

# The Level Of Awareness And Relevance Of Glaucoma Blindness Among Affected Patients In A Tertiary Eye Clinic In Nigeria

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## **Abstract:**

**Background:** Glaucoma is a disease of the optic nerve that usually leads to irreversible blindness if untreated or poorly managed; as such it is important for affected patients to be aware of this fact so as to take responsibility in ensuring that they don't go blind from it and also ensure that they encourage their relations to get screened for it since it has a hereditary nature. Most previous studies on awareness about glaucoma focused on the disease itself and not the untoward effect of irreversible blindness nor the relevance, this study aims to determine the level of awareness about the blinding potential of this disease and its relevance among affected patients.

**Methods:** A semi-structured questionnaire designed and pretested for the study was used to obtain relevant bio-data from the patients hospital record, specific questions on their level of awareness about the blinding potential of glaucoma and its relevance was also obtained.

The data obtained were coded and analyzed using Statistical Package for Social Sciences(SPSS).

## **Result:**

One hundred and nineteen primary open angle glaucoma patients aged forty and above were analyzed for the study. They comprised of 59 males (49.6%) and 60 females (50.4%). Age range 40-94 years, mean 66 SD± 12 years.

Majority of the patients 106 (89.1%) were aware that glaucoma is a blinding disease, 76.4% of them expressed sadness and fear about it while the remaining 23.6% were indifferent, 64.2% of them claimed the awareness has helped them to encourage their relatives to get screened for the disease. They all affirmed that the awareness has helped them to adhere to their medication and maintain their follow up visits.

There was no statistical significance between the level of awareness and their demographic characteristics  $P > 0.05$ .

**Conclusion:** There is a high level of awareness about the blinding potential of glaucoma among affected patients in the clinic but there is no commensurate response on their part to encourage their first degree relative to come for evaluation.

There is therefore the need for more patient education as regards this so as to reduce the magnitude of blindness from the disease and also for more patient counseling to allay their fear and the resulting sadness.

**Keywords:** Glaucoma, Blindness, Awareness

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## I. Introduction

Glaucoma is a potential blinding disease of the optic nerve, It is the second leading cause of blindness worldwide accounting for 8% of the estimated 39 million blind people in the world.<sup>1</sup> In Africa, it accounts for 15% of blindness and has the highest prevalence of blindness relative to other regions worldwide,<sup>2</sup> in Nigeria, it is also the second leading cause of blindness.<sup>3</sup>The blindness that results from untreated or poorly managed glaucoma is usually profound and irreversible, as such it is important for affected patients to be aware of this fact so as to take responsibility in ensuring that they don't go blind from it. Awareness is a great motivating factor in the health seeking behaviour of an individual but unfortunately a lot of patients suffer from lack of awareness and the untoward effect of their ailment.Many studies in Nigeria<sup>4-8</sup> and elsewhere<sup>9-11</sup> have shown that the level of awareness and knowledge of glaucoma to be low and even when patients are knowledgeable about the disease, a good number of them may not be aware of the irreversible nature of the blindness that results from it; this is not good for the outcome of this blinding disease.Also most studies<sup>7-11</sup> on awareness about glaucoma mainly focused on the disease entity itself and not the untoward effect of irreversible blindness, It will be advantageous if affected patients are aware of this fact; this will help them in making right choices on their management from the onset, it will also enhance the level of compliance to medication by those on medical therapy and encourage all affected patients to maintain their checkup appointment. This will in effect reduce the magnitude of blindness from this

disease and the tragedy of its irreversible nature. The aim of this study is to determine the level of awareness about the blinding potential of glaucoma and its relevance among affected patients, this will enable one to make recommendations on how to reduce the magnitude of Blindness from the disease.

## II. Material And Methods

All consenting Adult patients aged 40years and above with established diagnosis of Primary open angle glaucoma (POAG) who have being attending the glaucoma clinic of the Hospital for at least three months duration were recruited for the study during their routine follow up clinic. A semi-structured questionnaire designed and pretested for the study was used to obtain relevant bio-data from their hospital record, thereafter each of the patient were asked specific questions on awareness about the blinding potential of glaucoma, their source of information and the relevance of the information. The questionnaires were administered by two consultants and all resident doctors that conducts the Glaucoma clinic, the questionnaire were administered in either English or Yoruba Language which is the native language in the Environment for the illiterate ones.

The Patients were thereafter examined in details and then counseled further about the disease entity and how to forestall blindness from it and encourage their first degree relatives to come for evaluation. The study period was for a period of four months from February to May 2024.

Approval for the study was obtained from the research and ethical committee of Ekiti State University Teaching Hospital (EKSUTH) Ado-Ekiti, Informed verbal consent were also obtained from all patients after due explanation to them.

### Statistical Analysis

The data obtained were coded and analyzed using Statistical Package for Social Sciences(SPSS) Version 21.

Descriptive analysis of all relevant data obtained were presented in form of tables and figures, The level of awareness was cross tabulated with relevant parameters such as gender, age, educational status, and the occupation of the patients to know the statistical significance using chi- square and correlation method.

## III. Result

One hundred and nineteen primary open angle glaucoma patients aged forty and above were analyzed for this study. Their socio- demographic characteristics are as illustrated in table 1.

They comprised of 59 males (49.6%) and 60 females (50.4%). Their age ranged from 40-94 years with a mean of 66 SD± 12 years. The greatest proportion were with the age group 71-80 years (26.9%) closely followed by 61-70 years (25.2%).

The greatest proportion were married (88.2%) while the remaining were either widowed or divorced. Majority of the patients (83%) had formal education at various levels while the remaining 17% did not have

The greatest proportion of the patients were retirees 44 (37.0%) followed by civil servants 30 (25.2%). Others were Farmers, Traders, Clergymen and Artisan.

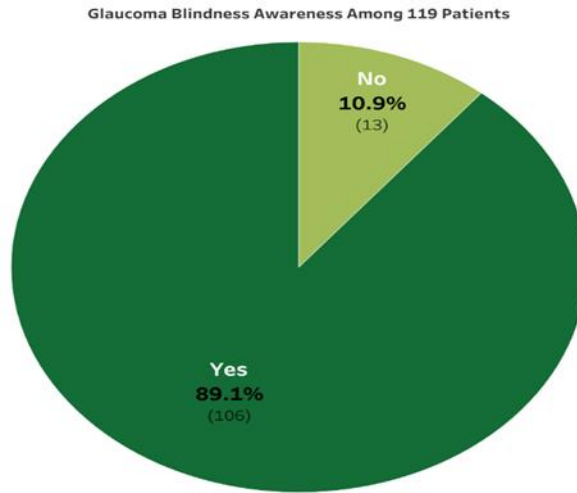
**Table 1: Socio-Demographic Characteristics of 119 Glaucoma Patients**

<i>Variables</i>	<i>Number</i>	<i>Percentage%</i>
Age-Group		
40-50years	17	14.3
51-60years	25	21.0
61-70years	30	25.2
71-80years	<b>32</b>	<b>26.9</b>
81-90years	13	10.9
>90years	2	1.7
Sex		
Male	59	49.6
Female	<b>60</b>	<b>50.4</b>
Marital Status		
Married	<b>105</b>	<b>88.2</b>
Unmarried	3	2.5
Widow	9	7.6
Divorced	2	1.7
Educational Status		
None	17	14.3
1 <sup>o</sup>	16	13.4
2 <sup>o</sup>	26	21.8
3 <sup>o</sup>	<b>60</b>	<b>50.4</b>
Occupation		
Civil servant	30	25.2
Farmer	11	9.2
Trader	26	21.8

Clergy	2	1.7
Retiree	44	37.0
Artisan	6	5.0

Sixty two (52.1%) of the patients gave positive family history while the remaining 57 (47.9%) did not.

Majority of the patients 106 (89.1%) were aware that glaucoma was a blinding disease while the remaining 15 (10.9%) claimed ignorance fig (1)



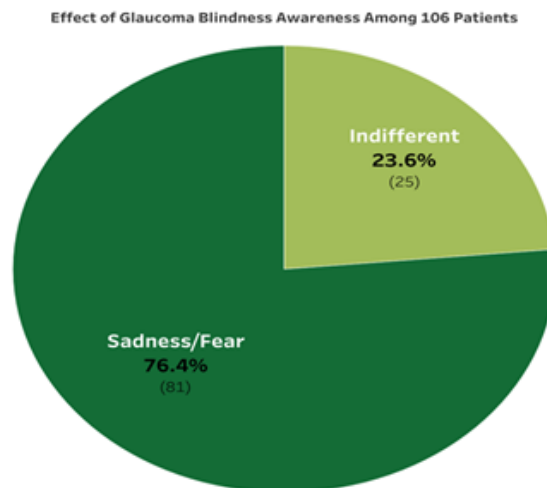
**Figure 1:** Glaucoma Blindness Awareness Among 119 Patient

On the source of their awareness, one hundred and two (85.7%) were informed by their managing Doctors while the remaining ones were informed by either health worker, affected relation or during an eye care intervention programme

**Table 2:** Source of Information on Awareness by 119 Glaucoma Patients

Source of Information	Number	Percent%
Managing Doctor	102	85.7
Health Worker	11	9.3
Affected Relation	3	2.5
Eye Intervention Programme	3	2.5
<b>Total</b>	<b>119</b>	<b>100.0</b>

As regards the relevance of the awareness, 76.4% claimed they often feel sad about the disease because of the fear of being at risk of becoming blind eventually while the remaining 23.6% were indifferent.(fig 2).



**Figure 2:** Effect of Glaucoma Blindness Awareness Among 106 Patients

Furthermore, 64.2% of them claimed the awareness has helped them to encourage their first degree relatives to get screened for the disease while the remaining 35.8% did not do so.

All the patients that claimed awareness affirmed that it has helped them to adhere to their medication and also maintain their follow up visits.

On cross tabulation , there was no statistical significance between the level of awareness and their gender, age, level of education and their occupation  $P > 0.05$  (Table 3)

**Table 3:** Factors associated with Glaucoma Awareness (n=119patients)

Variables		Glaucoma Awareness		Gender Total	r	P
		YES	NO			
Gender	Male	54 (91.5%)	5 (8.5%)	59(49.6%)	0.078	0.400
	Female	52 (86.7%)	8 (13.3%)	60(50.4%)		
Age-Group	<40years	2 (100.0%)	0 (0.0%)	2 (1.7%)	0.007	0.942
	41-50years	13 (86.7%)	2 (13.3%)	15 (12.6%)		
	51-60years	23 (92.0%)	2 (8.0%)	25 (21.0%)		
	61-70years	26 (86.7%)	4 (13.3%)	30 (25.2%)		
	71-80years	28 (87.5%)	4 (12.5%)	32 (26.9%)		
	81-90years	12 (92.3%)	1 (7.7%)	13 (10.9%)		
	>90years	2 (100.0%)	0 (0.0%)	2 (1.7%)		
Educational Status	None	16 (94.1%)	1 (5.9%)	17(14.3%)	0.022	0.810
	1 <sup>0</sup>	14 (87.5%)	2 (12.5%)	16(13.4%)		
	2 <sup>0</sup>	22 (84.6%)	4 (15.4%)	26(21.8%)		
	3 <sup>0</sup>	54 (90.0%)	6 (10.0%)	60(50.4%)		
Occupation	Civil Servant	27 (93.1%)	2 (6.9%)	29 (24.4%)	-0.012	0.899
	Farmer	9 (81.8%)	2 (18.2%)	11 (9.2%)		
	Trader	22 (84.6%)	4 (15.4%)	26 (21.8%)		
	Clergy	2 (100.0%)	0 (0.0%)	2 (1.7%)		
	Student	1 (100.0%)	0 (0.0%)	1 (100.0%)		
	Retiree	39 (88.6%)	5 (11.4%)	44 (37.0%)		
	Artisan	6 (100.0%)	0 (0.0%)	6 (5.0%)		

#### IV. Discussion

Awareness is a great motivating factor in the health seeking behaviour of an individual. It helps in forestalling the untoward effect of any disease especially in a disease like glaucoma whereby the tragedy is that of irreversible blindness.

This study showed that majority 89.1% of the patients were aware of the blinding potential of glaucoma as against 10.9% that claimed ignorance, this is similar to some other studies<sup>6,8&12</sup> that demonstrated a high level of awareness, Nwosu<sup>6</sup>found that 78.9% of his patients were aware that glaucoma leads to irreversible blindness as against 19.2% that claimed ignorance

Mbadugba & Onakoya<sup>8</sup> found 80% level of awareness while Nkum et al<sup>12</sup> found that 74% of their studied patient had awareness. This is quite different from the low level of awareness reported in some other similar studies in the environment<sup>7</sup> and elsewhere.<sup>10,11&13</sup> This is because some of these studies were community based while the hospital based ones did not focus mainly on glaucoma patients. For instance in the study by Maharana et al<sup>13</sup> which is hospital based, a low level of 27% was found, this is because their study was not restricted to only glaucoma patients but on all the patients accessing eye-care in their hospital.

The source of awareness in this study was mainly from their managing Doctors (85.7%) while 9.3% obtained theirs from some other health workers and a few others from their affected relation and during an Eye care intervention programme. This is quite different from the study by Maharana et al<sup>13</sup> and Odberg et al<sup>14</sup> that obtained their information from their close relatives. In the study by Pfeiffer et al<sup>15</sup> and Dandona et al<sup>16</sup> their main source was from the media, This disparity regarding their source of information might be due to the fact that this study is focused mainly on glaucoma patients already on treatment in an hospital while theirs were population based whereby patients were reached through media publicity hence the main source of information in this study was invariably from their Doctors.

The effect of the awareness in this study is mainly on the patient's emotion, 76.4% of them expressed sadness and fear of the risk of eventual blindness while the remaining 23.6% were indifferent. This is higher than the 44% of anxiety level reported by Onwubiko et al<sup>17</sup> among their patients and not in consonance with the 41.8% of their patients that had depression, none of the patients in this study expressed sadness of the level of depression, this may be due to the type of objective scale used to measure the level of anxiety and depression in their study. Some other studies<sup>17-19</sup> also reported negative emotion of various magnitudes among their glaucoma patients.

Furthermore a sizeable proportion (64.2%) of the patients that claimed awareness of the potential blinding nature of glaucoma in this study said it has helped them to bring their first degree relative for testing while 35.8% of them did not do so. Even though one would have expected a higher percentage based on the high level of awareness in the study but many people in the Environment still hold health issues as a secret matter and may not want to share their ailment with their relatives.

All the patients affirmed that the awareness has helped them to adhere to their medication and maintain their follow up visits.

This study did not reveal any significant relationship between the level of awareness and their socio-demographic characteristics probably because of the main source of awareness that was from their managing doctor that afforded all of them equal opportunity of access to information.

## **V. Conclusion**

There is a high level of awareness about the blinding potential of glaucoma among affected patients in the clinic but there is no commensurate response on the part of the affected patients to encourage their first degree relative to come for evaluation. There is therefore the need for more patient education as regards this so as to reduce the magnitude of blindness from the disease, also there is need for more patient counseling to allay their fear and the resulting sadness.