

# Eye Health Seeking Behavior among Staff of Kwame Nkrumah University of Science and Technology

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## Abstract

**Back ground:** There has been an assumption that in developing countries people in need of eye care services will seek them if they are made available. This study was conducted to determine the eye health seeking behavior among members of staff of Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana.

**Methods:** This study was a cross-sectional descriptive survey. One hundred and fifty-one (151) members of staff [aged 21 to 73 years, mean ( $\pm$ SD) 39.23 ( $\pm$ 11.46)] were selected by convenient sampling for the study. Respondents were interviewed using a structured questionnaire.

**Results:** Ninety-six (63.6%) of the 151 respondents had ever checked their eyes or had had eye examination while 55 (36.4%) had never sought eye care. In terms of the frequency with which they received eye care, the survey showed that only 66 (68.8%) of those who have sought eye care had their last eye examination within the recommended interval of 3 years. Of those who have had an eye exam, 3.1% were unable to identify whether they had received their care from an ophthalmologist, optometrist, ophthalmic nurse or a general practitioner. Of those who could identify their eye care provider (n=93), Optometrists provided majority of the eye care accounting 53.7% and general practitioners provided the least (2.2%). Of the 96 respondents who reported having had an eye examination, they had different attitudes towards seeking treatment the last time they had eye problems.

**Conclusion:** On average, the utilization of eye care services in this study is considered to be good, being 63.6% amongst the respondents even though less than half of the population met the recommended frequency of eye examination within the past 3 years. Results of this study indicate that a considerable proportion of the studied population had never utilized eye care services; even those at risk and in need of eye care visits.

**Keywords:** Eye Health; Utilization; Behavior; Frequency; Examination Attitudes;

**Abbreviations:** NHIS (National health insurance scheme)

## Introduction

There has been an assumption that in developing countries people in need of eye care services will seek them if they are

made available. Increasingly this has been found not to be the case in all circumstances. Many barriers directly and indirectly affect the uptake of the services. Planning and implementation of services would help achieve the desired health outcomes in low-resource countries with little history of effective health service delivery (Palagyi, et al.) [10].

Due to the continuous increase in life expectancy in most developing countries as result of clean water, excellent sewage and garbage disposal, cleaner environments, vaccinations significantly reducing childhood mortality, accident prevention, successful treatment of acute diseases, and more effective treatments or management of chronic diseases, access to eye and health care is also being dramatically affected (Marcela Frazier and Kleinstein) [6].

Limited access to appropriate eye care services is one of the drawbacks to reducing blindness in developing countries (Ntim-Amponsah et al.) [7]. There are reports indicating that less than 10% of people in low income countries receive optimal eye care largely due to limited access to appropriate eye care services, a situation, which is further compounded by other barriers such as cost, fear of doctor, and transportation. One essential way of overcoming the burden of avoidable blindness is identifying barriers that hinder people's access to eye care (Ocansey et al.) [9].

In order to improve the delivery of eye care services, a comprehensive understanding of the barriers is required and overcoming the barriers that hinder people's access to eye care is crucial to forestall the mishap of avoidable blindness. People who live in communities with inadequate or inaccessible eye care facilities tend to seek other alternatives of eye care services. In developing countries like Ghana, with limited regular eye care facilities, it is likely that substantial eye care information and services are sought outside this regular eye care system (hospitals and clinics) (Ntim-Amponsah, et al.) [7].

Baidoo [2] reported that, in Ghana, the quality of eye care services available, the geographical access to this care, efficiency

of service delivery, and availability of adequate resources to finance and keep alive an efficient eye care systems, have placed expendable barriers to access and the existing eye care system is failing to support the increasing population growth. As a result of this inadequate eye care system, majority of the population are forced to seek alternative eye care services (Baidoo, Ocansey, et al.) [2,9].

## Methods

### Study area and design

A cross-sectional descriptive study was carried out in Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.

### Participant selection

The study was carried out from March to April 2017 to determine the eye health seeking behavior among the staff aged 21 to 73 years. Convenient sampling method was employed to select participants willing to partake in the study. The Epi-Info™ software version 7 (Centre for Disease Control, Atlanta, Georgia, USA) was used to calculate the sample size using the following parameters; the target population was 3,698, expected frequency of 32.2% (Ilechie et al.) [5], 7% confidence limits and 95% confidence interval. Thus, the sample size for the study was 164 members of staff of Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana.

### Data collection

Respondents were interviewed using a structured questionnaire. The questionnaire was used to obtain socio-demographic information: gender, age, marital status, religion, occupation, highest level of education, socioeconomic status as well as enrolment in the National Health Insurance Scheme (NHIS). The questionnaire further elicited data relating to eye health seeking behavior and barriers to eye care use.

### Ethical consideration

The study was approved by the Department of Optometry and Visual Science, Kwame Nkrumah University of Science and Technology. The nature and purpose of the study was explained to the participants and consent obtained. No probable risks were anticipated for those who chose to participate in the study. The information gathered was treated with confidentiality and was not shared with any third party who was not directly involved in the study. The study was also carried out in accordance with the tenets of Declaration of Helsinki.

### Data processing and analysis

Using descriptive statistics, data collected was analyzed using IBM SPSS Statistics version 23 (IBM Corp., Armonk, New York, USA). Descriptive statistics were employed and Chi-squared test ( $\chi^2$ ) was used to compare the variables and p-values less than 0.05 at confidence interval of 95% were considered significant.

## Methods

One hundred and sixty-four (164) questionnaires were issued

but only 151 were received. This gave a response rate of 92.1%. Of the 151 respondents, 113 (74.8%) were males and 38 (25.2%) were females. The age range of the respondents was 21 to 73 years with the mean age ( $\pm$ SD) of 39.23 ( $\pm$ 11.46) years. Majority of the respondents (31.8%) were in the age range of 30-39 years. Majority of the respondents were married 96 (63.6%) and 102 (67.5%) have had tertiary education. Sixty-nine (45.7%) of the respondents were in the junior staff rank and four out of five (81.5%) paid for their health using the NHIS card. Table 1 shows the socio-demographic characteristics of the respondents.

<b>Table1: Socio-demographic characteristics of respondents</b>	
<b>Gender</b>	<b>Frequency (%)</b>
Male	113 (74.8)
Female	38 (25.2)
<b>Age Group</b>	
20-29 years	35 (23.2)
30-39 years	48 (31.8)
40-49 years	34 (22.5)
50-59 years	25 (16.6)
60-69 years	8 (5.3)
70-79 years	1 (0.7)
<b>Marital status</b>	
Married	96 (63.6)
Single	50 (33.1)
Divorced/separated	2 (1.3)
Widowed	3 (2.0)
<b>Highest educational level</b>	
Tertiary	102 (67.5)
Technical	1 (0.7)
Vocational	5 (3.3)
Senior high school	33 (21.9)
Junior high school	10 (6.6)
<b>Rank</b>	
Senior member	25 (16.6)
Senior staff	57 (37.7)
Junior staff	69 (45.7)
<b>Health finance plan</b>	
Out of pocket	25 (16.6)
NHIS	123 (81.5)
Private NHIS	3 (2.0)

Ninety-six (63.6%) of the 151 respondents had ever checked their eyes or had had eye examination while 55 (36.4%) had never sought eye care. Among those who reported ever visiting the eye care facilities, 68 (70.8%) were males and 28 (29.2%) were females. Also there was a significant association between rank and having had eye examination [ $\chi^2 (2) = 5.990$ ;  $p = 0.049$ ]

(Table 2). Of the 123 of the respondents who had health insurance, 47 (38.2%) of them have never had their eyes examined, while 76 (61.8%) visited the health facility with an eye problem. Having a health insurance was not significantly associated with a visit to the eye facility [ $\chi^2 (2) = 2.100$ ;  $p = 0.350$ ] (Table 2).

Table 2: Utilization of eye care services by socio-demographic characteristics

	Have you ever had an eye examination?		p-value	
	Yes	No		
	N (%)	N (%)		
<b>Gender</b>				
	Male	68 (45.0)	45 (29.8)	0.134
	Female	28 (18.5)	10 (6.6)	
<b>Marital Status</b>				
	Married	63 (41.7)	33 (21.9)	0.891
	Single	30 (19.9)	20 (13.2)	
	Divorced/separated	1 (0.7)	1 (0.7)	
	Widowed	2 (1.3)	1 (0.7)	
<b>Age Group</b>				
	20-29 years	19 (12.6)	16 (10.6)	0.644
	30-39 years	30 (19.9)	18 (11.9)	
	40-49 years	25 (16.6)	9 (6.0)	
	50-59 years	16 (10.6)	9 (6.0)	
	60-69 years	5 (3.3)	3 (2.0)	
	70-79 years	1 (0.7)	0 (0.0)	
<b>Highest Educational Level</b>				
	Tertiary	69 (45.7)	33 (21.9)	0.071
	Technical	1 (0.7)	0 (0.0)	
	Vocational	1 (0.7)	4 (2.6)	
	SHS	17 (11.3)	16 (10.6)	
	JHS	8 (5.3)	2 (1.3)	
<b>Rank</b>				
	Senior member	21 (13.9)	4 (2.6)	0.049*
	Senior staff	36 (23.8)	21 (13.9)	
	Junior staff	39 (25.8)	30 (19.9)	
<b>Health Finance Plan</b>				
	Out of pocket	17 (11.3)	8 (5.3)	0.35
	NHIS	76 (50.3)	47 (31.1)	
	Private NHIS	3 (2.0)	0 (0.0)	

\* $p < 0.05$ , variables with significant association with use of eye care

In terms of the frequency with which they received eye care, the survey showed that only 66 (68.8%) of those who have sought eye care had their last eye examination within the recommended interval of 3 years Figure 1. Of those who have had an eye exam, 3.1% were unable to identify whether they had received their care from an ophthalmologist, optometrist, ophthalmic nurse or a general practitioner. Of those who could identify their eye care provider (n=93), Optometrists provided majority of the eye care accounting 53.7% and general practitioners provided the least (2.2%). Further details are shown in Figure 2 below.

Out of the 55 respondents who had never checked their eyes or visited the eye care facility with an eye problem, 18 (32.7%) accounting for the majority was in 30-39 years age group with 70-79 years age group registering the least (0.0%) respondents. Sixteen (29.1%) were in the 20-29 years age group, while 40-49 and 50-59 years age groups had 9 (16.4%) respondents each. However, no significant association was found between age groups and having had an eye examination [ $\chi^2 (2) = 3.362$ ;  $p = 0.644$ ]. Further details are depicted in table 2.

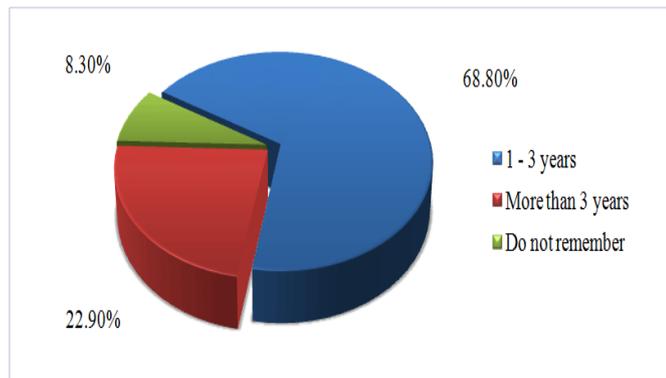


Figure 1: Last time of eye examination

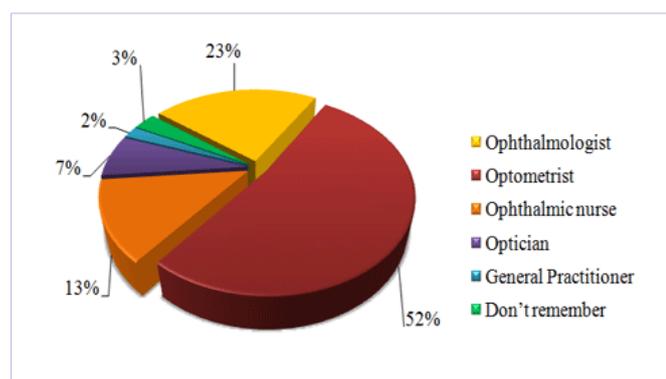


Figure 2: Distribution of eye care providers

Of the 96 respondents who reported having had an eye examination, they had different attitudes towards seeking treatment the last time they had eye problems. Majority of them visited an eye clinic (32.5%) while a few (0.7%) had eye irrigation (Table 3). The reasons cited among those who had never visited an eye care facility are categorized into awareness, attitudes, social reasons, services, perception and economic (Table 4).

Action taken	Frequency (%)
Nothing	18 (11.9)
Visited a hospital	19 (12.6)
Visited an eye clinic	49 (32.5)
Visited a pharmacy	5 (3.3)
Self-medication	4 (2.6)
Irrigation of eyes	1 (0.7)
Total	96 (100.0)

		Gender		p-value
		Male	Female	
Awareness	Did not know of any eye care services	5	1	0.624
	Thought nothing could be done	8	5	0.248
Attitudes	Felt there is no need	22	5	0.38
	Could manage	7	1	0.396
	Accept the problem	4	2	0.638
Social	Vision problem part of ageing	0	1	0.084
	No time / other priorities	15	3	0.376
	Used traditional or home remedy	3	1	0.994
Economic and Services	Service too far away	3	2	0.437
	Wait too long at the hospital	4	1	0.787
Perception	Can't afford the eye care service	4	4	0.096
	Minor (not sight-threatening)	14	5	0.902
	Nothing	13	3	0.532

## Discussion

Despite the fact that less than half of the respondents had never had previous eyes examination at a health center, a few of them had some ocular symptoms. The major reason for this behavior was that respondents felt there was no need to report their eye problem to the clinic. Other major reasons were that the respondents thought their eye problem was minor (not sight threatening) and they had no time (Bisika, et al.) [3]. The junior staff has high respondent then senior members which is likely to be associated with the fact that junior staff of the University

outnumbers that of the senior members. Staff with higher level of education was less likely to visit the eye care facility which may be due to the fact that they have knowledge on preventive eye care and also on various home remedies for relieving some ocular symptoms. A major factor for the attitudes of respondents who never sought eye care is likely to be related to their rank. This may be due to the distribution of the respondents with respect to their rank. This is related to the level of education since respondents in the senior member rank indirectly have higher educational level than those in the junior staff. This is similar to the study by Fotouhi, et al. [4].

Since most of the respondents in the senior member rank are more knowledgeable about the importance of utilizing eye care services, 84% of them utilized eye care. These reasons may likely be related to how debilitating the individual perceived the problem to be. For example people with cataract or refractive error are less likely to seek treatment than painful problem such as eye injury due to the gradual onset (Palagyi, et al.) [10]. Cost of seeking care other than travel distance was an important barrier to the uptake of eye care services contrary to an earlier report by Ashaye, et al. [1]. This could also be due to the socioeconomic background of respondents (Nyonator, et al.) [8].

This can be explained more from the observation that a little above half of those who had never sought eye care were in the junior rank which is indirectly linked to their salary. A little above four out of five (85.5%) of the respondents who had never sought eye care were insured under the NHIS. This is contrary to Ocansey, et al. [8] which stated that people did not seek eye care service because they had to pay for the health care. However, most of the barriers to eye care services were not significant with sociodemographic characteristics of the respondents. In reference to a study by Ilechie, et al. [5], the level of eye care utilization will be considered adequate if within the last 3 years at least 50% of the population had received eye examination. From this study, 66 (43.7%) of the respondents met the recommended frequency of eye examination.

Even though the patronage did not meet the required 50% of the population, 68.8% of those who have ever sought eye care met the recommended frequency. The inadequacy of eye care service utilization may be attributed to shortage of eye care providers due to the disproportional distribution to that of the population. The high percentage of patronage (43.7%) which is close to 50% of population could be attributed to the fact that most of the eye care providers in the country are located in the

cities and the study area of this current study happens to be in one of the cities. This finding is similar to the hypothesis made by Ocansey, et al. [9], that access to and utilization of eye care services in Ghana is inadequate and that few people received quality and comprehensive eye examination in the last 3 years.

## Conclusion

On average, the utilization of eye care services in this study is considered to be good, being 63.6% amongst the respondents even though less than half of the population met the recommended frequency of eye examination within the past 3 years. Results of this study indicate that a considerable proportion of the studied population had never utilized eye care services; even those at risk and in need of eye care visits. Perception and attitudes of respondents acted as barriers to utilization of eye care services.

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