TRADITIONAL EYE TREATMENTS AMONGST PATIENTS CONSULTING AT EYE CLINIC, AT THE LETABA REGIONAL HOSPITAL, LIMPOPO PROVINCE OF SOUTH AFRICA

by

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DECLARATION

I hereby declare that the mini-dissertation hereby submitted to the University of Limpopo, for the degree of Master of Public Health on “Traditional Eye Treatments Amongst Patients Consulting At Eye clinic, At The Letaba Regional Hospital, Limpopo Province of South Africa” has not previously been submitted before by me for a degree at this or any other university; that it is my work in design and in execution, and that all material contained herein has been duly acknowledged.

……. …….

Ms Rakoma TF Date

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To the almighty God who had planned this journey for me even before my existence, and He made it possible (Luke 1v37). Thank you Jehovah Jireh for the favour bestowed upon my life.

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DEDICATION

This dissertation is dedicated to the Almighty God for He is my strength, through him all things are possible.

Thank God for my late grandmother Flora who inspired to study harder and sister Dr Monica Rakoma who contributed to my language symbols; my parents Mr and Mrs MM Raolane for their contribution and encouragement towards my education.

ABSTRACT

The title of the study: Traditional eye care treatments amongst patients consulting at Eye Clinic, at the Letaba Regional Hospital, Limpopo Province of South Africa.

Background: The use of traditional eye medicine (TEM) is increasingly widespread across the world. TEM use can be described as damaging or harmless depending on the type of substances used. These may include instillation of plant or animal blends into the eyes. The treatment may introduce infection to the already damaged eye or cause irreversible blindness. Most of the previous studies associated the use of TEM with poor visual outcome on the eye. These complications may worsen the burden of blindness. The study will provide eye care practitioners with information on awareness and education regarding the effects of traditional eye medicine. It will assist the authorities in the collaboration of traditional medicine (TM) and the western health system.

Objectives: To describe traditional eye medicine, the prevalence of use and the treatment outcome among patients consulting the Eye Clinic, at the Letaba Regional Hospital.

Methodology: The study design used is quantitative cross sectional. The researcher employed convenient sampling. A total of hundred patients participated in the study, every patient coming to the clinic was considered until the sample size of 100 was reached. The data was collected using a structured self - administered questionnaire as a tool. The demographic characteristics included age, gender, the level of education, distance between health facility and home.

Results: The study comprised of 59% of females and 41% were males. The study showed that 22 out of 36 (61.1%) females and 14 out of 36 (38.9%) of males used TEM the most. The respondents aged between 50 – 60 years were the most users of TEM. The prevalence of TEM use was found to be 36% among the participants. The most frequently experienced symptoms among the respondents was pain at 34.3% while the most-commonly used TEM was sugar and water solution followed by herbal mixtures. The study showed that 49% of the study participants thought TEM is inexpensive and 44% reported that hospitals are too far away. Relationships were measured using Chi-square (p-value < 0.05) between the variables and the following associations were found: type of eye medicine used and religion of the participants (p = 0.03); Type of eye medicine used in the past and eye symptoms commonly experienced (p = 0.01); Type of eye medicine used and treatment benefits (p = 0.01); sources of information on eye health and type of eye medicine sought in the past (p = 0.01).

Conclusion: TEM is commonly used in communities consulting at the Letaba Regional Hospital even though the treatment outcome is generally not beneficial. Awareness should focus more on promoting good eye health in order to prevent blindness. The Department of Health and communities should be made aware of the harmful effects of traditional remedies. Since the effects of traditional medicine are not documented it is important that more research be conducted in order to promote the best eye care treatments and discourage the harmful practices of TEM.

Keywords: Treatment outcome, Blindness, Awareness

TABLE OF CONTENTS **PAGE**

Declaration i
Acknowledgement ii
Dedication iii
Abstract iv
Table of contents vi
Definition of concepts x
List of abbreviations xii

CHAPTER 1: INTRODUCTION

1.1. Background of the study 1
1.2. Research problem 3
1.3. Purpose of the study 3
1.3.1. Aim of the study 3
1.3.2. Objectives of the study 3
1.4. Research question 4

CHAPTER 2: LITERATURE REVIEW

2.1. Introduction 5
2.1.1. The prevalence of TEM use 5
2.1.2. Types of TEM used 6
2.1.3. Ocular effects associated with TEM use 7
2.1.4. Factors associated with TEM use 9
2.2. Conclusion 9

CHAPTER 3: RESEARCH METHODOLOGY

3.1. Introduction 10
3.2. Study design 10
3.3. Study site 10
3.4. Study population 11
3.5. Sampling 11
3.6. Inclusion and exclusion criteria 11
3.7. Data collection 11

3.8. Pre-test 12
3.9. Data analysis 12
3.10. Measures of reliability, validity and bias. 12
3.10.1. Reliability 12
3.10.2. Validity 13
3.10.3. Bias 13
3.11. Ethical considerations 13

CHAPTER 4: RESULTS

4.1. Introduction 14
4.2. The demographic characteristics 14
4.2.1. The distribution of participants by gender 14
4.2.2. Gender and type of eye medicine sought in the past 15
4.2.3. Age distribution of the participants 15
4.2.4. Age and type of eye medicine sought in the past 16
4.2.5. Religion of the participants and type of eye medicine sought in the past 17
4.2.6. Highest education attained by participants and type of eye medicine sought in the past 18
4.2.7. Residence of the participants and type of eye medicine sought in the past 19
4.2.8. Occupation of the participants and type of eye medicine sought in the past 19
4.3. The prevalence of type of eye medicine sought in the past 20
4.4. Eye symptoms commonly experienced by the participants and type of eye medicine sought in the past 21
4.5. The most commonly used traditional eye medication 21
4.6. Type of traditional eye medication used and symptoms frequently experienced 22
4.7. Route of administration and type of eye medicine sought in the past 23
4.8. Reasons for choosing to use traditional eye medicine 24
4.9. Type of eye medicine sought in the past and treatment benefits 24
4.10. Sources of information regarding eye health 25

CHAPTER 5: DISCUSSIONS

5.1. Introduction 27
5.2. Limitations of the study 32
5.3. Recommendations 32
5.4. Conclusion 32

6. BUDGET 34

REFERENCES 35

LIST OF APPENDICES

Appendix A: Consent form (English) 40
Appendix B: Consent form (Pedi) 41
Appendix C: Consent form (Tsonga) 42
Appendix D: Questionnaire (English) 43
Appendix E: Questionnaire (Pedi) 49
Appendix F: Questionnaires (Tsonga) 55
Appendix G: Request to collect data 61
Appendix H: Approval from the Department of Health 62
Appendix I: Ethics clearance certificate 63
Appendix J: Proof-read certificate 64

LIST OF TABLES

Table 4.1 shows cross tabulation between gender and type of eye medicine sought in the past 15
Table 4.2 shows cross tabulation between age and type of eye medicine sought in the past 17
Table 4.3 shows cross tabulation between religion of the participants and type of eye medicine sought in the past 17
Table 4.4 shows cross tabulation between the highest education attained by participants and type of eye medicine sought in the past 18
Table 4.5 shows cross tabulation between the residence of the participants and type of eye medicine sought in the past 19
Table 4.6 shows cross tabulation between occupation of the participants and type of eye medicine sought in the past 20

Table 4.7 shows cross tabulation between eye symptoms commonly experienced by the participants and type of eye medicine sought in the past 21
Table 4.8 shows the most commonly used traditional eye medication 22
Table 4.9 shows cross tabulation between type of traditional eye medication used and symptoms frequently experienced 23
Table 4.10 shows cross tabulation between route of eye medicine administration and type of eye medicine sought in the past 24
Table 4.11 shows reasons for choosing to use traditional medicine 24
Table 4.12 shows cross tabulation between type of eye medicine sought in the past and treatment benefits 25
Table 4.13 shows cross tabulation between sources of information on eye health and type of eye medicine sought in the past 26
Table 6.1 shows budget allocations 34

LIST OF FIGURES

Figure 4.1.1: The distribution of participants by gender 14
Figure 4.1.2: Age distribution of the participants 16
Figure 4.1.3: The prevalence of the type of eye medicine sought in the past 20

DEFINITION OF CONCEPTS.

For the purpose of this research, the following terms will be defined:

Bias: any conditions or influence that may cause data distortion (Leedy & Ormrod, 2013).

Biomedicine: the principle of based on natural science such as biology, biochemistry and etc. (Saunders, 2007).

Cauterization: burn the skin of a wound to stop bleeding or prevent infection (Concise Oxford English Dictionary, 2011). In this study cauterization means to sear with hot iron in treatment for wounds.

Collaboration: work jointly in an activity or project (Concise Oxford English Dictionary, 2011).

Confidentiality: the right to keep identity of the research subjects is known only to the study investigator (Brink, 2006).

Healthcare Workers: all people engaged with the primary intend to enhancing health (WHO, 2006).

Indigenous: originating or occurring naturally in a particular native place (Oxford, 2013)

Knowledge: the capacity to acquire, retain and use information; a mixture of comprehension, experience and skill (Kaliyaperumal, 2004).

Medication: a drug or other substance that is used as medicine to remedy an illness (Mosby's Pocket Dictionary of Medicine, 2006).

Ocular: pertaining to the eye (Mosby's Pocket Dictionary of Medicine, 2006).

Ophthalmic: pertaining to the eye (Mosby's Pocket Dictionary of Medicine, 2006).

Practices: the application of rules and knowledge that leads to action (Kaliyaperumal, 2004).

Traditional: belief or customs passed from one generation to the next (Oxford English Dictionary, 2008).

Traditional medicine: different practices of health, approaches and beliefs including plant, animals, or mineral medicine, spiritual, exercises used separately or combined to cure, diagnose or prevent diseases (WHO, 2002 -2005).

Traditional eye medicine: health practices in which natural or indigenous treatments are applied by members of the community to treat any eye disease (Nyathirombo et al, 2012).

Treatment: It is the process of dealing with a person animal or thing (Oxford, 2008). In this study treatment means medicinal care of eye conditions.

Visual impairment: Decrease or severe reduction in vision that cannot be corrected with standard glasses or contact lenses and reduces an individual's ability to function at specific or all tasks. (SA National Department of Health, 2002).

LIST OF ABBREVIATIONS

DOH: Department of Health

HW: Healthcare workers

SA: South Africa

SPSS: Statistical Package for Social Sciences

TCM: Traditional Chinese Medicine

TEM: Traditional Medicine

TM: Traditional Medicine

WHO: World Health Organization

CHAPTER 1: INTRODUCTION

1.1. Background of the study.

The World Health Organization (WHO, 2013a) estimated that 80% of the population in Africa makes use of traditional medicine. WHO (2001) defines traditional medicine (TM) as a sum of health treatments, approaches, knowledge and beliefs incorporating plant, animal and mineral based medicines applied for treatment, diagnosis and prevention of illnesses as well as maintaining the mental and physical well-being. Other terms frequently used are indigenous, unorthodox, alternative, ethnic or fringe (Omolase & Mahmoud, 2008).

The use of traditional medicine (TM) in the treatment of eye conditions is also increasing across the world (Eze, Chuka-Okosa & Uche, 2009). TM is the most used form of eye care treatment in Africa and other parts of the world. These are health practices in which natural or indigenous treatments are applied by members of the community to treat eye diseases. The use of TM is basically for the diagnosis, management, prevention of diseases as well as for the maintance of well - being (Iqbal, Orakzai & Ayaz, 2012). A significant number of people were found to approach the hospital for treatment when the traditional medicine as their first choice has failed (Nyathirombo, Mwesingye & Mwaka, 2012).

The therapeutic use of traditional eye medicine (TEM) has been classified as either being toxic or non-toxic (Omolase & Mahmoud, 2008). The treatment in many instances may introduce an infection or reduce vision to the already damaged eye. This may result in irreversible damage or blindness to the visual system as explained by Chana (2007). The use of TEM was found to be questionable particularly on the basis that the treatment might conceal the extent of the eye disease when applied on the eye (Omolase & Mahmoud, 2008).

Eye care personnel in many different parts of the world bear witness to eye complications (Omolase & Mahmoud, 2008). WHO (2013a) also reported adverse effects and treatment interactions due to the use of TEM. Chandrasekhar, Sudha, Praneeth, Mahaboob & Shaik (2014) also confirmed that the application of TEM results in eye diseases such as purulent discharges, impaired vision etc. and these complications were reversed by the use of western eye treatments. These complications contribute towards the burden of blindness in the world. The prevalence of blindness in the world is estimated to be 0.75% and majority (80%) of the

causes are regarded to be preventable or treatable. WHO (2013b) found that the worldwide burden of blindness due to avoidable conditions is increasing in the world and might double by the year 2020, unless appropriate interventions to arrest the trends are implemented.

These increasing trends in the use of TEM might suggests that the health system does not fulfil the requirements of the people as reported by Eze et al (2009). Various studies reported that the widespread use of TEM could be attributed to its affordability as the primary health service (Abdullahi, 2011) while Ntim-Amponsah, Amoaku & Ofosu-Amaah, 2005) found that communities residing in areas where the healthcare facilities are not accessible tend to find other methods of treatments. These barriers influence the choices of the communities as to where to consult. Regardless of these barriers communities have absolute trust in the treatments provided by of traditional healers (Megbelayin & Babalola, 2015).

The degree of disability due to these visual impairments have widespread social and economic effects on the quality of life of the affected individuals, their families and the community at large in South Africa (SA) In response to this situation, the Department of Health (DOH) adopted the WHO global initiative “Vision 2020” (The right to sight campaign) in an effort to eradicate the causes of blindness. The objective of the initiative is to prevent blindness due to eye conditions that can be treated or avoided by the year 2020 (Department of Health, 2002).

The DOH in SA further developed global action plan to ensure and monitor the implementation of Vision 2020 policies in an effort to reduce blindness (WHO, 2013b), while information regarding TEM is not documented in many sub-Saharan African countries (Courtright, 2000). Lack of recorded information regarding TM services contributed to the absence of standardised procedures. Some of the sources suggested that inventory regarding TEM may be difficult to gather as most practitioners are not willing to share the identities of the medicine they use (Ntim-Amponsah et al, 2005). The available reports credited the effects of TEM use to lack of dosage measurements, shortage of eye specialists and also the period taken by the patient to arrive in particular hospital because they are still applying traditional methods of treatment (Ntim-Amponsah et al, 2005). This study sought to determine the prevalence of TEM use, the types of TEM used and TEM treatment outcome among eye patients consulting at the Letaba Regional Hospital, Limpopo Province in South Africa.

1.2. Research problem

The majority of eye conditions lead to irreversible blindness of which if treated early and correctly could be prevented, hence WHO (2013b) embarked on “Vision 2020” initiative which seeks to eradicate avoidable and treatable blindness by the year 2020. Living without eyesight could be worthless to human beings (Hardy, 2007). The observation made by the researcher who is an eye care practitioner at the Letaba Regional Hospital, is that patients are admitted to Eye clinic with ocular complications due to delayed presentation to the Eye Clinic amongst other reasons. This could be as a result of the availability of several alternative treatments in which TEM use forms part of the preferred first line treatment. During history taking the patient disclose the use of TEM. These treatments may cause irreversible complications to the eye including blindness (Nyathirombo et al, 2012).

The researcher became motivated to undertake this study with an intention to investigate the traditional eye medicine use amongst patients in order to assist in contributing towards achieving the objectives of Vision 2020. The report shows that a total number of patients consulting at the Letaba Regional Hospital Eye Clinic on average is 500 per month and about 40 patients admit to using traditional eye medicines prior to consulting at eye clinic. The numbers might not be a true reflection as patients will not always disclose the use of TEM. Traditional healers in many countries are the first place where patients consult before presenting to hospitals (Unite for Sight, 2000).

1.3. Purpose of the study

1.3.1. *Aim of the Study*

To determine the use of traditional eye medicines among patients consulting the Eye Clinic, at the Letaba Regional Hospital.

1.3.2. *Objectives of the study*

To determine the prevalence of TEM use among patients consulting the Eye Clinic, at the Letaba Regional Hospital.

To describe the types of TEM used among patients consulting the Eye Clinic, at the Letaba Regional Hospital.

To determine the treatment outcome of TEM use among patients consulting the Eye Clinic, at the Letaba Regional Hospital.

1.4. Research question

What are the traditional eye medicines used by the patients consulting the Eye Clinic, at the Letaba Regional Hospital?

CHAPTER 2: LITERATURE REVIEW

2.1. Introduction

This chapter summarises what has been researched regarding the use of traditional eye medicine among patients. The researcher used search engines provided by the University of Limpopo with the assistance of a librarian because there were not many studies available. Eze et al (2009) reviewed several studies and regarded the prevalence of TEM be high around the percentage of 40 and low around 10. This literature review consist of following subheadings: the prevalence of TEM use, types of TEM used, ocular effects associated with TEM use and risk factors associated with TEM use.

2.1.1. The prevalence of TEM use

A study was conducted by Eze et al (2009) in a tertiary eye care centre in Nigeria to determine the incidence, socio-demographic, and clinical correlates of TEM use in a population of newly-presenting ophthalmic patients. A total of 2,542 patients took part in the study (males, 48.1%; females, 51.9%). The results showed that 149 patients used TEM for eye conditions. The TEMs used were chemical substances (57.7%), plant products (37.7%), and animal products (4.7%). TEMs were used on account of vision loss (58.5%), itching (25.4%) and eye discharges (3.8%). The main reasons for using TEM were reported treatment effectiveness (67.1%) and 28.2% believed in the strength. TEM use was significantly associated with younger age ($p < 0.05$).The prevalence of TEM use among the participants was found to be very low (5.9%). This could be due to the setting the study because the study was conducted at a tertiary hospital, ophthalmology department which meant that the society had access to eye specialists. Therefore TEM would be the last resort.

This research sought to evaluate the knowledge, attitude, and practice of institutional Traditional Chinese Medicine (TCM) practitioners in the treatment of dry eye in Singapore. A questionnaire was generated to address the study aims and sent to TCM practitioners listed in the Singapore TCM practitioners' board database. About 2309 participants registered with the Singapore TCM practitioners' board, 1929 participants were contacted. The number of returned questionnaires was 407 out of 1929 sent envelopes, accounting for a response rate of 21%. About three quarters of respondents believed that that TCM was effective in the treatment of dry eye (Lan,

Yee Lee, Xin Lee & Tong, 2012). Majority of the respondents (79%) did not send back the responses meaning that the inferences drawn from the study did not represent the majority of the participants. Acupuncture and herbal medicine were the most-common treatments in dry eye therapy.

2.1.2. Types of TEM used

A study was conducted in South of India Hospital to investigate the nature and frequency of use of traditional eye medicine (TEM) for treating corneal ulceration in patients. The use of TEM by corneal ulcer patients presenting to this hospital was recorded for two months in 1996. The study reported that 283 patients registered to take part and 135 (47.7%) was found to have used TEM. Common forms of TEMs used were human breast milk used by 61 (45.2%) patients, leafy matter used by 40 (29.6%) patients, castor oil used by 16 (11.9%) patients, and hen's blood used by 8 (5.9%) patients (Prajna, Pillai, Manimegalai & Srinivasan, 1999). The nature of the eye disease affected the results as patients with a history of trauma were found to be more likely to use TEM.

Ahmad, Khan, Qureshi, Khan, Ali, & Gilbert (2009) conducted a study in Pakistan, focusing on the use of traditional home remedies and TEM. Face to face interviews were conducted with 16 teachers, 8 females and 8 males. Participants listed the types of TEM they used often and their responses were recorded. Eighteen remedies were identified as following: turmeric paste, black tea, honey, rose water etc. One of the participants reported using goat's milk for discharging eyes. Others used peppers and surma to sharpen vision (Ahmad et al, 2009). The results showed that eye remedies were popular with the participants. The most frequently mentioned symptoms compelling TEM were itching, redness, swelling, and pain. The sample of the study comprised of teachers only, the findings did not represent the general population because only one type of profession was interviewed.

An investigation into the prevalence of harmful/traditional medication use in traumatic eye injury was conducted retrospectively among patients with traumatic eye injury in a tertiary institution, Ekiti State University Teaching Hospital, from January to December 2009. The medical information of patients with history of eye trauma who presented to the eye clinic were reviewed. The demographic information of the patients, nature of the ocular trauma, substances applied to the eyes, visual acuity at presentation and after treatment were extracted. A total of 1420 new

patients took part in the study. About forty eight (3.4%) reported that they have used numerous constituents in their eyes after suffering eye injury. Substances applied include Kerosene 25%, cassava water 20.8%, breast milk 12.5%, personal urine 10.8%, and cow urine 8.3%. Almost half of the patients 23 (47.9%) presented with low vision and after medical treatment there was visual improvement in 22 (45.8%) of the patients. Therefore Kerosene and Cassava water were the common substances used. The use of these harmful and traditional eye medications on injured eyes can further reduce the visual prospects of recovery regardless of medical intervention (Ajite & Fadamiro, 2013). The result shows a higher number of the study participants used TEM compared to other studies. This results could have been influenced by the nature of the disease, trauma or injury to the eye necessitated the use of TEM because people believe it is associated with witchcraft.

2.1.3. Ocular effects associated with TEM use

Shenoy, Bialasiewicz, Khandekar, Al Barwani, & Al Belushi (2009) conducted a study to find out a range of ocular effects subsequent to the use of traditional medication. Three patients that used TEM were examined for several eye diseases at a tertiary care teaching hospital in the Sultanate of Oman between 2003 and 2004. The first patient had chalazion; then applied a plant extract from 'Calotropis procera' which advanced the eye condition to corneal edema which caused reduced vision in the left eye. The second patient had a fungal corneal ulcer after sustaining injury to the eye then applied honey for pain relief. The patient developed recurring infections that resulted in corneal vascularization. The third patient was a five-year-old child who was treated with 'wasam', a procedure for healing by cauterization which indirectly results in increased intraocular inflammation causing secondary glaucoma, poor vision and ulcers on the head. Regardless of the poor visual outcome these findings did not prevent the Omanis from flocking the traditional healers. Traditional medicine was found to be used by many in Oman even when it seems to cause more harm to patients. The sample size included only three patients over a period of a year, the researchers should have included the treatment outcome of the medical interventions.

A case study was conducted by Fraunfelder (2004) to review the clinical significance of herbal and nutritional agents in relation to the ocular side effects. Statements of ocular side effects or systemic side effects due to herbal eye medicines and nutritional supplements were collected from spontaneous reports submitted to WHO. A review of the world's literature was performed to

obtain additional case reports and insights into adverse ocular reactions. The National Registry of Drug-Induced Ocular Side Effects received 263 reports, in addition to 60 reports from the literature associating herbal medicines and supplements with significant ocular side effects. The data collected found the following: retinal haemorrhage from Ginkgo; retro bulbar haemorrhage Ginkgo (*Ginkgo biloba*); blurred vision and miosis due to 5-hydroxytryptophan, dry eyes and cystoid macular oedema due to niacin; vision, temporary loss of mountain laurel (*Kalmia latifolia*); visual disturbances due to chaulmoogra (*Hydnocarpus species*). The contribution of minerals and vitamins from the intake of food besides the supplements themselves should have been controlled so that it does not affect the reports of the study.

A study conducted in South Africa on Pterygium occurrence and the use of traditional eye drops by Anguria, Ntuli, Interewicz, Carmichael (2012). The study was a prospective case-controlled study. Data collected included interviews, eye examination and multivariate analysis. The results were as following: 79 (52.6%) cases and 60 (40%) controls used traditional eye drops. Ten cases (6.6%) and 26 controls (17.3%) had unstable tear film due to TEM use. Forty-six cases (30.6%) and 15 controls (10%) reported a positive family history. Groups of 3 - 5 pterygium cases in a household occurred in 36 of 51 pterygium families (70.5%) versus 1 of 50 controls (2%). Pterygium occurrence was associated with the use of traditional eye drops (Anguria et al, 2012). The study did not include all the possible risks associated with pterygium occurrence and residing in rural areas as most of the patients referred to Mankweng Hospital are from the far rural areas. Other factors that might contribute to the development of pterygium for example smoke from household firewood, the surrounding vegetation and the skin pigmentation of the participants were not mentioned.

Chandrasekhar et al (2014) reported that 50 patients with keratoconjunctivo uveitis consulted the department of Ophthalmology in a teaching hospital of Andhra Pradesh during the month of June 2012. Patients aged between 35-55 years reported to have used traditional eye medication (leaf extracts). After 3 days of applying the same extract they developed various eye complications including purulent conjunctivitis in 25 patients, keratitis in 15 patients, corneal ulcer in 1 patients, and iridocyclitis in 9 subjects All patients reported the following symptoms redness, pain itching, discharge, poor vision, and white spots.

2.1.4. Factors associated with TEM use

Another study was conducted on the incidence and risk factors regarding traditional eye medicine use among patients at a Guiness Eye Centre in Nigeria. About 500 patients were interviewed, in which 66 (13.2%) had used TEM. The commonly-used TEM were liquids from plant leaves and roots as well as concoctions of unknown origin. Conjunctivitis and cataract constituted 54.5% of the eye problems; 15 (22.7%) patients had visual impairment while five (7.6%) other patients were blind. Risk factors associated with TEM use included age (above 50 years); distance from the hospital and lack of education among the respondents. (Nwosu & Obidiozor, 2011). The prevalence of TEM use was found to be low 13.2% compared to other studies reviewed by Eze et al (2009). These findings could have been influenced by the barriers (distance) because the majority of TEM users who reside in rural areas are not able to reach the eye centre.

2.2. Conclusion

Studies in different settings were reviewed on the use of traditional medicine for various eye conditions. Most of the studies available are from Middle of Africa and Asia. Literature in many other countries and South Africa is not documented. Various types of plant and animal mixtures were used, depending on the characteristics of the population and its settings. Majority of the studies reviewed associated TEM use with the worsening eye diseases to an extent that visual impairment or blindness may result.

CHAPTER 3: RESEARCH METHODOLOGY.

3.1. Introduction

This chapter assessed the systematic processes involved when conducting a scientific research so that the information collected answers the research questions and also in which the numerical data was used to obtain information about the area (Burn & Groove, 2009).The research methodology used in this study was quantitative survey. The study included all patients that presented at eye clinic at the Letaba Regional Hospital, in July 2015.

3.2. Study design

The design used in this study was cross sectional, which implies that data about the past was collected at a particular time with different study subjects (Brink, 2006:105). Self-administered questionnaire was utilized. All patients coming to the Eye clinic were presented with a questionnaire to complete. The researcher administered the tool with the assistance of two other eye care personnel. The respondents who had difficulty reading due to reduced eyesight or the level of literacy were assisted to complete the questionnaire. The instrument was translated into two local languages namely Xitsonga and Sepedi. The tool contained demographic questions, history of eye disease, and the type of eye medicine that was sought in the past.

3.3. Study site

The study was conducted at Letaba Regional Hospital situated in Mopani District, Limpopo Province, South Africa. The hospital is a referral hospital for the 6 hospitals in Mopani District; namely Sekororo Hospital in the Maruleng Sub-District, Dr. CN Phatudi and Van Velden Hospitals in the Greater Tzaneen Sub-District, Kgapane Hospital in the Greater Letaba Sub-District, Nkhensani Hospital in the Greater Giyani Sub-District, and Maphuta Malatji Hospital in the Ba-Phalaborwa Sub-District. Mopani District has a population of 1 180 165, and is the second least populous in the Limpopo Province (Letaba Regional Hospital, 2013/14).

3.4. Study population

All the patients consulting at eye clinic, Letaba Regional Hospital in July 2015 were considered the study population. Population is defined as the complete set of persons that possess some common characteristics that is of interest to the researcher, hence all patients consulting at eye clinic will represent the entire group of persons of interest to the researcher (Brink, 2006). The total number of patients seen at the Letaba Eye clinic on an average is 500 per month and those who admit to the use of traditional eye medicines are estimated at 10% (50 patients).

3.5. Sampling

Joubert & Ehrlich (2007) stated that sampling is a process of selecting subjects who are representative of the population being studied. The sample was derived from the Stoker's table which offers values suggesting what the representative sample size ought to be for a particular population size (Selloane, undated). The population being studied was 500, according to Stoker's table, a sample size of 100 participants is considered adequate. Each individual in the study population had an equal chance of being included in the sample. Therefore convenient sampling was used until a preferred number of patients was achieved. The questionnaire was given every patient available because it is the most suitable for the people who attend a particular clinic.

3.6. Inclusion and exclusion criteria

All patients presenting to the Eye Clinic were included in the study. All patients referred from Nyeleti Clinic and those that were coming for follow up were excluded to avoid repetition of information.

3.7. Data collection

The data was collected using self-constructed questionnaire as a tool. Expert advice was sought from the University of Limpopo statistician. The objectives of the study were used as guide to the researcher when constructing the data collection tool. The questions were close ended and offered multiple-choice questions where the respondents had to choose an appropriate answer. These type of questions were useful to indicate the level of detail (Brink, 2006). Those who

cannot read or write were assisted by the researcher to complete the forms. The tool was subjected to pretesting in order to validate the tool. The data tool consisted of questions on the participant's demographics in section A and section B addressed medical history.

3.8. Pretest

The study was pre-tested at Nyeleti Clinic: Eye Care Services, to afford the researcher an opportunity to evaluate if the questionnaire addresses the objectives of the research. A total of 12 participants were piloted, according to Joubert & Ehrlich (2007) individuals between 5 and 20 were chosen to refine the instrument. Most question were rephrased close the identified gaps of ambiguity and the language was simplified. All patient referred from Nyeleti clinic for further eye care management were not part of main study.

3.9. Data analysis

The collected data was analysed using statistical software because it was regarded by Brink (2006) to be the most effective. Data were coded in order to identify or trace questionnaires to maintain confidentiality as the names of the participants were not obtained. The Statistical Package for Social Science (SPSS) version 23 was used to analyse the collected data to produce the findings. The findings were summarised and presented in explanatory notes and displayed on tables and graphs. The data was analysed using descriptive statistics and statistical analysis.

3.10. Measures of reliability, validity and bias.

3.10.1. Reliability

To maintain consistency, the data collection was done daily, using the same tool of questionnaire and the same personnel. Test retest method of reliability was used to assess the reliability of the questionnaire. The scores of test one and two were compared for correlation, of which the instrument gave the same results while under the same state clinically (Joubert & Ehrlich, 2007).

3.10.2. Validity

Then questionnaire was translated to Xitsonga and Sepedi and back to English to guarantee content validity. To ensure validity all participants including those that did not respond to particular questions were displayed during analysis of data. (Leedy & Ormrod, 2013). The number 9999 was allocated in a case were the participants felt the question was not applicable to them.

3.10.3. Bias

The researcher avoided data distortion (bias) by treating patients equally and making sure that the responses to the questionnaires were fairly representative (Leedy & Ormrod, 2013). To reduce bias, the researcher ensured that unanswered questions were represented during analysis of data.

3.11. Ethical considerations

Ethical clearance to conduct the study was sought from Turfloop Research and Ethics Committee (TREC). Permission to conduct the study at the institution was granted by the Department of Health (DOH) Ethics Committee, Limpopo Province and the Chief Executive Officer of Letaba Regional Hospital.

Ethical principles and the rights of the respondents for safeguarding their well-being were considered. According to Polit and Beck (2014: 87) consenting is important in any research as it gives participants information about the study and it should be documented. Participation in the study has been on voluntary and participants were given detailed information about the research so that they consent freely without placing them at a disadvantage. A covering letter was provided to all potential study participants for their information. The principle of justice was exercised, the researcher did not use any form of coercion, and further explained to the respondents that they have the right to refuse to give information or to seek clarifications (Burns & Grove, 2009).

CHAPTER 4: RESULTS

4.1. Introduction

The study sought to describe the traditional eye medicine use among patients consulting at Eye Clinic. The study was conducted at Letaba Regional Hospital, Limpopo Province of South Africa. A total of one hundred eye patients consisting of 59 females and 41 males aged between 10 and 85 years participated in the study. The mean age of the study participants was 3.93 and standard deviation was ±1.486. Chi-square: *p* – value < 0.05 was used to show statistical association between variables as presented below.

4.2. The demographic characteristics

4.2.1. The distribution of participants by gender

The study comprised of 59% (N = 59) females and 41% (N= 41) male participants (see Figure 4.1.1)

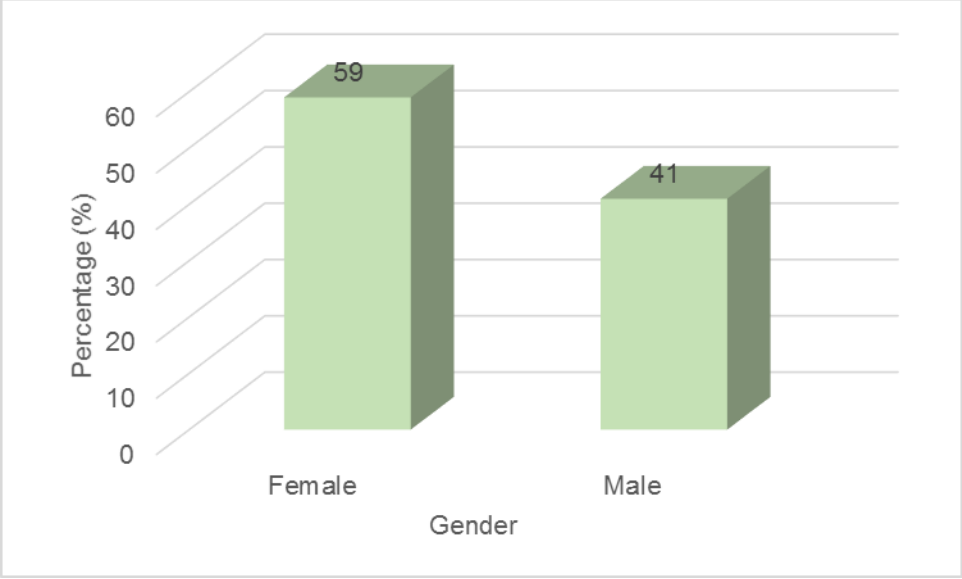

Figure 4.1.1 shows the distribution of participants by gender

4.2.2. Gender and type of eye medicine sought in the past

A total of 37.3% (N = 22) females and 34.1% (N = 14) males used TEM. Western medicine was used by 42.4% (N = 25) females and 41.5% (N = 17) males. Those that used church treatments were 8.4% (N = 5) females and no males while non-TEM users constituted 62.7% (N = 37) females and 65.9% (N = 27) males (see Table 4.1).

Table 4.1 also indicates no the relationship between gender and type of eye medicine sought in the past since $p>0.05$.

Table 4.1 shows cross tabulation between gender and type of eye medicine sought in the past

	Type of eye medicine sought in the past					
Gender	Traditional	Western	Church	None	Total	*P*-value
Female	22	25	5	7	59	
Male	14	17	0	10	41	*P* = 0.123
Total	**36**	**42**	**5**	**17**	**100**	

4.2.3. Age distribution of the participants

The age distribution of the participants ranged from 10 to 85 years. The participants aged between 10 – 19 years were 6% (N = 6); those between 20-29 years were 13% (N = 13); those between 30- 39 years were 21% (N = 21); those between 40-49 years were 19% (N = 19); those between 50 – 59 years were 24% (N = 24) and 17% (N = 17) aged 60 & above years (see Figure 4.1.2).

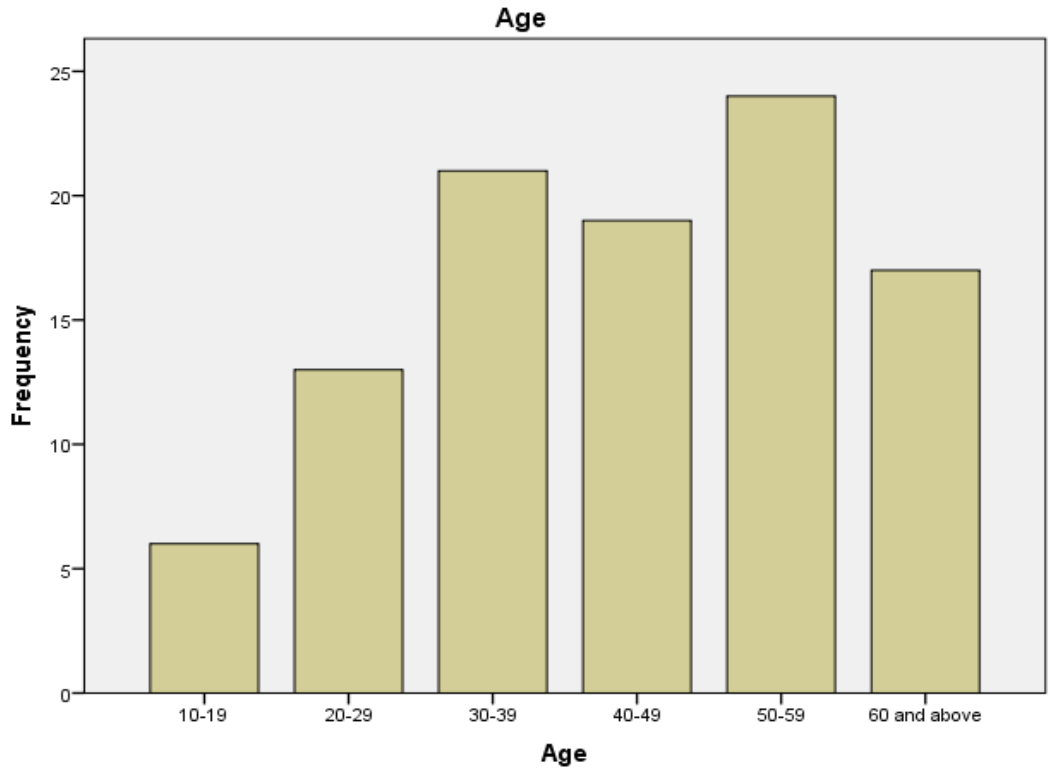

Figure 4.1.2 shows age distribution of the participants

4.2.4. Age and type of eye medicine sought in the past

Table 4.3.1 shows 27% (N = 10) of those who used TEM the most were aged between 50 - 59 years, followed by 19% (N = 7) of those between 40 - 49 years. Western medication was used mostly by 28.6% (N = 12) the participants who were between 30 – 39 years (see Table 4.2**).**

Table 4.2 also shows no statistical relationship between age and type of eye medicine sought in the past since $p>0.05$.

Table 4.2 shows cross tabulation between age and type of eye medicine sought in the past

Age	Type of eye medicine sought in the past				Total
	Traditional	Western	Church	None	
10-19	1	4	1	0	6
20-29	6	4	1	2	13
30-39	6	12	1	2	21
40-49	7	8	2	2	19
50-59	10	7	0	7	24
60 and above	6	7	0	4	17
Total	36	42	5	17	100

*4.2.5. Religion of the participants and type of eye medicine sought in the pas*t

TEM was used by 66.7% (N=24) of Christians, 30.6% (N=11) of the traditional religion, about 2.8 %(N = 1) belonged to other religions. Western eye medicine was practiced by 90.4% (N=38) of the Christians, about 2.3% (N = 1) of the traditional religion and 7.1% (N = 1) from other religions (see Table 4.3). Table 4.3 also shows a statistical association between the religion of the participants and type of eye medicine sought in the past since $p<0.05$.

Table 4.3 shows cross tabulation between religion of the participants and type of eye medicine sought in the past

Religion	Type of eye medicine sought in the past				Total	*P*-value
	Traditional	Western	Church	9999		
Christian	24	38	4	15	81	
Traditional	11	1	1	2	15	*P* = 0.03
Others	1	3	0	0	4	
Total	**36**	**42**	**5**	**17**	**100**	

4.2.6. Highest education attained by participants and type of eye medicine that was sought in the past

A total of 19% (N = 19) never attended school; 22% (N = 22) attended primary school level of education and 45% (N = 45) attended secondary school while 14% (N = 14) were holders of tertiary qualifications. The TEM users who never attended school comprised 19.4% (N = 7); 36.1% (N = 13) attended primary school about 27.7% (N = 10) attended secondary school and 16.7% (N = 6) acquired tertiary education. Those that practiced western medicine and never attended school comprised 19% (N = 8), those that acquired primary school were 14% (N = 6); secondary school constituted 52.4% (N = 22) and 14% (N = 6) acquired tertiary qualifications. 20% (N = 1) used church medicine never attended school; 20% (N = 1) attended primary school; 60% (N = 3) attended secondary school and none qualified at tertiary institution (see Table 4.4).

Table 4.4 also shows no statistical association between the highest education attained and type of eye medicine sought in the past since *p>0.05.*

Table 4.4 shows cross tabulation between the highest education attained by participants and type of eye medicine sought in the past

Type of eye medicine sought in the past	Highest education attained				Total	*P*-value
	Never attended school	Primary	Secondary	Tertiary		
Traditional	7	13	10	6	36	
Western	8	6	22	6	42	*P* = 0.348
Church	1	1	3	0	5	
None	3	2	10	2	17	
Total	**19**	**22**	**45**	**14**	**100**	

4.2.7. Residence of the participants and type of eye medicine sought in the past

The findings showed that the study participants who resided in the villages constituted 55% (N = 55); 35% (N = 35) were from the townships; 9% (N = 9) came from the farms while only 1% (N = 1) was from the suburbs. TEM users residing in the farms were 2.7% (N = 1); 63.9% (N = 23) from villages; 33.3% (N = 12) from townships and zero (0%) lived in the suburbs. The non TEM users (western, Church and others) 12.5% (N = 8) resided on farms; 58, 1% (N = 32) were residing in the villages; 58% (N = 17) lived in the township and 100% (N = 1) lived in the suburbs (see Table 4.5).

Table 4.5 also shows no statistical association between the residence of the participants and type of eye medicine sought in the past since $p>0.05$.

Table 4.5 shows cross tabulation between the residence of the participants and type of eye medicine sought in the past

Residence of the participants	Type of eye medicine sought in the past				Total	*P*-value
	Traditional	Western	Church	None		
Farms	1	5	0	3	9	
Village	23	20	3	9	55	
Township	12	16	2	5	35	*P* = 0.714
Suburb	0	1	0	0	1	
Total	**36**	**42**	**5**	**17**	**100**	

4.2.8. Occupation of the participants and type of eye medicine sought in the past

About 35% (N = 35) of the participants were unemployed; 35% (N = 35) were employed; 19% (N = 19) were pensioners and 11% (N = 11) were students. Half 50% (N = 18) of those that used TEM were users were employed; 22.2% (N = 8) were unemployed; 13.9% (N = 5) were pensioners and 13.9% (N = 5) were students. More than half of the non-TEM users 54% (N = 6) were students; 48% (N = 17) were employed; 77% (N = 27) unemployed; 73% (N = 14) were pensioners (see Table 4.6).

Table 4.6 also shows no statistical association between occupation of the participants and type of eye medicine sought in the past since $p>0.05$.

Table 4.6 shows cross tabulation between occupation of the participants and type of eye medicine sought in the past

Occupation	Type of eye medicine sought in the past				Total	*P*-value
	Traditional	Western	Church	None		
Student	5	2	1	3	11	
Employed	18	12	1	4	35	
Unemployed	8	19	2	6	35	*P* = 0.322
Pensioner	5	9	1	4	19	
Total	**36**	**42**	**5**	**17**	**100**	

4.3. The prevalence of type of eye medicine sought in the past

About 36% (N = 36) of the respondents sought TEM in the past, western medicine was used by 42% (N = 42); followed by 5% (N = 5) of those that used church medicine and 17% (N = 17) used none of the treatments (see Figure 4.1.3).

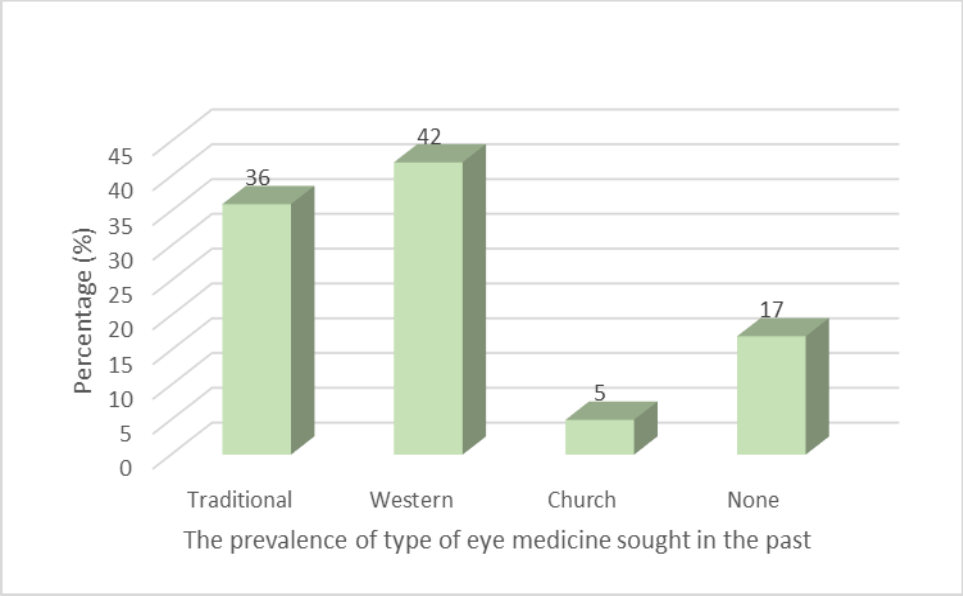

Figure 4.1.3 shows the prevalence of type of eye medicine sought in the past

4.4. Eye symptoms commonly experienced by the participants and type of eye medicine sought in the past

The most commonly experienced symptoms which necessitated the use of TEM among the respondents was pain at 34.3% (N = 11); followed by poor vision at 27.8% (N = 10); then discharging eyes were 19.4% (N = 7) and 2.8% (N = 1) had injured eyes (see Table 4.7).

Table 4.7 also shows a statistical association between eye symptoms commonly experienced by the participants and type of eye medicine sought in the past ($p<0.05$).

Table 4.7 shows cross tabulation between eye symptoms commonly experienced by the participants and type of eye medicine sought in the past

Eye symptoms commonly experienced	Type of eye medicine sought in the past				Total	*P*-value
	Traditional	Western	Church	None		
Itchiness	7	14	3	0	24	
Pain	11	3	0	0	14	
Poor vision	10	21	2	0	33	*P* = 0.01
Eye discharge	7	3	0	0	10	
Eye injury	1	1	0	0	2	
No symptoms	0	0	0	17	17	
Total	**36**	**42**	**5**	**17**	**100**	

4.5. The most commonly used traditional eye medication

The most commonly used TEM was sugar and water at 14% (N = 14) followed by herbal mixtures and anointed tea at 6% (N = 6); urine 5% (N = 5); Anointed water 4% (N = 4); salt water and breast milk at 3% (N = 3). About 59% (N = 59) did not use any TEM (see Table 4.8)

Table 4.8 shows the most commonly used traditional eye medication

The most commonly used traditional eye medication	Frequency	Percent %
Anointed water	4	4.0
Urine	5	5.0
Sugar and water	14	14.0
Salt and water	3	3.0
Breast milk	3	3.0
Anointed tea	6	6.0
herbal mixture	6	6.0
Used none	59	59.0
Total	**100**	**100.0**

4.6. Type of traditional eye medication used and symptoms frequently experienced

About 57% (N = 14) of the participants used sugar and water solution the most for pain, 83% (N= 6) of those that used herbal mixtures had poor vision. Anointed tea and water were both used by 75% (N = 6 & N = 4 respectively) of those who had poor vision. Urine was used by 60% (N= 5) of +those who experienced itching eyes. Breast milk was used for discharging eyes by all (N = 3) users (see Table 4.9).

Table 4.9 also shows a statistical association between and type of traditional eye medication used and symptoms frequently experienced since $p<0.05$.

Table 4.9 shows cross tabulation between type of traditional eye medication used and symptoms frequently experienced

Type of traditional eye medication used	Eye symptoms that were experienced						Total	*P*-value
	Itchiness	Pain	Poor vision	Eye discharge	Eye injury	No symptoms		
Anointed water	0	1	3	0	0	0	4	
Urine	3	2	0	0	0	0	5	
Sugar and water	3	8	0	3	0	0	14	
Salt and water	1	0	0	1	1	0	3	*P* = 0.01
Breast milk	0	0	0	3	0	0	3	
Anointed tea	2	0	4	0	0	0	6	
herbal mixture	1	0	5	0	0	0	6	
None	2	0	0	0	0	0	2	
Never used TEM	12	3	21	3	1	17	57	
Total	**24**	**14**	**33**	**10**	**2**	**17**	**100**	

4.7. Route of administration and type of eye medicine sought in the past

About 63.9% (N = 23) of TEM users administered the medicine through instillation into the eyes (ocularly), followed by 22.2% (N = 8) that washed their faces; about 11.1% (N = 4) performed face steaming and 2.77% (N = 1) took the medication orally (see Table 4.10).

Table 4.10 also shows a statistical association between the route of eye medicine administration and type of eye medicine sought in the past ($p<0.05$).

Table 4.10 shows cross tabulation between route of eye medicine administration and type of eye medicine sought in the past

Type of eye medicine sought in the past	Route of the eye medicine administration					Total	*P*-value
	Ocular	Oral	Face washing	Face steaming	Did not administer		
Traditional	23	1	8	4	0	36	
Western	3	0	0	0	39	42	
Church	4	0	1	0	0	5	*P*= 0.01
None	0	0	0	0	17	17	
Total	**30**	**1**	**9**	**4**	**56**	**100**	

4.8. Reasons for choosing to use traditional eye medicine

Around 49% (N = 49) of the study participants chose to use TEM because it is inexpensive; 44% (N = 44) reported that hospitals are too far away and 5% (N = 5) thought hospitals are affordable. The remaining 2% (N = 2) did not respond to the question on why they used TEM (see Table 4.11).

Table 4.11 shows reasons for choosing to use traditional eye medicine

Reasons for opting to use traditional medicine	Frequency	Percent
Hospitals are far	44	44
Hospitals are affordable	5	5
Traditional medicine is inexpensive	49	49
Did not respond	2	2
Total	**100**	**100**

4.9. Type of eye medicine sought in the past and treatment benefits

Partial or incomplete healing was reported by 61.1% (N = 22) of participants who used traditional eye medicine; about 25% (N = 9) reported complete healing and 13.9% (N = 5) reported no healing at all after using TEM (see Table 4.12).

Table 4.12 also shows a statistical association between the route of eye medicine administration and type of eye medicine sought in the past since $p<0.05$.

Table 4.12 shows cross tabulation between type of eye medicine sought in the past and treatment benefits

Type of eye medicine sought in the past	Treatment benefits				Total	*P*-value
	Complete healing	Partial healing	No healing	Did not participate		
Traditional	9	22	5	0	36	
Western	3	1	0	38	42	
Church	0	4	1	0	5	*P* = 0.01
None	0	0	0	17	17	
Total	**12**	**27**	**6**	**55**	**100**	

4.10. Sources of information regarding eye health

A total of 68% (N = 68) participants sourced information regarding eye health from health workers; 29% (N = 29) got information from the family members; 2% (N = 2) got information from the traditional healers and 1% (N = 2) got information from other sources. The participants who used TEM and sourced information on eye health from their family members were found to be 61.1% (N = 22); 30.6% (N = 11) got it from the health workers; 5.6% (N = 2) got eye information from the traditional healers and 2.8% (N = 1) got information from other sources. A total of 17 respondents who did not use TEM sourced information on eye health from health workers (see Table 4.13).

Table 4.13 also shows a statistical association between the sources of information on eye health and type of eye medicine sought in the past since $p<0.05$.

Table 4.13 shows cross tabulation between sources of information on eye health and type of eye medicine sought in the past

Sources of information on eye health		Type of eye medicine sought in the past				Total	*P*-value
		Traditional	Western	Church	None		
	Family	22	2	5	0	29	
	Traditional healers	2	0	0	0	2	
	Health workers	11	40	0	17	68	*P* = 0.01
	Others	1	0	0	0	1	
	Total	**36**	**42**	**5**	**17**	**100**	

CHAPTER 5: DISCUSSIONS

5.1. INTRODUCTION

This chapter discusses the findings established on the use of traditional eye medicines among patients consulting at eye clinic, at Letaba Regional Hospital, Limpopo Province in SA. The results showed that TEM is widely used despite the availability of western medicine. The findings revealed that a fair number of eye patient used TEM before presenting to the hospital. Association among the variables was assessed where Chi-square test: $p<0.05$ was considered statistically significant. This discussion was aligned to the objectives of the study in which the prevalence of TEM use; the description of the TEMs and the eye medicine benefits were assessed.

The prevalence of TEM use among the study participants was found to be lower (36%) than that of western medicine. The difference between the two types of eye medicines was insignificant because the two rates were equivalent. Reports by Nyathirombo et al (2012) found that most (73%) of TEM users also used western medicine simultaneously. These findings were credited to the belief that the sources of eye diseases are due to unnatural powers according to Ukponmwan & Momoh (2010). Most patients were found to consult at the hospitals following the application of traditional eye medicine (Ajite & Fadamiro, 2013; Ukponmwan & Momoh, 2010). Other similar reports found that almost half (44, 4%) of the participants used TEM as found in the study conducted by Nyathirombo et al (2012) in Uganda. Eze et al (2009) in Nigeria found the lowest rate (5.9%) on the use of TEM and explained the variances among the TEM studies to be as a result of cultural diversity among the study populations and location.

The participants of this current study comprised of more (59%) females than males (41%). The study found more females (37, 3%) than males (34.1%) have used TEM. Western medicine was also found to be used by females 42.4% than and 41.5% males. Both the non-TEM and TEM users were found to have more females than males. These findings are consistent with a study conducted by Anguria et al (2012) at Mankweng Hospital in South Africa who found that more females than males used TEM. Gender Statistics (2011) of SA supported the findings by reporting that more women than men tend to seek health interventions. However the findings of Ukponmwan & Momoh (2010) in Nigeria are contrary to the results of this study, as most of the participants were mainly males at 56.6%, and Nyathirombo et al (2012) also found that more

males (49.4%) than females used TEM. Chi – square tests: *p*-value = 0.123 revealed no statistical relationship between gender and type of eye medicine sought in the past as the *p*-value is more than the required 0.05. Being a male or female did not have influence on the use of TEM.

Most of the respondents (24%) were aged between 50 – 60 years; followed by those aged 30 – 39 years (21%) and the fewest (6%) were 10 – 19 years old. The respondents who used TEM the most (27%) were aged 50 – 59 years old, followed by those (19%) aged 40 – 49 years. Non - TEM users were mainly aged 30 - 39 years (28.6%) which differs from the proportions of TEM users. Nwosu & Obidiozor (2011) reported that patients aged 50 years and above are more likely to use TEM than those younger than 50 years. These findings are not consistent with the study conducted at Mankweng Hospital in South Africa by Anguria et al (2012) which revealed that the most frequent users of TEM range from 40 – 49 years. Chi – square test: *p*-value = 0.478 displayed no association between age and type of eye medicine sought in the past. This results for the non-association meant age did not influence the participants on TEM use.

Majority (66.7%) of the participants who used TEM the most were Christians, followed by those that practiced traditional religion (30.6%). Western medicine was also used by majority (90%) of the Christians and those that were from traditional religion were less (2.3%). These findings were consistent with the results of Bisika et al (2009) who found that the majority of the study participants were Christians. The use of TEM in the present study was found to be common among the Christian participants. The results could be due to the fact that various studies shown that traditional healers are the first points of contact when people are seeking treatment for health problems as cited in Poudyal, Jimba & Poudyal (2005); Ukponmwan et al (2010). Statistical tests: Chi – square estimated *p*-value = 0.03 which shows a significant association between type of eye medicine sought in the past and religion of the participants as the *p*-value < 0.05. Religion was found to have influenced the use of TEM in this present study.

Majority (45%) of the participants were found to have attended school up to secondary level of education, while only a few (14%) had acquired tertiary education. There was an equal proportion (19%) of those that never attended school and used either traditional or western medicine. In addition most of the TEM and non-TEM users had a secondary education. These findings are inconsistent with the results reported by Eze et al (2009), who found the majority of the TEM and non-TEM users to have attended at least primary education. In addition

Nyathirombo et al (2012) reported no association between the type of treatment chosen by the participants and the levels of education. The present study found no relationship between the levels of education of the participants and TEM use (p>0.05). The level of education obtained did not influence the use of TEM. These findings are similar to the results of Ukponmwan (2010) who found that educational background has no significant on the use of TEM while Nwosu & Obidiozor (2011) found that the level of education achieved influenced participants to use TEM.

Majority (55%) of the study participants were residing in the villages, followed by those who lived in township (35%), on farms (9%) and in suburbs (1%) respectively. Those that were from the villages (rural) used TEM more than those who lived in townships. In addition, western medicine was used mainly by those residing in the township. This could be attributed to the fact that the health facilities are nearer to townships than the villages, and villagers were compelled to use TEM due to travelling long distances to the hospitals. Another study conducted in Nigeria by Ukponmwan & Momoh (2010) found that a large number of those who resided in rural areas used TEM the most. But these findings differ with the study reported by Eze et al (2009), which showed that the majority of TEM users were from urban areas. This variation may be attributed to the difference in study settings which is rural in the present study and to the fact that in many developing countries people relocate to the cities to pursue better career opportunities. There is no statistical relationship between the residence of the participants and type of eye medicine sought in the past (p>0.05). The type of residential area had no influence on the use of TEM.

There was an equal proportion (35%) of participants who were employed and those who were unemployed across the whole study; followed by pensioners (19%); and the least (11%) were students. Most (50%) of the participants used TEM were employed. The socio economic status did not seem to influence the decision of the participants to use TEM. This findings are contrary to the reports by Ajite & Fadamiro (2013); Ayanniyi (2009) that low socio-economic contributed to the use of TEM. Many of those who were not employed accessed western medicine. This could be because of the availability of free health care services in SA to those who cannot afford to pay. These findings of the present study contradict the study reported by Iqbal et al (2012) where it was found that TEM was used the most because travelling to the nearest hospital is expensive and time taking. There is no statistical association between occupation of the participants and type of eye medicine sought in the past (p>0.05).

The most commonly experienced symptoms which necessitated the use of TEM among the respondents was pain (34.3%), followed by 27.8% of those that had poor vision, then 19.4% had discharging eyes were 19.4% and injured eyes were found to be 2.8%. A similar study conducted by Ukponmwan & Momoh (2010) in Nigeria, correlated with the overall study findings that poor vision was the most common symptom that led participants to the use of TEM. Nwosu & Obidiozor (2011) found that conjunctivitis and cataract were the most prevalent eye problems among the participants whereas Ahmad et al (2009) found that the most common symptoms compelling the use of TEM were itching, followed by redness and pain. Association between the eye symptoms commonly experienced and type of eye medicine sought in the past were statistically significant ($p<0.05$).

The most (14%) commonly-used TEM among the respondents was sugar and water solution, followed by herbal mixtures and anointed tea. The least used TEM were urine; salt solution and breast milk. Similar findings were reported in Nigeria where sugar and water solution was commonly used (Ebeigbe, 2013). Other studies by revealed that the most regularly used TEM used was obtained from plant extracts (Chandrasekhar et al, 2014; Ukponmwan & Momoh, 2010). The report by Maregesi, Kauke, Kagashe, & Kaali (2016) found that the majority of TEM used were derived from plant sources and waste products from animals such as lizards and python. These findings differ with the current study results as no animal mixtures were used for the treatment of eye conditions.

The findings of the present study also revealed that sugar and water solution was used mostly (57%) for the treatment of eye pain and herbal mixture was used mainly for poor vision. Urine was used mainly for itching eyes. Breast milk was used mainly for discharging eyes. Anointed tea and water were mainly used for poor vision while the salt solution was the least used. According to the findings of Ebeigbe (2013) urine was used for washing the face to cure eye diseases in general and breast milk was used for red eyes. The use of TEM for the management of specific eye conditions differ from one study setting to another. This may be due to lack of documented information regarding TEM in many sub-Saharan African countries (Courtright, 2000). *P*-value = 0.01 which reveals a significant association between type of TEM used and symptoms commonly experienced. Particular eye symptoms influenced the use of specific TEM.

Most of the respondents (63.9%) administered TEM through instillation into the eye (ocularly); followed by those that washed their faces (22.2%) and steamed their faces (11.1%) respectively. The study also found that traditional eye medicine was administered ocularly by the majority of the participants. A study conducted by Megbelayin & Babalola (2015) and the findings were similar with the results of this study namely, that most of respondents applied their medication into the eyes. Face washing was second, followed by face steaming. The measurements for association between route of TEM administration and religion found *p*-value = 0.01 which is less than 0.05 and statistically significant.

The study results showed that most (49%) of the study participants considered TEM to be affordable. Patients therefore opted to use TEM because it is cheaper. A similar study reported by Nyathirombo et al (2012) found the most common reason for the use of TEM was the belief that eye conditions could only be treated with traditional medicine. WHO (2013a) further reported that culture and background in countries such as Korea and Singapore influence TM use where 76% and 86% of the populations respectively still use TM. These conclusions were contrary to the findings of Bisika et al (2009), who reported that most respondents perceived hospitals to be affordable, compared to traditional medicine. The findings that TEM is inexpensive could be due to the reasons that most of the participants were from the rural settings where it requires transport and consultation fee to hospitals.

The process of healing after the use of TEM was reported to be incomplete in many of the participants in the study. Those that were completely healed were found to be less than those who were partially healed. Ebeigbe (2013) found that there was no recovery after the application of TEM instead the eye condition deteriorates while Bialasiewicz, Shenoy & Thakral (2006) found that 62.3% of patients recorded ineffective traditional healer treatment applied prior to presentation to the hospital. Maregesi et al (2016) attributed most ocular adverse effects to microbial (yeast and molds) contaminations that may introduce infections to the eye. *P*-value = 0.01 which is the required value as it is below 0.05. Therefore an association between types of eye medicine used and treatment benefits is confirmed.

This investigation found that that most (68%) participants sourced information regarding eye health from health workers; followed by those (29%) that obtained eye health information from family members. One percent obtained information from traditional healers. This results could be because TEM users tend to hide information regarding the use of TM as it was explained by

Eze et al (2009). Another reason could be that health professionals conduct campaigns while TM practitioners provide their services only during consultation in private. Participants who used TEM the most (61, 1%) sourced eye health information from their family members compared to a few (5.6%) that got it from traditional healers. This findings are consistent with the report by Nwosu & Obidiozor (2011) found that participants sourced information regarding eye health remedies from the elders as dictated by culture. The relationship between the sources of information on eye health and type of eye medicine sought in the past was tested for association and *p*-value = 0.01 showed statistical association between the two variables.

5.2. Limitations of the study

5.2.1. The study was conducted in Mopani District, which means they cannot be generalised to the whole of the province and sampling method.

5.2.2. Limited number of study participants.

5.3. Recommendations

The findings of this study suggest that TEM is ineffective or to cause more ocular conditions. Therefore health education and health awareness will be of great significance to the community especially at Primary Health Centers. Communities and government should be made aware of the harmful effects of traditional remedies. The study will also assist to inform the existing draft policy in South Africa on the collaboration of the health care system and traditional medicine, as promoted by the World Health Organisation (WHO, 2001). This type of partnership was also established in Nepal and proved to be effective (Poudyal et al, 2005). The partnership may also assist in eliminating avoidable blindness through the promotion of good health practices through regulating the practice of TM.

5.4. Conclusion

It is clear that traditional eye medicine is widely used among patients even though its treatment effectiveness is very low. The majority of TEM users reported that they did not benefit from the treatment, and most of the users reported partial or no healing at all. The available studies on TEM use have yielded varying results on the prevalence and even the relationships between

TEM and other variables proved to be unpredictable when tested for statistical association. Since the effects of traditional medicine are not widely documented it is important that more research be conducted in order for to promote the best and effective treatments in a bid to prevent avoidable blindness.

6. BUDGET

The budget allocations of the project are as indicated below. The project was funded by the investigator.

Table 6.1 shows budget allocations

ITEMS	QUANTITY	TOTAL Including vat
A4 blank sheets	R200.00 x 01 box	R200.00
Data bundles	R50.00 X 11 months	R550.00
Research Assistant	R10.00 per questionnaire	R1500.00
Ink cartridge	R700.00 X 01	R700.00
HB Pencils	R5.00 X 10	R50.00
Travelling to the venue	200 km X 10 Days x R4.70	R9400
TOTAL		**R12400**

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APPENDIX A

University of Limpopo

Informed consent for conducting research

Dear Sir/ Madam/ Dr/ Prof.

My name is Tumelo Rakoma. I am currently studying Master of Public Health degree at the University of Limpopo. As part of my studies, I will be conducting research on Traditional eye care treatments amongst patients consulting at Eye Clinic at Letaba Regional Hospital.

We kindly request you to complete the questionnaire which seeks to find out a few things about you and to help us describe the traditional eye medicine that you use. The objective is to describe the traditional eye medicines used by patients.

The entire questionnaire will take about 15 minutes to complete. All the information you provide will be kept strictly confidential. Your name will not be used or recorded to ensure anonymity. You have a choice not to take part in the in the study. If you decide that you do not want to be part of the study, it will not disadvantage you in any way.

If you have queries or would like to get further information about the study, please contact Tumelo Rakoma at 015 633 1800 or email to rakomatf@yahoo.com.

If you would like to participate in the study, please sign the form below to allow us to proceed with the questionnaires.

Yours Faithfully

……..

Rakoma TF

Consent form

I Ms./ Mr./Dr/ Prof ……..would like to participate in the study: traditional eye care treatments amongst patients consulting at the Eye Department at Letaba Regional Hospital.

Signature:…….. Date:……

APPENDIX B

Univesithi ya Limpopo

Tumelelano ya go tšea karolo mo dinyakišišong

Motšea- karolo

Leina la ka ke nna Tumelo Rakoma, ke ithutela kgerata ya Master's wa Maphelo a setšhaba University ya Limpopo. Dinyakišišo tša rena ke tša mekgwa ya setšo ya go alafa mahlo yeo balwetši ba e šomišago pele ba etela sepetlela sa Letaba.

Re kgopela gore le arabe dipotšišo tše mmalwa ka ga wena le mekgwa ya setšo yeo le e šomišago go alafa mahlo a lena.

Dipotšišo ka moka di tla tšea metsotso ya go lekana 15, bohlatse bjo botlo fiwago e tlaba di khupamarama, leina la gago le ka se ngwadiwe felo. O na le tokelo ya go tsenela dinyakišišo tše go ba o se tšee karolo, ebile o ka se lobe selo ge o sa tsenela dinyakišišo.

Ge e le gore o na le dipotšišo o ka di lebiša go Tumelo Rakoma 015 633 1800 go ba wa ngwalela rakomatf@yahoo.com. Ge o dumela go araba dinyakišišo tse, o ka ngwadiša mo lengwalong le le latelago.

Ka boikokobetšo

……..
Rakoma TF

Lengwalo la tumelelano

Nna …….. ke tla rata go tšea karolo mo dinyakišišong tse tsa mekgwa ya setšo ya go alafa mahlo yeo balwetši ba e šomišago pele ba etela sepetlela sa Letaba.

Tšhupetšo – Ina :……. Letšatši……

APPENDIX C

Univhesithi ya Limpopo

Papila ro kombela pfumelelo eka rhiseche leyi nga kunguhatiwa ku endliwa

Eka muhlonipheki

Hi mina Tumelo Rakoma. Ndzi le ku dyondzeleni Digree ya Masitasi ya tarihanyu ra mani na mani (Public Health) eka Univhesithi ya Limpopo. Ndzi ta va ndzi endla rhiseche hi mahlayiselo/vutshunguri bya mahlo hi mirhi ya xinto eka vavabyi lava va kumaka vutshunguri exibedhle xa Letaba. Rhiseche leyi yi languteriwile ku teka mavhiki mambirhi kumbe manharhu ku va yi hela.

Mi komberiwa ku hlamula swivutiso swingari-swingani leswi hi swi lulamiseke hi mayelana na n'wina,leswaku hi ta kota ku va hi hlavutela kahle hi ta mirhi ya mahlo.Xikongomelo xa rhiseche leyi i ku lavisisa mirhi leyi tirhisiwaka eka vuongori bya mahlo.

Swivutiso swingari-swingani ku va swi hlamuriwa swi teka khume-ntlanu wa timinetse.Tinhlamulo hinkwato ti ta hlayisiwa e xihundleni, naswaona mavito ya n'wina a ma nge tsariwi helo ku tiyisisa xihundla lexi hi mi tshembhisaka xona.

Mi nga hlawula leswaku ma swi tsakela kumbe a mi swi tsakeli ku va kona eka rhiseche leyi.Loko mi nga swi tsakeli , mi nga vileli hikuva mi nge hlawuriwi

Loko ku ri na leswi mi lavaka ku swi twisisa swinene banani riqingho mi bela Tumelo Rakoma eka (015) 633 1800 kumbe mi n'wi tsalela eka emeili ya rakomatf@yahoo.com

Loko mi tsakela ku va un'wana wa lava nga ta katsiwa eka rhiseche leyi ,mi komberiwa ku tata fomo leyi yi nga kona laha hansi ku komba ku pfumela leswaku swivutiso swingari-swingani ma swi tsakela ku swi hlamula

Wa n'wina
……..
Rakoma TF

Fomo yo nyika pfumelelo

Mina Ms/ Mr/Dr/ Prof ……..ndza pfumela ku va ni va kona eka rhiseche ya mirhi leyi tirhisiwaka eka mahlayiselo ya mahlo eka vavabyi lava va kumaka vutshunguri kumbe vuongori exibedhlele xa Letaba .

Nsayino:……. Siku……

APPENDIX D

QUESTIONAIRE

Thank for taking part in the study. Please answer the all questions by marking with X next to the box most appropriate response. Your participation is confidential. Please do not write your name anywhere.

Section A: Demographics

1. Age

10-19	1
20-29	2
30-39	3
40-49	4
50-59	5
60 and above	6

2. Gender

Female	1
Male	2

3. Highest education attained

Never attended school	1
Primary	2
Secondary	3
Tertiary	4

4. Occupation

Student	1
Employed	2
Unemployed	3
Pensioner	4

5. Religion

Christian	1
Traditional	2
Others Specify……..	3
None	4

6. Race group

African	1
White	2
Indian	3
Colored	4

7. Residence

Farms	1
Village	2
Township	3
Suburb	4

8. Transport fare to the hospital

Less than R10	1
R11 - R20	2
R21 - R30	3
R31 - R40	4
R51 or more	5

9. How long it takes to reach the hospital

Less than 30 minutes	1
30 – 1h	2
1h – 2h	3
2h – 3h	4

Section B: Medical History

10. Do you have an eye disease that requires continuous traditional eye medicine daily

Yes	1
No	2

11. Did you have eye disease in the past.

Yes	1
Not certain	2
No	

12. Indicate the type of eye medicine sought in the past

Traditional	1
Western	2
Others Specify……..	3

13. Eye symptoms that were experienced in the past, you may choose more than one

Itchiness	1
Pain	2
Poor vision	3
Eye Discharge	4
Injury	5
Others Specify ……	6

14. Type of traditional eye medicine used in the past, you may choose more than one

Annointed water	1
Urine	2
Sugar and water solution	3
Salt and water solution	4
Human breast milk	5
Annointed tea	6
Herbal mixture	7
Others Specify……..	8

15. How did you administer the eye medicine

Ocular	1
Oral	2
Oral and ocular	3
Others Specify ……	4

16. How did the eye medicine benefit you

Complete healing	1
Partial healing	2
No healing	3

17. What do you do when you have a spill in the eyes in an emergency

Irrigation	1
Instill traditional medicine	2
Clinic/ Hospital	3
Others Specify ……	4

18. Reasons for choosing to use traditional eye medicine

Hospitals are too far away	1
Hospitals are unaffordable	2
Traditional medicine is inexpensive	3
Others Specify……	4

19. Sources of information on eye health.

Family	1
Traditional healers	2
Health workers	3
Others Specify……	4

20. What do you do traditionally to protect your eyes from diseases

Use Shades	1
Cleanse your eyes	2
Steam your face	3
Instill breastmilk	4
None	5

Thank you

APPENDIX E

Dipotšišo

Motšea-karolo

Re leboga ge o dumetše go tsea karolo mo dinyakišišong tse. Thala ka X karabong yeo o bonago e rereša go feta tše di ngwe. O se ngwale leina la gago ka ge ditaba tše e le khupamarama.

Ka kgopelo araba dipotšišo tse di latelago

Section A: Dipotšišo ka ga wena

1. Megwaga

10-19	1
20-29	2
30-39	3
40-49	4
50-59	5
60 and above	6

2. Bong

Mosadi	1
Monna	2

3. Dithuto

Ga ka tsena sekolo	1
Sekolo sa fase	2
Sekolo se se phagamego	3
Sekolo sa kholetšhe	4

4. Mošomo

Moithuti	1
Ke a šoma	2
Ga o šome	3
O gola mphiwa fela	4

5. O wela lephapheng lefe mo

Mokriste	1
Setšo	2
Tše di ngwe	3
Goba aowa	4

6. Morafe

Motho moso	1
Lekgowa	2
Mo-India	3
Wa Mmala	4

7. Bodulo

Polase	1
Magae	2
Malaene	3
Toropo	4

8. Tšhelete ya go namela go fihla bookelong

Ka fase ga R10	1
R10 - R20	2
R20 - R30	3
R30 - R40	4
R50 le go feta	5

9. Monabo go fihla bookelong

Ka fase ga metsotso ye 30	1
Metsotso ya go tloga 30 - 60	2
Iri ye tee go fihla ya bobedi	3
Iri tše pedi le go feta	4

Section B: Tša maphelo.

10. Naa go na le dihlare tša setšo tša mahlo tšeo o di tshelago kgwedi le kgwedi

Ee	1
Aowa	2

11. O ile wa tshwenya ke bolwetši bja maahlo peleng.

Ee	1
Ga ke gopole	2
Aowa	3

12. Bontšha mohuta wa phodišo ya maahlo o ileng wa o latela.

Dihlare tša setšo	1
Tša sekgowa	2
Tše dingwe Hlalosa…….	3

13. Dika tšeo le bego le na le tsona

Go hlohlonya	1
Bohloko	2
Bothata bja go bona	3
Ditšhila tše tšwang ka maahlong	4
Kgobalo	5
Tše dingwe Hlaloša…….	6

14. Mehuta ya ditlhare o ileng wa e šomiša

Meetse a makgethwa	1
Mohlapologo	2
Moela wa meetsi le swikiri	3
Moela wa meetsi le letswai	4
Matutu	5
Tše dingwe Hlaloša……	6

15. Sehlare se tšhetšwe bjang

Ka mahlong feela	1
Ka ganong	2
Mahlong le ganong	3
Ka mekgwa ye mengwe Hlalosa……	4

16. Dipoelo

Ke fodile	1
Ke fodile ka go nnyane	2
Ga ka fola	3

17. Kalafi ya maahlo yeo e diriwago ka tšhoganetšo, ge le tsenwe ke moela wa kotsi

A hlatswitšwe ka meetse	1
Go šomišitšwe dihlare tša setšo	2
O etela Kliniki goba sepetlele	3
Ka mekgwa ye mengwe Hlalosa……	4

18. Mabaka ao a dirago gore o alafe mahlo ka mokgwa wa setšo

Bookelo bo kgole	1
Bookelo bo a bitša	2
Dihlare tša setšo di a rekega	3
Mabaka a mangwe Hlaloša……	4

19. Le hwetša kae melaetša ya hlokomelo ya maahlo

Ba lelapa	1
Ngaka tša setšo	2
Ba tša maphelo	3
Ka mekgwa ye mengwe Hlalosa……	4

20. Le hlokomela mahlo bjang gore le thibele malwetši a mahlo

Ba lelapa	1
Dingaka tsa setso	2
Go tsa maphelo	3
Ka mokgwa o fe, hlaloša…….	4

Re ya leboga.

APPENDIX F

SWIVUTISO SWINGARI-SWINGANI

Inkomu ku va mi pfumerile ku kona e ka ndzavisiso lowu,Mi komberiwa ku hlamula swivutiso hi ku tsala xihambano (X) laha mi nhlamulo yi fambelanaka na n'wina. Leswi hinkwaso swi ta va endliwa exihundleni, mi komberiwa leswaku mi nga tsali helo mavito ya nwina.

<u>Xiyenge A: Vun'wina</u>

1. Malembe

10-19	1
20-29	2
30-39	3
40-49	4
50-59	5
60 and above	6

2. Rimbewu

N'wansati	1
N'wanuna	2

3. Tidyondzo leti nga fikileriwa

A ndzi fikangi exikolweni	1
Primari	2
Sekondari	3
Thexari	4

4. Ntirho

Muchudeni	1
Mutirhi	2
A ndzi tirhi	3
Ndzi amukela penceni	4

5. Vupfumeri

Ndza khongela	1
Ndzi tshembela eka swa xintu	2
Swin'wana Hlamusela……..	3
A swi kona	4

6. Ntlawa wa vanhu laha ndzi welaka kona

N'wantima	1
Mulungu	2
Muindiya	3
Mukhaladi	4

7. Ndyawu yo tshama

Mapurasini	1
Matiko xikaya	2
Xidorobanini	3
Dorhobeni	4

8. Mali leyi yi ringanaka ku hakela swo famba hi swona

Ehansi ka R10.00	1
Exikarhi ka R10 na R20.	2
Exikarhi ka R20 na R30.	3
Exikarhi ka R30 na R40.	4
R50 na ku tlula	5

9. Nkarhi wo fi ka eka xibetlela

Ehansi ka 30 wa timinetse	1
Exikarhi ka 30 na 60 wa timinetse	2
Exikarhi ka awara kumbe tiawara timbirhi	3
Exikarhi ka tiawara timbirhi kumbe tinharhu	4

Xiyenge B: Ntivo Rihanyu ra n'wina

10. Xana mi na vuvabyi bya mahlo lebyi mi byi lavaka leswaku mi tirhisaka mirhi ya xintu mikare na mikare

Ina	1
Eee	2

11. Xana mi tshama mi karhatiwa hi mahlo khale ke?

Ina	1
A ndzina ntiyiso	2
Eee	3

12. Xana mi tirhisa mirhi ya njhani ya mahlo

Xintu	1
Xilungu	2
Yin'wana	3

13. Xana hi swini leswi swi karhateke mahlo ya n'wina ?

Ku nwayisa	1
Ku vava	2
Ku tsandzeka ku vona kule	3
Ku va na Malanga	4
Ku vavisa	5
Swin'wana Hlamosela……..	6

14. Xana tinxaka ta mirhi leyi mi nga tshama mi yi tirhisa, mi nga hlaola nhlamulo yaku tlula yinwe.

Mati a xi khongelo	1
Musisito	2
Tshukele na mati	3
Munyu na mati	
Masi ya vela	4
Swin'wana Hlamosela……..	5

15. Xana hi tihi tiendlela leti a mi tirhisa mirhi?

Mahlo ntsena	1
Ku n'wa hi nomu	2
Mahlo na ku n'wa hi nomu	3
Swin'wana Hlamosela……..	5

16. Xana mahlo ya n'wina ma helela kwihi?

Ku horisiwa hi ntalo	1
Swi lo antswa	2
A swi horisiwanga	3

17. Xana vutshunguri bya xihatla bya mahlo hi byini, loko mi ngenile ye xilavi

Ku hlambisa	1
Mirhi ya xintu	2
Kliniki kumbe xibedhle	3
Swin'wana Hlamosela……..	

18. Xana ntivo hi ta mahlo mi wu kuma kwini?

Vandyangu	1
Tin'anga ta xintu	2
Vatirhi va ta rihanyo	3
Swin'wana Hlamusela……..	4

19. Xivangelo xaku tirhisa mirhi ya xintu ku tshungula mahlo.

Xebedlele xile kule	1
Mali ya xibedlele yile henhla	2
Mirhi ya xintu ya durha	3
Swin'wana Hlamusela ……	4

20. U endla yini ku sirhelela mahlo ya wena eka mavabyi hi xintu.

Tinghilazi ta mumu	1
Ku tshama laku baseke	2
Orhavela mahlo	3
U chela masi ya vele	4
Awu chili nchumu	5

Ndzi khensile

APPENDIX G

Rakoma TF
Po Box 2905
Polokwane
0700

To: Department of Health
Limpopo Province

Re: Application for permission to conduct a research study at the Letaba Regional Hospital

I Rakoma TF student number 9709591, am currently studying for Master of Public Health Degree at the University of Limpopo, and I am expected to conduct a research study as a partial fulfilment of the course. The title of the study is: Traditional eye care treaments amongst patients consulting at Eye Clinic, at the Letaba Regional Hospital, Limpopo Province. The objective of the study is to describe traditional eye medicines among patients consulting at the Letaba Regional Hospital, Limpopo Province.

I therefore humbly request your permission to conduct the study in your institution. Thanking you in advance.

Yours Sincerely,

Rakoma TF
072 418 1544
0156326900

APPENDIX H

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF HEALTH

Enquiries: Stols M.L. Ref:4/2/2

Rakoma TF
School of Health Sciences
University of Limpopo
Turfloop Campus
Private Bag X 1106
Sovenga
0727

Greetings,

RE: Traditional Eye Care Treatments Amongst Patients Consulting At Eye Clinic, At The Letaba Regional Hospital, Limpopo Province

The above matter refers.

1. Permission to conduct the above mentioned study is hereby granted.
2. Kindly be informed that:-
   - Research must be loaded on the NHRD site (http://nhrd.hst.org.za) by the researcher.
   - Further arrangement should be made with the targeted institutions.
   - In the course of your study there should be no action that disrupts the services.
   - After completion of the study, a copy should be submitted to the Department to serve as a resource.
   - The researcher should be prepared to assist in the interpretation and implementation of the study recommendation where possible.
   - The above approval is valid for a 3 year period.
   - If the proposal has been amended, a new approval should be sought from the Department of Health.

Your cooperation will be highly appreciated.

pp Head of Department

05/06/2015
Date

18 College Street, Polokwane, 0700, Private Bag x9302, POLOLKWANE, 0700
Tel: (015) 293 6000, Fax: (015) 293 6211/20 Website: http/www.limpopo.gov.za

APPENDIX I

University of Limpopo
Department of Research Administration and Development
Private Bag X1106, Sovenga, 0727, South Africa
Tel: (015) 268 2212, Fax: (015) 268 2306, Email:noko.monene@ul.ac.za

TURFLOOP RESEARCH ETHICS COMMITTEE CLEARANCE CERTIFICATE

MEETING:	**06 May 2015**
PROJECT NUMBER:	**TREC/49/2015: PG**
PROJECT:	
Title:	Traditional eye care treatments amongst patients consulting the Eye Clinic, at the Letaba Regional Hospital, Limpopo Province
Researcher:	Ms TF Rakoma
Supervisor:	Mr MP Kekana
Co-Supervisor:	N/A
Department:	Medical Sciences, Public Health and Health Promotion
School:	Health Sciences
Degree:	Masters in Public Health

PROF TAB MASHEGO
CHAIRPERSON: TURFLOOP RESEARCH ETHICS COMMITTEE

The Turfloop Research Ethics Committee (TREC) is registered with the National Health Research Ethics Council, Registration Number: **REC-0310111-031**

Note:
i) **Should any departure be contemplated from the research procedure as approved, the researcher(s) must re-submit the protocol to the committee.**
ii) **The budget for the research will be considered separately from the protocol.**
PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES.

Finding solutions for Africa

APPENDIX J

SCHOOL OF HUMAN AND SOCIAL SCIENCES

10 March 2016

School of Health Sciences
University of Limpopo
Private Bag X1106
Sovenga
0727

Dear sir/madam

This letter serves to certify that I have proof-read Ms.T.F.Rakoma's dissertation, titled, "Traditional Eye Care Treatments among Patients Consulting at the Eye Clinic at Letaba Regional Hospital, Limpopo Province".

The proof-reading entailed editing some parts of it, where I felt it would make the document more understandable; for example, to avoid wordiness, redundancy, sub-dividing long sentences into shorter ones, for clarity, etc. However, I have not tempered with the content of the dissertation, except where I found that this constituted repetition or made the content confusing.

After the suggested editorials, the dissertation will be ready for examination/presentation.

Thank you for your time.

Sincerely

.....
V.T. Bvuma

Mobile: 083 423 9227

University of Venda

UNIVERSITY OF VENDA
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"A quality driven, financial sustainable, rural-based comprehensive University"