

## Knowledge, Attitudes and Practices Related to Primary Open Angle Glaucoma in the Adult Population at the Donka National Hospital CADES/O

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### Abstract

**Introduction:** Primary open-angle glaucoma (POAG) is a chronic progressive optic neuropathy corresponding to a progressive loss of retinal ganglion cells characterised by an excavation of the optic nerve head (or papilla) associated with a typical visual field deficit. The aim of this study was to describe the knowledge, attitudes and practices of adult glaucoma patients with respect to CAPM.

**Methodology:** This was a prospective and descriptive study based on the census of all adult patients suffering from CAPM at the CADES/O of the Donka National Hospital for a period of 4 months from 1<sup>er</sup> September to 31 December 2020.

**Results:** During our study we counted 172 patients with a male predominance of 105 (61%) against 67 (39%) in women, i.e. a sex ratio M/F = 1.54

Of the 172 patients, 67.4% thought that GPAO could be cured with medication, 94.8% knew that the treatment of GPAO is lifelong, 75% had come to the hospital directly when they had vision problems, 97.7% were not insured, 51.7% found the cost of the treatment quite expensive, 65.7% did not take the medication at the prescribed times, 58.7% complied with the prescribed doses of medication, 58.1% were satisfied with the treatment they received, 55.2% of the patients kept appointments, 75.6% were informed about their disease (the nature of the disease, its consequences, the hereditary nature, the life-long treatment).

The main personal medical history was hypertension.

**Conclusion:** Medical treatment prescribed in the first instance is not always well followed up because of the very high cost of the drugs in relation to the patients' income.

**Keywords:** Conduct; Attitudes; Practices; Primitive Open Angle Glaucoma

### Introduction

Primary open-angle glaucoma (POAG) is a chronic progressive optic neuropathy corresponding to a progressive loss of retinal ganglion cells characterized by an excavation of the optic nerve head (or papilla) associated with a typical visual field deficit. Gonioscopic examination confirms that the iridocorneal angle is open.

Glaucoma is the leading cause of irreversible blindness and accounts for approximately 15% of all blindness [1].

GPAO is the most common glaucoma, accounting for 50-70% of all glaucoma's depending on the region and diagnostic criteria, and is expected to blind 5.9 million patients by 2020 [2].

The reported incidence of CAPM is between 0.12 and 0.10% per year and increases with age. It is seven times higher in subjects over 60 years of age compared to subjects under 40 years of age [3].

GPAO is diagnosed on the basis of a number of clinical criteria, namely the intraocular pressure value, the appearance of the optic nerve on the fundus and the topography of the visual field [4].

The onset of CAPM is gradual, painless and insidious.

GPAO has several risk factors, the main ones being intraocular hypertension, age, ethnicity, and family history [5-7].

In most cases, medical treatment is prescribed as the first line of defence. This medical treatment, which is instituted for life and on a daily basis, does not enjoy the full cooperation of patients, especially when the disease is in the asymptomatic stage. The success of the treatment will largely depend on compliance, which is the adequacy of the patient's behaviour to the doctor's prescriptions and recommendations. It includes: forgetting and dropping treatment, incorrect timing or spacing, ineffective or excessive instillations, self-medication, non-compliance with follow-up visits and the sometimes very expensive cost for patients without medical coverage [8].

In the USA, Leske MC reported a prevalence of 1-5% over the age of 40 [9].

In France, the prevalence of GPAO is estimated to be around 2% in people over 40 years of age [5].

In Togo, Balo K.P reported a prevalence of 7% in his study [10]. In Guinea we do not have statistical data on this subject.

Thus, the high number of visually impaired or blind people and the absence of a previous study on this subject in the Republic of Guinea are the reasons for the present study.

In order to carry out this work, we set ourselves the following objectives:

- To determine the epidemiological profile of patients with CAPM
- Determine the prevalence of CAPM at CADES/O
- Assessing compliance with medical treatment in adult glaucoma patients
- To assess the knowledge of adult glaucoma patients about the GPAO;
- Understanding patients' attitudes towards CAPM;
- To evaluate the practices of these patients in the face of this pathology;
- Investigate factors that influence adherence to treatment.

## Materials and Methods

- This work was carried out at the CADES/O of the DONKA national hospital. This is the reference service for the treatment of ophthalmic medical and surgical pathologies in the Republic of Guinea.
- Our study included all adult patients received for primary open angle glaucoma at CADES/O. This was a prospective descriptive study lasting four (4) months from 1<sup>er</sup> September to 31December 2020.
- The study included all adult patients aged between 18 and 80 years who were diagnosed with CAPMat CADES/O during the study period.
- All adult patients with a diagnosis of GPAO at CADES/O, who received treatment and who agreed to participate in the study, were included in our study.
- We conducted a comprehensive recruitment of all adult CAPM cases during the study period according to the selection criteria.
- Our variables were epidemiological, clinical, para-clinical and therapeutic.

## Data collection procedure and technique

Permission for data collection was obtained from the head of department. Data were collected using a questionnaire. The questionnaire was developed (see appendix) and administered by a member of the team to each patient.

### Part 1

Where socio-demographic information (patient identification) and clinical elements of the consultation at the time of screening were collected. These clinical elements included: personal ophthalmological and general history, family ophthalmological history, complaints.

### Part Two

Composed of a questionnaire that explores knowledge of the disease, compliance with treatment and patient satisfaction based on items to which the patient responded in a binary manner. The data from each questionnaire was explored taking into account the criteria defined for each of the areas explored.

The data were analysed using Epi Info 7.2 software. For comparisons of our statistical proportions we used the Chi-square and Student's t tests. Any value below 5% was considered statistically significant.

## Results

- During the study period, we received 3194 patients; the diagnosis of CAPM was established in 172 cases, a frequency of 5.3%. During the same period, 3022 patients consulted for other pathologies.
- Of our patients 45.3% (n = 78 cases) were attending higher education institutions, 37.8 were out of school (n = 65 cases); the others had either secondary school level in 19 cases (11%) or primary school level in 10 cases (5.8%).
- According to marital status, the majority of our patients were living in a couple (77.3%), followed by widowers (13.8%), singles (7.6%) and divorcees (1.2%).
- According to the age of the glaucoma, 62.2% (n = 107) were old cases, new cases represented 37.8% (n = 65).
- The majority of our patients did not have health insurance, i.e. 97.7% of cases.
- Decreased visual acuity was the most frequent reason for consultation, 59.9%, followed by visual blur, 34.3%. Other minor reasons for consultation were either redness, pruritus or diplopia.
- The distribution according to general history allowed us to identify 34.3% of hypertensives, 9.3% of diabetics and 51.6% were without any particular history.
- According to the information received about the disease after the consultation 75.60% of the patients knew about glaucoma and 24.40% had no information about the disease.
- According to the patients' beliefs on prevention, 41.3% thought about early detection; 1.7% about a balanced diet; stopping alcohol and smoking in 1.2% of cases; and prayer in 1.2%.
- 68% of the patients were aware of the existence of a treatment for glaucoma, while 32% had no treatment option.
- The vast majority of patients agreed that glaucoma requires lifelong treatment (94.8%) and only 4.20% said the opposite.

- According to the therapy to be used, 75% (129 cases) used eye drops prescribed in hospital; 13.95% (24 cases) used self-medication; 11.05% (19 cases) used traditional treatment.
- According to the medical treatment used, 63.4% correctly applied the treatment without interruption and 36.6% did not have good compliance.
- 65.7% said that they took the antiglaucoma medication at the indicated times, while 34.3% did not.
- According to the reasons for not taking medication, in 84.13% of cases it was an oversight; in 11.1% of cases due to lack of money; in 3.17% of cases due to travel and in 1.59% of cases it was due to lack of assistance.
- Among our patients, 51.70% considered the treatment expensive; 8.72% considered it affordable and only 1.70% considered it cheap.
- We noted that appointments were kept in 55.20% of cases and not kept in 44.8%.
- For 69.20% of our patients the follow-up was less difficult while 30.8% had difficulties.
- The relationship with the GP was good in 97.7% of cases, average in 1.70% and poor in 0.6% of cases.
- Among the recommendations made by the patients, the reduction in the price of antiglaucoma drugs was the most frequently mentioned, accounting for 69.1% of cases (n = 119).

## Discussion

From 1<sup>er</sup> September 2020 to 31 December 2020 we conducted a prospective descriptive study at the Centre d'Application du Diplôme d'Etudes Spécialisées en Ophtalmologie (CADES/O). Our overall objective was to assess the knowledge, attitudes and practices of adult patients with ABPM in the adult population.

GPAO is an asymptomatic disease at the beginning, it induces a severe visual handicap and an irreversible blindness at the terminal stage. In our study we collected 172 cases of GPAO, i.e. a frequency of 5.3% in relation to the total number of pathologies received. This hospital frequency is slightly higher than that reported by Atipo in 2015 in his study in Congo; who found a frequency of 4.8% at the BRAZZAVILLE University Hospital [11]. This frequency of CAPM could be explained by the duration and setting of our study.

The average age of our patients was  $54 \pm 16$  years with extremes of 18 and 93 years. These results corroborate those of some authors who found a relatively higher frequency of glaucoma in individuals over 40 years of age. Our results are contrary to those reported by Bron et al. in 2008 in France who found a mean age of  $65.6 \pm 11.7$  years in their study [12]. This difference is probably due to the fact that glaucoma, especially GPAO, is statistically earlier and more frequent in black people.

We recorded a male predominance with a sex ratio of 1.54. Our result is similar to that of Bora U et al. in 2013 in DRC who also reported a male predominance with a sex ratio of 2.4 in their study [13]. This can be explained by the fact that in most African countries, men are prioritized for care given their role in society, it is the latter who brings money into the family; the one who can take care of himself.

In our study, the urban area was the most represented. This means that geographical accessibility is an important parameter for the use of health services.

In our series, the majority of patients had a higher level of education. Our results are contrary to those reported by Dembelé F. K. in 2010 in his doctoral thesis in medicine in Mali who found 50.8% of the patients were not educated [14]. This difference could be explained by the fact that most of our patients were civil servants.

Civil servants were the most represented, followed by housewives. The GPAO therefore affects a category of the population that is often still professionally active, with an often significant social impact. Our results differ from those reported by Traoré B. in 2009 in his doctoral thesis in medicine in Mali, who found 35.6% of housewives followed by farmers 24.4% [15]. This result could be explained by the size of our sample.

The risk of developing glaucoma is increased threefold if a first-degree relative has glaucoma. Glaucoma dominated the family ophthalmological history. Our result is different from those reported by Dembelé F. K. in his thesis study in Mali who found that 54.79% of patients had a family history of glaucoma [14]. This result could be explained by the size of our sample.

The patient with GPAO can remain asymptomatic for a very long time until an advanced stage of the disease because the central

visual acuity remains unaffected for a very long time while the visual field damage may already be severe. Most of the patients had consulted for VAD followed by visual blur and some patients had come for control. Our result correlates with the result of Bora U. et al. in 2013 in the DRC who found in their study 59.3% of the patients had VAD as their main reason for consultation [13].

Although GPAO is generally an asymptomatic disease, we noticed that AVB deserves special attention as almost  $\frac{3}{4}$  of our patients had the disease in an advanced stage, which affects visual acuity.

In our study 75.60% of the patients claimed to have been informed about their disease.

In this study 75.3% of the patients knew that the treatment of GPAO is lifelong and 92.4% of the patients knew that GPAO can lead to blindness in the absence of the appropriate treatment. Our results are superimposed on those of Dugast P. et al. in 2016 in France who found in their study 73% of patients who knew that GPAO treatment is for life and 95% of patients who knew the risk of loss of sight in the absence of adapted treatment [16]. Some patients felt that surgery would protect them from non-adherence as they found it burdensome to apply expensive eye drops when they are available.

The majority of patients believed that early detection could prevent GPAO. It should be noted that after the questionnaire was administered, each patient was given an awareness session on the seriousness of their disease and the imperative need for them to respect the prescriptions, the only way to preserve their vision for a long time.

75% of the patients had come directly to the hospital when they had the vision problems while others had self-medicated in 13.95% of the cases before coming to the hospital and a minority 11.05% went to the tradithérapeute before coming to the hospital for consultation. This result could be explained by the fact that the majority of patients had a higher level of education.

63.40% of the patients took the medicines prescribed by the doctor while 36.60% of the patients did not take the medicines prescribed by the doctor but preferred to take the products given by the tradithérapeute because they could not afford the prescribed

medicines and others who believed that medical treatment was not the solution to their problem.

65.70% of the patients respected the dosage of medicines and the time of taking them. This could be explained by the educational level of the majority of our patients.

58.10% of patients were satisfied with the treatment received because they had good compliance. Our result is different from that of Dembelé F. K. et al. who reported 37.3% of patients with good compliance [14]. This difference could be explained by the level of education and the socio-professional category of the majority of our patients.

51.70% of the patients found the drugs very expensive; our result is comparable to that of Dembelé F. K. who found 52.9% of the patients found the cost of anti-glaucoma drugs high [14].

The majority of patients (55.20%) were regular in their appointments because they had a good knowledge of the disease but a minority (44.80%) did not take their medication correctly, the main reasons being forgetfulness and the high cost of medication.

A minority of patients, i.e. 30.80%, had difficulties with follow-up because they had financial difficulties.

Our result is superposable to that of Dembele F. K. who found 28.1% of patients had difficulties with follow-up [14].

The main recommendation of the patients was to decrease the price of the drugs because the high price of the latter influences compliance.

	Workforce	Percentage
Cultivators	8	4,7
Pupils/Students	12	7,0
Unemployed	12	7,0
Workers	14	8,1
Trader/Merchants	22	12,8
Retirees	27	15,7
Households	28	16,3
Officials	49	28,5
Total	172	100,1

**Table 1:** Distribution of patients received at CADES/O from 1<sup>er</sup> September to 31 December 2020 according to socio-professional categories.

	Workforce	Percentage (%)
Pterygion	1	0,6
Diabetic retinopathy	1	0,6
Uveitis	1	0,6
Myopia	2	1,2
Ocular trauma	6	3,5
Ametropia	12	7
Cataract	33	19,2
No history	116	67,3

**Table 2:** Incidence of patients seen at CADES/O from 1<sup>er</sup> September to 31 December 2020 according to personal ophthalmological history.

**Conclusion**

The study found that medical treatment prescribed as a first line of defence is not always well followed up because of the very high cost of the drugs in relation to patients’ incomes and the management of GPAO is a lengthy process. More important, however, is the development of an early and reliable screening method to detect glaucoma in its early stages. Only with such a method will national screening programmes be able to identify and treat large numbers of patients effectively and reduce the size of the problem.

**Bibliography**

1. Negrel AD. “Glaucoma: let’s focus on the posterior pole”. Our patients will benefit-- *Journal of Community Health* 4.3 (2007): 1-3.
2. Bron A., et al. “Risk factors for primary open-angle glaucoma”. *Journal Français D’ophtalmologie* 31.4 (2008): 435-444.
3. Quigley HA and Broman AT. “The number of people with glaucoma worldwide in 2010 and 2020”. *British Journal of Ophthalmology* 90 (2006): 262-267.
4. Resnikoff S., et al. “Global data on visual impairment in the year 2002”. *Bulletin of the World Health Organization* 82 (2004): 844-851.
5. Gervaise R. “Efficacy and Prognostic Factors of SLT Laser Trabeculoplasty”. PhD thesis 13 (2014).
6. Sharmila R., et al. “Screening of first degree relatives of individuals with primary open angle glaucoma in India”. *Journal of Current Glaucoma Practice* 8.3 (2014): 107-112.

7. Atipo-Tsiba PW, *et al.* "Epidemiological and Clinical Aspects of Glaucoma in the University Hospital of Brazzaville". *Health Sciences and Disease* 18.1 (2017): 70-72.
8. Santos MAK, *et al.* "Compliance with medical treatment in primary open angle glaucoma a lome". *Journal Français D'ophtalmologie* 39 (2016): 459-466.
9. Leske MC. "Reviews Open Angle Glaucoma. An epidemiologic overview". *Ophthalmic Epidemiology* 14 (2007): 166-172.
10. Balo KP. "What do we know about intraocular pressure in the Togolese population". *Journal Français D'ophtalmologie* 6 (2006): 629-634.
11. Atipo-Tsiba PW, *et al.* "Epidemiological and clinical aspect of glaucoma at the University Hospital of Brazzaville". *The Journal of Medicine and Health Science*.
12. Bron A, *et al.* "Satisfaction and compliance of ocular hypertensive and glaucoma patients topically treated with a combination therapy". *Journal Français D'ophtalmologie* 31.7 (2008): 659-665.
13. Bora U, *et al.* "Frequency of glaucoma in Lubumbashi". Presses universitaires de Lubumbashi. April 8 (2013): 31-35.
14. DEMBELE fatoumatakoita Primary open-angle glaucoma: treatment compliance from December 2007 to November 2008 at IOTA Doctoral thesis in medicine from the University of Bamako (2010).
15. Bassira TRAORE. Incidence of primary open angle glaucoma at the IOTA from July 2006 to July (2007).
16. Dugast P, *et al.* *French Journal of Ophthalmology* 39.6 (2016): 527-534.