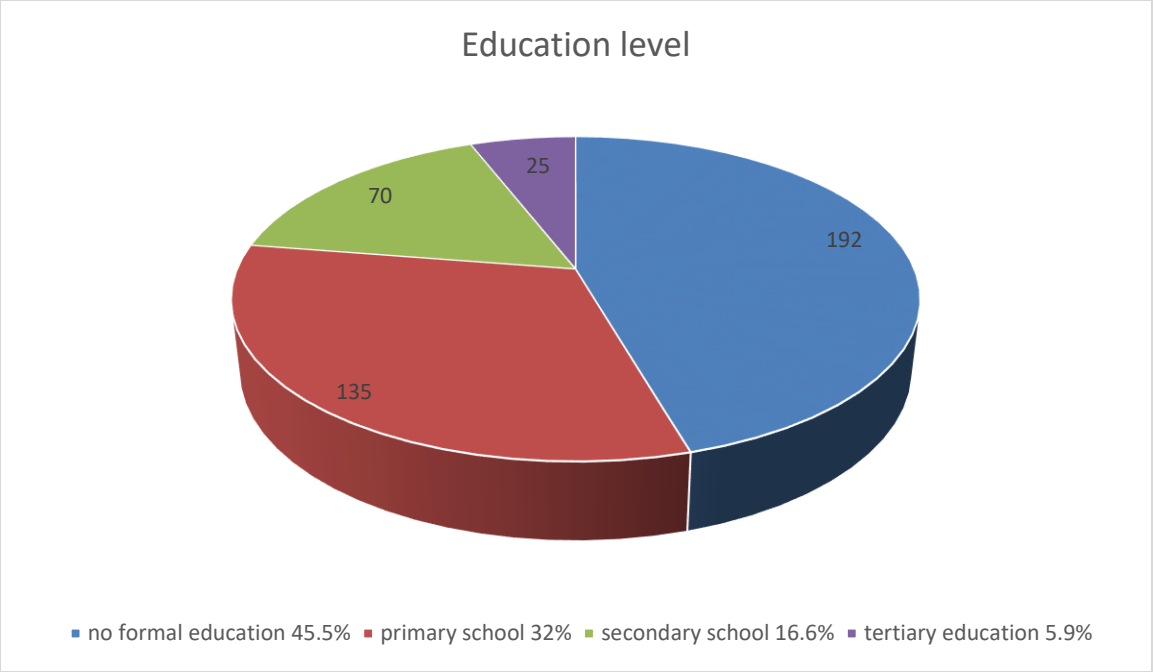

Fig 1:pie chart showing the geriatrics educational level

4.1.4 RESIDENCE

In terms of geographical distribution, the majority of the participants resided in rural area, accounting for 67,5% (n = 285) of the total sample. The remaining 32,5% (n =137) of the geriatric respondents were urban residents.

4.1.5 FAMILY HISTORY ABOUT CATARACTS

Regarding genetic and familial predisposition, 23.5% (n =99) of the geriatric participants confirmed a known family history of cataracts. Over a half of the respondents (50.9%, n = 215) reported no family history, while nearly a quarter of the sample (25.6%, n = 108) were unware of their family`s ocular history

4.1.6 HOW OFTEN GERIATRIC PATIENTS VISIT AN EYE CARE PROFESSIONAL

Table 3 shows that most of geriatric patients have never visited an eye care professional (62.56%) and few of them visit an eye care professional once a year or in every two years (13.03%)

	Frequency	Percentage
Never	264	62.56
When problem arises	103	24.41
Once a year/every 2 years	55	13.03
Total	422	100

Table 3: Shows how often geriatric patients visit an eye care professional

4.2 KNOWLEDGE OF CATARACTS

According to Fig 2 most of the geriatrics have heard about cataracts (91.2%, n = 385) while only 8.8% (n = 37) of the geriatric participants never heard of cataracts before.

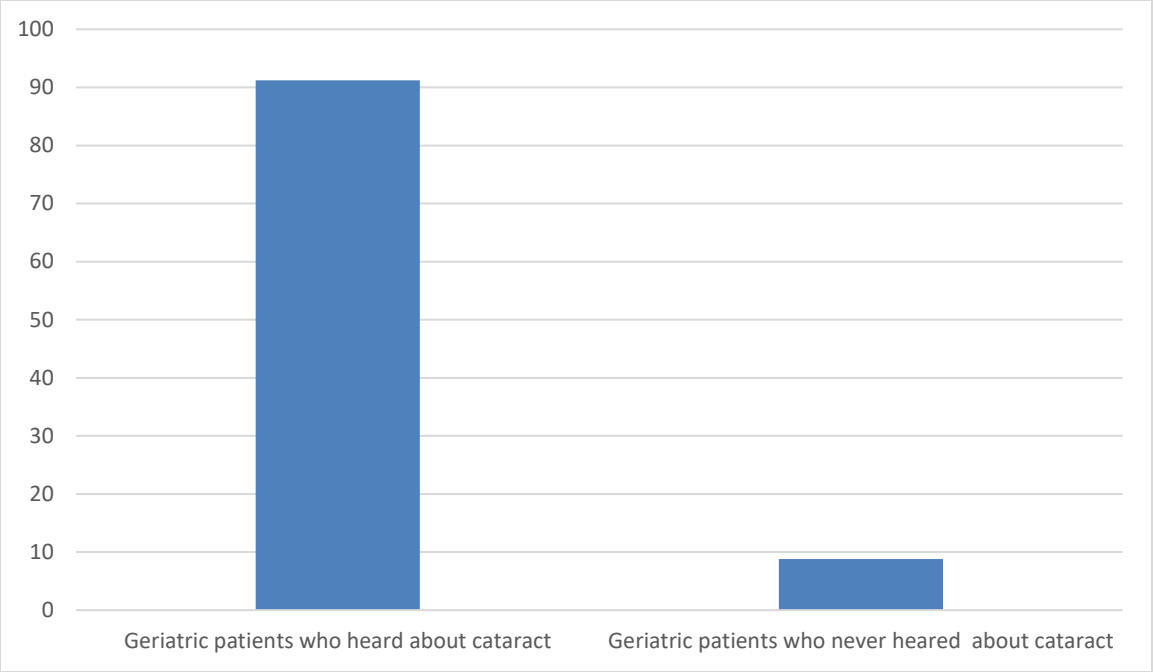

Fig 2:is a graph which shows the percentage of geriatrics who heard about cataracts before

4.2.1 Cataract definition

Among the 385 participants who had heard of cataracts, knowledge of the correct definition was assessed using a multiple-choice question (Alimaw et al., 2019). Table 4 presents the responses.

Response	Frequency (n)	Percentage (%)
Clouding of the eye`s lens	178	46.2
Growth on the eye	70	18.2
Aging of the eye	82	21.3
Don`t know	55	14.3

Table 4:a table which shows the participants knowledge about definition of cataract

4.2.2 ASSESSING KNOWLEDGE ABOUT THE CAUSES AND SYMPTOMS OF CATARACTS AMONG GERIATRICS WHO ONCE HEARD ABOUT CATARACTS

Participants who had indicated that they know about cataracts were asked to identify causes and symptoms from the list of options that were provided on the questionnaire.

Fig 3 shows that among geriatrics who once heard about cataracts, geriatrics who live in urban areas know about the causes and symptoms of cataracts more than those who reside in the rural areas .It shows that 53% of geriatric participants who live in urban areas know about the causes of cataracts whereas 21% of those who live rural areas know the causes of cataracts .According to Fig 3, fewer geriatrics who live in rural areas(15%) know about symptoms of cataracts as compared to those who live in urban areas(42%) .

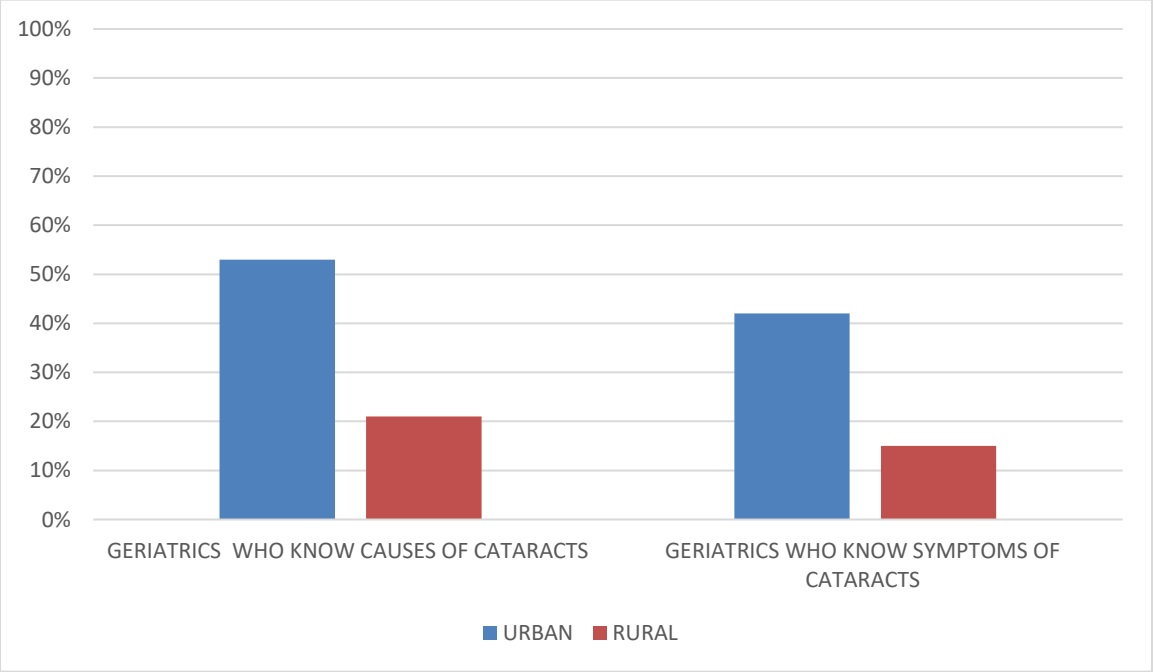

Fig 3: A graph which shows how geriatrics who heard about cataracts know about the causes and symptoms of cataracts

4.3 METHODS OF TREATMENT FOR CATARACTS

According to Table 5, most geriatrics believe that traditional herbs cure cataracts (42.18%), 26.54% believe that eyedrops cure cataracts ,22.99% of geriatrics believe that surgery cures cataracts and only 8.29% of geriatrics do not think that cataracts are curable.

	Frequency	Percentage
eyedrops	112	26.54
Surgery	97	22.99
Traditional herbs	178	42.18
It is not curable	35	8.29
Total	422	100

Table 5 shows methods of treatment for cataracts

Fig 5 is a graphical view which shows methods which geriatric patients at Bindura Hospital believe that they cure cataracts.

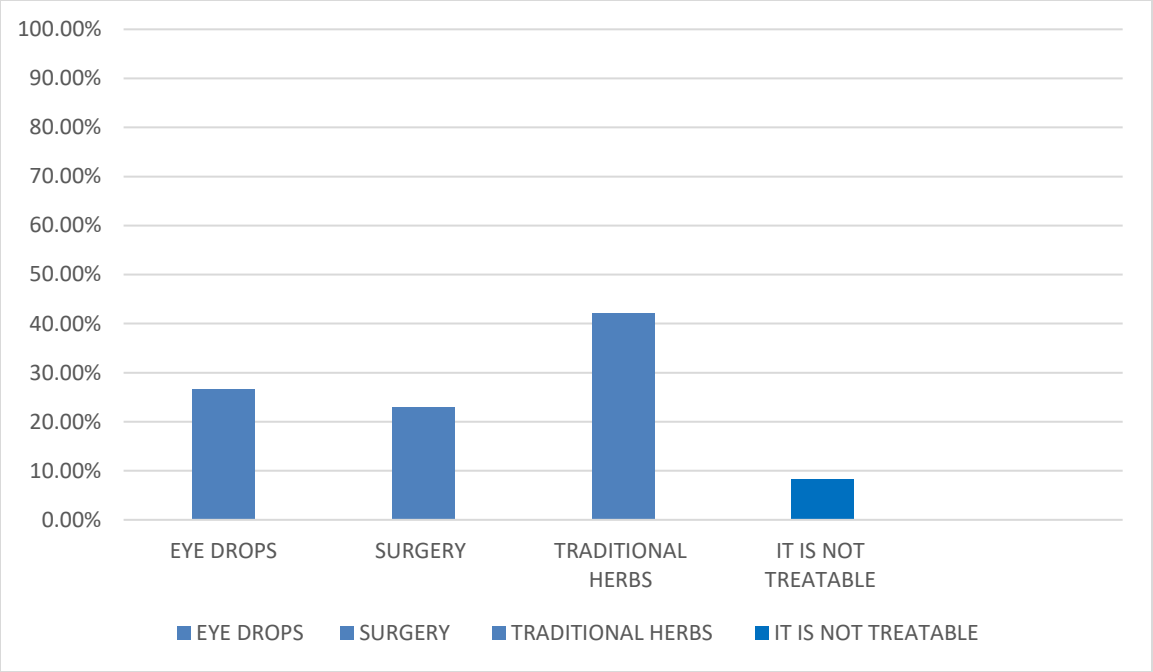

Fig 5: A graph which shows methods of treatment for cataracts

4.3.1 BARRIERS OF SEEKING TREATMENT CATARACTS

Most geriatric patients at Bindura Hospital do not seek treatment for cataracts because it is expensive as shown in Table 6.

	Frequency	Percentage
cost	211	50
Fear of surgery	67	15.88
Herbs will cure it	122	28.91
It is not necessary	22	5.21
total	422	100

Table 6: barriers of seeking treatment for cataracts

Fig 6 is a pictorial view which shows the reason why geriatric patients at Bindura Hospital do not seek treatment for cataracts.

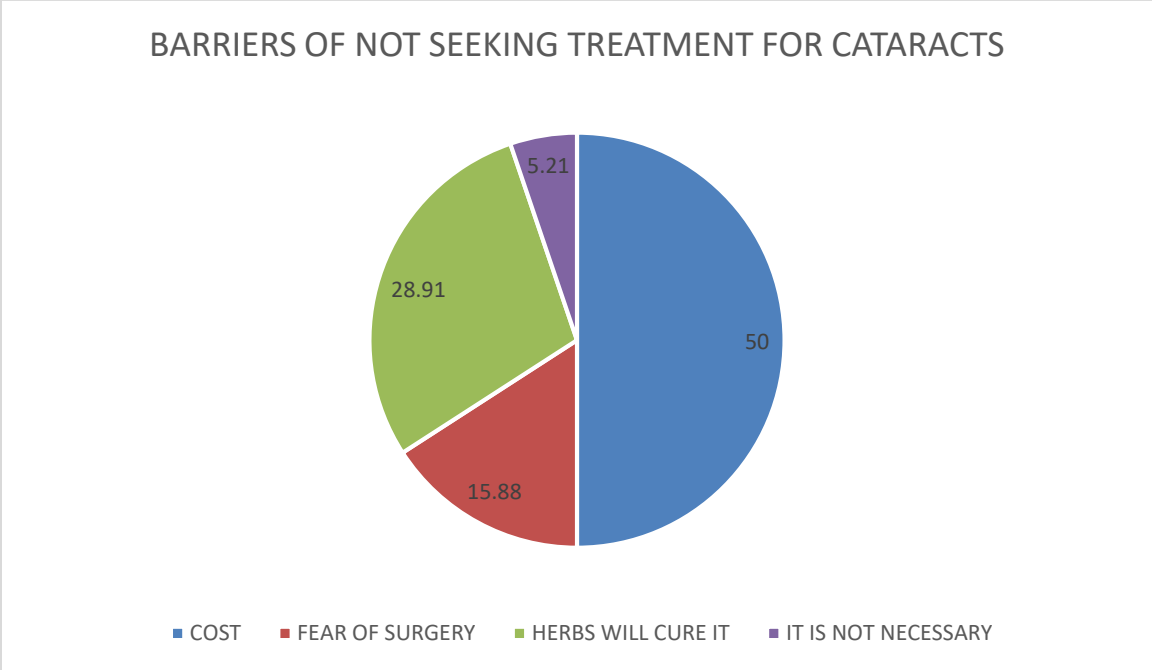

Fig 6 is a pie chart which shows the reason why geriatrics do not seek treatment for cataracts

4.4 Overall summary of key findings

91.2% of participants were aware of cataracts. Only 34% of the people who knew cataract were able to define in correctly. Urban dwellers knew more about the causes (52.8% vs. 21.2%) and symptoms (41.6% vs. 15%). 62.6% of people had never seen an eye care specialist. Only 23% correctly identified surgery as the cure, while 42.2% believed herbs cure cataracts. 50% of the participants mentioned cost as the primary obstacle. Higher education, living in an urban area, and having a family history of cataract are independent predictors of good knowledge.

CHAPTER 5

5.1 Introduction

The purpose of this chapter is to interpret the key findings that are presented in chapter 4 that assessed cataract knowledge among geriatrics patients at Bindura Provincial Hospital, Zimbabwe. It's a comparative discussion of these results and existing literature, highlighting implications for clinical practice and policy, acknowledging study limitations, and concluding with evidence based recommendations.

5.2 Discussion of key findings

The study sample comprised of 422 geriatric participants, with females (54.5%) outnumbered males (45.5%). This female predominance is consistent with the demographic profile observed in similar studies across sub-Saharan Africa. The imbalance reflects that women have longer life expectance and suggests that eye related health programs should target older females because they may face challenges such as high illiteracy levels, cultural and socioeconomic factors.

According to the study the most participants were of age range 60-69 years which contributed 42.56% of the participants, followed by 70-70 years (31.28%) and those 80 years and above contributed 26.07% of the participants. The decline participation with advancing in age is due to lower survival rates. However, the substantial proportion aged 80 years and above highlights the growing need for cataract services in the oldest age groups.

Most of the participants (91.2%) had heard of cataracts, indicating high level of general awareness and only 8.8% had never heard of the condition. This finding is consistent with studies from Ethiopia (Alimaw et al., 2019) and Bangladesh (Adnin et al., 2023). This is positive, but the 8.8% represent a vulnerable group that may miss early diagnosis. Health education should target this minority possibly through community health workers. However, awareness alone does not translate into accurate knowledge because only 34% could correctly define cataract as clouding of the lens. This outcome mirrors the findings in rural China (Du et al., 2022) and urban India (Misra et al., 2017) where there`s a gap between deep knowledge about cataracts and superficial awareness.

Urban residents who were able to correctly identify cataract causes were 52.8% while only 21% of rural residents were able to pick the correct answer and symptom knowledge was 42% in urban

versus 15% in rural areas. This disproportion is well documented in sub-Saharan Africa (Attafuah et al., 2024; Fikrie et al., 2021) and Asia (Guan et al., 2023; Li et al., 2020). The possible reasons include better access to health information, more eye care facilities, and higher literacy levels in urban areas (Tagoh et al., 2020)

The 24.41% who visit only when a problem arises indicates a reactive rather than preventive approach, which may lead to advanced cataracts and poorer surgical outcomes (Epstein et al., 2005; Chen et al., 2025) .These findings suggest that rural populations systematic disadvantages in accessing eye health information likely due to limited healthcare infrastructure, lower literacy rates , reduced exposure to health promotion campaigns and they rely more on traditional beliefs Geriatrics do not visit eyecare professional to do financial reasons and lack of perceived need . Interventions should include rural outreach programs and health educational campaigns done in local language. Regular eye exams are crucial for early cataract detection and management

Only 23% of the participants correctly identified surgery as the cure for cataracts as the cure for cataracts while 42.2% believed traditional herbs could cure cataracts and 26.8% believed eye drops were effective. This misconception is almost the same as to findings in Bangladesh (52% believed traditional herbs cure cataracts; Anin et al., 2023). The high reliance on traditional herbs (42.2%) reflects deep-rooted cultural beliefs and possibly limited access to accurate health information particularly in rural areas across sub-Saharan Africa where traditional medicine remains the first line of treatment for many conditions due to cultural familiarity, lower cost and geographic accessibility. This represents a critical gap in treatment knowledge that directly impacts health-seeking behavior. Medical evidence unequivocally states that surgery is the only effective cure for cataracts and neither herbs or eye drops reverse lens opacification (Cheng, 1989; Rao et al., 2011; Chen et al., 2025). Avoiding or delaying surgery can lead to vision loss and lens-induced glaucoma (Epstein et al., 2005). Cataracts generally grow harder over time making surgery more complicated. Furthermore, in diabetic patients, delayed surgery may mask diabetic retinopathy. Public health campaigns must clearly state that surgery is the only cure.

The most frequently cited barrier of seeking treatment for cataracts was cost (50%) consistent with studies from Ethiopia (Fikrie et al., 2021) and India (Misra et al., 2017), followed by belief that herbs will cure it (28.91%), fear of surgery (15.88%), and perception that treatment is unnecessary (5.21%). Cost being the top barrier aligns with known challenges in low-resource settings. Even if surgery is available indirect costs such as transport, accommodation and lost income for caregivers may be prohibitive (Guan et al., 2023; Li et al., 2020). Individuals living in poverty the reality of work today eat today means that seeking treatment even when available at low direct cost, may remain unaffordable when considering opportunity costs. The fear that surgery will spoil the eyes may not be entirely irrational as bad news travels fast and treatment failures can disproportionately impact community attitudes. This underscores the importance of quality assurance and community engagement in surgical programmers. The fear of surgery suggests that there is a need for counseling and education about modern cataract surgery's safety and success. Encouragingly, only 5.21% believed treatment was not necessary suggesting that most geriatric patients recognize the value of intervention when barriers are addressed.

5.3 Implications of the study

The outcomes point out that the present education is insufficient. The hospital administrators should incorporate structured cataract education into routine outpatient and ophthalmic department workflows. The strong link between family history and knowledge suggest that targeting families, not just individual patients could amplify educational reach (Chen et al., 2025). The rural-urban knowledge gap and the power of cost a s a barrier demand policy action. The ministry should contemplate subsidizing cataract surgery for geriatric patients, expanding health insurance to cover indirect costs, and prioritizing rural outreach programs (Attafuah et al., 2024; Who, 2025). This study provides the first baseline cataract knowledge data from Zimbabwe, filling a significant regional gap, filling a significant regional gap (Attafuah et al., 2024). Future research should test interventions based on these findings and expand to other provinces

5.4 Limitations of the study

The study is a cross-sectional design, it only measures knowledge at a single time point causality cannot be inferred (Setia, 2016; Cochran, 1977). Findings may not be generalized to all geriatric populations in Zimbabwe as it is a single-site setting (Creswell & Creswell, 2018). The

experiences of post-surgical patients could have provided valuable insight but they were excluded to avoid recall bias (Alimaw et al., 2019).

5.5 Conclusion

This study has assessed the knowledge and awareness of cataracts among geriatrics and it highlighted that awareness of cataracts is high among geriatrics at Bindura hospital but accurate knowledge of definition, cause, and symptoms is low. Also showed that rural residents have significantly poor knowledge the urban residents across all domains. Eye care utilization was also discovered to be low. Cost is seen to be the most frequently cited barrier in seeking treatment. High education, urban residence, and family history of cataract are independent predictors of good cataract knowledge.

5.6 Recommendations

Regarding Bindura hospital, they should conduct regular health education sessions in Shona Ndebele, the local languages, in the outpatient waiting areas (Ko Ko et al., 2021). Create straightforward visual pamphlets that highlight the fact that cataract blindness is reversible and that surgery is the only treatment (Syamsul et al., 2026). During each encounter with an elderly patient teach nurses to convey standardized messages (Guan et al., 2023).

To the ministry of health and childcare, for patients over 60 subsidize or eliminate user fees for cataract surgery (Du et al., 2022). Initiate a nationwide radio campaign to counter misconceptions regarding use of herbs and eye drops to treat cataracts (Adnin et al., 2023). Include eye health education into primary care and village worker training (Attafuah et al., 2024)

For future researchers, perform multi-site research in hospitals located in rural, semi-urban, and urban areas of Zimbabwe (Creswell & Creswell, 2018). Investigate the cultural beliefs that underlie the preference for traditional herbs through qualitative research (Fikrie et al., 2021). Use quasi-experimental designs to assess the efficacy of health education initiatives (Ko Ko et al., 2021; Syamsul et al., 2026).

For the community, collaborate with traditional leaders and faith based organizations to promote accurate cataract information (Tagoh et al., 2020). Train community health workers to provide cataract awareness and basic vision screenings, especially in rural areas (Guan et al., 2023).

5.7 Final summary

This study is the first empirical baseline assessment of cataract knowledge and awareness among geriatric patients at Bindura provincial hospital in Zimbabwe. While general awareness is 91.2%, accurate knowledge of cataract definition, causes, symptoms and the fact that surgery is the only cure is severely lacking. Rural residents, those with no formal education and people without family history of cataracts are the most vulnerable. Cost remains the most signi9ficant barrier to seeking treatment. Without targeted culturally sensitive health education and policy interventions to reduce financial barriers cataracts will remain the leading cause of preventable blindness in this population (WHO,2025). The recommendations provide a practical roadmap for clinicians, policymakers, and researchers to address the modifiable disease burden.

References

1. Adnin, F., Islam, M. J., Jannat, T., Uddin, M. N., Rahman, M. M., Barua, P., Aman, K. M. A., Akter, A., & Begum, J. (2023). Knowledge and awareness about cataracts among geriatric people of Chattogram Metropolitan Area, Bangladesh. ResearchGate.

2. Alimaw, Y. A., Hussen, M. S., Tefera, T. K., & Yibekal, B. T. (2019). Knowledge about cataract and associated factors among adults in Gondar town, northwest Ethiopia. PLoS ONE, 14(4), e0215809.

3. Attafuah, P. Y. A., Mordi, P., Aggrey, E. K., Quaicoe, A. S. P., & Sarfo, J. O. (2024). Prevalence and management of cataracts among older adults in Sub-Saharan Africa: a scoping review. BMC Ophthalmology, 24(1), 434.

4. Chen, S. P.,Woreta, F., Chang, D. F. (2025). Jama, 333(23), 2093-2103

5. Cheng, H. (1989). British Medical Journal, 298(66686), 1470

6. Cochran, W. G. (1977). Sampling techniques (3rd ed.). John Wiley & Sons.

7. Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). SAGE Publications.

8. Du, K., Guan, H., Zhang, Y., Ding, Y., & Wang, D. (2022). Knowledge of cataracts and eye care utilization among adults aged 50 and above in rural Western China. Frontiers in Public Health, 10, 1034314.

9. Epstein, S., Ahmad, M., Brocks, P., Mindel, J., Dualan, I., Asbell, P.A. (2005). The Lancet, 365(9459),599-609

10. Fikrie, A., Mariam, Y. G., Amaje, E., & Bekele, H. (2021). Knowledge about cataract and associated factors among adults in Yirgalem town, Sidama National Regional State, southern Ethiopia, 2020: a community based cross sectional study. BMC Ophthalmology, 21(1), 79.

11. Guan, H., Xue, J., Ding, Y., Zhang, Y., Du, K., & Yang, J. (2023). Factors influencing cataract awareness and treatment attitudes among the middle-aged and older in western China's rural areas. Frontiers in Public Health, 10, 1045336.

12. Ko Ko, K., Pumpaibool, T., Wynn, M. M., Win, Y., Kyi, T. M., & Aung, P. L. (2021). Door-to-door eye health education to improve knowledge, attitude, and uptake of eyecare services among elderly with cataracts: A quasi-experimental study in the central … Clinical Ophthalmology, 815-824.

13. Li, L.-S., Ge, Z.-Y., Lohfeld, L., Zhou, K., Zhou, W.-H., Cui, L.-L., Qu, J., & Liang, Y.-B. (2020). Knowledge, attitudes and practices related to seeking medical eyecare services by adults with moderate-to-severe visual impairment in rural Yueqing, Wenzhou, China: a cross-sectional study. International Journal of Ophthalmology, 13(7), 1115.

14. Misra, V., Vashist, P., Singh, S. S., Malhotra, S., Gupta, V., Dwivedi, S. N., & Gupta, S. K. (2017). Awareness and eye health-seeking practices for cataract among urban slum population of Delhi: The North India eye disease awareness study. Indian Journal of Ophthalmology, 65(12), 1483-1488.

15. Rao, N.G., Khanna, R., Payal, A. (2011). Current opinion in ophthalmology, 22(1), 4-9

16. Setia, M. S. (2016). Methodology series module 3: Cross-sectional studies. Indian Journal of Dermatology, 61(3), 261-264.Syamsul, T. D., Syam, A. J., Ridwan, R., Kasmawati, K., & Sudirman, S. (2026). Cataract awareness program: improving cataract prevention knowledge and behavior in the elderly. Jurnal Pengabdian Masyarakat Edukasi Indonesia, 3(1), 19-28.

17. Tagoh, S., Kyei, S., Kwarteng, A.M., Aboagye, E. (2020). Journal on current ophthalmology, 32(4), 402-407

18. Taherdoost, H. (2016). Sampling methods in research methodology; how to choose a sampling technique for research. International Journal of Academic Research in Management, 5(2), 18-27.

19. Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. International Journal of Medical Education, 2, 53-55.

20. World Health Organization [WHO]. (2025). World report on vision. World Health Organization.

APPENDICES

RESEARCH ETHICS COMMITTEE

P. Bag 1020
BINDURA, Zimbabwe
Email : rid@buse.ac.zw

BINDURA UNIVERSITY OF SCIENCE EDUCATION [BUSE]

9 June 2026

Tadiwanashe Zvikusha &Charlotte Kapasura
Bindura University of Science Education
Faculty of Science
P. Bag 1020
Bindura

Dear Tadiwanashe Zvikusha & Charlotte Kapasura

RE: INSTITUTIONAL RESEARCH COMMITTEE ETHICAL CLEARANCE-APPROVAL NUMBER: BUSEREC/0190/2026

Your application for research ethical clearance related to the topic '**Assessing knowledge and awareness of cataracts among geriatric patients at Bindura Provincial Hospital.**' has been approved and allocated approval Number: **BUSEREC/0190/2026**. You are to quote this approval number for all correspondences inclusive of consent forms and any other documents as and when appropriate. The approval period is as stated below:

Type of Meeting	:	19th Research Ethics Committee meeting
Approval Date	:	09/06/2026
Expiry date	:	08/06/2027

The project will automatically discontinue on the expiry date. You can apply for renewal three months before the expiry date. The renewal application should be accompanied by a progress report.

You are not expected to make any changes/adjustments to the protocol including the consent documents. Any trials involving drugs, devices and biologics require approval of the Medicines Control Authority of Zimbabwe before commencement. All problems to do with the safety of participants must be reported to BUSEREC within three (3) working days.

Upon termination of the study, a report has to be submitted to BUSEREC.

Yours sincerely

BUSEREC CHAIRPERSON

Supervisor:Dr A Mashoko

Supervisor’s Signature :A.Mashoko

Chairperson: Dr C N Mtuwa

Chairperson’s Signature : 