

Health seeking behavior among adult patients with cataract attending eye clinic at Homa bay County Teaching and Referral Hospital

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Abstract

Cataract; is the clouding of the natural crystalline lens of the eye leading to preventable blindness. Globally, cataracts resulted in approximately 15.2 million cases of blindness in the population over the age of 50 years in 2020. Majority of patients with cataract seek treatment late when vision loss has deteriorated and some even have total blindness. Cataract is a highly treatable condition when detected early and results in good visual outcomes. The main objective of the study was being to determine the health seeking behavior among adult patients with cataract attending eye clinic at Homa Bay County referral hospital so as to reverse the trend of blindness. A descriptive cross-sectional study design was used. The study population were all patients attending the eye clinic during the period of data collecting and are estimated to be 85 patients. The census method of sampling was applied so as to include the whole population in the study. Some data were collected from the patient records while others were through personal interviews. Data were analyzed using SPSS version 27, and descriptive variables such as means and frequencies were calculated. The findings were presented in the form of graphs and tables. There were total of 59 respondents who participated on the study. Majority of the respondents 34 (59.3%) were aged between 68 years and above ,37 (62.7%)were females and 22 (37.3%) were males.40 (66.1%) presented to the clinic with VA of > 3/60. 36 (61.0%) reached primary level, only 1(1.7%) reached tertiary level, 31(52.54) have sought treatment at the chemist before reporting to the hospital. 42 (71.2%) reported from 6 months and above to the facility, 57 (96.6%) comes from Homa Bay. In the study we noticed that 52.5%(31 out of 59) had sought treatment first from the chemist. In this study, 61.0% (36 out of 39) respondents had poor access to eye care service due to cost of transport, 62.7% (37 et of 59) participants was due to cost of treatment and 69.5% (41 out of 59) was due to distance. In this study 35.6% (21 out of 59) respondents had blood pressure and cataract 18 out of 21 had poor vision of >6/60. 35 respondents had no blood pressure and 32 had severe visual acuity to blindness and 27.3% had no blood pressure. Pressure and diabetes as a comorbidity, It was concluded that majority of participants seek treatment at the chemist, decreased eye sight was a sign of cataract, reached primary level, believed that decreased eye sight was a sign of cataract It was also observed that patient who had cataract majority had no high blood pressure. It was recommended that decentralization of eye screening and treatment at the sub-county levels where is easily accessible. Harmonizing on the cost of treatment and also invite donors to fund on free camp to help the vulnerable. Deployment and training of eye workers and setting of full equipped 8 sub-county eye unit center for easy accessibility.

Keywords: Health seeking behavior; Eye clinic; Cataract; SPSS version

1. Introduction

Cataract is the clouding of the natural crystalline lens, causing blindness. Globally, at least 2.2 billion people have visual impairment; or blindness, of whom 1 billion have poor vision that could have been prevented or is yet to be addressed (WHO, 2019). It is regrettable that 65 million people are blind or have impaired sight when their vision could have been

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corrected overnight with a cataract operation. (Tedros Adhanom Ghebreyesus, 2019). In 2020, cataracts resulted in approximately 15.2 million cases of blindness in the population over the age of 50. Risk factors known to contribute to the development of cataracts include aging, smoking, alcohol consumption, high body mass index, ultraviolet light exposure, diabetes, and steroid use. Cataract can be classified into 3 categories according to the cause: age -related cataract, pediatric cataract, and cataract secondary to other causes. Age related cataracts are the most common type in adults, with onset starting between the ages of 45 and 50 (Kang et al., 2023).

Common symptoms for patients with cataract are blurred vision, glare and halos from light. Such ocular symptoms can cause great discomfort and limitations in motility and activity.

Daily living and social isolation increase the risk of falls and fractures. Cataracts can be safely treated efficiently by a cost-effective standard surgical procedure as rated by the WHO (Kang et al., 2023)

Approximately 90.0% of the visually impaired people in the world live in low-income settings. Cataracts are the leading cause of blindness in low and middle-income countries. Access to eye health care incorporates the dimensions of quality, geographic accessibility, availability, financial accessibility, and acceptability of services. Women's access to eye health is compromised because they have less disposable income or control over their finances compared to men. Cataract treatment requires transport to the hospital and loss of wages. Lower status in the family, restricted mobility and a lack of control over economic resources are reasons why women have less access to eye care services across the world. (Kang et al., 2023)

Eye health seeking behavior; refers to actions that individuals take in response to their eye health concerns, including seeking health issue, as it can result in preventable vision loss and improve quality of life. This is crucial to achieving the goals of vision 2020 in the extent of

eye care service utilization, which is influenced by professional eye care services. (*Assessment of Visual Impairment Related Knowledge and Health Care Seeking Behavior of the Community in the District of Dibrugarh, India, 2016*).

In 1976, National Program for Control of Blindness (NPCB) was launched with the goal of reduce the prevalence of blindness with a focus on cataracts. Other efforts include World Bank assisted "cataract blindness control program from 1994 to 2001 and in Vision 2020, the right to sight initiative launched in India by WHO partnering with the International Agency for Prevention of Blindness for global eradication of preventable blindness; cataract was the major priority. (Vashist et al., 2017)

Poor eye health seeking behavior is a significant public health concern. This is influenced by Age, sex, social status, traditional practices, beliefs, fatalistic, poverty, ignorance, attitudes towards blindness and fear of the outcome of medical and surgical interventions. Non availability of eye care facilities, especially in rural communities, results in a lack of alternative sources of care, including traditional healers and patient medicine sellers who serve as frontline health workers in these areas. This has also necessitated the use of free eye screening/treatment as tools for educating and offering eye care to rural communities. (Megbelayin & Babalola, 2015). Providers may care much more about outcomes, whereas patients also value convenience, timeliness, a comfortable environment, the provider's attitude, communication, and other aspects of care (Anderson et al., 1983). Any mismatch between the provision of clinical services and clinical need is regarded as evidence of inequitable access to eye health care (Gnyawali et al., 2012).

1.1. Statement of the problem

Eye care provision is currently insufficient to meet the population's eye health needs in Kenya. Many people remain unnecessarily visually impaired or are at risk of becoming so due to treatable conditions. Poverty, lack of awareness, and access to services are some of the key barriers (Rono Mmed et al., 2019).

According to records at the eye clinic in Homabay County Teaching and Referral Hospital, more than 85 patients per month. The majority of these patients seek treatment late when vision loss has deteriorated and some even have total blindness. There is paucity of published data on the health seeking behavior among patients with cataract in the area of study. Most patients do not come to hospital when they start noticing visual loss but rather wait until there is a free eye camp despite them being infrequent. Health problems arising from poor vision secondary to cataract include patient who come with physical injuries from falls and hitting on objects and even scalds and burns. Others such as farmers, drivers, tailors and artisans have lost their jobs due to decreased productivity arising from poor eye sight. A vast majority also suffer from stress and depression when they are unable to do for themselves even simple household chores like cooking, washing and walking around their environment. They are also not able to cope with simple easy

hygienic practices which dispose them to frequent infections and malnutrition. Some of these patients have been left alone by their partners and families once they lose sight and are left to die.

1.2. Justification

Cataract is a highly treatable condition when detected early and results in good visual outcomes. The achievement and maintenance of good eye health involve several factors, including the input of individuals and other stakeholders. Information on eye health-seeking behavior is important as it reveals the preventive, curative, and rehabilitation actions taken by individuals to rectify perceived ill-health (*Ibrahim, 2023*).

The results of this study will be shared with important stakeholders in health including the County government, health partners, health care workers, patients and communities at large. The county department of health will incorporate the results so as to improve and enhance on the existing eye care policies and guidelines. They will also help to plan for targeted health education such as continuous medical education (CMEs) for health care workers, public barazas for community awareness, health talks for patients among other interventions. This will enhance knowledge on importance of frequent eye check-up, early and regular screening for cataract in patients with diabetes, hypertension and those with other chronic diseases. There will also be advocacy on making visual acuity being made a free service as well as being an important vital test at triage among all patients in the hospitals. Partners in health will come in to support these programs. This study will help to improve the uptake, early intervention and screening of patients with cataracts and will be used to develop a community-based screening programs that will be adopted by community health promoters. An appropriate referral system will be put in place to track on patients moving up from the lower health care levels upwards and those referred back for continuum of care and rehabilitation. This will create demand to have eye care specialists at the primary health care levels to handle referrals from the community health promoters. Overall, the impact shall be reduction in the burden of preventable blindness.

1.3. Objectives

1.3.1. Broad objective

To determine the health seeking behaviour among adult patients with cataract attending eye clinic at Homa Bay County referral hospital

1.3.2. Specific Objective

- To determine practices associated with health-seeking behaviour amongst adult patients with cataract attending eye clinic at Homabay County Teaching and Referral Hospital.
- To determine knowledge associated with health-seeking behaviour amongst adult patients with cataracts attending the Homa Bay County Referral Hospital.
- To determine comorbidities associated with health-seeking behaviour amongst adult patients with cataracts attending the Homa Bay County Referral Hospital.
- To determine social-economic factors associated with health-seeking behaviour amongst adult patients with cataracts attending eye clinic Homa Bay County Referral Hospital.

1.4. Research Questions

- What practices are associated with health-seeking behaviour among adult patients with cataracts attending eye clinic at Homa Bay County Teaching and Referral Hospital?
- What knowledge is associated to health-seeking behaviour among adult patients with cataracts attending eye clinic at Homa Bay County Teaching and Referral Hospital?
- What comorbidities are associated to health-seeking behaviour among adult patients with cataracts attending eye clinic at Homa Bay County Teaching and Referral Hospital?
- What are the factors contributing to health-seeking behaviour among adult patients with cataracts attending eye clinic at Homa Bay County Teaching and Referral Hospital?

1.5. Conceptual Framework

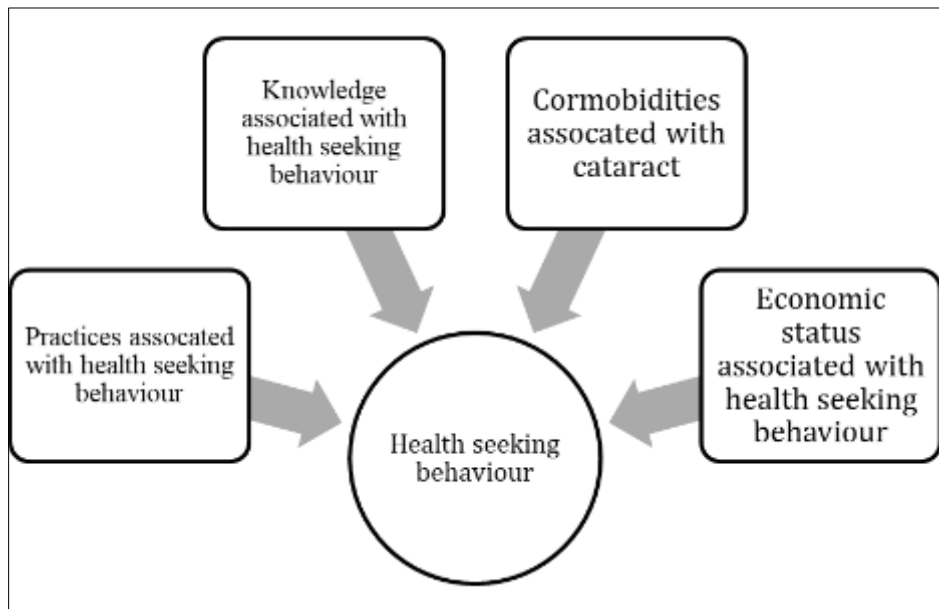


Figure 1 Conceptual Framework

2. Literature review

A study in Nepal regarding seeking eye care services showed that 52.3% of those who gave a positive history of an eye problem in the family said that they attended the nearest health facility, while 19.1% actually went to an eye health center, and only 4.8% did not seek any eye care services. A total of 216 female caregivers in households who participated in the study were among the respondents who were found to be significantly associated with a low level of awareness of eye diseases. The risk of not knowing about eye diseases, mainly cataract, glaucoma and night blindness, was more commonly increased by 3.5 times in illiterate people. The relationship between social life and occupation of the respondent was not found to be significantly associated with awareness of or knowledge of eye diseases. A similar study done on the urban population of India found that 69.8% of the respondents were aware of cataracts. (*Gnyawali et al, 2012*)

A cross-sectional study was done on the urban slum population in Delhi, India. 89.9% of the majority had heard of cataracts, but only 28.0% knew that cataracts occur mostly in people over 50 years of age. More than 58.0% of the participants were not aware of any symptom of cataract. 40.1% of the participants knew that surgery was the treatment for cataracts. In the same study, health-seeking practices were seen in 83.3% of respondents. 72.9% of the patients had undergone surgery, and 27.1% had visited a doctor and been told to wait for surgery. (*Vashist et al, 2017*)

In Malawi, a similar study reported that the prevalence of blindness among people aged 50 and older was 3.3%, with cataracts being the main cause of blindness in 48.2% of all cases, followed by glaucoma in 15.8%, and corneal scarring in 12.3% (*Kalua et al, 2011*).

Lack of proper care of the eye when sick could be one of the reasons why the eyes could progress to complications. In addition, 39.8% reported self-treatment for the last episode of eye disease using traditional eye medicines (*Kalua et al, 2011*). Eye care health-seeking behavior varies in Malawi; it is reported that 22.2% resorted to self-treatment, while 22.6% preferred treatment from a traditional healer, and 55.3% chose to go to the district hospital. (*Mbemba et al, 2023*)

A hospital-based retrospective analysis of patients who attended Kitale Eye Unit, Trans-Nzoia County, Kenya, from January 1st, 2013 to December 31st, 2015, concluded that barriers to accessing eye services were distance and gender, where attendance rates increased more in females with 34.7% than males with 25%. Attendance also increases with age, with the highest rate among the elderly compared to the young (*Rono Mmed et al, 2019*).

In a sectional survey done in Yueqing, Wenzhou, China, 45.9% had a high literacy level about eye care seeking, and 60.3% had self-rated poor vision, with 15% receiving regular eye check-ups. 71.9% had never been to the hospital for

an eye examination. Health seeking was positively associated with high education and negatively correlated with old age. (Li et al., 2020).

A study done in Delhi, India between those who had heard of cataract, only 390 (28.0%) knew that cataract occurs commonly in "above 50 years" age group. More than half of the participants, 809 (58.0%), were not aware of any symptom of cataract. The most common reported symptoms of cataract were white opacity in eyes (25.9%) and loss of vision (20.6%). Surgery as a treatment of cataract was known to only 559 (40.1%) participants, whereas rest of the participants reported misconceptions about treating cataract (836; 59.9%). Among the participants who were aware of surgery as treatment for cataract. Majority of people had heard of cataract, awareness about various other aspects of cataract such as symptoms and treatment was found to be low. Similar findings were reported from Hong Kong where awareness about cataract symptoms (22.9%) and treatment (57.6%) was low,[14] whereas, in other studies, Adequate awareness about the treatment of cataract among those who had heard of cataract has also been (Awareness and Health Seeking Behaviour Regarding Cataract among Urban Slum Population , Raipur , Chhattisgarh, 2022)

A study in India's Dibrugarh (Nasrin Laskar et al.) reported that out of 100 patients registered under the National Blindness Control Program undergoing treatment for visual impairment, only 42% of the patients had knowledge about the causes of blindness and visual impairment, especially cataracts. The study also revealed that knowledge regarding the different causes of blindness was higher among males (56%), as compared to females (32%). The government health sector for the studied individual considered timely consultation with doctors. An almost similar finding regarding awareness and knowledge of causes of visual impairment revealed that awareness of cataracts was 69.8%. Another study conducted in Bhaktapur, Nepal, also reported very low awareness levels about cataracts (6.7%) and glaucoma (2.4%) among the study subjects. (Assessment of Visual Impairment-Related Knowledge and Health Care Seeking Behavior of the Community in the District of Dibrugarh , in India, 2016)

Another study done in Malawi found that attitudes influence behavior and decision-making related to seeking eye care. Positive attitudes towards eye care and eye services can promote regular check-ups, early detection of eye conditions, and prompt treatment. On the other hand, negative attitudes may lead to avoidance or delay in seeking necessary eye care. The study found that 72% agreed that poor access to eye care services was due to costs, 61% was due to distance, and 55% were afraid that their eyes would be completely damaged. This meant that the fear of seeking hospital treatment for eye conditions could be considered a significant barrier to seeking eye care. (Mbemba et al., 2023)

A study done in southern Nigeria reports that students formed the majority of participants, 1(31.50%), follow professionals, 159 (26.50%). A little over half of the study population, 308 (51.3%), were unemployed. This is a reflection of the prevalent unemployment rate in the country estimated at 9.9%, which is higher than the global average of 5.9%. Majority 528 (88.00%) of the participants had no form of insurance, which mirrors the prevailing status in the national health insurance scheme of less than 4% membership. Services were accessed mostly by urban dwellers as majority 521 (86.83%) came from the city where the hospital is located. (Etim et al., 2019)

A similar study done in Ibadan, Nigeria. Members of the quartile were 6 times more likely to have inappropriate health seeking behavior than richest quantile. 62 %visited hospital/clinic ,33.0%, 4.3% traditional healers, 34.5% of study participants considered good service delivery as the most important affecting health seeking behavior, 23.9% proximity to eye care, 20.4% affordability, 88%prompt attention and readily available drugs at 7.1% (Latunji et al., 2018).

The results showed that the majority (58%, n = 227) did not know ways of treating and managing cataracts. In addition, 77% (n = 301) indicated surgical removal was not a treatment for cataracts. (82%, n = 321) indicated using spectacles would not treat cataracts. (Mbemba et al., 2023)

A study done Ethiopia among the study participants 43.8% had high blood pressure had sub capsular cataracts.81(19.15%) had diabetes as a comorbidity with hypertension.(Ashenef et al., 2023)

3. Materials and methods

3.1. Study area

The study will be conducted at the eye clinic in Homabay County Teaching and Referral Hospital. It is a level 4 public hospital located in Homabay town. It serves as the referral hospital for the 8 sub-counties in Homabay County and the surrounding counties. It is a 300-bed capacity hospital and serves an estimated 40,000 patients per year. The master facility list (MFL) code is 13608. There are three main access roads to the facility namely Kisumu-Homabay, Mbita-

Homabay and Kisii-Migori-Homabay roads. The main economic activities around the facility are subsistence farming, tea farming and livestock keeping. The facility was selected for study since it is the largest eye facility within the region.

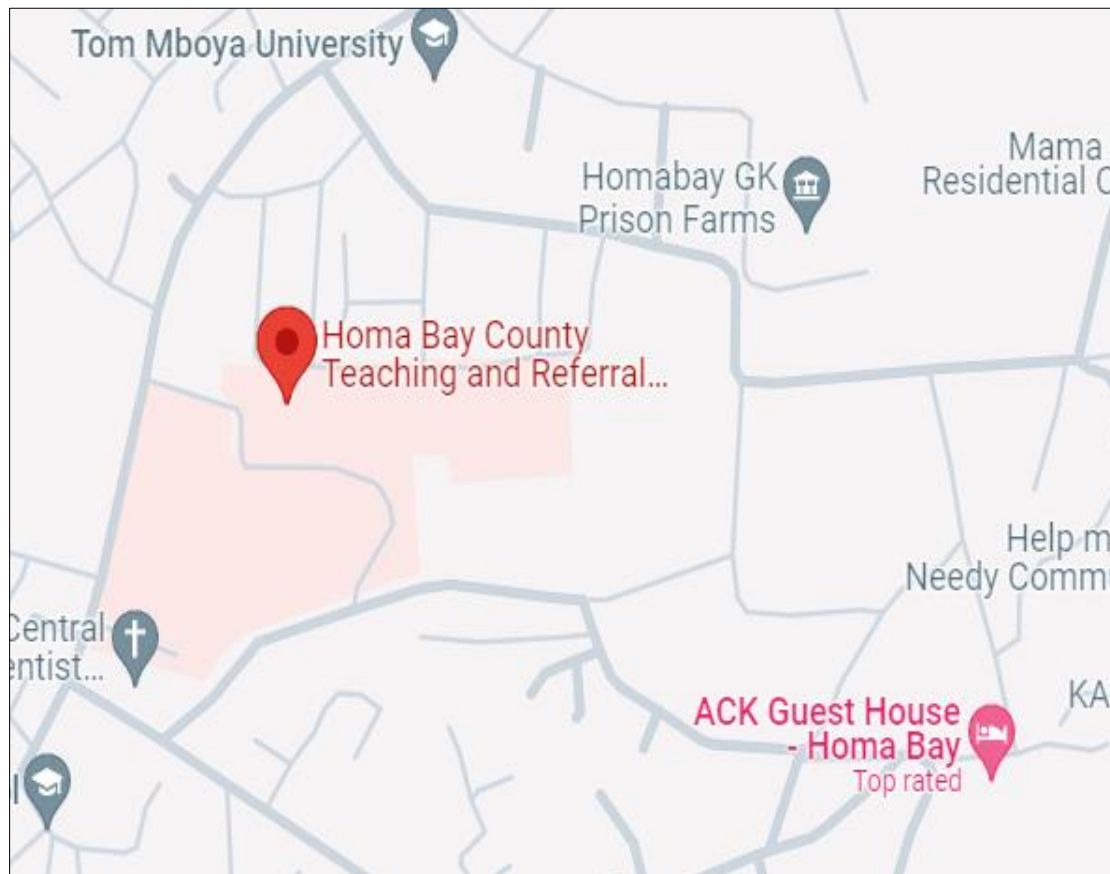


Figure 2 Map of Homabay County Teaching and Referral Hospital

3.2. Study design

A descriptive cross-sectional study design will be used.

3.3. Study variables

3.3.1. Dependent variables

Health-seeking behavior

3.3.2. Independent variables

- Patient practices associated with health seeking behaviour.
- Knowledge of patients associated with health seeking behaviour.
- Social-economic factors associated with health seeking behaviour.

3.4. Study population

All adult patients with cataracts seeking eye care services during the period of study. There are approximately 85 patients per month.

3.5. Eligibility criteria

3.5.1. Inclusion criteria

All adult patients of age and older attending eye clinic at Homabay County Teaching and Referral Hospital.

All patients who will consent to participate in the study.

3.5.2. Exclusion criteria

Patients who decline or withdraw consent to participate in the study.

3.6. Sample size

The sample size will be determined using the Taro Yamane formula.

$$n=N/(1+ N (e)^2)$$

Where:

n = sample size

N= population under study

E= margin error

$$n = 85 / (1+85(0.05)^2)$$

$$n= 85 / (1+85(0.0025))$$

$$n=85 / (1+0.2125)$$

$$n=85/1.2125$$

$$n=71$$

3.7. Sampling method

Census method of sampling will be used where all patients with a cataract during the period of study are selected. The method will be applied since the sample size is almost equal to the study population and other methods are not appropriate

3.8. Data collection and management

Two sets of data will be collected. One for visual acuity will be collected from the medical records as the patient is undergoing treatment on the data collection day. For the other set of data, the patient will undergo the treatment process until a diagnosis of cataract is made so as to identify they fit the inclusion criteria. A questionnaire will be used as the data collection tool through personal interview. The information sought will include demographic information, practice on health seeking behavior, knowledge about cataracts and the economic factors associated with cataract. Questionnaires will mainly have closed-ended questions. Data will be collected between the months of January and March, 2024. Two research assistants and the principal investigator (PI) will conduct the exercise. The research assistants will undergo a day's training so as to familiarize with the research objectives and the data collection tool. Pre-testing of the questionnaire will be done at the eye clinic at Siaya County Referral hospital. The purpose will be to assess the usability of the questionnaire and thereafter make appropriate adjustments to it before printing the final copies. Patients will be recruited to the study at the point of exiting the eye clinic when they will be welcome a room with adequate privacy for the interview. Cleaning of data will be done on site before the respondent has left. The filled questionnaire will be secured in a lockable cabinet only accessible to the PI and the research assistants or any other person with authorized access. Data entered into the computers will be securely encrypted with passwords.

3.9. Data analysis and presentation

Once collected, the data will be entered directly into the Statistical Package for Social Sciences (SPSS) version 27 database for analysis. Frequencies and cross tabulations will be done for descriptive statistics. Chi square statistics will be used to test the significance of the association between the independent and dependent variables and associated demarcated at $p < 0.05$ at 95% confidence interval. The results will be presented in the form of texts, graphs, pie charts and tables.

3.10. Ethical Consideration

Ethical approval will be sought from the Jomo Kenyatta University of Agriculture and Technology Institutional Ethical Review Committee (IERC) and from the National Commission on Science, Technology, and Innovation (NACOSTI).

Permission to conduct the study will be sought from Homa bay County Teaching and Referral Hospital. Informed consent will be sought from patients or the care-givers. Respondents will be informed that it is their right to choose whether to participate or not and to withdraw from the study at any time. Confidentiality will be maintained, and the data obtained will be strictly used for research.

4. Results

4.1. Age of the respondents

Majority of the respondents 34 (59.3%) were aged between 68 years and above as shown in Figure 4.1

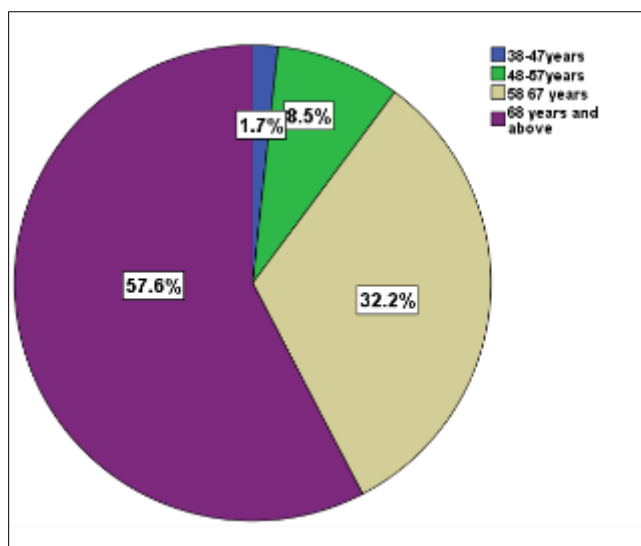


Figure 3 Age of respondents

4.2. Sex of the respondents

Females are the majority of the patients than Male patients having 37 (62.7%) and 22 (37.3%) respectively as shown in figure 4.2

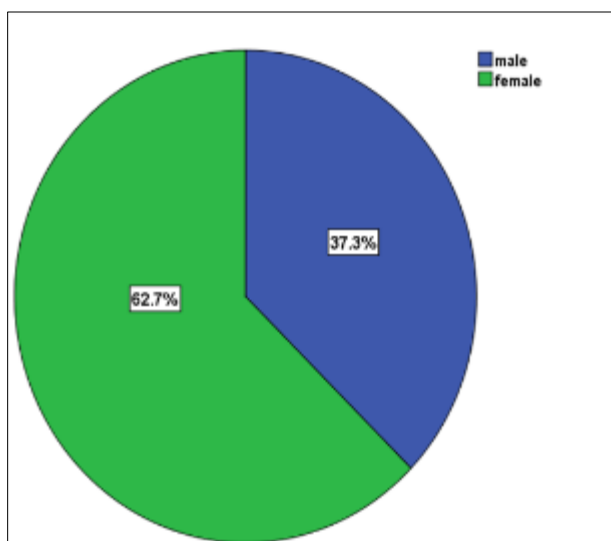


Figure 4 Sex of the respondents

4.3. Visual acuity of the respondents

Out of 59 respondents 40 (66.1%) presented to the eye clinic with VA of >3/60 as shown in figure 4.3

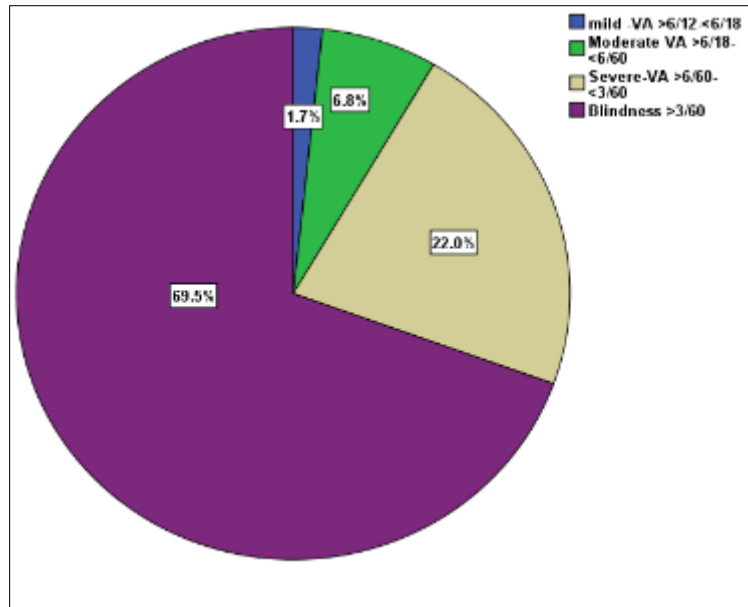


Figure 5 Visual acuity of the patient

4.4. Highest level of Education.

Out of 59 respondents 36(61.0%) reached primary level, while 1(1.7%) only reached tertiary level as shown in figure 4.4

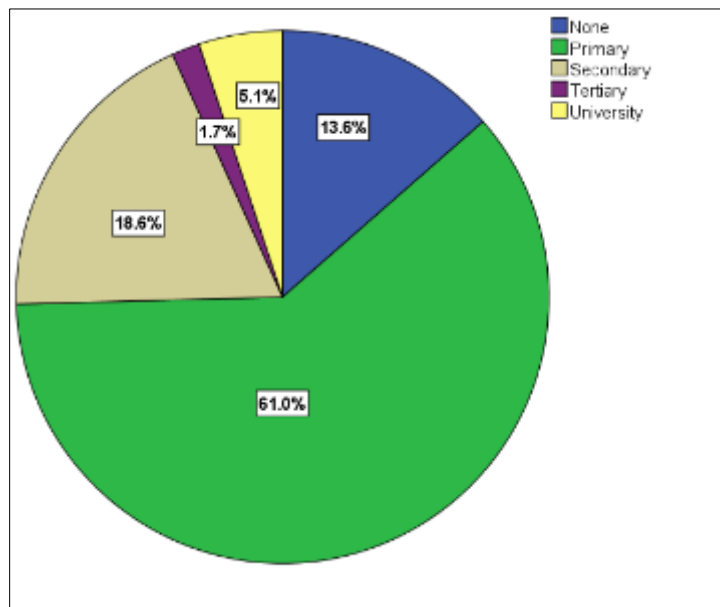


Figure 6 Highest level of education

4.5. Have you sought treatment at the chemist.

Out of 59 study participants 31 (52.54 %) have sought treatment at the chemist before reporting to the hospital as shown in figure 4.5

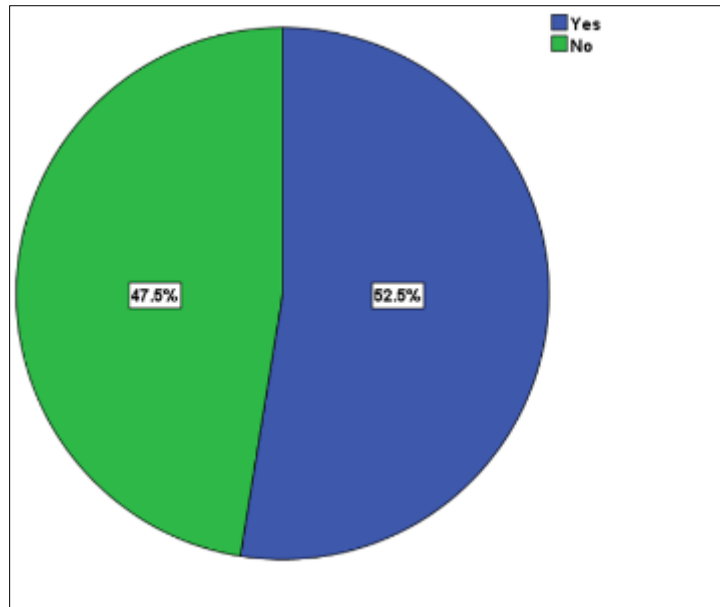


Figure 7 Percentages of respondents who have sought treatment at the chemist

4.6. Time taken to report to the hospital

Out of 59 respondents 42 (71.2%) reported from 6 months and above to the facility for treatment after sorting treatment at the chemist, whereas , 8 (13.7%) reported in less than 3months as shown in figure 4.6

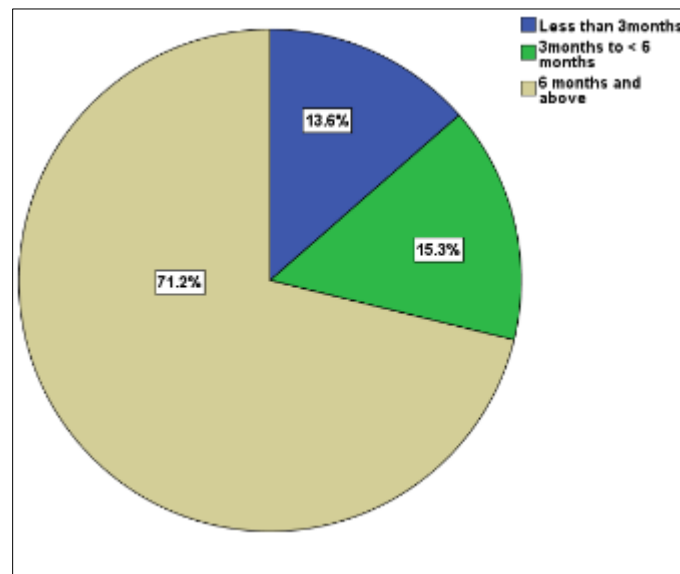


Figure 8 Time taken to report to hospital

4.7. Residency of the respondent

Majority of the 59 respondents 57 (96.6%) comes from Homa bay.

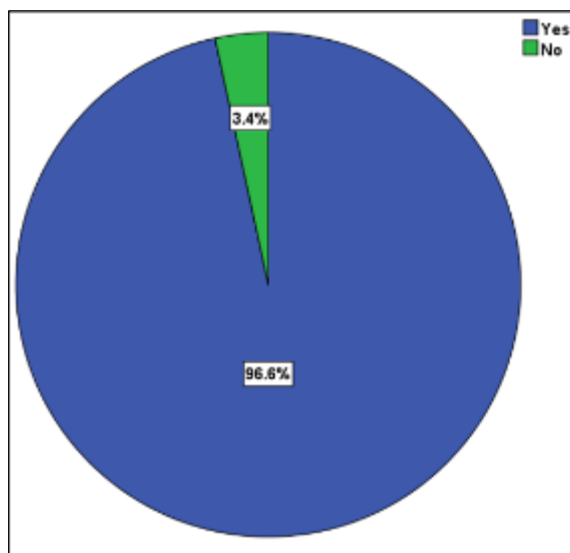


Figure 9 The residency of the respondents

4.8. Sex Vs marital status of the respondents

Out of 59 respondents 20 (90.9%) were men who were married and 2 (9.1%) were widowed.

Table 1 Sex of the respondents * What is your marital status?

		What is your marital status?		Total
		Married	Widowed	
Sex of the respondents	male	20	2	22
		90.9%	9.1%	100.0%
	female	18	19	37
		48.6%	51.4%	100.0%
Total		38	21	59
		64.4%	35.6%	100.0%

4.9. Visual acuity of the patient Vs Time taken to report to the hospital

Out of 41 respondents in the 59 study participants 28 (68.3%) reported 6months and above had a visual acuity of >3/60 (blindness).

Table 2 Visual acuity of the patient vs time taken to report to the hospital

		Time taken to report to the hospital			
		Less than 3 months	3 months to < 6 months	6 months and above	
Visual acuity of the patient	mild -VA >6/12- <6/18	0	0	1	1
		0.0%	0.0%	100.0%	100.0%
	Moderate VA >6/18-<6/60	2	0	2	4
		50.0%	0.0%	50.0%	100.0%
	Severe-VA >6/60- <3/60	1	1	11	13
		7.7%	7.7%	84.6%	100.0%

	Blindness >3/60	5	8	28	41
		12.2%	19.5%	68.3%	100.0%
Total		8	9	42	59
		13.6%	15.3%	71.2%	100.0%

4.9.1. Did the cost of treatment cause the delay for treatment? Vs Are you insured?

Out of 22 respondents 17 (77.3%) were not insured and had delay for treatment due to the cost.

Table 3 Did the cost of treatment cause delay for treatment * Are you insured?

		Are you insured?		Total
		Yes	No	
Did the cost of treatment cause the delay for treatment?	Yes	16	21	37
		43.2%	56.8%	100.0%
	No	17	5	22
		77.3%	22.7%	100.0%
Total		33	26	59
		55.9%	44.1%	100.0%

4.9.2. Current occupation Vs Did the cost of treatment cause the delay for treatment?

Out of 36 study participants 24(66.7%) of the study participants who had delay due to cost of treatment were the unemployed.

Table 4 Current occupation * Did the cost of treatment cause the delay for treatment?

		Cost of treatment		Total
		Yes	No	
Current occupation	Employed	0	1	1
		0.0%	100.0%	100.0%
	Self-employed	13	9	22
		59.1%	40.9%	100.0%
	Unemployed	24	12	36
		66.7%	33.3%	100.0%
Total		37	22	59
		62.7%	37.3%	100.0%

4.9.3. Is decreased eye sight a symptom of cataract? Vs is cataract surgery available at this facility?

Among 33 respondents 26 (78.8%) believed that decreased eye sight a symptom of cataract and cataract surgery is available at the facility.

Table 5 Decreased eye sight a symptom of cataract Vs availability of Cataract surgery at the facility

		Is cataract surgery available at this facility?		Total
		Yes	No	
Is decreased eye sight a symptom of cataract?	Yes	26	7	33
		78.8%	21.2%	100.0%
	No	14	12	26
		53.8%	46.2%	100.0%
Total		40	19	59
		67.8%	32.2%	100.0%

4.9.4. Visual acuity of the patient Vs do you have high blood pressure?

Out of the 41 in 59 study participants 26(63.4%) had no blood pressure and their visual acuity was >3/60 graded as blindness.

Table 6 Visual acuity Vs high blood pressure

		High blood pressure			
		Yes	No	Don't know	
Visual acuity of the patient	mild -VA >6/12-<6/18	0	1	0	1
		0.0%	100.0%	0.0%	100.0%
	Moderate VA >6/18-<6/60	2	2	0	4
		50.0%	50.0%	0.0%	100.0%
	Severe-VA >6/60-<3/60	7	6	0	13
		53.8%	46.2%	0.0%	100.0%
	Blindness >3/60	13	26	2	41
		31.7%	63.4%	4.9%	100.0%
Total		22	35	2	59
		37.3%	59.3%	3.4%	100.0%

4.9.5. Do you suffer from diabetes Vs decreased eye sight a symptom of cataract

Out of the 11 respondents in the study participants 7(63.6%) do not have diabetes but agreed that decreased sight is a symptom of cataract.

Table 7 Diabetes Vs Decreased eye sight a symptom of cataract

		Decreased eye sight a symptom of cataract		
		Yes	No	
Do you suffer from diabetes?	Yes	7	4	11
		63.6%	36.4%	100.0%
	No	23	20	43
		53.5%	46.5%	100.0%
	Don't known	3	2	5

		60.0%	40.0%	100.0%
Total		33	26	59
		55.9%	44.1%	100.0%

4.9.6. Visual acuity of the patient Vs age of the respondents

Among 41 in 59 study participants 24 (58.5%) who had visual acuity of >3/60 were age 68 years and above.

Table 8 Visual acuity of the patient Vs age of the respondents

		Age of the respondents				
		38-47years	48-57years	58 67 years	68 years and above	
Visual acuity of the patient	mild -VA >6/12-<6/18	0	0	1	0	1
		0.0%	0.0%	100.0%	0.0%	100.0%
	Moderate VA >6/18-<6/60	0	0	2	2	4
		0.0%	0.0%	50.0%	50.0%	100.0%
	Severe-VA >6/60-<3/60	0	1	4	8	13
		0.0%	7.7%	30.8%	61.5%	100.0%
	Blindness >3/60	1	4	12	24	41
		2.4%	9.8%	29.3%	58.5%	100.0%
Total		1	5	19	34	59
		1.7%	8.5%	32.2%	57.6%	100.0%

4.9.7. Is decreased eye sight a symptom of cataract? Vs visual acuity of the patient.

Out of the 33 in 59 respondents 25 (75.8%) had VA of >3/60 agreed that decreased eye sight is a symptom of cataract.

Table 9 Decreased eyesight a symptom of cataract Vs visual acuity

		Visual acuity				
		mild -VA >6/12-<6/18	Moderate VA >6/18-<6/60	Severe-VA >6/60-<3/60	Blindness >3/60	
Is decreased eye sight a symptom of cataract?	Yes	0	3	5	25	33
		0.0%	9.1%	15.2%	75.8%	100.0%
	No	1	1	8	16	26
		3.8%	3.8%	30.8%	61.5%	100.0%
Total		1	4	13	41	59
		1.7%	6.8%	22.0%	69.5%	100.0%

4.9.8. Is surgery treatment of cataract Vs it's availability of cataract surgery at the hospital.

Out of the 32 in 59 respondents 28 (87.5%) believed that surgery is the treatment for cataract and is available at the facility.

Table 10 Is surgery treatment of cataract Vs availability of cataract surgery at the hospital

		Availability of cataract surgery at the hospital		
		Yes	No	
Is surgery a treatment of cataract?	Yes	28	4	32
		87.5%	12.5%	100.0%
	No	12	15	27
		44.4%	55.6%	100.0%
Total		40	19	59
		67.8%	32.2%	100.0%

4.9.9. Did the distance to the hospital Vs cost of transport cause delay for treatment

Out of 36 respondents in 59 study participants 30 (83.3%) had delay for treatment due to cost of transport and distance.

Table 11 Distance to the hospital Vs cost of transport

		Cost of transport		
		Yes	No	
Did the distance to the hospital cause delay for treatment?	Yes	30	11	41
		83.3%	47.8%	69.5%
	No	6	12	18
		16.7%	52.2%	30.5%
Total		36	23	59
		100.0%	100.0%	100.0%

4.9.10. Did the cost of treatment Vs distance to the hospital cause delay for treatment?

Out of 37 participants among the 59 respondents 32(86.5%) of the respondents had delay for treatment due to cost and distance

Table 12 Cost of treatment Vs distance to the hospital

		Distance to the hospital		
		Yes	No	
Did the cost of treatment cause the delay for treatment?	Yes	32	5	37
		86.5%	13.5%	100.0%
	No	9	13	22
		40.9%	59.1%	100.0%
Total		41	18	59
		69.5%	30.5%	100.0%

5. Discussion

This study was conducted to assess health seeking behavior among adults' patient with cataract at Homa bay county teaching and referral eye clinic.

In this study, female respondents were the majority by 62.7% (37), while males were at 37.3% which is in similarity with study done by (*Dr Rono mmed et al, 2019*) in Transnzoia county found that female were the majority too by 34.7% while males at 25%. Similar study done in southern Nigeria out of 600 patients 314(52.3%) were females, 286(47.7%) were males. Also differs with the study done in India the proportion of females were at 41.1% compared to males at 58.9%.

The study also found 61.0%(36) were unemployed, 37.3%(22) were self -employed and 1.7%(1) is employed and 55.9%(33) had insurance.

A similar study in Southern Nigeria reported majority of participants 51.3% were unemployed, 26.5% professionals, 31.50% students and differ in medical cover that 528 (88.0%) had no form of insurance.

In this study also found that 57.6%(34) were 68 years and above. Decreased eyesight was found to be a symptom of cataract 24 out of 33 (72.7%) respondents had a visual acuity of <3/60 that is blindness and they believed that cataract surgery was available in the facility. Similar study done in Malawi by (*Kalua et al, 2011*) prevalence of blindness among people aged 50 years and older was 3.3% with cataract being the main cause of blindness in 48.2% of all cases. Whereas, in a study in India, majority of people had heard of cataract awareness such as symptom and as for treatment was found to be low. which is in similarity with a study done in Hong Kong 22.9% were aware of cataract.

In contrary, with study in Delhi India ,89.9% of the majority had heard of cataract, but only 28.0% knew that cataract occurs mostly in people over 50 years of age. More than 58.0% of the participant were not aware of any symptom of cataract. 40.1% of the participants knew that surgery was the treatment for cataract. (*Vashit et al, 2017*). Also with a study done by (*Mmbemba et al, 2023*), 58% did not know ways of treating and managing cataracts. 77% indicated surgical removal was not a treatment for cataract.

In the study we noticed that 52.5% (31 out of 59) had sought treatment first from the chemist, On contrary to a study done by (*Mmbemba et al, 2023*), 39.8% reported self -treatment for the last the last episode of eye disease using traditional eye medicine.

In this study, 61.0% (36 out of 39) respondents had poor access to eye care service due to cost of transport, 62.7% (37 out of 59) participants was due to cost of treatment and 69.5% (41 out of 59) was due to distance.

Similar to a study done by (*Mmbemba et al, 2023*) 72% agreed that poor access to eye care service was due to cost and 61% was due to distance. In this study 35.6% (21 out of 59 respondents had blood pressure and cataract 18 out of 21 had poor vision of >6/60. 59.3% (35 out of 59 respondents) had no blood pressure and 32 patients had severe visual acuity to blindness.27.3% (6 out 22 respondents) who had blood

Pressure had diabetes as a comorbidity. Which differ from a study done Ethiopia among the study participants 43.8% had high blood pressure had sub capsular cataracts.81(19.15%) had diabetes as a comorbidity with hypertension.(*Ashenef et al, 2023*).

Table 13 Patient proposed triage form

Name	age	sex	residence	Tel no
VA	BP RBS	PR RR	SPO2 TEMP	COMMENTS
RE LE				
Do you have high blood sugar?	Are you having high blood pressure?	If yes in either do you have difficulty in seeing?	Codes 1.refer to eye clinic 2.proceed to OPD	Name of HCW..... Signature of HCW.....
		1.YES 2.NO		

6. Conclusion

Availability, accessibility, affordability are the pillars for access of eye health care services, it was evaluated that, cost of treatment, cost of transport and distance from the homes to the hospital caused delay in eye health care services. Therefore, eye health seeking behavior was seen to be poor in Homabay County Teaching and Referral Hospital eye clinic.

Recommendation

- Health care workers, community health promoters and the community should be sensitized on symptoms, causes and treatment for cataract in order to identify early at the grass roots.
- Visual acuity screening should be part of triage in health care facilities from level 1-6 in order to capture patients with cataract early since it is a painless process
- Decentralization of eye screening and treatment at the sub- county levels where is easily accessible.
- Harmonizing on the cost of treatment and also invite donors to fund on free camp to help the vulnerable.

Compliance with ethical standards

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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APPENDIX I: WORK PLAN

Activity	May-June 2023	July 2023	Aug - Oct 2023	Nov - Dec 2023	Jan -June 2024	July 2024
Selecting Research Title						
Writing Proposal						
Proposal Presentation						
Ethical Approval						
Data collection and analysis						
Report writing						

APPENDIX II: BUDGET

Budget	Item	Unit Cost (Ksh)	Total (Ksh)
Materials and supplies for data collection			
Pens	15	@ 100	1500
Pencils	5	@ 50	250
Rim Paper	1	1000	1000
Proposal and Project preparation			
Printing Questionnaire	500	@ 20	10000
Data Collection	30 days	@ 3000	90000
Consolidation of literature and internet	30 hrs	@ 5000	15000
Printing and binding	2 proposal	@ 2500	5000
Grand Total	117, 250/=		

Appendix iii

questionnaire *serial no*

Instructions: Don't write your name on the questionnaire.

Please tick (✓) the appropriate box

SECTION A: DEMOGRAPHIC DATA

- What is the visual acuity (VA) of the patient?
 - >6/12-<6/18.....
 - >6/18- <6/60.....

- >6/60 <3/60.....
 - >3/60.....
- Age of respondent?
 - 0-18-27 years []
 - 1-28-37 years []
 - 2-38-47 years []
 - 3-48-57 years []
 - 4-58-67 years []
 - 5-68 years and above []
- Sex of respondent?
 - 0-Male []
 - 1-Female []
- Are you a resident of Homabay County?
 - 0-Yes []
 - 1-No []
- What is your marital status?
 - 0-Married []
 - 1-Single []
 - 2-Widowed []
 - 4-Divorced/separated []
- What is your highest level of education attained?
 - 0-None []
 - 1-Primary []
 - 2-Secondary []
 - 3-Tertiary []
 - 4-University []
- What is your current occupation?
 - 0-Employee []
 - 1-Self-employed []
 - 2-Unemployed []

SECTION B: HEALTH SEEKING PRACTICE OF PATIENTS

- Since this eye problem started, how long has it taken you to come to the hospital?
 - 0-Less than 3 months
 - 1-3 months to < 6 months
 - 2-6 months and above
- For your current problem, have you sought treatment from a chemist?
 - 0-Yes ()
 - 1-No ()

SECTION C: ASSOCIATED COMORBIDITIES

- Do you suffer from diabetes?
 - 0-Yes ()
 - 1-No ()
 - 2-Don't know
- Do you have high blood pressure?
 - 0-Yes ()
 - 1-No ()
 - 2-Don't know

SECTION D: KNOWLEDGE ABOUT CATARACT

- Do you think that decreased eye sight is a symptom of a cataract?
 - 0-Yes ()
 - 1-No ()
- Do you think that surgery is treatment for cataract?

- 0-Yes ()
- 1-No ()
- Did you know that cataract surgery was available in this facility?
 - 0-Yes ()
 - 1-No ()

SECTION E. ECONOMIC FACTORS ASSOCIATED WITH CATARACT

- Do you have any medical insurance cover?
 - 0-Yes ()
 - 1-No ()
- Did the cost of transport to this hospital cause the delay in coming for treatment?
 - 0-Yes ()
 - 1-No ()
- Did the distance to this hospital cause the delay in coming for treatment?
 - 0-Yes ()
 - 1-No ()
- Did the cost of treatment cause the delay in coming for treatment?
 - 0-Yes ()
 - 1-No ()