

Epidemiological and Clinical Study of Adult Cataract at the Secondary Ophthalmology Center of Ouelessebouyou About 150 Cases

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Abstract

Original Research Article

Cataract-induced blindness is one of the greatest public health challenges of the 21st century in developing countries like Mali [1]. The objective of this study was to examine the epidemiological and clinical aspects and to determine the etiologies of adult cataracts at the secondary ophthalmology center of Ouelessebouyou. This was a prospective study conducted over a 6-month period (July 1 to December 31, 2023). Data processing and analysis were done using SPSS and Excel 2016. The document was written using Word 2016. The age group of 60-70 years was the most represented, with 46.7%. The male-to-female ratio was 1.2, favoring men. More than half of our sample were illiterate, accounting for 61.3%. The Bambara ethnic group was the most represented at 38.0%. Hypertension was the most common medical history at 22.0%. Blurred vision (BAV) was the most frequent reason for consultation at 92%. Preoperative visual acuity was less than 1/10 in 139 patients in the right eye (92.7%) and 90.0% in the left eye. The condition of the adnexa was normal in 96.6% of patients in the right eye and 96% in the left eye. Bilateral cataract was the most common form in our sample at 93%. The most common type of cataract was senile cataract, with 82.7% in the right eye and 84% in the left eye.

Keywords: Cataract, adult, secondary ophthalmology center.

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INTRODUCTION

Cataract-induced blindness is one of the greatest public health challenges of the 21st century in developing countries like Mali [1]. It is defined by the presence of any opacity in the lens, leading to a progressive decline in visual acuity [2].

Cataract is the leading cause of blindness worldwide, accounting for nearly half (47.8%) of all blindness cases. It is estimated that more than 90% of the world's visually impaired population lives in developing countries [3, 4]. In these countries, blindness is associated with high morbidity and mortality, leading to significant socio-economic consequences [5].

According to the WHO, at least 2.2 billion people have a visual impairment, of which at least 1 billion have a preventable or untreated impairment, with cataracts accounting for 65.2 million [6].

Cataract is responsible for approximately 60% of blindness cases in the French-speaking sub-region of

Africa, affecting about 1.2 million people, with an estimated 300,000 new cases of blinding cataracts annually [5]. If efforts to treat avoidable blindness are not intensified worldwide, this number is expected to increase to 76 million by 2020 [7].

In Mali, the prevalence of blindness is estimated at 1.2%, corresponding to about 170,000 blind people, 84,000 of whom are due to cataracts [5].

At the CSO of Ouelessebouyou, various themes have been addressed on several aspects of cataracts; our study particularly highlights the clinical and epidemiological aspects.

PATIENTS AND METHODS

This was a prospective study conducted over a 6-month period (July 1 to December 31, 2023). All patients diagnosed with cataracts after an ophthalmological consultation and aged 18 years or older were included in our study. Data collection tools included consultation registers, patient records,

operating room registers, and study information sheets. Data processing and analysis were done using SPSS and Excel 2016. The document was written using Word 2016.

RESULTS

SOCIO-DEMOGRAPHIC ASPECTS

A total of 150 patients were included in our study after an ophthalmological consultation. The age group of 60-70 years was the most represented at 46.7% (Table I). The male-to-female ratio was 1.2 in favor of men (Figure 1). The majority of our patients came from rural areas, accounting for 67.3% (Table II).

Table I: Distribution of the Sample by Age

Age Group	Frequency	Percentage
18-40 years	22	14.7%
40-60 years	40	26.6%
60-70 years	70	46.7%
70 and above	18	12%
Total	150	100.0%

The age group 60-70 years was the most represented with 46.7%.

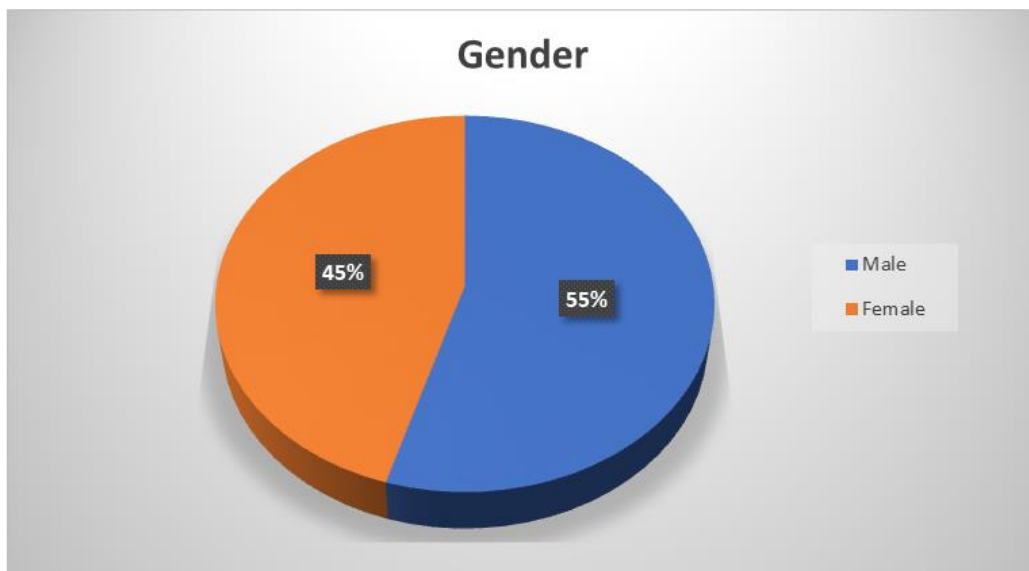


Figure I: Distribution of the Sample by Gender

The male-to-female ratio was 1.2 in favor of men (Figure 1).

Table II: Distribution of the Sample by Origin:

Origin	Frequency	Percentage
Urban	49	32.7%
Rural	101	67.3%
Total	150	100.0%

The majority of our patients came from rural areas, with 67.3%.

ANATOMO-CLINICAL ASPECTS

Hypertension was the most common medical history at 22.0% (Table III). Visual disturbances were the most common ophthalmological history at 19.3% (Table IV). Blurred vision (BAV) was the most frequent reason for consultation at 92% (Table V). The majority of patients (90.0%) had preoperative visual acuity < 1/10 in the right eye (Table VI). Bilateral cataract was the most

common form in our sample at 93% (Table VII). The most common type of cataract was senile cataract, with 82.7% in the right eye and 84% in the left eye (Table VIII). Intraocular pressure was 10-21 mmHg in the right eye and left eye in 95.3% and 96%, respectively (Table IX). 105 patients had a normal fundus in the right eye, accounting for 70%, and 111 patients had a normal fundus in the left eye, accounting for 74.0% (Table X).

Table III: Distribution of the Sample by General History

General History	Frequency	Percentage
Diabetes	30	20.0%
Hypertension	33	22.0%
Others	2	1.3%
None	85	56.7%
Total	150	100.0%

Hypertension represents the highest history with 22.0%.

Table IV: Distribution of the Sample by Ophthalmic History

Ophthalmic History	Frequency	Percentage
Ocular Trauma	20	13.3%
Glaucoma	17	11.3%
Visual Disturbances	29	19.3%
Others	1	0.7%
None	83	55.3%
Total	150	100.0%

The history of visual disturbances had the highest frequency at 19.3%.

Table V: Distribution of the Sample by Reason for Consultation:

Reason for Consultation	Frequency	Percentage
Visual Acuity Reduction (BAV)	138	92.0%
Blindness	12	8.0%
Total	150	100.0%

Visual acuity reduction was the most frequent reason for consultation with 92%.

Table VI: Distribution of the Sample by Pre-operative Visual Acuity

Visual Acuity	OD		OG	
	Frequency	Percentage	Frequency	Percentage
< 1/10	139	92,7	135	90,0
1/10 to 2/10	5	3,3	7	4,7
≥ 3/10	6	4,0	8	5,3
Total	150	100,0	150	100,0

The majority of patients (90.0%) had pre-operative visual acuity <1 - 1/10 in both eyes.

Table VII: Distribution of the Sample by Cataract Form:

Cataract Form	Frequency	Percentage
Unilateral	10	6.7%
Bilateral	140	93.3%
Total	150	100.0%

The most common form of cataract in our sample was bilateral with 93.3%.

Table VIII: Distribution of the Sample by Cataract Type

Cataract Type	OD		OG	
	Frequency	Percentage	Frequency	Percentage
Senile	124	82,7	126	84,0
Traumatic	6	4,0	4	2,7
Pathological	20	13,3	20	13,3
Total	150	100,0	150	100,0

The most common type of cataract was senile with 82.7% in the right eye (OD) and 84.0% in the left eye (OG).

Table IX: Distribution of the Sample by IOP Value

IOP Value	OD		OG	
	Frequency	Percentage	Frequency	Percentage
<10	6	4,0	4	2,7
10-21	143	95,3	144	96,0
>21	1	0,7	2	1,3
Total	150	100,0	150	100,0

The most common IOP value in our sample was 10-21 for both eyes with 95.3% and 96%.

Table X: Distribution of the Sample by Fundus Exam Status

Fundus	OD		OG	
	Frequency	Percentage	Frequency	Percentage
Normal	105	70,0	111	74,0
Diabetic Retinopathy	16	10,7	16	10,7
Hypertensive Retinopathy	9	6	6	4
Other	20	13,3	17	11,3
Total	150	100,0	150	100,0

105 patients had a normal fundus in the right eye (OD) with 70.0%, and 111 had a normal fundus in the left eye (OG) with 74.0%.

DISCUSSIONS

1. Sociodemographic Characteristics of Patients

- **Age Group:** The 60-70 age group was the most represented, with 46.7% and an average age of 61.2 years. Our findings are similar to those of K. KONE [5], where the most represented age group was 61-70 years (37.0%) with an average age of 62.19 years. These figures are close to those found by M. CAMARA I.M [19], where the 60-69 age group was the most represented, at 41.7%. In a study conducted in Morocco by K. HAMED *et al.*, [28], the age of the study sample ranged from 1 year to 97 years, with 68.5% being over 60 years old. The average age of the sample was 61.02 years. Furthermore, economically developed countries have seen a significant increase in the dominant age of cataract patients. A study in France showed this age to be 72 years.
- **Gender:** The male gender was the most dominant, with a male-to-female ratio of 1.2. This result differs from that of K. KONE [5], where the female gender was the most dominant, with 61.30%, corresponding to a male-to-female ratio of 0.63 in favor of females. This difference could be explained by differences in study size and timing.
- **Origin:** The majority of our patients came from rural areas, accounting for 67.3%. This result differs from that of K. KONE [5], where 94.3% of patients resided in Bamako. This difference could be explained by the fact that our study was conducted in a rural area.

2. Clinical Data

- **Medical History:** The majority of patients had a history of hypertension (22%), followed by diabetes (20%) and heart disease (1.3%). Our results are comparable to those of K. HAMED *et al.*, [28], who found that cataract is associated with diabetes in the majority of cases (37%), hypertension in 20% of cases, and heart disease in 10.5% of cases. In our study, ophthalmological histories such as visual disturbances (19.3%), ocular trauma (13.3%), and glaucoma (11.3%) were present in a proportion of patients. Our results are comparable to those of K. HAMED *et al.*, [28],

where ophthalmological histories included glaucoma in 11 cases (5.5%), myopia in 10 cases (5%), and ocular trauma in 9 cases (4.5%). Visual disturbances were varied, with cases of myopia, hypermetropia, and strabismus, highlighting the diversity of vision problems associated with cataracts.

- **Preoperative Visual Acuity:** 139 patients had preoperative visual acuity < 1/10 in the right eye, accounting for 92.7%, and 135 patients in the left eye, accounting for 90.0%. Five patients had preoperative visual acuity of 1/10 to 2/10 in the right eye, accounting for 3.3%, and seven patients in the left eye, accounting for 4.7%. Our result is comparable to that of Konate M, with a rate of 97.82% [15]. This observation clearly shows that cataracts are operated on at the stage of blindness in developing countries due to accessibility issues to services [5].
- **Form and Type of Cataract:** Bilateral cataract was the most common form in our sample, at 93%. Our result differs from that of K. HAMED *et al.*, [28], where it was found that most cases (147) had unilateral cataract, accounting for 73%, while 53 cases had bilateral cataract, accounting for 27%. In our study, the most common type of cataract was senile cataract, with 80%, followed by pathological cataract (13.3%) and traumatic cataract (2.7%). A similar result was reported by K. HAMED *et al.*, [28], where among 200 cases of cataract patients, those with age-related (senile) cataracts were the most frequent (61.5%), followed by diabetic cataracts, which accounted for 19.5% of the sample, and traumatic cataracts, which accounted for 15%.
- **Intraocular Pressure:** Our patients had an intraocular pressure between 10-21mmHg in the right and left eyes, with 95.3% and 96% respectively. This corresponds to a normal intraocular pressure value.
- **Fundus Aspect:** In our study, 105 patients had a normal fundus in the right eye, accounting for 70%, and 111 had a normal fundus in the left eye, accounting for 74.0%. Sixteen patients had diabetic retinopathy in both eyes, accounting for 10.7%, and 29 had total white cataracts in the right eye, accounting for 19.3%, and 23 in the left eye, accounting for 15.3%. Our result is close to that of Z SAMAKE [7], who observed 61.82% of normal fundus.

ANNEXES

SURVEY FORM

No.:

I. Socio-demographic Data:

1. Age:

1. 18 - 40 years

2. 40 - 60 years
3. 60 and above
2. Gender:
 1. M
 2. F
3. Marital Status:
 1. Married
 2. Single
 3. Divorced
 4. Widower/Widow
4. Origin:
 1. Urban
 2. Rural
5. Education Level:
 1. Uneducated
 2. Primary
 3. Secondary
 4. University
6. Ethnic Groups:
 1. Bambara
 2. Peuhl
 3. Senoufo
 4. Sarakolé
 5. Miniaka
 6. Others

II. General History:

1. Diabetes
2. Hypertension
3. Others
4. None

III. Ophthalmic History:

1. Ocular trauma
2. Glaucoma
3. Visual disturbances
4. Others
5. None

IV. Clinical Data:

1. Reason for Consultation:
 1. Visual acuity reduction (BAV)
 2. Photophobia
 3. Glare
 4. Blindness
2. Visual Acuity /sc OD:
 1. < 1/10
 2. 1/10 to 2/10
 3. ≥ 3/10
3. Visual Acuity /sc OG:
 1. < 1/10
 2. 1/10 to 2/10
 3. ≥ 3/10
4. Slit Lamp Examination:
 1. OD Annexes
 1. Normal
 2. Abnormal (Specify if abnormal) _____
 2. OG Annexes
 1. Normal
 2. Abnormal
5. Type of Cataract:
 1. Unilateral OD
 2. Unilateral OG

3. Bilateral
6. Cataract Type:
 1. Senile
 2. Traumatic
 3. Pathological
7. IOP OD:
 1. Normal
 2. Elevated
8. IOP OG:
 1. Normal
 2. Elevated
9. Fundus Exam OD:
 1. Normal
 2. Hypertensive Retinopathy
 3. Diabetic Retinopathy
 4. Others
10. Fundus Exam OG:
 1. Normal
 2. Hypertensive Retinopathy
 3. Diabetic Retinopathy
 4. Others

CONCLUSIONS

In conclusion, the analysis of the results of this study on cataracts highlights several important aspects of this ophthalmological condition. The decline in visual acuity was the main reason for consultation, underscoring the significant impact of cataracts on the quality of life and visual function of patients. Most patients had low preoperative visual acuity and bilateral cataracts. Senile cataracts were the most frequent type, consistent with their increased prevalence in older individuals. Although most patients had normal ocular adnexa, all had abnormal anterior segments, primarily due to the presence of cataracts. Most patients had intraocular pressure values within the normal range, but some had elevated values, highlighting the importance of regular monitoring for early detection of glaucoma. Fundus results revealed a significant proportion of patients with diabetic retinopathy, emphasizing the importance of managing comorbidities in patients with cataracts. These results highlight the complexity of cataracts and the diversity of factors associated with this condition. A multidisciplinary approach, integrating cataract surgery and comorbidity management, is essential to optimize clinical outcomes in patients with this condition.

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