



ORIGINAL ARTICLE

Awareness of Eye Disease and Self-Reported Perception of Eye Health Status among Adults in Two Rural Communities of Anambra State, Nigeria

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ABSTRACT

Background: Optimal eye health and vision are vital for daily functioning and wellbeing. Eye health perception and awareness of eye diseases could impact eye health-seeking behaviour. This study sought to assess awareness of common eye diseases and self-reported perceived eye health status of participants, and also determines the factors associated with them.

Methods: A cross sectional study of adults attending medical outreach programs at two rural communities in Anambra state, Nigeria, using an interviewer-administered questionnaire. Consenting participants underwent blood pressure check, blood sugar test, weight and height measurements and ocular examination. Descriptive and inferential statistics were used for analysis with alpha level of 0.05

Results: There were 244 participants comprising of 75 males (30.7%) and 169(69.3 %) females; aged between 18 and 102 years, with a mean age of 59.4 ± 15.6 years. Thirteen (5.3%) had no formal education while 94(38.5%) had secondary education. Self-reported perception of eye health status was very good for 6 (2.5%) participants, very poor for 29 (11.9%), while 115 (47.1%) participants reported fair eye health status. Up to 198 (81.1%) had heard about cataract; 185 (45.8%), glaucoma and 111(44.5%), refractive errors. Self-reported eye health status was poorer with older age ($p=0.001$), lower education ($p=0.020$), attending eye check ($p=0.014$), current eye complaint ($p=0.025$), eye disease ($p=0.016$) and lower visual acuity ($p=0.001$).

Conclusion: Majority of the participants rated their eye health status as fair and the awareness of eye diseases in this study was suboptimal. Eye health education to increase awareness on eye diseases and encourage the use of eye care services in the rural communities is recommended.

Key message: Regular eye examination is necessary for early detection and treatment of eye diseases rather than subjective feelings of clear vision.

INTRODUCTION

Vision is necessary for everyday activities such as mobility, balance control, face perception and important functional task.¹ Visual impairment occurs when there is either structural or physiological disruption of the eyes, brain or their connection.² Some of the leading causes of visual impairment and blindness include cataract, glaucoma, refractive error, diabetic retinopathy, and age related macular degeneration.³

Research has shown that people who live in rural areas are more likely to be visual impaired or blind^{2,4,5} and this may be attributed to the fact that there is a poorer awareness of eye diseases in rural communities, compared to urban areas.⁶ Unfortunately, more Nigerians live in remote rural areas with little or no access to basic eye health care services.⁴ Good eye health-seeking behaviour would enable early detection of eye diseases and facilitate prompt intervention, which in turn would reduce the burden of avoidable visual impairment and blindness on the individual, family and community. Improving awareness of eye diseases would encourage good eye health-seeking behaviour and increased utilisation of eye health services.⁷

Eye health is defined as maximized vision, ocular health, and functional ability. Good eye health therefore contributes to overall health and wellbeing, social inclusion, and quality of life.² It plays a crucial role in how an individual functions in society. However, the feeling of having good eye health or sight could cause an underestimation of potential threat to vision while an erroneous perception of eye health status could lead to delays in seeking eye care with resultant delays in diagnosis and treatment of eye diseases. This could portend adverse outcomes for some diseases such as glaucoma, a cause of irreversible vision loss, which is usually asymptomatic in the early stages. An individual's perception of his eye health could affect his wellbeing. Self-reported visual difficulty has been associated with dementia and other neuropsychiatric outcomes more than clinically diagnosed eye disease.⁸

This study sought to assess the awareness of common eye diseases and the self-reported perceived eye health status of adults attending a medical outreach in two rural communities in Anambra State, Nigeria. It also aimed to identify factors that influence awareness of eye diseases and perception of eye health status.

MATERIALS AND METHODS

This study was conducted in two rural communities in Anaocha Local Government Area of Anambra State,

Nigeria. The study population was made up of adult participants who came for free medical treatment at a medical outreach in the two communities.

It was a descriptive cross-sectional study conducted in May and June 2025. Consecutive eligible participants who willingly gave consent were recruited into the study. Other inclusion criteria were adults aged 18 years and older, who had lived in the communities for 6 months or more, and who presented for medical treatment at the medical outreach.

Non-consenting adults, new residents in the communities, and individuals with severe physical or cognitive conditions that preclude participation in the study were excluded.

The sample size was determined using the Cochran formula for sample size calculation:

$$Z = Z^2P(1-P)/d^{29}$$

A standard normal variate at 95% confidence interval (Z) was set at 1.96. Using a prevalence (P) of 81.3% from a previous study¹⁰ and precision (d) of 5%, a sample size of 236 was calculated.

Study Procedure

Each consenting patient had blood pressure measurement, using the Newlife CE 01970 sphygmomanometer and Littmann classic III stethoscope. Blood pressure (mmHg) was measured 3 times in a seated position on the left upper arm after at least 5 minutes of rest. The average blood pressure (mmHg) reading was taken. A blood pressure reading of >140/90mmHg was considered hypertensive.¹¹ Although the guidelines of the Nigerian Federal Ministry of Health¹¹ requires two of these readings taken at least two weeks apart, the present study used the above definition taken on the same day as it was not feasible to obtain a second reading at a later date due to logistic reasons.

The blood sugar test was done with the Accu-Chek Active glucometer. A fasting blood sugar level $\geq 126\text{mg/dl}$ or random blood glucose $\geq 200\text{mg}$ was considered diagnostic for diabetes.¹²

The height (meters) and weight (kg) were measured with a stadiometer and a weighing scale respectively and the values obtained were used to calculate the body mass index (Kg/m^2). The body mass index (BMI) was calculated using the formula $\text{BMI} = \text{weight (kg)} / \text{height}^2 (\text{m}^2)$ and classified using the WHO international classification of obesity in adults; underweight (<18.5), normal weight ($18.50\text{--}24.9 \text{ kg/m}^2$), overweight ($25\text{--}29.9 \text{ kg/m}^2$) and obese ($\geq 30 \text{ kg/m}^2$).¹³

This was followed by administration of the study questionnaire and ocular examinations, including visual acuity testing with the Snellen chart, anterior segment examination with a pen torch and posterior segment examination using a direct ophthalmoscope. The WHO four categories of visual impairment were used to classify the participants based on their presenting visual acuity. Category 0 is mild or no visual impairment with visual acuity $\geq 6/18$; Category 1 is moderate visual impairment with visual acuity worse than 6/18 but equal to or better than 6/60. Category 2 is severe visual impairment with vision worse than 6/60, but equal to or better than 3/60 and lastly, category 3 is blindness with vision worse than 3/60.¹⁴

A diagnosis of glaucoma was made with a vertical cup disc ratio >0.7 or vertical disc asymmetry >0.2 ,¹⁵ while the presence of lens opacity obscuring visualization of the fundus with a direct ophthalmoscope was defined as cataract.¹⁶

A pretested translated questionnaire in the Igbo language used in a pilot study done at Onitsha was administered to participants in this study. The questionnaire contained segments on sociodemographic information such as age, sex, highest educational attainment and marital status. Self-reported grading of eye health status into very poor, poor, fair, good and very good was elicited as well as, history of eye check, history of systemic diseases, and eye complaint. The participants were assessed on their knowledge of common eye diseases such as cataract, glaucoma, refractive error and diabetic eye disease and their opinion on spectacle use was elicited. Lastly, a proforma sheet was used to document ocular examination findings and diagnosis.

Data Management

Data was analysed with IBM SPSS version 25 (SPSS Inc. IBM Corp. Chicago Illinois USA). Frequencies, percentages and means with standard deviations were used to summarize and present data. Chi-square was used as a test of association between variables. A P-value <0.05 was considered statistically significant.

Ethical considerations.

This study was conducted in accordance with the Helsinki declaration. The rights and privileges of all consenting participants were duly respected. Ethical approval was obtained from Anambra State Ministry of Health Research Ethics Committee, Awka (ASMOHREC/2025/30102025/53). Written informed consent was obtained from all participants after a detailed explanation of the study.

RESULTS

A total of 244 participants aged between 18 and 102 years with a mean age of 59.4 ± 15.6 years were studied. One hundred and sixty nine (69.3%) were females, and 94 (38.5%) had secondary education. (Table 1)

Up to 142 (58.4%) participants reported no previous health conditions, 89 (36.6%) were hypertensive, 9 (3.7%) were diabetic while 3 (1.2%) reported other health conditions. Only 83 (34%) participants had systolic blood pressure <140 mmHg, 130 (52.3%) had diastolic blood pressure <90 mmHg and 13 (5.3%) had body mass index less than 25. Among participants who had fasting blood sugar done, 27 (11.1%) had values <100 mg/dl while among those that did random blood sugar, 122 (50.0%) had values <200 mg/dl. A summary of the mean baseline clinical profile of participants is shown in Table 2.

Self-reported perception of eye health status was very good for 6 (2.5%) participants and very poor for 29 (11.9%) participants. Up to 115 (47.1%) participants felt their eye health was fair. (Figure 1)

One hundred and sixty-eight (69.1%) participants had a previous eye examination at a health facility while 76 (31.1%) had never had an eye examination. Of those that had a previous eye examination, 48 (28.6%) did so less than 6 months prior to this medical outreach, 57 (33.9%) did so in the preceding 6 to 12 months while 63 (37.5%) had their eyes checked over a year ago. Seventy-three participants (43.5%) attended a government-owned eye facility, 64 (38.1%) at private eye facilities, and 31 (18.4%) at previous medical outreaches.

One hundred and seventy (73.0%) had eye complaints while 66 (27.0%) had no eye symptoms. Among those with eye complaints, the most common complaint reported was poor vision by 61 (34.3%) participants, followed by itchy eyes by 53 (29.8%), eye pain by 22 (12.4%), tearing by 18 (10.1%), poor near vision by 13 (7.3%) and others by 11 (6.2%) participants.

Among the participants, 198 (81.1%) had heard about cataract, 185 (45.8%) had heard about glaucoma, 111 (44.5%) had heard about refractive errors, 151 (61.9%) agreed that surgery can restore vision in cataract, 140 (57.4%) knew that diabetes can affect the eyes, 145 (59.4%) were aware that not wearing glasses as needed can affect school performance in children and 76 (31.1%) were aware that glaucoma blindness is irreversible. (Table 3)

More than half {144 (59.0%)} of the participants had normal vision in their better eye, 30 (12.3%) had mild visual impairment, 34 (13.9%) had moderate and severe visual impairment each while 2 (0.8%) were blind. (Table 4)

There was a statistically significant association between perceived eye health status of participants and age ($p=0.001$), educational level ($p=0.020$), having gone for

eye check ($p=0.020$), having a current eye complaint ($p=0.025$) and visual acuity level ($p=0.001$). This association shows that older participants, those with lower education, those who had never had an eye examination, those with current eye complaint, diagnosed eye disease and participants with severe visual impairment or blindness tend to report poor or very poor eye health status compared to others. (Table 5)

No statistically significant association was found between awareness of the different eye diseases and age, $p>0.5$ (Table 6). However, educational status was significantly associated with awareness of cataract ($p = 0.010$), glaucoma ($p = 0.015$), refractive errors ($p = 0.015$), and the ocular effects of diabetes mellitus ($p = 0.001$). Awareness of these eye conditions increased progressively with higher levels of education. (Table 7)

More females than males were aware of the different eye diseases and a statistically significant association was found between gender and refractive error awareness ($p= 0.0470$), awareness of the effects of diabetes mellitus on the eye, ($p = 0.005$) and restoration of vision with cataract surgery awareness ($p =0.007$). (Table 8)

The association between self-reported eye health status and presence of eye disease is shown in Table 9. There was a statistically significant association between self-reported eye health status and presence of eye disease ($p=0.016$).

DISCUSSION

Results of this study show that most of the baseline clinical parameters such as body mass index, systolic and diastolic blood pressures were above normal limits. This highlights a need for closer attention to public health measures targeted at promoting healthy lifestyles and reducing the incidence of non-communicable diseases.

Majority of the participants rated their current eye health status as fair, suggesting there is room for improvement. However, the finding that a little over 1 in 10 participants thought they had very poor eye health is worrisome, considering that poorer self-reported eye health status has been associated with lower mental well-being.^{17,8} This, coupled with the finding that nearly a third of participants had never sought professional eye care buttresses the need for measures that promote eye health-seeking behaviours as well as provision of affordable eye care services for those in rural areas. These interventions would improve eye health and wellbeing of these citizens.

Lower educational attainment and older age were associated with poorer self-reported eye health status. Higher education has been reported to drive better eye

health-seeking decisions.¹⁸ This might in turn, create the needed exposure to recognize and seek proper treatment of existing eye health problems, as well as empower them to afford eye health services and interventions. These findings suggest that improving education among rural dwellers may have potential benefit for improved eye health status. In agreement with the index study, a study in Mexico also reported an association between lower educational attainment and poor self-reported eye health status.¹⁹ Similarly, another study in Ibadan, Nigeria also reported higher self-reported visual impairment in older individuals.²⁰ Though more females reported poor or very poor eye health status than males in this index study, however no statistically significant association was found between sex and self-reported eye health status. In contrast, a multinational study done in Ghana, Gambia and Togo reported an association between sex and self-reported eye health status.²¹ The observed differences were attributed to gender inequalities and gender socialisation in access to health care.

Nearly 1 in 5 individuals with no current eye complaint rated their eye health status as poor or very poor. This highlights the importance of routine eye examinations to detect and treat eye diseases that may be asymptomatic or not concerning enough to elicit a complaint but could affect perception of eye health status. In addition, the finding that 32 (57.1%) of those who reported good or very good eye health status were diagnosed with eye disease supports the promotion of periodic eye checks even among those who feel good about their eyes. This will help detect eye diseases and possibly prevent blindness.

It was encouraging to find that majority of participants had heard of cataract and glaucoma, leading causes of blindness, and this aligns with findings from another study in Poland.²² However, a lower proportion were aware that surgery could restore vision in cataract, while less than a third knew that blindness due to glaucoma is irreversible. This suggests that although there seems to be appreciable awareness, the courses of the diseases are not well known. Thus, increased eye health awareness and retention campaigns are recommended to disseminate robust information in these communities.

The awareness of glaucoma found in the index study (75.8%) is higher than that reported in a rural community in Ebonyi State, Nigeria (21.1%).²³ This difference may be related to the timing of the studies, as the latter study was conducted 10 years ago and access to information, including eye health information, may have improved over the years. The low awareness of irreversible blindness due to glaucoma implies that individuals may not have adequate information that would drive behaviour towards screening and seeking early treatment for glaucoma to prevent blindness. It also implies that some already blind with their families may be unaware that glaucoma blindness is irreversible,

and this could lead to financial and psychological distress in their search for visual restoration. A study in India reported a similar low awareness of the irreversibility of glaucoma blindness.²⁴

The findings that less than half of the participants had never heard about refractive errors and a little over half of the participants were aware that not using spectacles when needed could affect children's school performance indicate a sub-optimal level of awareness. Visual impairment in children due to refractive errors could have long term effects that may affect a child's potential. In addition parents and adult caregivers frequently have significant influence on decisions on use of and compliance with spectacles for their children.^{25,26} Improved education on refractive errors and the importance of spectacle use is recommended to better equip rural dwellers with information needed to make good eye health decisions for themselves and their children.

Community-based intervention have been shown to improve eye health outcomes such as eye examination rate, eye health attitude, knowledge and behaviour as well as higher perceived self-efficacy to perform eye health promoting behaviours.^{27,28} The findings of this study showed the effectiveness of use of medical outreaches to assess the awareness of common eye diseases and screen for ocular pathologies. Community outreaches are usually powerful instruments in improving quality, equity and access to eye care in rural communities of Nigeria.^{29,30} In resource poor communities, to maintain continuity of eye care, community-based organisation funding is an alternative and useful means of meeting the unmet needs of eye care.²⁹ However, the poor uptake of referral services remains an obstacle to successful community eye outreaches.³⁰

LIMITATION OF THE STUDY

The selection of the study communities and consecutive recruitment of participants may limit the generalisability of the findings to other rural communities in Anambra State. Individuals who attended the outreach may differ in their health-seeking behaviour, awareness of eye health, or perceived healthcare needs from those who did not participate. Nevertheless, the findings provide valuable insights into eye health awareness and ocular health status among the communities studied and offer a useful basis for informing future research and community-based eye health interventions.

CONCLUSION AND RECOMMENDATIONS

This study shows that the level of awareness of eye diseases among the residents of these two communities

was suboptimal. Only education and female gender were significantly associated with awareness of eye disease among participants. However, the self-reported perception of eye health was significantly associated with the presence of eye disease, although perceived eye health status did not always match clinical examination. An eye health education campaign in the rural communities to increase awareness of eye diseases and drive utilization of eye care services is recommended. This will aid early detection and treatment of potentially blinding diseases.

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Table 1. Socio-demographic Profile of Participants

Variable		Frequency (N = 244)	Percentage (%)
Sex	Male	75	30.7
	Female	169	69.3
Age (mean $\pm$ S.D) in years		59.4 $\pm$ 15.6	
Education	Non formal	13	5.3
	Primary	80	32.8
	Secondary	94	38.5
	Tertiary	55	22.5
	Postgraduate	2	0.8
Marital Status	Single	25	10.2
	Married	183	75.0
	Widowed	31	12.7
	Separated/ divorced	5	2.0

Table 2. Baseline Clinical Profile of Participants

Variable	Mean	Standard Deviation (SD)
Systolic BP (mmHg)	136.8	20.9
Diastolic BP (mmHg)	84.3	12.3
Fasting Blood Sugar (mg/dl)	106.4	29.8
Random Blood Sugar (mg/dl)	134.7	45.0
Weight (kg)	71.5	16.6
Height (cm)	132.0	8.6
Body Mass Index	42.1	13.5

Table 3. Awareness of Eye Diseases

Variable		Frequency (N = 244)	Percentage (%)
Ever heard of Cataract	Yes	198	81.1
	No	46	18.9
Ever heard of Glaucoma	Yes	185	75.8
	No	59	24.2
Ever heard of Refractive Error	Yes	111	45.5
	No	133	54.5
Surgery can restore vision in cataract	Yes	151	61.9
	No	13	5.3
	I don't know	80	32.8
Diabetes can affect the eye and vision	Yes	140	57.4
	No	20	8.2
	I don't know	84	34.4
Not wearing glasses for vision Problem in children can lead to poor school performance	Yes	145	59.4
	No	45	18.4
	I don't know	54	22.1

Variable		Frequency (N = 244)	Percentage (%)
Vision loss from Glaucoma is irreversible	Yes	76	31.1
	No	72	29.5
	I don't know	96	39.3

Table 4. Ocular Diagnosis among Participants

Ocular diagnosis	Frequency	%
None	86	35.2
Cataract	43	17.6
Glaucoma	39	16.0
Refractive error	30	12.3
Presbyopia	17	7.0
Pterygium	11	4.5
Ocular allergy	5	2.1
Pseudophakia	3	1.2
AMD	3	1.2
Exotropia	2	0.8
Others	5	2.1
Total	244	100.0

Table 5. Participant Characteristics vs Self-Reported Eye Health Status

Characteristic	Eye Health Status			X ² (p-value)
	Good/very good n (%)	Fair n (%)	Poor/very poor n (%)	
Age (years)				19/782 (0.001)*
≤60	33 (58.9)	67 (58.3)	20 (27.4)	
>60	23 (41.1)	48 (41.7)	53 (72.6)	
Total	56 (100.0)	115 (100.0)	73 (100.0)	
Sex				3.253 (0.197)
Male	19 (33.9)	29 (25.2)	27 (37.0)	
Female	37 (66.1)	86 (74.8)	46 (63.0)	
Total	56 (110.0)	115 (100.0)	73 (100.0)	
Education				11.628 (0.020)*
Primary and below	19 (33.9)	35 (30.4)	39 (53.4)	
Secondary	22 (39.3)	48 (41.7)	24 (32.9)	
Tertiary and higher	15 (26.8)	32 (27.8)	10 (13.7)	
Total	56 (100.0)	115 (100.0)	73 (100.0)	
Eye check				8.581 (0.014)*
Yes	31 (56.4)	79 (68.7)	58 (79.5)	
No	25 (44.6)	36 (31.3)	15 (20.5)	
Total	56 (100.0)	115 (100.0)	73 (100.0)	
Eye Complaint				7.409 (0.025)*
Yes	34 (60.7)	84 (73.0)	60 (82.2)	
No	22 (39.3)	31 (27.0)	13 (17.8)	
Total	56 (100.0)	15 (100.0)	73 (100.0)	
Eye Disease Diagnosed				8.242 (0.016)
Yes	32 (57.1)	69 (60.0)	57 (78.1)	

Characteristic	Eye Health Status			X ² (p-value)
	Good/very good n (%)	Fair n (%)	Poor/very poor n (%)	
No	24 (42.9)	46 (40.0)	16 (21.9)	
Total	56 (100.00)	115 (100.0)	73 (100.0)	
Visual Acuity level				
Normal/mild	40 (71.4%)	81 (70.4)	23 (31.5)	49.384 (0.001)*
Moderate VI	13 (23.2)	28 (24.3)	23 (31.5)	
Severe VI/Blindness	3 (5.4)	6 (5.2)	27 (37.0)	
Total	56 (100.0)	115 (100.0)	73 (100.0)	

*Statistically significant; VI = Visual Impairment

Table 6. Eye Disease Awareness Vs Age

Eye Disease Awareness	Age group (years)		X ² (p-value)
	≤ 60	>60	
Cataract			
Yes	98 (81.7)	100 (80.6)	0.042 (0.838)
No	22 (18.3)	24 (19.4)	
Total	120 (100.0)	124 (100.0)	
Glaucoma Awareness			
Yes	92 (76.7)	93 (75.0)	0.092 (0.761)
No	28 (23.3)	31 (25.0)	
Total	120 (100.0)	124 (100.0)	
Glaucoma Blindness Irreversible			
Yes	32 (26.7)	43 (34.7)	1.838 (0.175)
No	88 (73.3)	81 (65.3)	
Total	120 (100.0)	124 (100.0)	
Refractive error			
Yes	58 (48.3)	53 (42.7)	0.769 (0.381)
No	62 (51.7)	71 (57.3)	
Total	120 (100.0)	124 (100.0)	
Diabetes effect on the eye			
Yes	71 (59.2)	69 (55.6)	0.309 (0.578)
No	49 (40.8)	55 (44.4)	
Total	120 (100.0)	124 (100.0)	
Cataract surgery can restore vision			
Yes	71 (59.2)	80 (64.5)	0.740 (0.390)
No	49 (40.8)	44 (35.5)	
Total	120 (100.0)	124 (100.0)	
Spectacle and school performance			
Yes	73 (60.8)	72 (58.1)	0.194 (0.660)
No	47 (39.2)	52 (41.9)	
Total	120 (100.0)	124 (100.0)	

Table 7. Eye Disease Awareness vs Educational Attainment

Eye Disease Awareness	Educational Attainment			X ² (p-value)
	Primary and below	Secondary	Tertiary and above	
Cataract				
Yes	68 (73.1)	77 (81.9)	53 (93.0)	9.174 (0.010)*
No	25 (26.9)	17 (18.1)	4 (7.0)	
Total	93 (100.0)	94 (100.0)	57 (100.0)	
Glaucoma Awareness				
Yes	64 (68.8)	70 (74.5)	51 (89.5)	8.377 (0.015)
No	29 (31.2)	24 (25.5)	6 (10.5)	
Total	93 (100.0)	94 (100.0)	57 (100.0)	
Glaucoma Blindness Irreversible				
Yes	24 (25.8)	29 (30.9)	22 (38.6)	2.716 (0.257)
No	69 (74.2)	65 (69.1)	35 (61.4)	
Total	93 (100.0)	94 (100.0)	57 (100.0)	
Refractive error				
Yes	33 (35.5)	44 (46.8)	34 (59.6)	8.429 (0.015)*
No	60 (64.5)	50 (53.2)	23 (40.4)	
Total	93 (100.0)	94 (100.0)	57 (100.0)	
Diabetes effect on the eye				
Yes	44 (47.3)	52 (55.3)	44 (77.2)	13.167 (0.001)*
No	49 (52.7)	42 (44.7)	13 (22.8)	
Total	93 (100.0)	94 (100.0)	57 (100.0)	
Cataract surgery can restore vision				
Yes	53 (57.0)	55 (58.5)	43 (75.4)	5.838 (0.054)
No	40 (43.0)	39 (41.5)	14 (24.6)	
Total	93 (100.0)	94 (100.0)	57 (100.0)	
Spectacle and school performance				
Yes	55 (59.1)	57 (60.6)	33 (57.9)	0.116 (0.944)
No	38 (40.9)	37 (39.4)	24 (42.1)	
Total	93 (100.0)	94 (100.0)	57 (100.0)	

* = statistically significant

Table 8. Eye Disease Awareness vs Sex

Eye Disease Awareness	Sex		X ² (p-value)
	Male	Female	
Cataract			
Yes	56 (74.7)	142 (84.0)	2.973 (0.85)
No	19 (25.3)	27 (16.0)	

Eye Disease Awareness	Sex		X ² (p-value)
	Male	Female	
Total	75 (100.0)	169 (100.0)	
Glaucoma Awareness			
Yes	51 (68.0)	134 (79.3)	3.612 (0.057)
No	24 (32.0)	35 (20.7)	
Total	75 (100.0)	169 (100.0)	
Glaucoma Blindness Irreversible			
Yes	22 (29.3)	53 (31.4)	0.100 (0.751)
No	53 (70.7)	116 (68.6)	
Total	75 (100.0)	169 (100.0)	
Refractive error			
Yes	27 (36.0)	84 (49.7)	3.934 (0.047)*
No	48 (64.0)	85 (50.3)	
Total	75 (100.0)	169 (100.0)	
Diabetes affects the eye			
Yes	33 (44.0)	107 (63.3)	7.923 (0.005)*
No	42 (56.0)	62 (36.7)	
Total	75 (100.0)	169 (100.0)	
Cataract surgery can restore vision			
Yes	37 (49.3)	114 (67.5)	7.233 (0.007)*
No	38 (50.7)	55 (32.5)	
Total	75 (100.0)	169 (100.0)	
Spectacle and school performance			
Yes	39 (52.0)	106 (62.7)	2.477 (0.116)
No	36 (48.0)	63 (37.3)	
Total	75 (100.0)	169 (100.0)	

* = statistically significant

Table 9. Self-reported Eye Health vs Presence of Eye Disease

Self-reported Eye health Status	Ocular Diagnosis		X ² (p-value)
	Normal	Eye Disease found	
Good/Very good	24 (27.9)	32 (20.3)	8.242 (0.016)
Fair	46 (53.5)	69 (43.7)	
Poor/Very poor	16 (18.6)	57 (36.1)	
Total	86 (100.0)	158 (100.0)	

Figure 1. Self-Reported Perceived Eye Health Status

