

Patient's Quality of Life after Cataract Surgery at the Military Hospital of Conakry

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Abstract

Introduction: Cataract is a total or partial opacification of the crystalline lens and is the leading cause of reversible blindness worldwide. It is a public health problem in developing countries. The objective of our study was to evaluate the quality of life (QoL) of patients after cataract surgery at the Military Hospital of Conakry. **Methodology:** We conducted a prospective descriptive study over a period of 6 months, from March 3rd, 2024 to August 3rd, 2024, including one hundred and one (101) patients with cataracts scheduled for cataract surgery by phaco-alternative at the Military Hospital of Conakry. **Results:** The average age of our patients was 61.48 years, with a slight female predominance (51.48%). One month after surgery, we observed a significant improvement in the VF-7 score in 94% of patients ($p < 0.001$), which was strongly and positively correlated with postoperative visual acuity (VA) ($r = 0.90$; $p < 0.001$). Based on multiple linear regression analysis, younger age ($p < 0.001$), absence of ophthalmologic comorbidities ($p = 0.004$), a good preoperative VF-7 score ($p = 0.002$), good postoperative VA ($p < 0.001$), and absence of complications ($p < 0.001$) were associated with a significant improvement in QoL after surgery. **Conclusion:** Our study confirms not only visual recovery but also the improvement in patients' quality of life after cataract surgery.

Keywords

Quality of Life, Cataract, Surgery, Conakry

1. Introduction

Cataract is a total or partial opacification of the lens [1]. This results in a progressive decrease in visual acuity and may be unilateral or bilateral [1]-[3]. It is one of the most frequent conditions encountered by ophthalmologists [4] [5]. Cataract is an important public health problem, particularly in developing countries, as it is the leading cause of reversible blindness worldwide [2] [4] [5]. Despite progress in cataract surgery in many countries over recent decades, cataract (47.9%) remains the leading cause of visual impairment in all regions of the world except developed countries [2] [5]-[7].

Nowadays, a new issue has emerged: quality of life (QoL) after cataract surgery [7]-[9]. Improving a patient's quality of life means reducing the negative functional impact of the disease and its treatments [10] [11]. Quality of life is a multi-dimensional concept that encompasses five dimensions: physical well-being, material well-being, social well-being, emotional well-being, and development and activity well-being [8].

The WHO defines quality of life as an individual's perception of their position in life in the context of the culture and value system in which they live, and in relation to their goals, expectations, standards, and concerns [3] [9] [10].

In Morocco, Hamza L, in his doctoral thesis in Medicine, noted a significant improvement in the VF-7 score in 98% of patients one month after surgery [12].

In Nigeria, Olawoye *et al.*, in their 2012 study, found that 80% of patients had improved VF-7 scores after cataract surgery [13].

In Mali, Tembely M *et al.* noted strong increases after cataract surgery at CHU-IOTA in social function (+61.32), peripheral vision (+60.71), distance activities (+59.30), mental health (+58.93), near activities (+58.38), color vision (+54.69), difficulties in daily activities (+53.90), and overall vision (+52.81) in 39 patients [14].

In Guinea, we did not find any study on the quality of life of patients operated on for cataract in our context. However, the following research questions can be raised: what is the quality of life of patients after cataract surgery in the Conakry health district?

2. Methodology

This was a prospective descriptive study conducted over a 6-month period from March 3rd to September 2nd, 2024.

We targeted all patients seen at the Military Hospital of Conakry during the study period.

2.1. Inclusion Criteria

All patients operated on for cataract during the study period who:

- had a normal physical and mental state,
- were followed for at least one month postoperatively, and
- agreed to respond to the questionnaire.

2.2. Exclusion Criteria

Any patient who underwent surgery for a condition other than cataract was excluded from the study.

Surgical technique

We used a single surgical technique: phacoalternative (Phaco-A). The steps are:

Step 1: Sclero-corneal incision.

Step 2: Capsulotomy.

Step 3: Hydrodissection.

Step 4: Nucleus mobilization.

Step 5: Nucleus extraction.

Step 6: Cortical aspiration.

Step 7: Intraocular lens implantation in the posterior chamber.

Step 8: Application of topical antibiotics and steroids.

Postoperative VF-7 score

We determined the mean postoperative VF-7 score, standard deviation, and maximum and minimum values.

Mean VF-7 score before and after surgery

We determined the mean preoperative VF-7 score, the mean postoperative VF-7 score, and the level of statistical significance (p^*).

Variation of postoperative VF-7 score according to intraoperative incidents

We recorded the presence of intraoperative incidents (yes/no), the number of cases, the mean VF-7 score, the standard deviation, and the p -value.

Variation of postoperative VF-7 score according to postoperative visual acuity (VA)

We determined the VF-7 mean score according to postoperative $VA \geq 3/10$ and $1/10 \leq VA < 3/10$ and the corresponding numbers of patients.

Variation of postoperative VF-7 score according to the presence of complications

We recorded postoperative complications (yes/no), number, mean VF-7 score, standard deviation, and p -value.

Quality of life

These variables were used to assess the quality of life of patients after cataract surgery using the VF-7 scale, which takes into account difficulties in:

- Driving at night
- Reading small print
- Watching television
- Seeing stair steps
- Seeing road signs
- Cooking
- Performing fine manual work

Other variables for this study are sociodemographic (age, sex, occupation, residence) and clinical (visual acuity, form of lens opacity, type of lens opacity).

The Chi 2 test was performed with a sensitivity rate of 0.05.

3. Results

A total of 101 eligible patients with cataract were included out of 846 seen during the 6-month study period, giving a frequency of 11.9%. (See **Tables 1-3** and **Figures 1-2**)

Table 1. Distribution of the 101 patients seen at the Military Hospital of Conakry from March 3rd to September 2nd, 2024, by occupation.

Occupation	Number	Percentage (%)
Farmers	37	36.63
Housewives	32	31.68
Traders	6	5.94
Military personnel	14	13.86
Students/Pupils	2	1.98
Workers	6	5.94
Others	4	3.96
Total	101	100

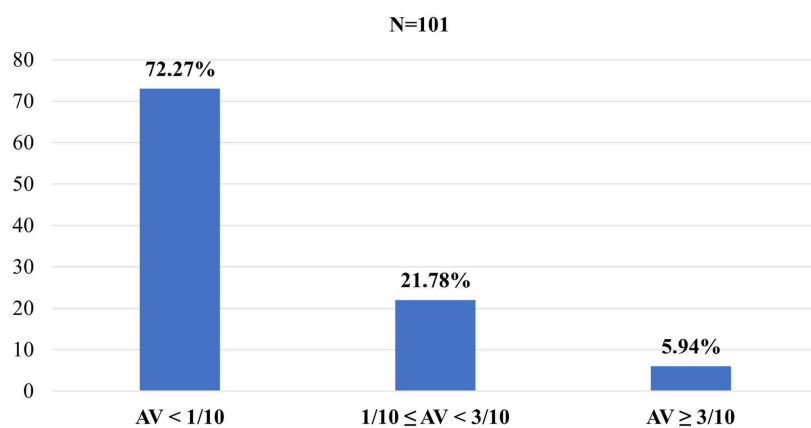


Figure 1. Distribution of the 101 patients seen at the Military Hospital of Conakry from March 3rd to September 2nd, 2024, according to preoperative distance visual acuity.

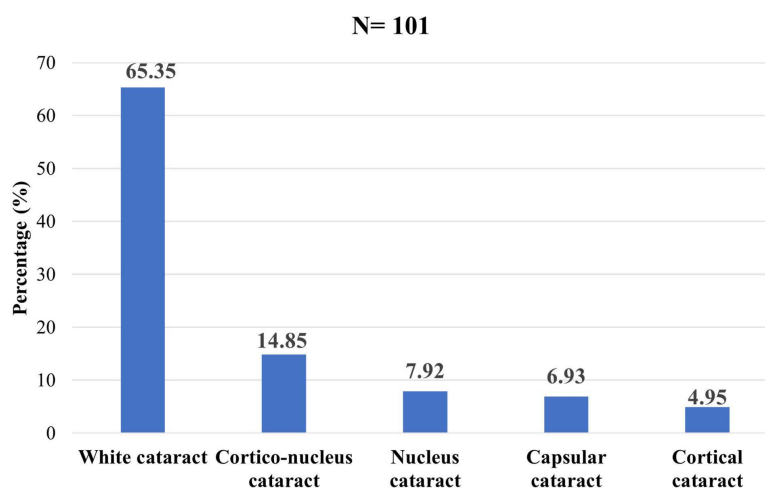


Figure 2. Distribution of the 101 patients seen at the Military Hospital of Conakry from March 3rd to August 3rd, 2024, according to anatomoclinical types of cataract.

Table 2. Distribution of the 101 patients seen at the Military Hospital of Conakry from March 3rd to August 3rd, 2024, according to uncorrected postoperative distance visual acuity (AVL sc) at Day 1, Day 4, Day 15, and Day 30.

AVL sc	Day 1 n (%)	Day 4 n (%)	Day 15 n (%)	Day 30 n (%)
VA \geq 3/10	57 (56.43)	65 (64.4)	71 (70.29)	79 (78.21)
1/10 \leq VA < 3/10	36 (35.64)	33 (32.7)	30 (29.70)	22 (21.78)
VA < 1/10	8 (7.92)	3 (2.97)	0 (0)	0 (0)
Total	101 (100)	101 (100)	101 (100)	101 (100)

Table 3. Difference in the VF-7 mean score of 101 patients seen at the Military Hospital of Conakry from March 3rd to September 2nd, 2024, before and one month after cataract surgery.

VF-7 before surgery	VF-7 one month after surgery	p
34.8 \pm 12.3	79.00 \pm 14.9	P < 0.001

4. Discussion

The frequency of patients undergoing cataract surgery was 11.9%. In Burkina Faso in 2023, it was 64% [15]. The difference in patient recruitment methods may be the cause of the differences in our results. Our study was conducted in a hospital setting, whereas in Burkina Faso, it was a mass surgery campaign.

Farmers and housewives accounted for 36.63% and 31.68%, respectively. Our results are comparable to those of Konaté M in Mali, who found that farmers and housewives were the most represented, accounting for 52.96% and 19.63%, respectively [16]. This can be explained by the considerable prevalence of blinding cataracts in this group for various reasons: remoteness, ignorance, and geographical and/or financial inaccessibility.

Almost all of our patients had poor visual acuity (VA \leq 1/10) without correction before surgery, *i.e.*, 73 patients (72.27%). This can be explained by the fact that cataract is the leading cause of visual impairment and has a considerable negative impact on quality of life in the absence of timely and appropriate treatment, which is consistent with the literature [7] [17]-[20].

White (mature) cataract was the most common type, accounting for 65.34%, followed by cortico-nuclear cataract (14.85%). Our results differ from those of Hamza L in Morocco in 2021, who found 31% posterior subcapsular cataract and 27% total white cataract [12]. This difference may be explained by late consultation of patients in our setting.

At Day 1, 56.43% of our patients had uncorrected postoperative visual acuity (VA \geq 3/10); 35.64% had VA between 1/10 and 2/10, and 7.92% had VA \leq 1/10.

At Day 4, 64.4% of our patients had uncorrected postoperative visual acuity of \geq 3/10.

At Day 15, 70.29% of patients had uncorrected postoperative VA \geq 3/10, and 29.7% had VA between 1/10 and 2/10.

At Day 30, 78.21% of patients had good uncorrected postoperative VA of \geq 3/10. This shows that visual acuity improves over time.

At Day 30 postoperatively, secondary cataract and persistent corneal edema were the most common complications, with respective proportions of 5.94% and 2.97%. Our study differs from that of Tembely M in Mali, who reported 6.25% persistent corneal edema and 3.12% endophthalmitis [16]. This may be due to poor hygiene and poor adherence to treatment among patients.

After cataract surgery, at Day 30 postoperatively, the mean VF-7 (QoL) score was 79.0 ± 13.9 ($p < 0.001$), with extremes of 33 and 100. Our result is similar to that of Hamza L in Morocco, who reported a mean VF-7 QoL score of 79.8, with extremes of 35 and 100 [12]. However, it is lower than that of Mittal J *et al.* in 2019, who found that the mean VF-7 score increased from 65.7 to 90.8, with a significant improvement in QoL [21].

The mean preoperative VF-7 score was 34.8 ± 12.3 , and it was 79 ± 14.9 in the postoperative period. This difference was statistically significant ($p < 0.001$). We noted an improvement in the VF-7 score in 94% of patients.

At Day 30 postoperatively, patients with VA $\geq 3/10$ had a mean VF-7 score of 80.98 ± 12.78 , whereas those with VA $< 3/10$ had a mean score of 39.5 ± 6.14 . This difference was highly statistically significant ($p < 0.001$). QoL was strongly and positively correlated with postoperative VA ($r = 0.90$; $p < 0.001$).

Patients with postoperative complications had a mean VF-7 score of 58.10 ± 13.82 , whereas those without complications had a mean of 81.68 ± 13.20 . This relationship was highly statistically significant ($p < 0.001$).

5. Conclusions

Cataract is a condition that occupies an important place at the Military Hospital of Conakry. It is an ophthalmologic disease that impairs patients' quality of life. It affects mainly women, who form the backbone of the Guinean population. Surgical intervention is a therapeutic approach that helps these patients improve their quality of life through better visual acuity.

A large-scale study would be necessary to better understand all aspects of this health problem in our country.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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