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A cross-sectional, descriptive study to measure: Knowledge, attitudinal and behavioural (social practices) effects which a positive diagnosis of glaucoma may have on affected patients of the Eye Department of the FISH Medical Clinic, Gordon Town Road, St. Andrew, Jamaica.

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## Chapter 1 - Introduction

### 1.1 The Research Question

A cross-sectional, descriptive study to measure psychological or social effects which a positive diagnosis of glaucoma may have on affected patients.

### 1.2 The Rationale For The Study

In 2006, this researcher undertook graduate work leading to the Master of Public Health (MPH) in the Faculty of Medical Sciences, UWI Mona. In executing the programme, I undertook a Knowledge Attitude and Practices KAP study (with technical supervision by Dr Kenneth James, Epidemiologists and Coordinator of the MPH programme.

In analyzing the data, I noted a significant level of (seeming) fear and apprehension among glaucoma patients, towards the disease. That experience is the basis for me embarking upon this study. Preparations for this study were significantly informed by that research exercise. That study provided me with valuable insight into the presentation, treatment and prognosis of glaucoma; as well as aspects of study methods which could inform this research.

Further, I have concluded that glaucoma is a major cause of incurable blindness. Such studies have identified Open Angle Glaucoma (OAG) as the leading cause of incurable blindness among persons of African descent. In a graphic illustration of this reality, a Barbados Eye Study concluded that the prevalence of glaucoma among Barbadians over-40 is one in eleven persons (BES 1992).

### 1.3 Basis for the Study

Glaucoma is currently being diagnosed in eye clinics across Jamaica. To that end, this researcher believes that every effort should be made to expand existing knowledge about how the condition (or group of disease) is understood by patients. What feelings and attitudes they have

toward the condition and how their status as glaucoma patients, affect positively or negatively their social circumstances.

#### 1.4 Likely Usefulness of Study Results

Inadequate knowledge, negative feelings and attitudes as well as poor social relationships and contacts, could represent an immediate and dangerous shortcoming which could lead to poor treatment compliance and incurable blindness. The extent to which such conditions are found to exist among patients diagnosed with glaucoma may provide a basis for the implementation of appropriate patient education and counseling programs at the Eye Clinic and (possibly) encourage other eye departments to examine the phenomenon for possible action.

#### 1.5 The Hypothesis

Based on a similar study done at the Eye Department of the Mandeville Regional Hospital, Jamaica, (A. Grant 2006), it is reasonable to hypothesize that glaucoma patients at the FISH Medical Clinic Jamaica, have a positive psychological disposition toward the condition.

#### 1.6 Context

Increasingly, different types of studies are being undertaken about Glaucoma (mostly) in industrialized countries. However (with the exception of Barbados) no other country in the English-speaking Caribbean has benefited from the implementation of a scientifically approved study of glaucoma in its population.

A search of available data bases, have revealed no evidence of studies done on the psychological effects which glaucoma may have on persons, affected by the condition, in Jamaica. At the same time, Jamaica (which has the largest segment of people of African descent in the English-speaking Caribbean) is likely to have a high prevalence of Glaucoma. Therefore, this study focuses attention on a (likely) major gap in the nation's public health.

## 1.7 Justification and Objectives

Generally, Glaucoma is an insidious condition; it is often without symptom; and very difficult to diagnose. Because of its insidious nature, the disease does not inspire its victims to urgent action to control it. Therefore, inadequate knowledge, incorrect beliefs, negative feelings and attitudes as well as poor social relationships and contacts, could inhibit treatment compliance and lead to incurable blindness.

In sum, the objectives of the study are to determine whether Glaucoma patients attending the Eye Clinic of the FISH Medical Center, experience measurable psychological and social dispositions, occurring after a diagnosis of the condition.

## Chapter 2 – Literature Review

A look at the available knowledge suggests that: the World Health Organization (WHO) considers Glaucoma to be the third leading cause of blindness around the World. In the United States, Open Angle Glaucoma is considered to be the leading cause of blindness among persons of African descent. The Barbados Eye Study confirms that the disease is a major cause of blindness in the country with a prevalence of more than 9% in persons over fifty years of age. In Jamaica, not much is known about the public's understanding about the: Causes, symptoms, diagnosis, social and psychological implications of the disease.

### 2.1 WHO'S Definition of Glaucoma

According to the Bulletin of the World Health Organization (WHO) A major difficulty with glaucoma and the blindness that it can lead to is the lack of a uniformed case definition, (WHO, 2005).

This International Public Health Organization confirms that “Glaucoma commonly refers not to a single disease, but to a group of disorders that have certain common features, in particular:

- Cupping and atrophy of the optic nerve head;
- Characteristic visual field loss; and
- Often, but not invariably, increased intraocular pressure.” WHO (2005).

In emphasizing the contribution of glaucoma to blindness around the world, WHO noted that: If available data on blindness from 1984 are updated to the 1990 global population, it can be assumed that there are currently 35 million blind persons in the world, applying the international definition of blindness as the inability to count fingers at a distance of 3 meters or 10 feet, (WHO, (2005). the organization makes the point that, Of the above estimate, 5.2 million

individuals are blind due to glaucoma indicating that this condition is responsible for 15% of global blindness. This implies that glaucoma is the third most important global cause of blindness, after cataract and trachoma, (WHO, 2005).

## 2.2 Impact of Glaucoma on Black People:

Glaucoma is the leading cause of incurable bilateral blindness among persons who are black and over forty years of age. In her article entitled Screening for Glaucoma, Mary Calvagna noted that: In black people, open-angle glaucoma is the leading cause of blindness, and is six to eight times more common than in Caucasians. In addition, the risk among black people increases after age 40, (Calvagna M., 2005).

Glaucoma develops – largely without symptoms. As the leading cause of incurable blindness among persons who are black, glaucoma is often without symptoms, until it approaches what is known as “end-stage” glaucoma. In her article, Calvagna argues that: In the early stages of the disease, most cases of open-angle glaucoma present no noticeable signs or symptoms. Vision stays normal and there is no pain but even without symptoms, irreversible damage can be happening to your optic nerve, (Calvagna M., 2005).

She makes the point that, the main symptom of glaucoma is loss of peripheral vision. This means that you can see things clearly in front of you, but objects to the side and out of the corner of your eye may be missed, (Calvagna, M. 2005).

Glaucoma is difficult to diagnose and treat. To that end, diagnosis, treatment and prognosis of the condition are complex, but critical steps in the management of the disease. The National Eye Institute, a division of the National Institutes of Health (USA), is a leading supporter of research and related activities to manage and control Glaucoma. The Institute

produces regular bulletins on the disease. In a publication posted on its Website, it was noted that the management of Glaucoma includes the following stages:

- Visual acuity test.
- Visual field test.
- Dilated eye exam.
- Tonometry (The measurement of the pressure inside the eye.)
- Tachymetry (Use of an ultrasonic wave instrument, to measure the thickness of the patient's cornea, (National Institutes of Health USA).

### 2.3 The Barbados Eye Study (BES)

Prior to 1988, meaningful population-based research on glaucoma was not undertaken in any country in the English-speaking Caribbean. Between 1988 and 1992, the National Eye Institute (USA) and the Ministry of Health (Barbados) undertook a population-based study of Open-Angle Glaucoma (OAG). The study was entitled, The Barbados Eye Study, Prevalence of Open Angle Glaucoma.

The study consisted of a simple random sample of Barbadian-born citizens 40 through 84 years old. Some of the conclusions of this study included: To our knowledge, the Barbados Eye Study is the largest glaucoma study ever conducted in a black population and identified more people with OAG than did any previous population study.

The study found that “The prevalence of OAG was high, especially at older ages, and in men. Among participants 50 years or older, 1 in 11 had OAG, and prevalence increased to one in six at age 70 years or older, (Barbados Eye Study, 1994). The researchers concluded that, the results highlight the public health importance of OAG in the Afro-Caribbean region and have implications for other populations, (Barbados Eye Study, 1994).

Perhaps one of the most challenging features of glaucoma management is to prevent blindness from the condition; and not to improve vision. The whole purpose of treatment is to prevent further loss of vision. This is imperative as loss of vision due to glaucoma is irreversible, (Glaucoma foundation USA).

#### 2.4 Psychological State of Persons with a Chronic Ailment that may lead to blindness

Although the researcher was unable to find empirical data on the psychological and social effects of glaucoma, the scientific literature has quite useful data and conclusions on the psychological state of persons diagnosed with diabetes.

Because (like glaucoma) diabetes is a chronic condition which causes permanent blindness (among other disabilities) it is likely that the psychological and social effects may be similar to mental health and social consequences which may arise from a diagnosis of glaucoma.

Therefore, in an effort to establish a (possible) grounding in psychology for this study, this researcher examined two studies with varying conclusions regarding the psychological implications of a diagnosis of diabetes. In a randomized controlled trial of 461 outpatients with diabetes who were randomly assigned to standard care or to the monitoring condition a team of researchers in Holland investigated, whether monitoring and discussing psychological well-being in outpatients with diabetes improves mood, glycemic control, and the patient's evaluation of the quality of diabetes care, (Francois Pouwer et al, 2001).

Interestingly, the researchers found that some patients who indicated abnormal psychological states, following a diagnosis of diabetes, benefited from counseling and other types of mental health interventions. The monitoring group reported better mood compared with the standard care group, as indicated by significantly lower negative well-being and significantly higher levels of energy, higher general well-being, better mental health, and a more positive

evaluation of the quality of the emotional support received from the diabetes nurse, (Francis Pouver et al, 2001).

Similar (but not identical) results were reported in a study undertaken in two outpatient diabetes mellitus clinics in Pretoria, South Africa. The objective of that study was given as: To determine the underlying dimensions of a social support measure and investigate the effects of social support on health, well-being and management of diabetes mellitus (metabolic control and blood pressure) BP) control, (Margaret S. Westaway, John R. Seager et al, 2005).

This researcher considers the findings of that study, most pertinent to the Jamaican situation, because of the race profile of the participants, and the likelihood of some genetic and basic cultural factors which could have resonance in the Jamaican context. It is noteworthy that the participants were 263 black diabetes mellitus outpatients (174 women and 89 men), aged between 16 and 89 years, (Margaret S. Westaway, John R. Seager, et al, 2005).

Interestingly, but not surprisingly, the study found in favour of benefits to be derived from higher levels of support to persons diagnosed with diabetes. Patients with lower levels of social support had poorer general health and well-being than patients with higher levels of social support, (Margaret S. Westaway, John R. Seager, et al, 2005).

The broader findings of this study seem to point the way toward more in depth studies, regarding the effects of psychological, social and in-kind support, on persons diagnosed with a range of chronic non-communicable conditions, including glaucoma. The study demonstrated that: (1) socio-emotional and tangible support was the underlying dimensions of social support; (2) socio-emotional support is an important determinant of health and well-being; and (3) social support is beneficial for one aspect of diabetes mellitus management, namely, blood pressure control, (Margaret S. Westaway, John R. Seager, Et Al, 2005).

While the literature is silent regarding the possible social and psychological effects of a diagnosis of glaucoma, the data seem to suggest that, persons diagnosed with diabetes, are at risk of some degree of psychological and social deficit. This study will seek to narrow the search for evidence specifically relating to persons diagnosed with glaucoma, and attending the Foundation for International Self Help Medical Center, in Jamaica.

## Chapter 3 - Methodology

### 3.1 The Study Population

The study sample of 98 (ninety eight) was taken from the patient population of 3,963 glaucoma patients being treated at the Eye Clinic of the FISH Medical Center, in Jamaica. The parent population for the study (case load of the Eye Clinic) stood at 13,369 patients at the end of 2008; of which 3,963 had Glaucoma. The Clinic serves a primary catchment population of 666,182 residents. The population represents the parishes of Kingston and St. Andrew.

### 3.2 Independent Variables

The study proposes to develop an “objective” understanding of the issues by measuring the effects of a diagnosis of glaucoma (the independent variable) on a selection of dependent psychological variables.

### 3.3 Dependent Variables

The main dependent variables being examined are: knowledge; feelings, attitudes and social relationships.

### 3.4 Method of data collection

A structured interview, based on a pre-designed questionnaire, with accompanying instructions for the interviewer, was used. This method of data collection is based on a number of considerations, including the fact that many of the patients may, in fact, be visually impaired and/or affected by poor levels of literacy.

### 3.5 Research procedures:

This involved the following activities:

- Drafting of Questionnaire (response schedule) Consent form; and accompanying instructions for interviewers.

- Selection and orientation of 1 interviewer with transportation requirements in mind.
- Prepare questionnaire in consultation with Study Supervisor.
- Pre-test of questionnaires on 12 adults; (6 women and 6 men).
- Correction of questionnaire (if desirable).
- Invite the opinion of a neutral individual to answer the penultimate questionnaire.
- Visit to the clinic with interviewer, to ensure introduction to the clinic personnel.
- Confirmed start date for data collection.
- Printing of questionnaires, consent forms and study brochures, ensuring useful surplus quantities.
- Secure approval for start of data collection from
- Study supervisor.
- Start of data collection; April 2010.
- Review completed questionnaires at least once each day, over the first week and sporadically thereafter.
- Enter sort, present and analyze data using SPSS.

### 3.6 Sampling procedure for the Study

A systematic sample (approximately 1 in 2) of male and female glaucoma patients (attending on each clinic day and willing to participate) was taken between April and May 2010.

The size of the sample was 98 or just under 2.5% of the approximately 3,693 persons who make up the glaucoma case load at the clinic.

On each clinic day, the interviewer was provided with a list of the glaucoma patients holding appointments for that day and instructed to interview one in 2 glaucoma patients attending clinic, and willing to participate.

### 3.7 Data Analysis

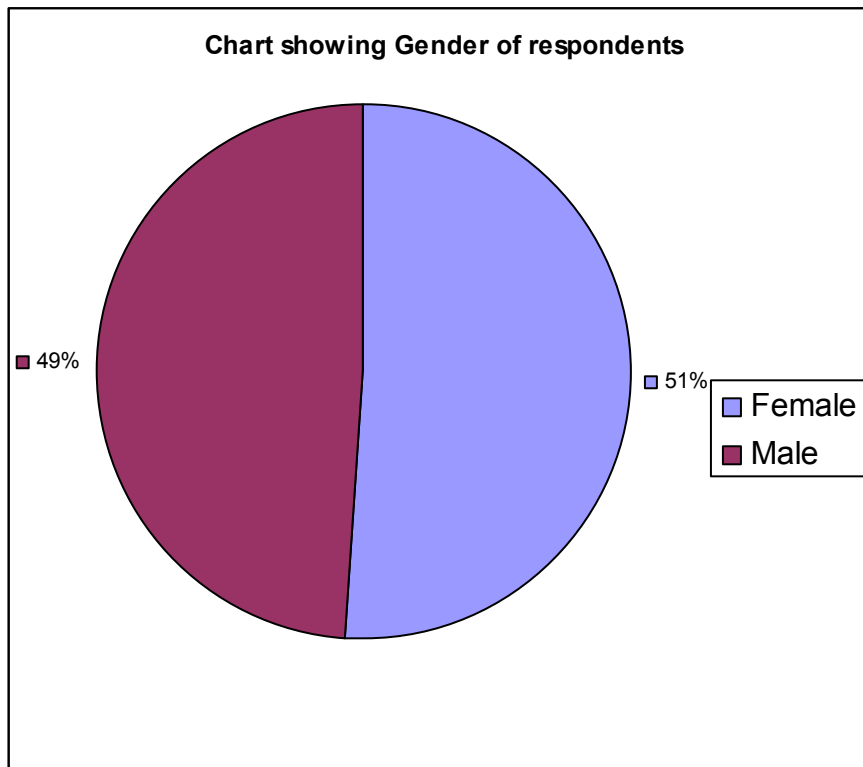
For descriptive data as appropriate, means, medians and modal findings will be presented in the next chapter. Graphical summaries (Tables & charts) will be used to summarize and display data. The data will be analyzed with the help of the SPSS statistical program software. The hypotheses will be tested, using: the appropriate statistical tests. Findings will be discussed in chapter five and recommendations advanced.

## Chapter 4 - Presentation of Findings

### 4.1 Gender

A total of 98 persons participated in this study. The sample was drawn from the clinic's glaucoma patient load of 3,963. Of the 98 respondents, Females represented 50 persons (51%) while Males consisted of 48 persons (49%).

Chart 4.1 presents the break down across gender.



### 4.2 Age of the Sample:

Consistent with the disease process of glaucoma as (mostly) an age-related condition; the findings indicated a skewing of participation toward the older age groups. Only 3 of the 98 participants were 40 or younger. 64 participants or (65.3 %) were 61 or older at the time of the study. Both Modal and mean age of the sample converge at 51 to 60 years.

Table 4.2 – Age of respondents

	Frequency	Percentage
<= 40 years	3	3.1
41 to 50 years	12	12.2
51 to 60 years	19	19.4
61 or older	64	65.3
Total	98	100.0

#### 4.3 Educational Status of the sample:

Our findings suggest that 5 of the participants received vocational and or College-university education; While those who received Primary or all age education accounted for 74 persons (76.3 %) of the sample.

Table 4.3 - Education status of the sample

	Count	Percentage
Primary or all age school	74	76.3
Secondary, Comprehensive or High School	18	18.6
Apprenticeship or Vocational school	1	1.0
College or University	4	4.1
Total	97	100.0

#### 4.4 Knowledge about glaucoma

We sought to develop an understanding of any knowledge or concern which the participants may have had about glaucoma prior to their being diagnosed with the disease. Only 8 of the 98 respondents were concerned about having glaucoma or becoming blind from the condition immediately prior to their being diagnosed with the disease. Interestingly: 50 (51%) of the participants visited the Eye Dr for a routine check up when they were diagnosed with glaucoma. A further 40 or 40.8% of the sample were experiencing pain or other discomfort when they were diagnosed.

Table 4.4 – Knowledge about Glaucoma

	Frequency	Percentage
For a routine eye test	50	51.0
Because of pain or other discomfort in the eye	40	40.8
Fear of getting glaucoma	2	2.0
fear of becoming blind	6	6.1
Total	98	100.0

#### 4.5 Knowledge about glaucoma:

The researcher sought to establish the participants' basic knowledge about glaucoma. A total of 86 participants responded to the questions, 42 females and 44 males.

In response to the (potentially) ambiguous statement that glaucoma affects persons 40 or older, 17 persons (19.8 %) said yes & 69 persons (80.2%) No. The wording of this option may have created a response dissonance in the mind of some respondents.

**Table 4.5.1**

			Glaucoma affects persons 40 or older		Total
			Yes	No	
Gender	Female	Count	4	38	42
		% within Gender	9.50%	90.50%	100.00%
% within Gender	Male	Count	13	31	44
		% within Gender	70.50%	9.50%	
Total		Count	17	69	86
		%	19.80%	80.20%	100.00%

In response to the factual statement that glaucoma can be controlled to prevent blindness, 68 persons (79.1 %) said yes & 18 persons (20.9%) said no. This response is presented in table 4.5.2 below:

**Table 4.5.2**

			Can be controlled to prevent blindness		Total
			Yes	No	
Gender	Female	Count	38	4	42
		% within Gender	90.50%	9.50%	100.00%
% within Gender	Male	Count	30	14	44
		% within Gender	68.20%	32.80%	100.00%
Total		Count	68	18	86
		% within Gender	79.10%	20.90%	100.00%

In response to the factual statement that: Sight lost to glaucoma cannot be regained, the sample was almost “split down the middle” 42 persons (48.8 %) correctly said Yes with 44 persons (51.2%) incorrectly replying No. This “split decision” is presented in table 4.5.3.

**Table 4.5.3**

			Sight lost to glaucoma cannot be regained		Total
			Yes	No	
Gender	Female	Count	18	24	42
		% within Gender	42.90%	57.10%	100.00%
	Male	Count	24	20	44
		% within Gender	54.50%	45.50%	100.00%
		Count	42	44	86
		Total			

The study sought to determine the extent to which superstition may be a factor in the participant's knowledge about the condition. In response to the incorrect statement that Glaucoma can be cured by looking at the full moon, the participants were unanimous in saying no. This quite skewed response is presented in table 4.5.4

**Table 4.5.4**

			Glaucoma can be cured by looking at the full moon		Total
			Yes	No	
Gender	Female	Count	0	42	42
		% within Gender	0.00%	100.00%	100.00%
	Male	Count	0	44	44
		% within Gender	0.00%	100.00%	100.00%
		Count	0	86	86
		Total			

4.6 The Researcher sought to examine the attitude of participants to having glaucoma.

Participants were asked to rank their feelings about having glaucoma. 96 persons responded as follows: 7 persons reported that they are very sad (7.3 %); 49 persons reported being Sad (51%); While 40 persons claim to be happy (41.7%). This rather interesting result is presented on table 4.6.1.

Table 4.6.1 – How do you feel about having glaucoma

			How do you feel about having glaucoma?			Total
			Very Sad	Sad	Happy	
Gender	Female	Count	3	25	20	48
		% within Gender	6.30%	52.10%	41.70%	100.00%
	Male	Count	4	24	20	48
		% within Gender	8.30%	50.00%	41.70%	100.00%
Total		Count	7	49	40	96
		Total	7.30%	51.00%	41.70%	100.00%

4.6.2 The researcher sought to determine the extent to which parental concerns about glaucoma extended to the disease affecting their children. Participants were asked: Are you a parent? \* If yes. How do you rate your concern that the child/children could inherit the condition? 87 respondents were parents. Of that # only 18 people (20.7 %) had no concerns. These findings are presented on table 4.6.2(a):

**Table 4.6.2(a)**

			If yes. How do you rate your concern that the child/children could inherit the condition?				Total
			No Concern	A little concerned	Concerned	Very Concerned	
Are you a parent?	Yes	Count	18	16	46	7	87
		% within Are you a parent?	20.70%	18.40%	52.90%	8.00%	100.00%
		100.00%	100.00%	100.00%	100.00%	100.00%	

We wanted to test the likely validity of the respondents' feelings about their children developing glaucoma. Participants were asked: If you are a parent, have you told your child/children about your glaucoma? 87 participants responded that there are parents. 22 persons (25.3 %) said they did not tell their children about their condition. 65 persons (74.7 %) Said they told their children about their glaucoma. The findings are presented on tables 4.6.2. (B)

Table 4.6.2(B) Presenting responses of parents who have or have not told their children about their glaucoma:

			If you are a parent, have you told your child/children about your glaucoma?		Total
			No	Yes	
Are you a parent?	Yes	Count	22	65	87
		% within Are you a parent?	25.30%	74.70%	100.00%

The study sought to measure the respondents social tendencies based on their status as glaucoma patients. Two variables were measured separately and presented comparatively: The participant's willingness to tell others about glaucoma versus willingness to educate others about glaucoma. 92 participants responded to the question: Are you willing to tell others about your glaucoma? While 90 responded to the question: Are you willing to educate others about the disease. More than 83% of respondents were either willing or very willing to tell others or educate others about glaucoma. These findings are summarized on table 4.6.3.

Table 4.6.3 – Willingness to tell or educate others about glaucoma

		Willingness To tell others Percent	Willingness To educate others Percent
Valid	Very Unwilling	7.6	6.7
	Unwilling	8.7	8.9
	Willing	53.3	60.0
	Very Willing	30.4	24.4
	Total	100.0	100.0

4.6.4 In an effort to determine the likely behaviour of respondents re effective management of their glaucoma, the study undertook a comparison of respondents' feelings about having to use drops versus an offer of surgery to control glaucoma. 95 persons responded to the question:

How do you feel about having to use eye drops; While 88 participants responded to the question: How would you feel if the Doctor suggests that you undergo surgery. As table 4.6.4 indicates, a majority of participants seem more comfortable with the option of using eye drops to control their glaucoma; with 64.4% feeling good or very good about using eye drops and only 36.4% of participants feeling good or very good about the option of surgery.

Table 4.6.4 – Feelings about using eye drops daily and feelings about having surgery

		Feeling about eye drops (Percent)	Feelings about surgery (Percent)
Valid	Very Bad	8.4	27.3
	Bad	23.2	36.4
	Good	64.2	28.4
	Very Good	4.2	8.0
	Total	100.0	100.0

## Chapter 5 - Discussion of Findings

5.1 In an effort to test our hypothesis that a majority of glaucoma patients at the FISH Medical Clinic Jamaica have a positive attitude toward glaucoma, we interviewed 98 glaucoma patients based on a systematic random sampling of a study population of 3,963 glaucoma patients of the Eye Department, FISH Medical Clinic, during April & May 2010. Without drawing any conclusions, the researcher notes that the gender breaks down among participants suggest an approximate symmetry between the gender balance in the wider national population, and the study population. Of the 98 respondents, Females represented 50 persons (51%); while Males consisted of 48 persons (49%) - Ref chart 4.1).

5.2 Further, we note high levels of similarity between the anticipated disease processes of glaucoma in the wider population, and the study population. That 64 participants or (65.3 %) were 61 or older at the time of the study is suggestive of possible symmetry between the epidemiological profile of glaucoma in the wider population, and the study population (glaucoma patients) at the FISH Medical Clinic.

5.3 The findings highlight that the overwhelming majority of study participants were educated up to the primary or all age levels of the school system. That segment of the sample accounted for 74 persons (76.3 %) of the sample. This could have implications for the participants cognitive and (by extension) affective and behavioural tendencies toward glaucoma.

5.4 In an attempt to determine the knowledge basis underlying participants' attitude toward having glaucoma, we examined their basic knowledge about the disease prior to being diagnosed and post their diagnosis. We find it potentially significant that, only 8 of the 98 respondents were concerned about having glaucoma or becoming blind from the condition immediately prior to their being diagnosed with the disease. This could be suggestive of (possible) high levels of

distress and a negative response to a diagnosis of glaucoma.

5.5 The finding that 17 participants believe that glaucoma affects persons 40 years or older while 69 participants disagreed is understandable, in that, while the disease is (primarily) a disease of aging, a small minority of persons develop glaucoma before their 40<sup>th</sup> birth day. This researcher believes that the statement should be presented with greater clarity in future studies.

5.6 The finding that 68 persons (79.1 %) of the sample are in agreement with the factual statement that glaucoma can be controlled to prevent blindness, is suggestive of a likely positive: knowledge, attitude and behaviour in response to being diagnosed with the condition.

5.6.1 This finding is tempered by a further finding that 42 persons (48.8 % of respondents to this question) correctly said Yes with 44 persons (51.2%) incorrectly replying no, to the factual statement that: Sight lost to glaucoma cannot be regained. This finding suggests some degree of confusion, among participants regarding prognosis of glaucoma.

5.7 Given the relatively low level of education attained by the majority of participants, one would have expected to find some evidence of superstition in the sample understands of the causes of glaucoma. While steering at the full moon is not the only possible evidence of likely superstitious belief among glaucoma patients, the research found 100% rejection of our incorrect statement that Glaucoma can be cured by looking at the full moon.

5.8 In attempting to measure the attitude of participants to having glaucoma, participants were asked to rank their feelings about having the disease. The researcher is some what bemused by the finding that 58.3% of the sample are (understandably) very sad or sad that they have glaucoma; While 40 participants or 40.7% of the sample are claiming to be happy or very happy. While this finding may point to the presence of a number of uncontrolled variables, it is noteworthy that the majority of participants expressed psychologically understandable states of

affect on account of them being diagnosed with a chronic condition which could lead to blindness.

5.9 The research measured aspects of the participants' social disposition, on account of them being glaucoma patients. The study found a very strong relationship between having the disease and concern that the children of affected persons could develop the condition. 87 respondents were parents. Of that # only 18 people (20.7 %) had no concerns. The fact that more than 78% of parents in the study are concerned that their children could develop the condition is a positive indicator of likely social action to help their children learn more about glaucoma.

5.9.1 This finding appears to be corroborated by the finding that only 22 persons (25.3 % (of the 87 parents in the sample) said they did not tell their children about their condition. 65 persons (74.7 %) Said they told their children about their glaucoma. This is further indication of the willingness of affected persons to take action to protect their children from becoming blind from the condition.

5.10 We extended the measurement of the participants' social tendencies based on their status as glaucoma patients, out side the immediate family environment; by seeking to measure their willingness to tell others about glaucoma versus willingness to educate others about the disease. We found that more than 83% of respondents were either willing or very willing to tell others or educate others about glaucoma. This finding is very suggestive of a strong positive attitude and behaviour toward glaucoma, by the participants in the study.

5.11 The research sought to measure the participants' behaviour in respect of treatment options re management and control of glaucoma. As table 4.6.4 indicates, a majority of participants seem more comfortable with the option of using eye drops to control their glaucoma; with 64.4% feeling good or very good about using eye drops and only 36.4% of participants

feeling good or very good about the option of surgery. This finding is most important re development of future education programmers, aimed at enhancing knowledge, attitude, practices and behaviour re management and control of glaucoma. The findings suggest that: While the majority of participants are positively disposed toward managing their condition with medicines, they may not be aware of the long term benefits of surgery in helping to prevent further loss of sight from glaucoma.

5.12 At a macro level of analysis, we used the riley calculator to determine that the Margin of error of this study is 9.8%. This is based on a sample of ninety eight respondents taken from a clinic- based glaucoma case load of 3,963. While the margin of error is outside the optimal + or – 2.5%, it provides a basis for more in-depth studies, using a more representative sample, taken from a wider population.

We sought to test our hypothesis that a majority of glaucoma patients at the FISH Medical Clinic Jamaica have a positive Attitude toward the condition. At a 95% confidence level, the confidence interval is 3.02. Therefore statistics show that at a 95% confidence level between 69% and 75% of glaucoma patients at the FISH Medical Clinic Jamaica has a positive attitude towards their condition.

We then subjected the universal variable of gender and the attitude variable to a chi square test in an effort to establish goodness of fit or other wise re the attitude of the entire sample to their condition as glaucoma patients. Chi Square Test Gender vs. Feelings about Glaucoma Chi square value = 0.678 with one degree of freedom,  $p = .410$ . The probability value outside of .1 to .5 is a rejection of our hypothesis that Glaucoma patients have a positive attitude to a diagnosis of glaucoma. Given the trends to the contrary as per the raw data, the data collected may provide a useful basis for further analysis, to determine the best course of action,

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in the development and implementation of future studies in this area. Future studies should give due attention to the attainment of sufficiently high power, in order to enhance reliability of outcome.

This researcher extends appreciation to Psychologists and academic Dr Denis Edwards (University Of The West Indies, Mona Campus) for his guidance and expertise in the execution of this study.

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Appendix (I) Study questionnaire& Consent Form

A cross-sectional, descriptive study to measure: Knowledge, attitudinal and behavioral (Practices) effects which a positive diagnosis of glaucoma may have on affected patients **of the Eye Department of the FISH Medical Clinic, Gordon Town Road, St. Andrew, Jamaica**

**Questionnaire # \_\_\_\_\_)**

Purpose of this study:

Because glaucoma is currently being diagnosed in eye clinics across Jamaica. This study is an effort to expand existing knowledge about how the condition (or family of disease) influences the attitude and behavior of affected persons. The findings could help improve treatment of the condition.

(iii) If you decide to participate in this study, the information which you give to the researcher will only be used for research purposes. Furthermore, your specific information will be held in the strictest confidence.

(iv) Please mark the applicable response with a horizontal line.

1. At what age did the Eye Doctor tell you that you have glaucoma:

- 
- 1.1 <40
  - 1.2 41 to 50
  - 1.3 51 to 60
  - 1.4 61 or older

2. Knowledge about glaucoma:

- 2.1 Why did you visit the Eye Doctor at that time?
  - 2.1.1 For a routine eye test
  - 2.1.2 Because of pain or other discomfort in the eye;
  - 2.1.3 Fear of getting glaucoma;
  - 2.1.4 Fear of becoming blind;
  
- 2.2 Which of the following are true about glaucoma?
  - 2.2.1 Mostly affects persons 40 or older?
  - 2.2.2 Can be controlled to prevent blindness

2.2.3 Sight lost to glaucoma cannot be regained

2.2.4 Can be cured by looking at the full moon?

### **3. Attitudes about glaucoma:**

3.1 How do you feel about having glaucoma:

3.1.1 Very sad

3.1.2 Sad

3.1.3 Happy

3.1.4 Very happy

3.2 Are you a parent?

3.2.1 Yes

3.2.2 No

3.3 (If yes) how do you rate your concern that your child/children could inherit the condition:

3.3.1 No concern

3.3.2 A little Concerned

3.3.3 Concerned

3.3.4 Very concern

3.4 If you are a parent, have you told your child/children about your glaucoma?

3.4.1 No

3.4.2 Yes

3.5 Are you willing to tell others (outside your immediate family) that you have Glaucoma?

3.5.1 Very unwilling

3.5.2 Unwilling

3.5.3 Willing

3.5.4 Very willing

3.6 How willing are you to educate others about glaucoma;

3.6.1 Very unwilling

3.6.2 Unwilling

3.6.3 Willing

3.6.4 Very willing

3.7.1 How do you feel about having to use eye drops every day to prevent blindness from glaucoma?

3.7.1 Very bad

3.7.2 Bad

3.7.3 Good

3.7.4 Very good

3.8 How would you feel if the Doctor suggests that you undergo surgery to help control your glaucoma?

3.8.1 Very bad

3.8.2 Bad

3.8.3 Good

3.8.4 Very good

3.9 How do you rank your feelings about having glaucoma?

3.9.1 Very negative

3.9.2 Negative

3.9.3 Positive

3.9.4 Very positive.

4. Universal variables:

4.1 Gender?

4.1.1 Female

4.1.2 Male

4.2 What is your approximate age?

4.2.1 <40

4.2.2 41 to 50

4.2.3 51 to 60

4.2.4 61 or older

4.3 Which of the following did you attend last:

4.3.1 Primary or all age school

4.3.2 Secondary, comprehensive or high school

4.3.3 Apprenticeship or vocational school

4.3.4 College-University

4.4 Which is your parish of residence?

4.4.1 Kingston

4.4.2 St. Andrew

4.4.3 A different parish from one of the above

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Thanks for participating

A cross-sectional, descriptive study to measure: Knowledge, attitudinal and behavioral (Practices) effects which a positive diagnosis of glaucoma may have on affected patients of the **Eye Department of the FISH Medical Clinic, Gordon Town Road, ST. Andrew, Jamaica**

**CONSENT FORM FOR RESEARCH STUDY**

**Title of Project:- Same as above;**

Name of Researcher: Arvel Grant

Name of Research Assistant : Maureen McKenzie

**Please tick to confirm**

- I confirm that I have read and understand the information sheet dated ..... ) for the above study.
  
- I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.
  
- I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical care or legal rights being affected.
  
- I agree to take part in the above research study.

**Patient's name** \_\_\_\_\_

**Patient's Signature** \_\_\_\_\_

**Date** \_\_\_\_\_