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Original Article

## Utilisation of eye care services offered by Entebbe regional referral hospital among adults of Kambarange Nyerere barracks, Entebbe municipality. A cross-sectional study.

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### ABSTRACT

#### Background:

In Uganda, 1% of the population is blind, and 5.6% suffer from moderate to severe visual impairment. The purpose of the study was to assess knowledge, factors, and strategies to improve the utilisation of eye care services offered by Entebbe Regional Referral Hospital among adults residing in Kambarange Nyerere Barracks, Entebbe Municipality.

#### Methods:

A descriptive cross-sectional study design was used employing quantitative methods of data collection. In a duration of 3 days, 30 respondents were selected using a simple random sampling method. A structured questionnaire was used to collect data, and it involved closed-ended questions. The data collected was analysed manually, and after the findings were entered into a Microsoft Excel 2013, which was then presented in the form of tables, pie-charts, and graphs.

#### Results:

Out of the 30 participants sampled in the study, the majority were male (60%) and predominantly older adults aged 50 years and above (33%), with most having secondary education (47%). Awareness of available eye care services was generally low, with 67% not aware of the services and 70% having never attended any eye health education session, although 80% had previously visited a health facility for eye-related problems. Institutional challenges were notable, with 50% reporting poor accessibility of eye care facilities, 50% unsure about service affordability, and 63% experiencing waiting times longer than one hour.

#### Conclusion:

There was low awareness, limited accessibility, financial uncertainty, and institutional barriers that significantly hindered the utilisation of eye care services, despite community willingness to engage in improved outreach and support initiatives.

#### Recommendation:

The study recommends strengthening health education, expanding accessible and affordable eye care services, and enhancing community outreach to improve overall service utilisation.

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**Keywords:** Utilization of Eye care services, Entebbe Regional Referral Hospital, Kambarange Nyerere Barracks.

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### Background

Education and income significantly influence the utilisation of eye care services. Individuals with at least secondary education are more likely to seek eye care, as higher education enhances awareness and promotes proactive health behaviour. Conversely, those with limited literacy often delay seeking care, especially when symptoms are absent. Out-of-pocket expenses, such as transport and medication costs, are major barriers for low-income earners

in military settings, where financial autonomy is often limited. These economic and educational factors reduce timely access to eye care, even when services are available. Cultural and gender norms also influence utilization patterns. In many African contexts, men tend to seek care for themselves more readily than women, who often prioritise the health needs of family members over their own. This cultural dynamic contributes to lower eye care utilization rates among female dependents in military



communities. In Nigeria, entrenched gender roles and cultural expectations limited women's autonomy in seeking eye care services, leading to delayed or foregone treatment. These gendered health-seeking behaviours underscore the importance of culturally sensitive health education and outreach programs designed to empower women in military and civilian populations alike.

Institutional barriers, including staffing shortages and limited equipment, substantially reduce the quality and availability of eye care services in many low-income countries. The World Health Organization (2019) reported that most low-income countries have an average of only one ophthalmologist per one million people, which severely constrains access to specialized care. In Uganda, this shortage is acute, with only 40 ophthalmologists serving a population exceeding 40 million (MOH, 2021). Similar human resource challenges have been documented in Tanzania, where Ramke et al. (2018) found that the limited number of trained eye care professionals and inadequate equipment impeded the delivery of essential eye health services, contributing to low service utilization and delayed treatment. In addition to workforce shortages, contextual factors specific to military barracks further restrict access to eye care. 62% of military personnel in Uganda reported scheduling conflicts as a significant barrier to attending eye care appointments. Collectively, the barriers to eye care service utilization in Uganda's military barracks reflect broader regional challenges in Sub-Saharan Africa. Addressing these issues requires multifaceted strategies, including strengthening the eye health workforce, expanding infrastructure, adapting service hours, simplifying referral procedures, and integrating gender-sensitive approaches to health education. Such interventions could enhance access and equity in eye health care, ultimately reducing the burden of preventable visual impairment in these populations. Distance to the health facility significantly affects service uptake. Individuals living more than 5 km from an eye clinic were 50% less likely to use its services. For residents of barracks located far from Entebbe RR Hospital, transportation issues and lack of ambulance services remain a challenge. The purpose of the study was to assess knowledge, factors, and strategies to improve the utilization of eye care services offered by Entebbe Regional Referral.

Hospital among adults residing in Kambarange Nyerere Barracks, Entebbe Municipality.

## **METHODOLOGY**

### **Study Design and Rationale**

This study adopted a descriptive cross-sectional study design. This design was suitable because it allowed the study to collect data at one point in time to determine the level of utilization of eye care services and related factors among the target population.

### **Study Setting and rationale.**

The study was conducted at Kambarange Nyerere Barracks, a well-defined military community located in Entebbe Municipality, Wakiso District, Central Uganda. The barracks lie on the northern shores of Lake Victoria, approximately 37 km southwest of Kampala and around 5–6 km east of Entebbe International Airport. It is situated at approximately 0° 03' 21" N, 32° 28' 38" E (decimal ~0.0558 N, 32.4771 E). The site was chosen because it offers a clearly defined community suitable for population-based research and is served by Entebbe RR Hospital, which provides eye care services to the area.

### **Study Population**

The study population consisted of all adult residents aged 18 years and above living in Kambarange Nyerere Barracks. These individuals were targeted because they were the primary decision-makers and users of health services, including eye care.

### **Sample Size Determination.**

The sample size was calculated using the formula developed by Kish and Leslie (1965), given by;

$$n = \frac{z^2 pq}{d^2}$$

Where;

What was the sample size required

P was the estimated number of adults aged 18 years and above living in Kambarange Nyerere Barracks.

p= 50%

d=0.18 was the acceptable error of estimation at 95% confidence interval

Z was the confidence interval at 95% =1.96

Therefore,  $n = z^2 pq(1-p) / d^2 = (1.96 \times 1.96 \times 0.5 \times (1-0.5)) / 0.18 \times 0.18$

n=30



### **Sampling Method/Procedure**

The study used a simple random sampling technique. This technique was chosen for this study because it ensured that the sample was a representative of the study population, as well as reducing bias in the sample. To obtain the participants, the study made pieces of similar-sized papers labelled with K and L. Respondents were requested to pick papers from an enclosed box on each day of data collection, and those who picked papers labelled with K were considered to participate. This process was done every day while sampling 10 respondents daily for a period of 3 days to come up with a sample of 30 respondents.

### **Inclusion and Exclusion Criteria**

#### **Inclusion Criteria**

Adults aged 18 years and above, Residents of the barracks for at least six months, willing to provide informed consent, and who know English (read and write)

#### **Exclusion Criteria**

Clients who withdrew after consent and those who were very sick were excluded.

### **Study Variables**

#### **Independent Variables**

Awareness and Factors and strategies.

#### **Dependent Variable**

Utilization of eye care services at Entebbe RR Hospital.

### **Research Instruments/Tools**

A structured questionnaire was used to collect data. The questionnaire contained both closed-ended and open-ended questions. It covered socio-demographic information, knowledge and awareness of eye care services, and service utilization behavior.

### **Data Collection Methods/Procedures**

Data collection started after an introductory letter authorizing the study was presented to the administration of Kambarange Nyerere Barracks, Entebbe Municipality,

Wakiso District. Since the questionnaire was in English, the literate sampled respondents were administered the questionnaire to fill in independently. Data were collected from 10 respondents per day, and this procedure took 3 days to cover a total of 30 respondents.

### **Data Management and Analysis**

#### **Data management**

The filled questionnaires were retrieved, counted, checked for completeness, and edited after every data collection day to ensure that they were all returned, coded, and kept in a safe place as a backup. Raw data were locked in the cupboard for security purposes.

#### **Data analysis**

Data from the questionnaires were manually analyzed, and the findings were then entered into the computer using the Microsoft Excel program (2013) and later presented in the form of tables, figures, pie charts, and statistical texts depicting respondents' responses in frequencies and percentages.

#### **Quality Assurance**

To ensure data quality, the questionnaire was pre-tested among adults in a similar setting, Lugonjo Police Barracks, to assess the clarity, relevance, and consistency of the questions. Research assistants were trained prior to data collection to ensure standardized administration of the tool. Additionally, daily reviews of completed questionnaires were conducted to check for completeness and accuracy of the data collected.

#### **Ethical Considerations**

Approval was sought from relevant ethical bodies. Participants were informed about the purpose of the study and their right to withdraw at any time. Confidentiality and anonymity were maintained throughout the study.

## **RESULTS**

### **Social demographic characteristics**



**Table 1: Shows the social demographic characteristics of the respondents (N=30)**

Variable	Category	Frequency(f)	Percentage (%)
Gender	Male	18	60
	Female	12	40
Age (years)	35-39 years	3	10
	40-44 years	9	30
	45-49 years	8	27
	50 years and above	10	33
Level of education	Primary	6	20
	Secondary	14	47
	Tertiary	10	33
	No formal education	0	0

Table 1, the majority of the respondents, 18(60%), were males, while the minority, 12(40%), were females. Most of the respondents, 10(33%), were aged 50 years and above, while the least, 3(10%), were between 35-39 years. Majority of respondents, 14(47%) had secondary education while minority, 6(20%) had primary education.

### Awareness of the availability of Eye Care Services

**Figure 1 shows the awareness about available eye care services at the facility (N=30)**

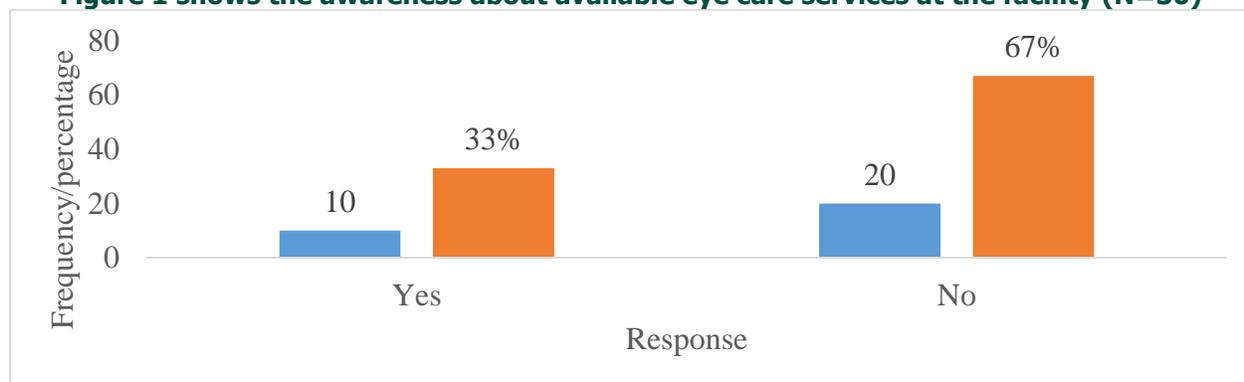


Figure 1 showed that the majority of the respondents, 20(67%), were not aware of the eye care services available at Entebbe Regional Referral Hospital, while a minority, 10(33%), agreed.

**Table 2 shows further details of awareness (N=30)**

Category	Variable	Frequency (f)	Percentage (%)
Source of information about eye care services	Health talk	4	40
	Posters/fliers	6	60
	Health worker	0	0
	Radio	0	0



Ever attended health education related to eye health	Yes	9	30
	No	21	70
Ever visited a health facility for an eye-related problem	Yes	24	80
	No	6	20

Table 2: The majority of the respondents, 6(60%), got information about eye care services at Entebbe RRH from posters/fliers, while the minority, 4(40%), got information from health talks. Nearly three-quarters of respondents, 21(70%), had never attended any health education session

related to eye health, while a minority, 9(30%), agreed that they had ever. More than three-quarters of respondents, 24(80%), had ever visited health facilities for eye-related problems, while a minority, 6(20%), had never.

### Institutional Factors Influencing Utilization

**Figure 2 shows the accessibility of eye care facilities (N=30)**

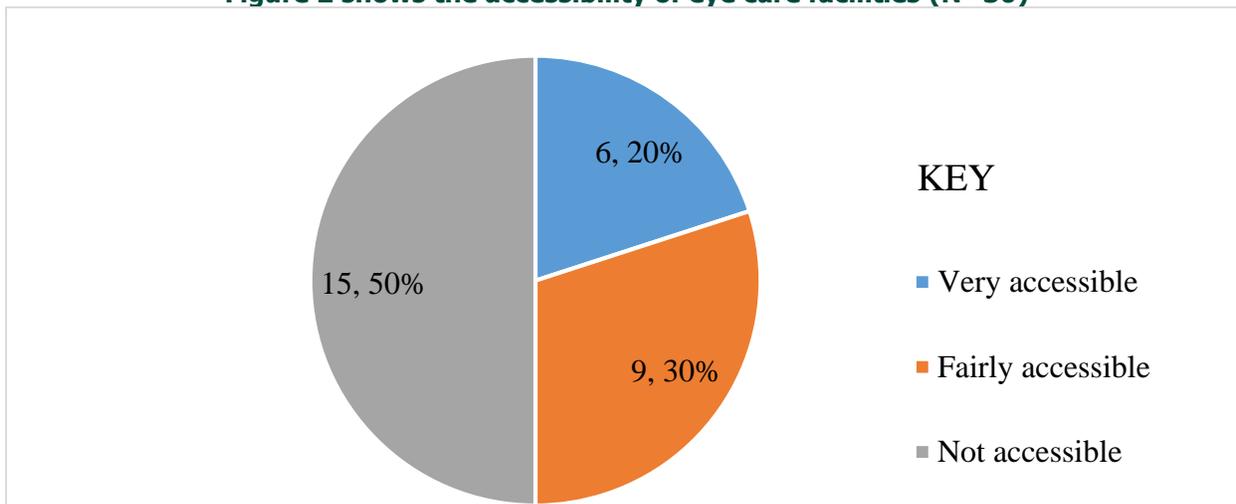


Figure 2 shows that the majority of the respondents, 15(50%), mentioned that eye care facilities are not easily accessible within the region, 9(30%) mentioned that they are fairly accessible, while a minority, 6(20%), mentioned that the facilities were very accessible.

**Table 3 shows other institutional factors influencing utilization (N=30)**

Category	Variable	Frequency (f)	Percentage (%)
Affordability of eye care services	Yes	3	10
	No	12	40
	Not sure	15	50
Attitude of healthcare providers towards patients seeking eye care	Excellent	9	30
	Good	12	40
	Fair	6	20
	Poor	3	10



Waiting time at the eye care facility	Less than 30 minutes	5	17
	30 minutes-1 hour	6	20
	More than 1 hour	19	63

Table 3, Half of the respondents, 15(50%), were not sure about the affordability of eye care services, while the minority, 3(10%), agreed. Less than half of respondents, 12(40%), mentioned that the attitude of healthcare providers towards patients seeking eye care was good, while a minority, 3(10%), mentioned that the attitude of healthcare providers was poor. More than half of respondents, 19(63%), mentioned that the waiting time at the facility was more than 1 hour, while a minority, 5(17%), mentioned less than 30 minutes.

### Strategies to Improve Utilization of Eye Care Services

**Figure 3 shows what can be done to increase awareness about eye care services (N=30)**

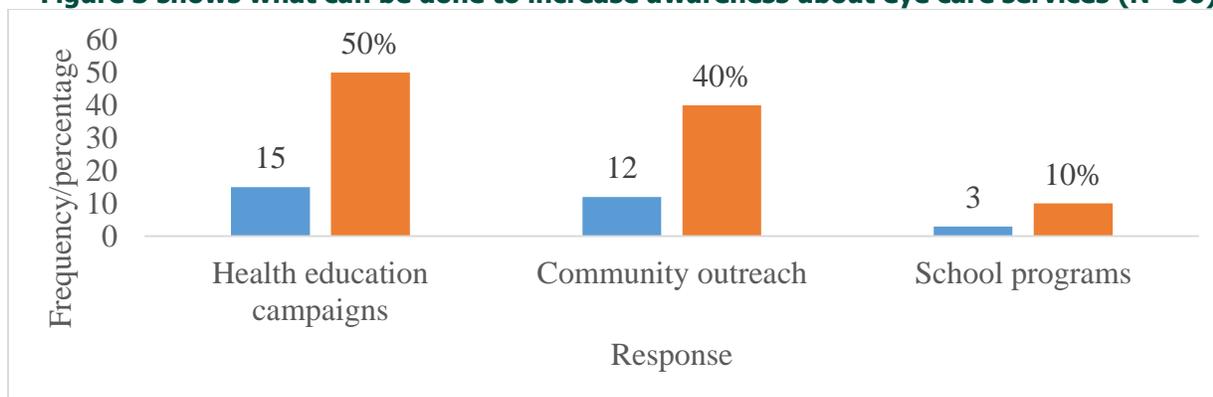


Figure 3, half of the respondents, 15(50%), mentioned a health education campaign to increase awareness about eye care services, and the minority, 3(10%), mentioned school programs.

**Table 4 shows more strategies to improve utilization of eye care services(N=30)**

Category	Variable	Frequency(f)	Percentage (%)
Measures to improve eye care services in the community	More facilities	18	60
	Mobile clinics	3	10
	Subsidized costs	9	30
	Improved transport	0	0
How the government/military should support eye care services	Provide free services	24	80
	More hospitals	6	20
Whether respondents would participate in community-based eye screening programs	Yes	17	57
	No	3	10
	Maybe	10	33

Table 4, more than half of the respondents, 18(60%) mentioned more facilities as measures to improve eye care services in the community, 9(30%) mentioned subsidized costs, while a minority, 3(10%) mentioned mobile clinics. More than three-quarters of respondents, 24(80%), mentioned provision of free services as a way the government should support eye care services, while a minority, 6(20%), mentioned construction of more hospitals. More than half of respondents, 17(57%), agreed that they would participate in community-based eye screening programs.



would participate in community-based screening programs, 10(33%) were not sure, while a minority, 3(10%) disagreed.

### **Discussion**

20(67%) were not aware of the eye care services available at Entebbe Regional Referral Hospital. This might suggest that information about these services is not reaching the community effectively.

Additionally, the majority of the respondents, 6(60%), got information about eye care services from posters/fliers, while the minority, 4(40%), got information from health talks. This could mean that structured health education may be limited compared to passive information channels.

Concerning health education, nearly three-quarters of respondents, 21(70%), had never attended any health education session related to eye health. This might indicate that a lack of direct health education could be contributing to low awareness.

When they were asked, more than three-quarters of respondents, 24(80%), had ever visited health facilities for eye-related problems. This could show that, despite low awareness, the presence of symptoms might be pushing individuals to seek care.

15(50%) mentioned that eye care facilities are not easily accessible within the region. This might suggest that distance and distribution of services could be limiting utilisation.

Concerning affordability, half of the respondents, 15(50%), were not sure about the affordability of eye care services. This could imply that unclear pricing might discourage people from seeking services.

In terms of attitude, less than half of the respondents, 12(40%), mentioned that the attitude of healthcare providers was good. This might indicate that provider-client interactions could influence clients' willingness to seek care. Pertaining to waiting time, more than half of the respondents, 19(63%), mentioned that the waiting time at the facility was more than one hour. This might suggest that prolonged waiting could discourage future utilisation. This finding is similar to Ramke et al. (2018), who reported that long waiting times due to limited staff and equipment reduce satisfaction and utilisation.

Half of the respondents, 15(50%), mentioned health education campaigns to increase awareness about eye care services. This could indicate that community sensitisation is highly valued.

Furthermore, more than half of the respondents, 18(60%), mentioned the need for more facilities to improve eye care services in the community. This might show that existing infrastructure is perceived as inadequate. The finding agrees with the Uganda National Eye Health Strategic Plan (MOH, 2020), which emphasises expanding infrastructure and training more ophthalmic personnel. Concerning the governmental approach, more than three-quarters of respondents, 24(80%), mentioned the provision of free services. This could suggest that financial barriers remain a major concern. 17(57%) agreed that they would participate in community-based screening programs. This might indicate that outreach programs could improve early detection and utilisation.

### **Limitations of the study**

One limitation of the study was the relatively small sample size, which could limit the generalizability of the findings to all motorcyclists in the region.

Another limitation was the reliance on self-reported information, which might be influenced by recall bias or social desirability bias.

The study was conducted in a single health facility region, which may not fully represent accessibility challenges or perceptions in other regions or settings.

The cross-sectional design of the study limited the ability to establish causal relationships. **Conclusion**

Awareness of available eye care services was generally low, with limited structured health education; however, symptoms often prompted care-seeking, highlighting the importance of targeted health education and outreach.

Institutional barriers, including accessibility, affordability, provider attitude, and long waiting times, could discourage utilization, emphasizing the need for better infrastructure, clear cost communication, improved interactions, and efficient service delivery.

Strategies like health education campaigns, more facilities, free government services, and community-based screenings could improve utilization, as respondents were willing to participate in outreach initiatives.

### **Recommendations**

Healthcare providers should improve client interactions and reduce waiting times to encourage service utilization.



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Polymakers and government agencies should expand eye care infrastructure and provide subsidized or free services to reduce financial barriers.

Community leaders and organizations should implement targeted health education campaigns to raise awareness and promote preventive eye care.

Researchers and program implementers should conduct community-based outreach and screening programs to improve early detection and service uptake.

### **Acknowledgement**

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May God richly bless them all.

### **List of acronyms/abbreviations**

MoH Ministry of Health  
RRH Regional Referral Hospital

### **Source of funding**

The study was not funded.

### **Conflict of interest**

The author did not declare any conflict of interest.

### **Data availability**

Data is available upon request.

### **Author contribution**

Kaana David collected data and drafted the manuscript of the study

Jaliah Namutebi supervised the study

Hasifa Nansereko supervised the study

Immaculate Prosperia Naggulu supervised the study

### **Author biography**

Kaana David is a student of a diploma in nursing at Mild may Uganda School of Nursing and Midwifery  
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