

PERCEPTION ON UPTAKE OF PRIMARY EYE CARE SERVICES

**RESEARCH AREA:
TRANS NZOIA COUNTY**

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CHAPTER 1: INTRODUCTION AND BACKGROUND

1.1 Introduction

Primary eye care is a vital component in **primary health care** and includes the promotion of **eye health care**, the prevention and treatment of conditions that may lead to visual loss, as well as the rehabilitation of those who are already blind.¹

Eyes are approximately one inch in diameter. Pads of fat and the surrounding bones of the skull protect them. The eye has several major components: the cornea, pupil, lens, iris, retina, and sclera. They work together to capture an image and transmit it directly to the brain's occipital lobe via the optic nerve. When we look at an object, light reflected from it enters the eye and is **refracted**, or bent. This creates a focused, upside-down image of the object that the brain will have to interpret and turn in the correct direction. Inside the eye are **photoreceptors**, which create nerve impulses when struck by light. There are two types: **cones** make color vision possible, and **rods** specialize in black-and-white images.

Although our eyes can only see in two dimensions, we are able to determine distances and depth in our three-dimensional world. This is because the brain interprets the two slightly different images our left and right eyes see as one. This is called stereoscopic vision. Other visual cues, such as shadows, how objects are blocking each other and our knowledge about the sizes of different objects also help us determine depth and distance.

A series of **muscles** helps the eye move. The first set is the superior and inferior rectus muscles, which allow upward and downward motion. The medial and lateral rectus muscles allow the eye to move from side to side while staying level. The superior and inferior oblique muscles let it move up or down and to the side. Most of these muscles are controlled by **the oculomotor nerve**. Friction from these movements would quickly damage the eye without lubrication. Tears released by the lacrimal gland are spread around by blinking, and provide lubrication for the eye. Tears also help remove foreign objects and bacteria that could cause damage.

¹ National center for Biotechnology Information

1.2 Background to the Study

Visual impairment and blindness due to ocular diseases is a significant public health problem in many parts of the world including Indian State of Andhara Pradesh. Refractive error and cataracts are the leading cause of blindness and visual impairment. Uncorrected refractive errors and cataracts are most commonly found in rural, often remote, undeveloped areas. This could be one of the important reasons for low uptake of primary eye care services.

Studies have shown that only 18% of those refractive errors in rural areas had received correction as compared to 28% in the urban areas. Moreover, in India more than 80% patients with cataract blindness who were advised surgery did not take the advice over a two year follow up period because of economic or social constraints (Vilas Kovai 2007). According to Vilas Kovai et al (2007), if elimination of avoidable blindness is to be achieved in India, all components, namely disease control, human resource development and infrastructure development, must work in concert from an effective eye care delivery system.

The poor perception on uptake on primary eye care services was highlighted as a concern because the time interval between eye examinations was high enough for certain avoidable or curable ocular diseases to cause irreversible visual loss or blindness.

The majority of treatable blind people do not access eye care services because they are lacking awareness or motivation, or services may not be available (melese et al, 2004, Geneau et al 2005, Chibuga et al 2008).

1.3 Problem Statement

Kitale Eye Care Unit in Trans Nzoia County covers Trans-Nzoia County in the Northern part of the great Rift Valley and extends the support to West Pokot. The county has a population of approximately 818,757 persons. Kitale is the busiest public hospital in the zone with a comprehensive eye care program serving the surrounding districts.

Operation Eyesight has supported the construction of a new eye clinic with an outpatient providing the



surgical consumables and supporting the outreach expenses so that the surgical and the screening targets can be met. However, the facility still experiences low turn up of patients and also cases of irreversible blindness caused by glaucoma and diabetic retinopathy and blind patients with cataract with visual acuity of as low as hand movement and counting of fingers. This is why we therefore seek to find out the perception on the uptake of primary eye care services in Trans-Nzoia County Kitale Eye Unit. Approximately 20% of the children within the county according to daily outpatient records in Kitale eye unit experience visual problems and as such low concentration in class work.

1.4 Justification

Findings on the perception of uptake of primary eye care services will be fundamental in establishing and enhancing awareness programmes on primary eye care in Trans-Nzoia County and beyond.

Findings will also help in identifying this common eye problem that are regional specific and thus enable stakeholders to properly equip the eye unit and satellite with relevant drugs and personnel.

Further, the research results will be useful for Kitale eye care planning, programming and resource mobilization, both human and financial, to improve services to the people.

Lastly, prevention of avoidable blindness will also be achieved if the findings can be used to develop awareness programmes through acceptable communication channels such as media and local institutions.

1.5 Study Objectives

1.5.1 Broad Objective

To find out community's perception of uptake of primary eye care in health facilities in Trans-Nzoia County

1.5.2 Specific Objectives

1. To find out the level of awareness on primary eye care services.
2. To find out the community's attitude on primary eye care services.
3. To assess the safety measures in preventing eye problem.
4. To identify the barriers to access of primary eye care services.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews studies that have been conducted on primary eye care in Kenya and other parts of the world. However, the review is limited to the topics which form the major focus of the present research. These are: overview of primary eye care, global prevalence of primary eye care, progress of primary eye care in Kenya, classification of primary eye care cases, causes of blindness attributed to primary eye care and prevention of primary eye care.

2.1 Overview of primary eye care status

According to the National Strategic plan for Eye Health and Blindness Prevention 2012 to 2018, it is estimated that the prevalence of blindness in Kenya is 0.7%. This implies that 250,000 people are estimated to be blind with another 750,000 suffering from low vision. The study reveals that cataract is the leading cause of blindness accounting for 43%, followed by trachoma at 19%, glaucoma and childhood blindness at 9% and 6% respectively. It is also worth noting that 80% of the cases are curable and preventable.

2.2 Global prevalence of primary eye care

Studies have shown that only 18% of those refractive errors in rural areas had received correction as compared to 28% in the urban areas. Moreover, in India more than 80% of patients with cataract blindness who were advised surgery did not take the advice over a two year follow up period because of economic or social constraints (Vilas Kovai 2007). According to Vilas Kovai et al (2007), if elimination of avoidable blindness is to be achieved in India, all components, namely disease control, human resource development and infrastructure development ,must work in concert from an effective eye care delivery system.

In South Africa, Oduntan and Raliavehegwa found out that only 39% of respondents in a rural community survey had their eyes surveyed within five year or more, despite the accessible and affordable eye care services. Factors such as cost, lack of awareness, cultural beliefs and personal factors were identified as barriers to uptake of primary eye care services.

In Africa the eye care services to the people most in need, including cataract surgery, is challenging (Foster 1993, coutright et al 2007).

The majority of treatable blind people do not access eye care services because they are lacking awareness or motivation, or services may not be available (melese et al, 2004, Geneau et al 2005, Chibuga et al 2008).

In a study conducted between 15th and 31st October in Kibera and Dagoreti divisions in Nairobi City in Kenya, a total of 294 subjects (7.2%), despite having some ocular disorders, had not visited any facility to seek treatment. The majority 144 (49%) as not seeing the need to seek treatment as the problem did not bother, 97 (33%) did not know where to seek eye care services. Despite the large number of eye care facilities surrounding the Nairobi comprehensive eye care services, the community members are not able to access the services because of ignorance and inadequate financial resources.

2.3 Progress of primary eye care in Kitale district hospital in Trans-Nzoia County

It is estimated that up to 80 percent of eye problems can be dealt with through primary eye care at district hospitals and by outreach services. In 2014, Operation Eyesight provided basic eye care training to 23 members of the Trans-Nzoia Country Health Management Team as a way of boosting eye care services. Additionally, 26 community health volunteers were trained in the skills and knowledge needed to identify eye conditions and refer patients to an appropriate level of care. As a pilot program, Kitale Eye Unit, through its satellite clinics, was able to screen 46,346 people and perform 3,606 surgeries, out of which 1,284 were cataract surgeries.²

² *Kitale District Hospital -Comprehensive Eye Care Project*

2.4 Classification of primary eye care cases

According to Bahn & Heufelder 1993, common eye problems can be classified as follows:

- Refractive errors
- Cataracts - clouded lenses
- Glaucoma - a disorder caused by damage to the optic nerve
- Retinal disorders - problems with the nerve layer at the back of the eye
- Macular degeneration - a disease that destroys sharp, central vision
- Diabetic eye problems
- Conjunctivitis - an infection also known as pinkeye

CHAPTER THREE: METHODOLOGY

3.1 Study Area

The study was conducted in Trans Nzoia County.

3.2 Study Design

A quantitative study design was used to carry out this study.

3.3 Target Population

The study was carried out in Tans-Nzoia County, a cosmopolitan county with a current population of 818,757 persons according to the national census results of 2009.

3.4 Sampling Procedure

The study employed simple random sampling technique to select its sample.

3.5 Sample Size Determination

The study determined the sample size using fishers method (Mugenda Mugenda 2003) from the national census results of 2009. The accessible population was 818,757.

According to Mugenda Mugenda (2003), if the accessible population is more than 10,000, the formula is: $N=Z^2 pq/d^2$

N=desired sample size (if target population is > 10,000)

Z=standard normal deviate at the required confidence level.

P= the proportion of the target population estimated to have characteristic being measured.

Q=I-p

D= level of statistical significance set.

If there is no estimated available of the proportion in the target population assumed to have the characteristics of interest, then 50% should be used as recommended by fishers.

If the population of a target population with a certain characteristic is 50, then the Z statistic is 1.96 and we desire accuracy at 0.5 level then the sample size is:

$$N=Z^2pq/d^2$$

$$N=1.96^2 (0.50)(0.5)/0.05^2=384 \text{ average size 350 respondents}$$

3.6 Data Collection Instruments

Structured questionnaires and photographs were used to collect information from respondents. Twenty questionnaires were used to pre-test the tool at Bikeke.

CHAPTER FOUR: RESULTS

4.1 Introduction

The study was about the perception on uptake of primary eye care services in Trans-Nzoia County. The study operated with four objectives; namely; to find out the level of awareness on primary eye care services, to find out the community's attitude on the primary eye care services, to assess the safety measures in preventing eye problems and to identify the barriers to access of primary eye care services.

4.2 Demographic Data of Respondents

The first demographic data of respondents was age. Respondents' ages are presented in table 1.

Age	Frequency	%
a) 15-20 years	126	36.0
b) 21-30 years	47	13.4
c) 31-40 years	50	14.3
d) 41-50 years	38	10.9
e) 50 years and above	89	25.4
Total	350	100

Table 1: Respondents' Ages

***Source: Field Data (2016)**

The majority 126 (36%) of the respondents involved in the study belonged to the age group of 15-20 years. These were young people full of life ahead and their perception of the uptake of primary eye care services in the county was very crucial. The second largest 89 (25.4%) of the respondents involved in the study were in the age bracket of 50 years and above. This was an important category of respondents since eye problems affect the elderly people.

Additionally, as indicated in table 4.1, 47 (13.4%) of the respondents involved in the study belonged to the age category of 21-30 years. Furthermore, 50 (14.3%) of the respondents engaged in the study belonged to the age bracket of 31-40 years as 38 (10.9%) came from the age group of 41-49 years.

The second demographic feature of the respondents was their gender. Respondents' sex data is presented in table 1.2.

Sex	Frequency	%
Male	171	48.9
Female	179	51.1
Total	350	100

Table 2: Respondents' Sex

***Source: Field Data (2016)**

Table 2 shows that there was no big disparity between the male and female respondents involved in the study. Table 1.2 shows that 171 (48.9%) of the respondents involved in the study were males. In addition, majority 179 (51.1%) of the respondents involved in the study were females. The small disparity between the male and female respondents involved in the study was attributed to the fact that primary eye care services were not gender based but were offered non-selectively to all clients.

Respondents' marital status was also considered as a demographic variable by the study. Data on this aspect are presented in table 1.3.

Table 3: Respondents' Marital Status

Marital Status	Frequency	%
Married	140	40
Single	187	53.4
Divorced/separated	18	5.2
Widow/widower	5	1.4
Total	350	100

***Source: Field Data (2016)**

Table 3 indicates that majority 187 (53.4%) of the respondents involved in the study were single. However, 140 (40%) of the respondents engaged in the study were married. In addition, the study involved 18 (5.1%) of the respondents who were either divorced or separated. Lastly, 5 (1.4%) of the respondents involved in the study were widows or widowers. The fourth demographic aspect of the respondents engaged in the study was their education level. Respondents' education levels are presented in table 1.4.

Table 4: Respondents Education Levels

Education Level	Frequency	%
Primary	60	17.1
Secondary	221	63.1
College	57	16.4
Others	12	3.4
Total	350	100

***Source: Field Data (2016)**

Respondents' education levels were categorised into primary, secondary, college and others. The study found out that majority 221 (63.1%) of the respondents involved in the study had secondary level of education. These were respondents who were fairly educated and understood various types of eye infection. In addition, 60 (17.1%) of the respondents involved in the study had primary school level of education. Furthermore, 57 (16.4%) of the respondents had college level of education as the rest, 12 (3.4%) belonged to the "others" category of education levels.

The respondents' occupation was also studied as respondents' demographic data. Responses to this aspect are presented in table 5.

Table 5: Respondents' Occupation

Occupation	Frequency	%
Student	192	54.9
Teacher	21	6.0
Farmer	104	29.7
Businessman/woman	13	3.7
Civil servant	8	2.3
Others(specify)	12	3.4
Total	350	100

***Source: Field Data (2016)**

Data in table 5 indicate that majority, 192 (54.9%) of the respondents involved in the study were students. This was attributed to the fact that most students seek primary eye care services since eye problems affect them in their academic progress as a result of facing difficulties in reading and even writing. Eye problems prevent learners from following up on classroom lessons as well as impede the students' individual study. Consequently, the students high number in seeking primary eye care services in the county's health facilities. Secondly, 104 (29.7%) of the respondents involved in the study were farmers. Furthermore, 21 (6%), 13 (3.7%) and 8 (2.3%) of the respondents involved in the study were teachers, business people, and civil servants respectively. The "others" category was represented by 12 (3.4%) of the respondents engaged in the study.

The last aspect of the respondents' demographic data was religion. Data on the aspect is represented in table 1.6.

Table 6: Religion

Religion	Frequency	%
Christian	332	94.9
Muslim	12	3.4
Others	6	1.7
Total	350	100

***Source: Field Data (2016)**

Majority, 332 (94.9%) of the respondents involved in the study were Christians. This was attributed to the fact that Christianity is the main religion in Trans-Nzoia County which is a time reflection of religious affiliation in Kenya. The Muslim religion represented by 12 (3.4%) of the respondents involved in the study, the “others” category constituted 6 (1.7%) of the respondents engaged in the study. Religion was an important demographic variable in the study since some denominations and social groups are opposed to seeking medical services when it comes to some specific ailments. However, the current study never encountered such opposition.

4.3 Level of Awareness on Primary Eye Care Services

The first objective of the study was on level of awareness on primary eye care services. To begin with, the study sought to establish whether respondents had once had eye problems. Respondents to this aspect are presented in table 1.7.

Table 7: Have you ever had eye problem?

Response	Frequency	%
Yes	246	70.3
No	104	29.3
Total	350	100

***Source: Field Data (2016)**

Table 1.7 shows that majority 246 (70.3%) of the respondents involved in the study had experienced eye problems. However, 104 (29.7%) of the respondents had not directly had eye problems but members of their families had had cases of eye problems. Therefore, all 350 (100%) of the respondents involved in the study had had eye problems either directly, 256 (70.3%) or indirectly 104 (29.7%) affecting family members. Respondents were further asked to indicate the type of eye problem that was experienced. Respondents to the type of eye problem are reflected in table 1.8.

Table 8: Types of Eye Problems

Eye problem	Frequency	%
Red eye	72	20.6
Itchiness of the eye	149	42.6
Progressive loss of vision	27	7.7
Eye injuries	25	7.1
Tearing	32	9.1
Purulent discharge	9	2.6
Photophobia	26	7.4
Others	10	2.9
Total	350	100

***Source: Field Data (2016)**

The study established that the most prevalent eye problem in Trans-Nzoia County is itchy eyes. This was indicated by 149 (42.6%) of the respondents who asserted to have experienced it. The red eye problem had affected 72 (20.6%) of the respondents involved in the study. Furthermore, 32 (9.1%) of the respondents had suffered from the tearing eye problem. Progressive loss of vision was another common eye problem in the county. It was found out that 27 (7.7%) of the respondents reported to have had suffered from progressive loss of vision. Physical eye injuries were also categorized as one of the eye problem experienced by respondents of Trans-Nzoia County. As a result, 25 (7.1%) of the respondents complained to have suffered from eye injuries. Photophobia eye problem had affected 26 (7.4%) of the respondents involved in the study. Additionally, purulent discharge had affected 9 (2.6%) of the respondents involved in the study. Those who had suffered from unspecified eye problem generally referred to as others, constituted 10 (2.9%) of the respondents involved in the study.

Generally, table 8 shows that a variety of eye problems face residents of Trans-Nzoia County. Consequently, there is need for a specialized eye facility with the modern eye equipment and expertise to handle the ever increasing eye problem cases. There was an indication that some respondents suffer from eye problems without seeking primary eye care services, indicated in table 1.9 which shows where the respondents or their household members sought for medical help.

Table 9: Where did you seek medical help?

Where did you seek medical help	Frequency	%
a) Kitale Eye Hospital	59	16.8
b) During an outreach in the near health facility	70	20.0
c) Bought medicine in the chemist	114	32.6
d) Did not seek medical help	107	30.6
Total	350	100

***Source: Field Data (2016)**

Table 9 indicates that majority 114 (32.6%) of the respondents involved in the study bought medicine from the chemist. This was detrimental to the victim's eye health, since they did not receive the right prescription of medicine. This in itself speaks a lot about the county residents' awareness of availability of the primary eye care services in health facilities. Worse still, the study revealed that 107 (30.6%) of the respondents did not seek medical help. Cumulatively, therefore, 221 (63.2%) of the respondents involved in the study had eye problems but did not receive primary eye care services from any established health facility in the county. This was an indication that the awareness of the existence of primary eye care services in Trans-Nzoia County was still low, which prompts the need for urgent intervention.

However, a small number 59 (16.8%) of the respondents involved in the study reported that they had sought treatment from Kitale Eye Hospital, housed by the Kitale County Referral Hospital. In addition, a few 70 (20%) of the respondents involved in the study claimed to have received eye medical attention during outreach in the nearby health facility. Unfortunately, full outreach eye services are not government funded, depend on donor agencies and are therefore unsustainable, unpredictable and unreliable. However, it should be noted that outreach services have enabled many eye patients to access lenses and treatment at subsidized costs and at times free. The prevalence of eye problems in the county at large has seen many insurance forms to refrain from conveying such cases in their health products.

Respondents cited various reasons for buying medicine, seeking medical help and attending the outreach services. It was noted that those who buy medicine from the chemist did not know where to go for medical help. For some, the medical service could not be sought because the nearby health facilities were too far to be visited and therefore bought medicine from the nearby chemist.

Those who went to Kitale Eye Hospital did so for further checkup. This was an indication that they had had the eye problem for some time, tried other alternatives ways such as buying drugs from a chemist, but the problem had persisted and therefore forced them to seek further treatment. It was reported that those who visited the outreach services were motivated by its closeness to their homes. They had to spend less by just walking there. This was an implication that primary eye care services should be taken close to the residents. This will lead to timely diagnosis and treatment of eye problems.

There were various reasons for not seeking medical help. These reasons are presented in table 10.

Table 10: If the answer is d, why did you not seek medical help?

Reasons for not seeking medical help	Frequency	%
Lack of money	50	46.7
Lack of confidence in primary eye care services	10	9.3
Ophthalmic staff attitude	0	0.0
Not aware of existing primary eye care services	47	43.9
Total	107	100

***Source: Field Data (2016)**

Table 10 shows that majority 50 (46.7%) of the respondents involved in the study cited lack of money as a reason for not seeking medical help when they had eye problems. This indicates the economic status of most residents in the rural areas of Trans-Nzoia County, which translates to acute poverty and deters eye patients from seeking timely medical help. As a remedy, there is need for subsidization of eye treatment in all government facilities. Alternatively, the treatment can be made free with the maternity services.

Ignorance of the existence of the primary eye care services was cited as a reason for not seeking for medical help. The study found out that 47 (43.9%) of the respondents involved in the study were not aware of the primary eye care services in Trans-Nzoia County. This once more points out the need for urgent awareness of the existence of primary eye care services in Trans-Nzoia County to be done.

However, 10 (9.3%) of the respondents involved in the study expressed lack of confidence in primary eye care services as a reason for not seeking for medical help.

4.4 Community's Attitude on Primary Eye Care Services

The second objective was on the community's attitude on primary eye care services. Respondents were asked whether they had ever heard about anybody suffering from given eye condition. Their responses are presented in table 11.

Table 11: Have you ever heard about anybody with the following eye conditions?

Eye condition	Frequency	%
Cataract	148	42.3
Glaucoma	12	3.4
Refractive error	150	42.9
Vitamin A deficiency	10	2.9
Eye injuries	30	8.6
Total	350	100

***Source: Field Data (2016)**

Table 11 indicates that majority 150 (42.9%) of the respondents involved in the study reported to had heard about people suffering from refractive error. This was an indication that refractive error was the most prevalent eye condition in Trans-Nzoia County. In addition, 148 (42.3%) of the respondents involved in the study acknowledged that they had ever heard of people with cataract condition. Therefore, the two most prevalent eye conditions in Trans-Nzoia County were refractive error and cataract. This was an indication that ophthalmic services should be focused on the two conditions and advise the county residents to seek medical attention any time they have eye problems related to cataract and refractive error. This calls for regular outreach services to rural areas and peri-urban areas for eye check ups.

The study further noted that 12 (3.4%) of the respondents involved in the study claimed to had ever heard about people with glaucoma condition. Similarly, 10 (2.9%) and 30 (8.6%) of the respondents involved in the study acknowledged that they had ever heard about people with vitamin A deficiency and eye injuries respectively.

The study made a follow-up to establish where people who suffered from the eye conditions in table 11 were treated. Data on this place of treatment for the specified conditions is presented in table 12.

Table 12: Where were they treated?

	Where treated	Frequency	%
a)	Kitale District Hospital	74	21.1
b)	Outreach	87	24.9
c)	Bought medicine in the chemist	152	43.4
d)	None of the above	37	10.6
	Total	350	100

***Source: Field Data (2016)**

Table 12 shows that majority 152 (43.4%) of the respondents involved in the study acknowledged that people who suffered from cataract, glaucoma, refractive error, vitamin A deficiency and eye injuries as indicated in table 1.11 bought medicine from the chemist. This figure was much higher than that reported in table 4.9 (32.6%) of the respondents who acknowledged to had bought medicine from the chemist to treat their eye conditions. However, it is worth noting that both figures 32.6% in table 4.9 and 43.4% in table 1.12 showing respondents who bought medicine from the chemists to treat their eye problems remain the highest compared to other alternatives. However, 32.6% of the respondents as shown in table 4.9 bought medicine from chemists because they lacked awareness about existence of primary eye care services in the county health facilities; but the 43.4% of the respondents in table 1.12 bought medicine from the chemists as a result of their negative attitude towards primary eye care services.

Nevertheless, 74 (21.1%) of the respondents involved in the study noted that people who had various eye conditions were treated at the Kitale County Referral Hospital. This was an indication that respondents in this category (21.1%) had a positive attitude towards the primary eye care services. Furthermore, 87 (24.9%) of the respondents involved in the study acknowledged that those who suffered from varied eye conditions were treated during the outreach services. Cumulatively, therefore 161 (46%) of the respondents noted that those who had eye problem were treated by the qualified ophthalmic staff either at Kitale County Referral Hospital or during the outreach services. Furthermore, 37 (10.6%) of the respondents noted that victims of the eye conditions were treated elsewhere including eye units in Sabatia, Nairobi, Nakuru and Naivasha.

Respondents were further asked of the advice they would give to somebody with cataract and glaucoma. The responses about the advice are presented in table 13.

Table 13: What advice would you give to someone with cataract and glaucoma?

Advice	Frequency	%
a) Surgery	23	6.6
b) Medicine	97	27.7
c) I don't know	230	65.7
Total	350	100

***Source: Field Data (2016)**

The study established that majority 230 (65.7%) of the respondents involved in the study did not know the advice to give to someone with cataract and glaucoma. This was an indication that the better population of Trans-Nzoia County had little knowledge or no knowledge at all about the treatment of cataract and glaucoma. This further points out the issue of lack of awareness about the primary eye care services. Generally, the public are not quite conversant with the eye conditions and would prefer to ignore them so they can naturally heal - a situation which ultimately leads to complete loss of vision.

However, 97 (25.7%) of the respondents engaged in the study noted that they would advise someone with cataract or glaucoma to buy medicine from the chemists or any other source of accessing the medicine. However, 23 (6.6%) of the respondents' preferred to advise someone with cataract and glaucoma to go for surgery. These were respondents who had proper knowledge about cataract and glaucoma and would advise the affected people to seek medical attention from established health facilities and agencies which would ultimately lead to surgery to correct the conditions (cataract and glaucoma).

A general question on eye surgeries was posed to respondents and the responses are presented in table 14.

Table 14: Will you advise someone to go for eye surgeries?

Advice	Frequency	%
Yes	70	20
No	280	80
Total	350	100

***Source: Field Data (2016)**

Regarding eye surgeries as indicated in table 14, majority 280 (80%) of the respondents involved in the study were opposed to it. That is, 280 (80%) of the respondents involved in the study would not advise someone to go for eye surgeries. This was attributed to the general pupil phobia associated with surgeries as a result of lack of proper knowledge about the eye corrective measures which are ophthalmically safe. Most people fear that undergoing eye surgery would lead to complete loss of vision. There is, therefore, need for the general public to be sensitized on the need to embrace eye surgeries as a vision corrective measure. However, 70 (20%) of the respondents involved in the study acknowledged that they would advise someone to go for eye surgeries. Those who were opposed to eye surgery indicated that they did so for fear of surgery itself and fear of losing sight.

Furthermore, respondents were asked on how they would treat children who could not see well. They proposed that they would buy drugs from chemists or advise parents to take them to hospital, and worse still the majority did not know how they would treat children who could not see well.

Spectacles are recommended for people with refractive error. Therefore, the study asked respondents whether they would advise someone with refractive error to go to hospital for spectacles. Responses to this question are presented in table 1.15.

Table 15: : Would you advise someone with refractive error to go to hospital for spectacles?

Advice	Frequency	%
Yes	210	60
No	140	40
Total	350	100

***Source: Field Data (2016)**

It was found out that the majority 210 (60%) of the respondents involved in the study acknowledged that they would advise someone with refractive error to go to hospital for spectacles. This was attributed to the fact that spectacles have been used for many years as an eyesight corrective measure, and therefore, the public easily embraces it to surgery. This is partially due to ignorance about the fact that each eye condition has its own course of treatment. However, 140 (40%) of the respondents were opposed to the idea of advising someone with refractive error to go to hospital for spectacles. This was due to the unfounded belief that spectacles might end up leading to complete loss of sight or that I person may become completely dependent on them. However, as further indicated in table 4.16, some respondents would not advise someone with refractive error to go to hospital for spectacles because of lack of money, they are not aware of existing eye hospitals, they do not see the need for an eye checkup, or the long eye checkup.

Table 16: Have you ever gone for an eye checkup?

Response	Frequency	%
Yes	75	21.4
No	275	78.6
Total	350	100

***Source: Field Data (2016)**

Table 1.16 indicates that majority 275 (78.6%) of the respondents had not gone for an eye checkup due to the above cited reasons. Only 75 (21.4%) of the respondents involved in the study had gone for eye checkups.

4.5 Barriers to Access of Primary Eye Care Services

The last objective of the study was on barriers to access of primary eye care services. Respondents were asked about the measures they had taken to prevent eyes from any form of damage. Some respondents reported to had avoided excess light and smoke. Excess light would lead to eye problems and it is advisable for people to refrain from exposing their eyes to excess light. Smoke can equally lead to eye damage because it is somehow acidic or toxic depending on its source. Dust may also lead to eye damage and people should be advised to avoid dusty places. Regular washing of the face is another measure undertaken by the respondents to prevent eye damage.

It is also important that injuries are avoided to guard the eyes against damage. Regular eye checkups can help to prevent eye damage. Lastly, some respondents indicated that they avoided chemicals coming in contact with the eyes as a damage prevention measure.

Furthermore, respondents were asked on whether their occupation or work in any way compromised the safety of their eyes. Their responses are presented in table 1.17.

Table 17: Does your occupation/ work in any way compromise the safety of your eyes?

Response	Frequency	%
Yes	295	84.3
No	55	15.7
Total	350	100

***Source: Field Data (2016)**

Table 17 shows that 298 (84.3%) of the respondents involved in the study worked in unfriendly conditions which risked their eye safety. This was an indication that many people In Trans-Nzoia County should be sensitized on the need to work in environments that would not compromise the safety of their eyes. For the employed, it is important that the employers

put in place measures that would ensure that the employees' eye safety is not compromised. However, 55 (15.7%) of the respondents engaged in the study reported to work in places where eye safety was met compromised.

Respondents were further asked whether they thought it was important to protect their eyes at work. Responses to this question are presented in table 1.18.

Table 18: Do you think it is important to protect your eyes at work?

Response	Frequency	%
Yes	327	93.4
No	23	6.6
Total	350	100

***Source: Field Data (2016)**

Majority 327 (93.4%) of the respondents involved in the study acknowledged that it was important to protect their eyes at work. However, 23 (6.6%) of the respondents noted that it was not important to protect their eyes at work. Therefore, the overwhelming majority (93.4%) of the respondents involved in the study understood the importance of protecting their eyes at work. This calls for the connected efforts between the employer and employees in ensuring that there are eye protective measures at work.

Respondents were also asked whether they had ever made an effort to know the possible risks or hazards to their eyes in the work stations. Their responses are indicated in table 1.19.

Table 19: Have you ever made an effort to know the possible risks/hazards to your eyes in your work station?

Response	Frequency	%
Yes	323	92.3
No	27	7.7
Total	350	100

***Source: Field Data (2016)**

Table 19 shows that majority 323 (92.3%) of the respondents involved in the study reported that they had made efforts to know the possible risks or hazards to their eyes in the work stations.

However, 27 (7.7%) of the respondents had not done any effort to know the possible risks/ hazards to their eyes in the work stations. Those who claimed to had made an effort to know the possible risks or hazards to their eyes in work stations did so by ensuring there was proper lighting, avoiding smoky and dusty places, as well as wearing safety goggles when welding and while at construction sites.

Respondents responded to the question of whether they seek medical attention when they have eye problems. Their responses are presented in table 1.20.

Table 20: Do you seek medical attention when you have eye problem?

Response	Frequency	%
Yes	109	31.1
No	241	68.9
Total	350	100

***Source: Field Data (2016)**

Table 1.20 shows that majority 241 (68.9%) of the respondents involved in the study did not seek medical attention when they had eye problems. However, 109 (31.1%) sought medical attention when they had eye problems. There were some reasons for not seeking medical attention, as indicated in table 1.21.

Table 1.21: If "no" above, why?

	Reasons	Frequency	%
a)	Lack of money	103	42.7
b)	Lack of transport	42	17.4
c)	Long distance	67	27.8
d)	Long waiting time before attended to	23	9.5
e)	Eye staff attitude	3	1.2

f)	Poor management	0	0.0
g)	Lack of trust in eye care services providers	3	1.2
	Total	241	100

*Source: Field Data (2016)

Table 1.21 indicates that majority 10 (42.7%) of those who did not seek medical attention when they had eye problem attributed it to lack of money. They failed to go to the hospital because they had no money. In addition, 76 (27.8%) of those who never sought medical attention blamed it on the long distance to hospital. There is need for regular outreach eye care services. Furthermore, 42 (17.4%) did not seek medical attention because they lacked transport.

In addition, 23 (9.5%) never went to the hospital because of long waiting times before attended to. This was an indication that the time taken by the hospital staff to serve patients may determine their subsequent risks whenever they were sick.

4.6 Summary

Majority **246 (70.3%)** of the respondents involved in the study had ever experienced eye problem. Virtually, all **350 (100%)** of the respondents involved in the study had had eye problems either directly **256 (70.3%)** or indirectly **104(29.7%)** affecting family members. The study established that the most prevalent eye problem in Trans-Nzoia County is itchy eyes. This was indicated by **149 (42.6%)** of the respondents who asserted to have experienced it. The red eye problem had affected **72 (20.6%)** of the respondents involved in the study. Furthermore, **32 (9.1%)** of the respondents had suffered from the tearing eye problem. Progressive loss of vision was another common eye problem in the county. It was found out that **27 (7.7%)** of the respondents reported to have had suffered from progressive loss of vision. Physical eye injuries were also categorized as one of the eye problems experienced by respondents of Trans-Nzoia County. Photophobia eye problem had affected **26 (7.4%)** of the respondents involved in the study.

The study found that **221 (63.2%)** of the respondents involved in the study had eye problems but did not receive primary eye care services from any established health facility

in the county. The study found that **47 (43.9%)** of the respondents involved in the study were not aware of the primary eye care services in Trans-Nzoia County. Furthermore, majority **150 (42.9%)** of the respondents involved in the study reported to have heard about people suffering from refractive error as **148 (42.3%)** of the respondents involved in the study acknowledged that they had heard of people with cataract condition. This was an indication that refractive error was the most prevalent eye condition in Trans-Nzoia County.

The study further established that majority **152 (43.4%)** of the respondents involved in the study acknowledged that people who suffered from cataract, glaucoma, refractive error, vitamin A deficiency and eye injuries bought medicine from the chemist. In addition, **161 (46%)** of the respondents noted that those who had eye problem were treated by the qualified ophthalmic staff either at Kitale County Referral Hospital or during the outreach services. It was found out that majority **280 (80%)** of the respondents involved in the study were opposed to eye surgeries. In addition, **210 (60%)** of the respondents involved in the study acknowledged that they would advise someone with refractive error to go to hospital for spectacles.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

The study established that the level of awareness of the existence of primary eye care services in Trans-Nzoia County was still low. Most of the residents in the county preferred buying medicines for themselves whenever they had eye problems. Some of the residents had negative attitude towards seeking primary eye care services from the facilities in the county. In addition, economic status of the residents was a barrier to some residents accessing eye medical checkup.

5.2 Recommendation

The study makes the following recommendations based on the findings:

There is need for sensitization of the public to create awareness about the existence of primary eye care services in Trans-Nzoia County.

There is need for primary eye care services to be taken close to the residents of Trans-Nzoia County through establishment of regular makeshift eye check units in all the administrative wards.

There is need for subsidization of the primary eye care services in all government health facilities.

There is need for establishment of a special medical scheme for eye problems.

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