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FACTORS PROMOTING ACCESS TO CATARACT SURGERY FOR BILATERALLY BLIND PATIENTS IN A TERTIARY CARE HOSPITAL IN SOUTHERN ASSAM

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ABSTRACT

This retrospective, cross-sectional study was conducted in the Department of Ophthalmology, Silchar Medical College and Hospital, from January 1 to December 31, 2024, to determine the proportion of bilaterally cataract-blind patients undergoing cataract surgery and to identify barriers and facilitating factors influencing access. Bilateral cataract blindness was defined as best-corrected visual acuity (BCVA) ≤6/60 in the better eye, with cataract as the sole cause. Clinical examinations and structured interviews in the local language documented demographic details, barriers, and facilitators. Postoperative visual outcomes at 4–6 weeks were classified using WHO criteria, and the Sight Restoration Rate (SRR) was calculated. A total of 112 bilaterally cataract-blind patients (mean age 64.8 ± 10.6 years; 61.6% female) underwent surgery. The most common barriers were fear of surgery (24.1%), lack of an accompanying person (22.3%), and perception of managing with current vision (16.1%). Key facilitators included neighbors/acquaintances (28.6%), general health workers (20.5%), and previously operated cataract patients (19.6%). At 4–6 weeks postoperatively, 94.6% achieved good visual acuity (≥6/18), 4.5% had borderline vision, and 0.9% had poor outcomes. The SRR indicated effective restoration of vision in this group. Findings highlight that individual-level barriers, particularly fear and lack of an escort, limit surgical uptake, while community-based facilitators—especially neighbors, health workers, and prior surgical beneficiaries—play a crucial role in promoting access. Strengthening these networks, integrating cataract awareness into primary healthcare, and ensuring high-quality surgical outcomes are essential strategies to increase uptake and reduce cataract blindness in underserved populations.

INTRODUCTION

Cataract remains the leading cause of preventable blindness worldwide [1,2], despite the availability of safe, effective, and economical surgical treatment. The burden of cataract-induced blindness is disproportionately high in developing countries like India [2,3], where increasing life expectancy and healthcare access disparities contribute to a growing backlog of untreated cases. Nationally, cataract accounts for more than two-thirds of avoidable blindness [3], yet a significant proportion of bilaterally blind individuals continue to remain untreated.

In India, initiatives such as the National Programme for Control of Blindness [3,4] (NPCB) have improved the Cataract Surgical Rate (CSR) and Cataract Surgical Coverage (CSC), yet these metrics do not fully capture the real-world impact on those with the greatest visual disability. The Sight Restoration Rate [5,6] (SRR) among bilaterally cataract blind patients is a more direct indicator of surgical success in addressing functional blindness. Despite advancements in surgical technology and outreach efforts, the uptake of cataract surgery among bilaterally blind individuals remains limited, often due to a complex interplay of social, psychological, and logistical barriers.

While previous research has documented these barriers—such as fear of surgery, lack of family support, financial constraints, and limited awareness [4,5,6,7]—there is a relative paucity of data on the facilitating factors [4,8] that help patients ultimately overcome these challenges and access surgical care. Understanding these enablers is essential for designing patient-centered strategies to increase surgical uptake among those most in need.

This study was conducted at Silchar Medical College and Hospital, a tertiary care center in Southern Assam, to determine the proportion of bilaterally cataract blind patients undergoing cataract surgery and to identify the key barriers and facilitating factors [4,8] influencing their access to eye care services. The insights gained may help inform and strengthen community-based interventions aimed at reducing cataract blindness in underserved populations.

METHODS:

This retrospective, cross-sectional study was conducted at the Department of Ophthalmology, Silchar Medical College and Hospital, Assam. The study analyzed clinical and interview data of bilaterally cataract blind patients who underwent cataract surgery through hospital-based and outreach services from January 1, 2024, to December 31, 2024.

Bilateral cataract blindness was defined as best-corrected visual acuity (BCVA) ≤6/60 in the better eye, where cataract was the sole cause of visual impairment. Manifest blindness was defined as BCVA between 1/60 and perception of light (PL) in the better eye. Patients with other causes of visual loss were excluded.

Preoperative assessments included BCVA measurement (Snellen's chart), slit-lamp biomicroscopy, intraocular pressure measurement (applanation tonometry), and dilated fundus examination. B-scan ultrasonography was performed when media opacity precluded fundus visualization. Intraocular lens power calculation was done using keratometry and axial length measurements.

Patients were interviewed in their local language using two open-ended questions to identify barriers to care and facilitating factors [4,8]. Responses were recorded verbatim and categorized by the principal investigator. Postoperative outcomes were assessed at day 1 and 4–6 weeks. Visual outcomes were classified according to WHO criteria [12].

The Sight Restoration Rate [5,6] (SRR) was calculated as: SRR = ((Number of bilaterally blind preoperatively – Number bilaterally blind postoperatively) / Total cataract surgeries) × 100.

Data were analyzed using STATA I/C 13.1. Frequencies and percentages were calculated for categorical variables; means and standard deviations for continuous variables. Chi-square tests were used for comparisons, with $p<0.05$ considered statistically significant.

RESULT:

A total of 112 patients were identified as bilaterally cataract blind during the study period. The sociodemographic details are shown in Table 1.

Parameter	Value
Number of patients	112
Mean age (years)	64.8 ± 10.6
Female (%)	61.6
Male (%)	38.4
Urban residents (%)	51.0
Rural residents (%)	49.0
Unemployed (%)	40.2
Residing within 10 km of eye care facility (%)	54.5

Barriers to accessing eye care were recorded for the majority of patients, with fear of surgery and lack of an accompanying person being the most common. These are detailed in Table 3.

Barrier	Number of Responses (n)	Percentage (%)
Fear of surgery	27	24.1
No one to accompany	25	22.3
Able to manage with current vision	18	16.1
Financial constraints	9	8.0
Systemic comorbidities	12	10.7
Unaware of eye care facilities	7	6.3
Gave priority to household responsibilities	8	7.1
Thought vision loss was temporary	4	3.6
Other	1	0.9

Facilitating factors are summarized in Table 4, with neighbors/acquaintances, general health workers, and previously operated patients being the most commonly cited.

Facilitating Factor	Number of Responses (n)	Percentage (%)
Neighbors/acquaintances	32	28.6
Family members	20	17.9
General health worker/local medical staff	23	20.5
Announcements or camp awareness	12	10.7
Previously operated cataract patients	22	19.6
Proximity of eye camp	7	6.3

Postoperative visual outcomes at 4–6 weeks are shown in Table 2, with 94.6% of patients achieving good visual acuity.

Visual Outcome	Number of Patients	Percentage (%)
Good (≥6/18)	106	94.6
Borderline (<6/18–6/60)	5	4.5
Poor (<6/60)	1	0.9

DISCUSSION

This retrospective, institution-based study provides insight into the barriers and facilitating factors [4,8] influencing access to cataract surgical services among bilaterally cataract blind patients in Southern Assam. Fear of surgery and lack of an accompanying person were the most common barriers, while neighbors, general health workers, and previously operated patients emerged as important facilitators. These findings are consistent with previous studies from other parts of India, highlighting the role of community networks in promoting surgical uptake.

The high proportion of good postoperative outcomes underscores the importance of emphasizing surgical safety and quality in patient counseling. Nevertheless, uptake of second-eye surgery remained low, suggesting a need for targeted follow-up and education to encourage complete visual rehabilitation.

Integrating cataract awareness into primary healthcare, training general health workers, and mobilizing community advocates could significantly improve access for bilaterally blind patients.

CONCLUSION

In this study, the most significant barriers to cataract surgery among bilaterally blind patients were individual-level issues, particularly fear of surgery and lack of an escort. Community-based facilitators played a pivotal role in enabling access. Strengthening these facilitators, improving patient education, and ensuring high-quality surgical outcomes are essential strategies to increase uptake and reduce cataract blindness in Southern Assam.

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