

# Prevalence Of Glaucoma In Nigeria

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## Abstract

Glaucoma, a disease that damages the optic nerve represents a major cause of vision loss throughout the world. Globally, about 314 million people are visually impaired while 45 million of them are blind with 87% of the visually impaired living in the developing countries. The global target of WHO in Vision 2020 which is the "right to sight initiative" is ultimately to reduce blindness prevalence to less than 0.5% in all countries or less than 1% in any community. This study was aimed to find out the prevalence of glaucoma in Nigeria from 1998-2006. The National Eye Centre Kaduna, Nigeria, a collaborating centre of WHO in the prevention of blindness on patients who presented to the hospital with the condition from 1998-2006 was used for the study. The instruments used during the course of this research work for data collection were the primary source which was directly from ward register, primary health care clinic and registers from consulting clinics obtained from the medical record department. A total of 7573 patients were used for the purpose of the study. Out of this total, 4876 patients were male representing 63% while 2789 patients were female representing 37%. Age distribution showed that the prevalence of Glaucoma is higher between ages 40 years and above with 3202 patients representing 43% followed by age 31 - 40 with 2792 patients representing 37%. The yearly distribution of glaucoma was 330 patients in 1998 representing 4% and 1680 patients representing 23% in 2006 indicating an increase in the prevalence of Glaucoma.

## INTRODUCTION

Glaucoma is a devastating disease which has not been fully addressed. It is a leading cause of blindness. Glaucoma represents a major cause of vision loss throughout the world. Primary open-angle glaucoma, the most common form of glaucoma, is a chronic, progressive disease often, though not always, accompanied by elevated intraocular pressure (IOP). Risk factors include old age, diabetes, Afro-caribbean race, a family history and myopia. In contrast, angle-closure glaucoma (closed-angle glaucoma; narrow-angle glaucoma) usually occurs as an acute emergency. Although many drugs are effective in reducing intra-ocular pressure there is little data on their long-term effect on visual field changes in glaucoma (Rossetti et al, 1993). In developing countries, especially among blacks, surgical treatment of glaucoma is generally assumed to be preferable to medical treatment (Agbeja-Bayeroju et al 2001, Jay and Allan, 1989). In West Africa, glaucoma is predominantly open angle glaucoma (OAG). Chronic angle closure is seen occasionally but acute angle closure is extremely rare (Egbert, 2001). In majority of cases diagnosis is made late after loss of central vision in one or both eyes (Verrey et al, 1990). Open- angle is asymptomatic in its early stages and the use of screening methods for detecting early disease is of great importance. In Nigeria, study on the pattern of presentation of Open Angle

Glaucoma revealed that the management of patients with OAG is always presented late and it has not improved over the last two and half decades (Omoti and Osahon, 2006).

Globally, about 314 million people are visually impaired while 45 million of them are blind with 87% of the visually impaired living in the developing countries (WHO, 2000). Worldwide, glaucoma is becoming an increasingly important cause of blindness as the world's population ages. Certain ethnic populations are also at high risk like individuals of African ancestry, Hispanic individuals and certain Asian populations. Elderly individuals, who are at the greatest risk for developing glaucoma often attribute their loss of vision to just growing old. Vision loss from glaucoma is silent, slow, progressive, irreversible, but it is treatable (Robert, 2008) Glaucoma is caused by so many factors and usually a problem detected late. Risk behavior like wrong use of eye drops on healthy eyes and trauma due to road traffic accident can damage the optic nerve leading to Glaucoma (Ernest, 2004). Similarly Diabetes mellitus when untreated can lead to blindness. In the playground, children can throw stones and sand into their eyes which can damage the optic nerve. Measles and vitamin A deficiency can lead to blindness. (Gogate and Gilbert, 2007). Other causes of glaucoma include infections, malnutrition, injury and ageing (Ngondi et al, 2006). Current therapy for glaucoma is directed to

lowering intra ocular pressure though not just to reduce it to normal level but to a level at which damage to the optic nerve ceases (Hurvitz et al, 1991, Quigley, 1993). World Health Organisation (WHO) officials are looking into ways to address the problems caused by glaucoma which was initially underestimated to be the third leading cause of blindness. According to surveys by WHO in 2002, glaucoma is the second leading cause of blindness globally as well as in most regions This has also been reported in Africa specifically in Togo (Balo et al, 1989), Cameroun (Wilson et al 1996). However, glaucoma presents perhaps an even greater public health challenge than cataracts because the blindness it causes is irreversible. This therefore led to the main purpose of this study which was to assess the prevalence of glaucoma among patients attending National Eye Centre, Kaduna, in Nigeria from January 1998 - December 2006.

## METHODOLOGY

### STUDY AREA

The study area is a Federal Government owned centre commissioned in 1992 in Kaduna. It is located off Nnamdi Azikiwe way, measuring about 51,356 hectares of land. The centre has Consultant clinics, Several laboratories, Several operating suites, X-ray, Orthoptic, Optometry, Nursing services department , Education and Administration departments.

### STUDY DESIGN

The study was carried out using the case study research design. This method is aimed at collecting data and describing in a systematic manner the characteristic feature or facts about a given population. In this case the method tries to collect data on the prevalence of glaucoma.

### INSTRUMENT FOR DATA COLLECTION

The instrument used to obtain data for this study was obtained through review of past medical record from the record department of National Eye Centre, Kaduna, Nigeria comprising of the primary source which was directly from ward register, primary health care clinics and registers from consulting clinics. The data collected were compiled by Health record officer of the centre.

### DATA ANALYSIS

The data collected from the Record department was carefully checked, coded and analysed. The percentage method of data analysis was employed for this study and the frequency table used in calculating the percentage. The fomular of

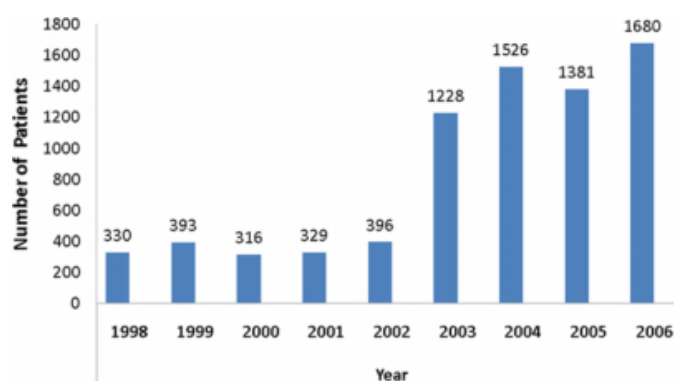
calculating percentage used for the purpose of this study is given below:

## RESULTS

Results are presented graphically and explained in percentages.

Analysis of the yearly distribution of glaucoma from 1998-2006 at the National Eye Centre, Kaduna is shown below. (Figure.1)

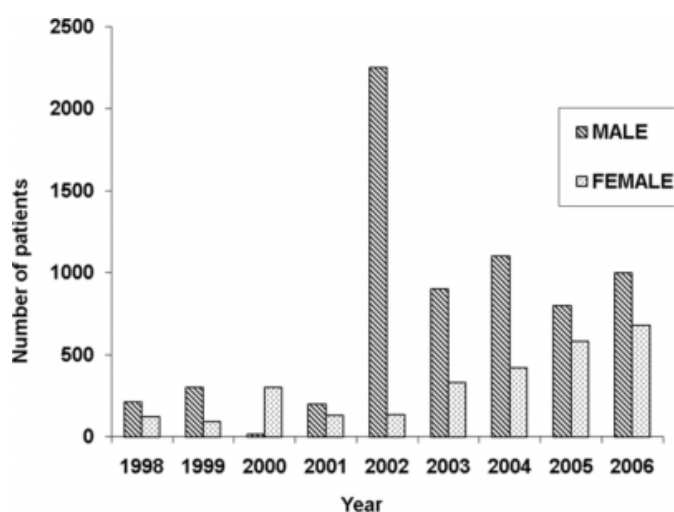
**Figure 1**



**Figure1. Yearly Distribution of Glaucoma from 1998 - 2006**

A total of 7573 patients were seen within this period. The year 2006 recorded the highest number of patients with a total of 1680 representing 23%, followed by 2004 with a total number of 1520 patients representing 20%, while the year 1998, 2000 and 2001 have the smallest number of patients as follows: 330 patients representing 4%, 316 patients representing 4% and 329 patients representing 4% respectively

**Figure 2**



**Figure 2. Sex distribution of Glaucoma from 1998-2006**

Figure 2 above shows the yearly distribution of glaucoma in males and females from 1998 to 2006. Male glaucoma cases were higher than the females in all the years of the study except in year 2000 where 16 males (6%) were recorded against 300 females (95%). In 2002, there was an alarming increase in the number of males to 2250 (63%) and 136 females (37%). A total number of 4876 male patient (63%) and 2787 female patients (37%) with glaucoma was presented during the period of the study.

**Figure 3**

Table 1: Age Distribution

Year	0-10 years	11-20 Years	21-30 Years	31-40 Years	41 and above
1998	18	10	50	80	172
1999	10	30	53	100	100
2000	11	114	75	115	101
2001	21	18	70	102	118
2002	54	28	100	114	100
2003	6	30	90	511	591
2004	60	90	120	550	700
2005	30	111	80	600	640
2006	11	130	140	620	680
Total	221	461	778	2792	3202
Percentage	3%	6%	10%	37%	43%

Age distribution shows that the prevalence of glaucoma is higher between 40 years and above recording 3202 patients (43% ) out of 7573 patients seen within the study period, followed by age 31-40 recorded 2792 patients representing 37%.

## DISCUSSION

The Yearly distribution showed from the study that the prevalence of Glaucoma is on the increase from 4% in 1998 to 23% in 2006. WHO in 2004 reported that in developing countries, estimated number of people who were blind rose to 3% excluding India, where there was a decrease of 25% from 1999 to 2000. This increase could be due to lack of early diagnosis or delayed treatment or the problem has not been properly addressed. In majority of cases diagnosis is made late after loss of central vision in one or both eyes (Verrey et al, 1990). Another reason could be lack of political and professional commitments to the prevention of blindness, the delivery of services, patient awareness, and socioeconomic development. The primary aim of glaucoma management is to control intra-ocular pressure and preserve visual field but serial documentation and monitoring of visual field changes are not done for most patients due to lack of facility for the test (Adegbehingbe and

Majemgbasan, 2007). Considering Glaucoma as a cause of irreversible blindness and in relation to data analysis of age and sex, it showed that people of productive age especially the males are more affected. This disability could result to huge economic loss and social consequences in Nigeria. The elderly individuals, who are at the greatest risk for developing glaucoma, often attribute their loss of vision to just growing old. It is estimated that 75% of the cases of blindness in developing countries would have been prevented but in situations where people are poor and live in remote locations, both prevention and treatment efforts are extremely difficult.

## CONCLUSION

This report indicates that glaucoma is a serious public health issue in Nigeria since it is still on the increase. Vision loss from glaucoma is silent, slow, progressive, and irreversible, and it is preventable (Robert, 2008). Hence the baseline data presented will help to improve the global efforts aimed at monitoring and elimination of glaucoma in Nigeria.

## RECOMMENDATION

Since the global target of WHO in Vision 2020 i.e the “right to sight initiative” is ultimately to reduce blindness prevalence to less than 0.5% in all countries or less than 1% in any community (WHO, 2000), the government, the public and public health officials face a big task in Nigeria. Solving the problem of glaucoma will not be easy for the way forward will involve

- mass screening of individuals early to identify the disease,
- train hundreds of Ophthalmologists,
- Individuals should seek for eye examination and
- Public awareness on glaucoma would probably have some effect.

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