



## **Eye Care Service Utilization among Health Workers in Mercy Hospital, Abak**

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### **Authors' contributions**

*This work was carried out in collaboration between both authors. Author NEC designed the study and wrote the protocol. Both authors wrote the first draft of the manuscript. Author AAC performed the statistical analysis and managed the analyses of the study. Both authors managed the literature searches. Both authors read and approved the final manuscript.*

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### **ABSTRACT**

**Background:** The assessment of the level of and barriers to utilization of eye care services is paramount in combating visual impairment and blindness which are major health problems worldwide.

**Objectives:** To determine the level of utilization and barriers to utilization of eye care services among health workers at a mission hospital in a rural community in southern Nigeria.

**Methods:** This was a hospital based cross-sectional study. Ethical approval was obtained and 82 consecutive consenting health workers were selected. Data were obtained using a pre tested structured questionnaire. The questionnaire was made up of two sections, A and B. Section A was used to collect the demographic data of the participants while section B was used to collect data on utilization and barriers to utilization of eye care services. Data analysis was done using SPSS version 21.0.

**Results:** Of the 82 health workers interviewed, 29(35.4%) were males and 53(64.6%) females.

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The age range was from 20 to 75 years and the mean age was 35.6 years. Of the 27 (32.9%) that have had eye disorders in the past, only 12 (14.6%) consulted an Ophthalmologist, 8 (9.8%) consulted an Optometrist, 2 (2.4%) used traditional eye medication while 5 (6.1%) sought no treatment at all. Regarding the utilization of eye care services, only 28 (34.1%) has ever consulted the hospital Ophthalmologist for routine eye check. Barriers to utilization of eye care services noted were absence of eye disease, cost and time. The effects of knowledge of eye diseases and education on utilization were statistically significant ( $p = 0.04$  and  $0.01$  respectively). Duration of service was found not to positively influence utilization of eye care services.

**Conclusion:** The results of the study suggest that longer exposure to eye care services does not translate to better utilization of the services. Formal education as well as eye health education will go a long way to improving utilization of eye health services.

*Keywords: Eye care services; utilization; barriers to utilization; health workers.*

## 1. INTRODUCTION

The negative impact of visual impairment and blindness cannot be over emphasized. Visual impairment and blindness affect virtually every aspect of an individual and the society at large. According to WHO, 285 million people are estimated to be visually impaired worldwide: 39 million are blind and 246 have low vision [1]. In view of this, Vision 2020: The Right to Sight was launched jointly by the World Health Organization and the International Agency for the Prevention of Blindness with other nongovernmental organizations, professional associations, eye care institutions and corporations. The three core targets of this global initiative are specific disease control, human resource development and infrastructure and appropriate technology development [2]. It has been reported that eye care services and utilization are the key factors to achieving these goals [3].

The health workers form the bedrock of every health system. The term health workers has been described to be all people engaged in "paid activities" whose primary intent is to improve health. Health workers are said to include people employed by organizations primarily involved in health improvement as well as people who improve health by their activities but are employed by other types of organizations [4]. The health workers are believed to be better informed in health related matters compared to the general population.<sup>5</sup> Unfortunately, studies have shown that even the medical practitioners who are supposed to be the head of the health workers and the most knowledgeable in health related matters do not utilize the available health care services [5]. The health workers are said to disregard the advice they give to the patients when they become ill themselves [6]. They also

tend to place the patients first thereby sacrificing their own well-being for the sake of their patients [7].

Eye care services rendered include promotive, preventive, curative and rehabilitative services [8]. Patients and providers could have different perspectives regarding access to care. 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 [9]. Any mismatch between provision of services and need is regarded as evidence of inequitable access to health care [10,11]. Identification of factors affecting utilization of primary eye health services would help the government and other eye care providers to address inequity issues in their eye care program [9].

In a study by Gnyawali S [12] on utilization of primary eye health services by people from a rural community of Nepal, it was found that low level of education, poor knowledge of eye diseases and great distance from home to health facilities were found to be factors on the demand side while inadequacy of eye health services and perceived inadequate skills among health workers were identified as factors in the supply side affecting utilization of eye health services among people of Mustang District.

Nirmalan P, et al. [13] in their study on utilization of eye care services in rural south India found that more than 40% of those with bilateral blindness had never visited an eye doctor. Previous studies have reported on the barriers to eye care services in south India and have found that economic reasons and access to care (including transportation and lack of persons to accompany patients) were among the most important reasons that persons blind with cataract did not seek care [10,14].

This study is therefore aimed at exploring the extent of utilization of eye care services by health workers as well as determining the barriers to utilization in order to proffer suggestion for improved utilization.

## 2. MATERIALS AND METHODS

### 2.1 Study Design

This was a descriptive cross-sectional study.

### 2.2 Study Area

The study was carried out at Mercy Hospital, a mission hospital in Abak, a rural community in Abak Local Government Area of Akwa-Ibom State, Nigeria Abak (appendices I and II) has a landmass of 190 km<sup>2</sup>, and lies between 4°59'N and 7°47'E in the tropical rain forest belt of south-south Nigeria.

### 2.3 Study Population

The study population consisted of all consenting health workers in Mercy Hospital, Abak.

### 2.4 Sample Size Calculation

The sample size was calculated using the formula

$$n_f = \frac{n}{1 + \frac{n}{N}}$$

Where

$n_f$  = desired sample size when the population is less than 10,000

$n$  = the desired sample size when the population is more than 10,000 = 359 (which was calculated using a prevalence of 62.7%) [15]

$N$  = the estimate of the population size = 100

Substituting in the equation,

$$\begin{aligned} n_f &= \frac{359}{1 + \frac{359}{100}} \\ &= \frac{359}{4.59} \\ &\approx 78 \end{aligned}$$

5% attrition was added to make the minimum sample size 82.

### 2.5 Sampling Technique

All consenting consecutive health workers were recruited into the study using convenience sampling technique until the estimated sample size was attained.

### 2.6 Inclusion Criteria

Health workers at Mercy Hospital who gave their informed consent were included in the study.

### 2.7 Exclusion Criteria

Health workers who did not give consent were excluded from the study.

### 2.8 Ethical Consideration

In the course of the study, the tenets of the Helsinki declaration and the National code of Health research were adhered to. Ethical approval was obtained from the health research ethics committee of the hospital before commencement of the study. The purpose and benefits of the study were explained to the participants in details and an informed consent obtained from each participant before being included in the study. Confidentiality was also guaranteed.

### 2.9 Study Instruments and Data Collection

A pre tested structured questionnaire designed in line with the study objectives was used to obtain data. The questionnaire was made up of two sections, A and B. Section A was used to collect the demographic data of the participants while section B was used to collect data on utilization and barriers to utilization of eye care services. The authors and a trained assistant administered the questionnaire.

### 2.10 Data Management

Data was coded and double entered into a computer and analyzed using Statistical Package for Social Sciences (SPSS) version 21 for windows. The demographic data of the participants were analysed and presented in frequencies and percentages. The level of utilization of eye care services among health workers was also analysed and the association between level of utilization of eye care services and their socio-demographic factors, duration of

service and knowledge of eye diseases was determined using Chi square.

### 3. RESULTS

A total of 82 health workers participated in the study, 29 males (35.4%) and 53 females (64.6%). The age range was from 20 to 75 years and the mean age was 35.6 years. The age distribution of the participants is shown in Table 1.

**Table 1. Age distribution of the participants**

Age range (years)	Frequency	Percent (%)
< 26	17	20.7
26-35	36	43.9
36-45	14	17.1
46-55	10	12.2
56-65	4	4.9
66-75	1	1.2

Only 17 (20.7%) of the participants had tertiary education, 44 (53.7%) had secondary education while 21 (26.6%) had primary education. Of the 82 participants, 39 (47.6%) were single, 37(45.1%) were married, 2(2.4%) were separated, and 4(4.9%) were widowed. All the 82 participants were Christians and Nigerians from

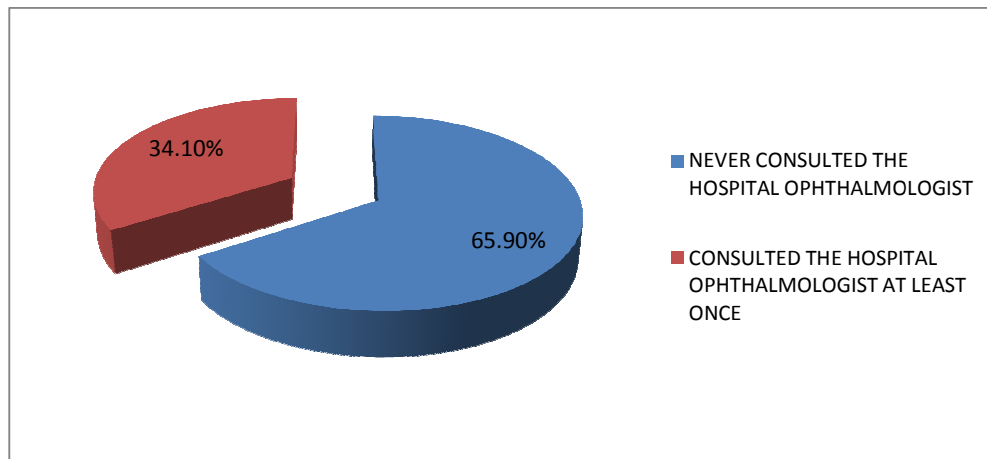
two tribes – Annang, 78 (95.1%) and Ibibio, 4 (4.9%).

Less than half of the participants (34.1%) have worked in the hospital for more than five years but more than half (65.8%) have worked in the Ophthalmology section at one time or the other. Most of the participants (97.6%) work in the hospital at least 5 days or more per week. Of the 27 (32.9%) that have had eye disorders in the past, only 12 (14.6%) consulted an Ophthalmologist, the management modality employed by the rest is shown in Table 2. Only 19 (23.2%) have first degree relatives with eye diseases.

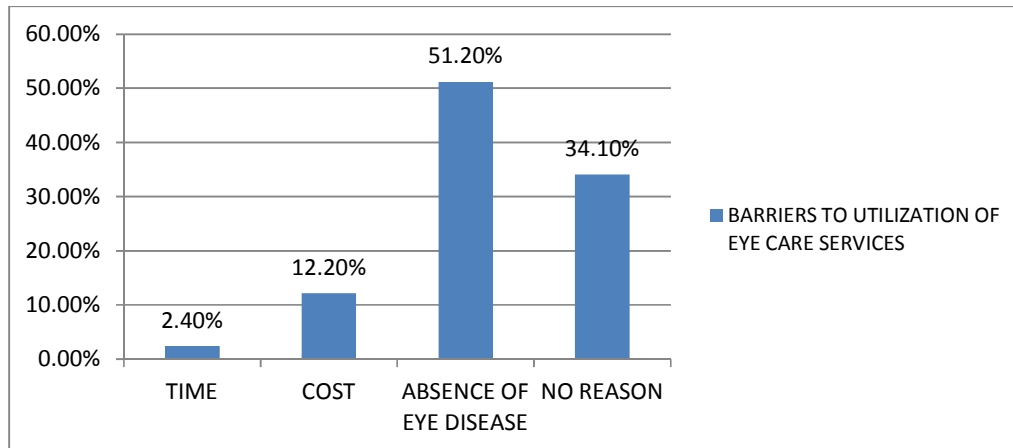
The routine utilisation of eye care services is as shown in Fig. 1. There was no statistically significant difference in utilisation found among the different age groups, sex, and marital status, however, education was shown to affect the level of utilization ( $p = 0.01$ ). The duration of service in the hospital did not affect the utilization of eye care services ( $p = 0.324$ ), while the effect of knowledge of eye diseases on utilization was statistically significant ( $p = 0.04$ ). Barriers to utilization of eye care services are shown in Fig. 2.

**Table 2. Modality of management of eye disease**

Modality of management of eye disease	Frequency	Percent	Valid percent
Traditional medication	2	2.4	7.4
Consulted an Optometrist	8	9.8	29.6
Consulted an Ophthalmologist	12	14.6	44.4
No treatment	5	6.1	18.5
Total	27	32.9	100.0



**Fig. 1. Utilization of eye care services**



**Fig. 2. Barriers to utilization of eye care services**

#### 4. DISCUSSION

The three core targets of vision 2020 are specific disease control, human resource development and infrastructure and appropriate technology development [2]. If these targets are achieved, it will engender optimal service delivery. However no matter how efficient a system is, if it is not utilized by the target population the aim of setting up the system fails. It has been reported that eye care services and utilization are the key factors to achieving these goals [3]. This study aims to ascertain the degree of eye care utilization by the very care givers in a health setting. In this study, only 34.1% of the staff had consulted the ophthalmologist at least once either for routine eye check or disease intervention. This shows poor health seeking behaviour of some health staff who would not go for routine check-up and would only present when there is an overt disease even when they in the health facility. Considering the extent of utilization by staff who had eye disease, only 44.4% and 29.6% consulted an ophthalmologist and optometrist respectively. This is worrisome bearing in mind that four of the five elements to access including availability, accessibility, accommodation and acceptability [9] have been taken care of in the setting of this study. This finding is in keeping with previous studies which agrees that health workers do not utilize the available health service [5-7].

Considering the possible barriers to utilization of eye care service as obtained from this study, level of education had statistically significant effect in the utilization of eye care service. This agree with previous studies which show low level of education as a barrier to service utilization

[12]. Though level of education is an important factor but not all have or would have the opportunity to attain higher education. It becomes necessary to invest in informal education towards increasing awareness and knowledge of eye diseases first among hospital staff and our communities at large. This is necessary bearing in mind that knowledge of eye disease had statistically significant effect on service utilization in this study and also in other studies [9,12]. It is possible that with good knowledge of eye disease and care, the 34.1% who gave no reason for not consulting an Ophthalmologist would see reasons to see one. It was also noted that 96.7% of the staff worked five times a week thus given them maximal exposure to an eye care system yet the utilization of the system was poor. This means that exposure does not culminate in knowledge and by extension utilization. Conscious effort should be made to educate health staff on eye health. It is only a system that one has knowledge of and believes in that he or she would serve and contribute optimally.

#### 5. CONCLUSION

The level of utilization of eye care service by eye health workers in our study was poor. This could be improved by conscious eye health education among hospital staff even among those who may have had long exposure in eye care service delivery.

#### CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the authors.

## ETHICAL APPROVAL

As per international standard or university standard, written approval of Ethics committee has been collected and preserved by the authors.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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## APPENDIX



Fig. 1. Map of Akwa Ibom showing location of Abak, the study location





**Fig. 2. Map of Nigeria showing the location of Akwa Ibom state**

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