



FACTORS ASSOCIATED WITH DELAY IN SECOND EYE CATARACT SURGERY IN PATIENTS WITH ADVANCED CATARACT

Ophthalmology

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ABSTRACT

Aim: To assess the factors associated with delay in second eye cataract surgery in patients with advanced cataract **Methods:** A cross-sectional study was conducted among 200 patients from community outreach clinic presenting for second eye cataract surgery with advanced cataract in one eye and pseudophakia in other. Socio-demographic data, clinical examination findings, factors associated with delay, and the interval between first and second eye surgery were analysed **Results:** Of the 200 patients, 60% were females and the mean age was 63.9 ± 7.5 years. More than half (55%) were illiterate, and 42% were farmers by occupation. The most common reasons for delay were loss of work or income (33%), good vision in the fellow eye (24%), and lack of an accompanying person (19%). Regarding time interval, 45% underwent surgery 1–2 years after the first eye, 25% after 3–5 years, and only 15% within 1 year. **Conclusion:** Delay in second eye cataract surgery was primarily associated with socio-economic and logistic constraints rather than fear or lack of awareness. Interventions such as financial support, improved outreach services, and patient escort facilities are essential to facilitate timely surgery and reduce avoidable visual disability.

KEYWORDS

delay, cataract, second eye cataract surgery

INTRODUCTION

According to the World Health Organization, cataracts affect approximately 65.2 million people and cause moderate to severe vision loss in over 80% cases. As populations age and average life expectancy continues to increase worldwide, the number of people with cataracts will continue to grow¹.

Cataracts can be managed with surgery by removal of cataractous lens and implantation of intraocular lens, but many people in underserved communities have very limited access to eye care and the resources they need.

India has a longstanding record of delivering cataract surgical services through outreach eye camps organized by non-governmental organizations (NGOs) and government agencies. Nevertheless, these initiatives have achieved only limited success in reaching individuals with cataract-induced blindness. Although providers have implemented extensive information, education, and communication strategies to increase surgical uptake, persistent barriers at both the community and individual levels continue to impede efforts to motivate affected individuals to undergo cataract surgery^{2,3}.

Multiple barriers hinder access to cataract surgery^{4,5}. At the individual level, poor awareness about cataract and its treatment, fear of surgery, cultural beliefs, financial constraints, and lack of family support frequently deter patients from seeking timely care. At the community and systemic level, inadequate healthcare infrastructure, long travel distances to surgical centres, shortage of trained eye care professionals, and indirect costs such as loss of wages further limit surgical uptake^{6,7}.

Understanding these barriers is essential to designing targeted interventions that improve cataract surgical coverage. Addressing these obstacles could substantially reduce the burden of avoidable blindness and improve the quality of life.

Cataracts are usually bilateral. When comparing the outcomes of second eye cataract surgery with those of first eye surgery, second eye surgery improves visual acuity, binocular function, depth perception and psychosocial health⁸⁻¹².

Therefore, the present study aims to investigate the factors associated with delay in second eye cataract surgery in patients with advanced cataract.

Aim

To assess the factors associated with delay in second eye cataract surgery in patient with advanced cataract.

MATERIALS AND METHODS

This was a prospective cross-sectional questionnaire based study. 200 patients with advanced cataract in one eye and pseudophakia in other

eye, attending the community outreach clinic of Sankara eye hospital from January 2023 to July 2024 were enrolled for the study.

Inclusion Criteria

Unilateral pseudophakia with other eye having age related advanced cataract having vision less than 6/60.

Exclusion Criteria

Best corrected vision less than 6/18 in pseudophakic eye, previous history intraocular surgery or refractive surgery (except cataract surgery in one eye), other ocular morbidities causing diminution of vision except age related senile cataract

After obtaining the informed consent from patients who were satisfying inclusion criteria, ophthalmological evaluation was done. Information was obtained from the consented patients using a structured proforma in their own languages. Then patients were counselled for cataract surgery in the other eye. All the answers from individual patients were evaluated and statistically analysed using SPSS Statistics version 29 software (IBM Corp., Armonk, NY, USA).

RESULTS

Table 1 - Socio-demographic Profile

Characteristic	Number of Patients (n = 200)
Gender	
Male	80 (40%)
Female	120 (60%)
Age (years)	
50 – 60	66 (33%)
61 – 70	100 (50%)
71 – 80	30 (15%)
≥ 81	4 (2%)
Mean ± SD	63.93 ± 7.52
Occupation	
Farmer	84 (42%)
Housewife	60 (30%)
Retired	56 (28%)
Literacy status	
Illiterate	110 (55%)
Literate	90 (45%)

Table 2 - Examination Details

Characteristic	Number of Patients (n = 200)
Visual acuity of second eye	
< 6/60 or CFCF	80 (40%)
CFCF-HM	100 (50%)
PL	20 (10%)
Stage of cataract in second eye	
Immature senile cataract	60 (30%)
Mature senile cataract	104 (52%)

Hyperature senile cataract	36(18%)
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Table 3 - Factors Associated With Delay In Second Eye Cataract Surgery

Factor	Number of Patients	Percentage (%)
Good vision in other eye	48	24%
Loss of work/income	66	33%
Lack of accompanying person	38	19%
Waiting for maturity	16	8%
Fear of surgery/unsatisfactory outcome in other eye	4	2%
Non availability of community outreach camps	18	9%
Other health issues	6	3%
Lack of awareness	4	2%

Table 4 - Time Interval Between First And Second Eye Surgery

Time Interval (years)	Number of Patients	Percentage (%)
0 – 1	30	15%
1 – 2	90	45%
3 – 5	50	25%
5– 10	18	9%
>10	2	1%

Out of the 200 patients, 120 (60%) were females and 80 (40%) were males. The mean age was 63.93 ± 7.52 years, with half of the patients (50%) belonging to the 61–70 years age group. With regard to occupation, majority (42%) were farmers, 30% were housewives, and 28% were retired and non working. In terms of literacy, majority (55%) were illiterate and only 45% were literate. In the second eye, 40% of patients had visual acuity $<6/60$ or CFCF, 50% had CFCF–HM, and 10% had only PL vision. With respect to cataract stage, 52% had mature senile cataract, 30% had immature senile cataract, and 18% had hyperature senile cataract.

The most commonly cited reasons for delay in undergoing second eye cataract surgery were loss of work or income (33%), followed by good vision in the other eye (24%) and lack of an accompanying person (19%). Other factors included non-availability of outreach camps (9%), waiting for cataract maturity (8%), other health issues (3%), fear of surgery or unsatisfactory outcome in the other eye (2%), and lack of awareness (2%).

Regarding the time interval between the first and second eye surgery, 45% of patients underwent surgery after 1–2 years, while 25% delayed for 3–5 years, and 15% had surgery within 1 year. A smaller proportion underwent surgery after 5–10 years (9%), and only 1% delayed beyond 10 years.

DISCUSSION

The present study highlights important socio-demographic and clinical determinants influencing the delay in second eye cataract surgery. The findings show that cataract continues to be a major cause of visual disability, predominantly affecting the elderly, females, illiterate individuals, and those from agrarian and labour intensive backgrounds.

In this study, A higher proportion of females (60%) were affected, aligning with global evidence that women experience a greater barriers in accessing cataract surgical care¹³. The predominance of illiterate and low-income occupational groups further emphasizes the strong socio-economic gradient in cataract presentation and treatment seeking behaviour.

Most patients presented with very advanced cataracts, with more than half (52%) having mature senile cataract in the second eye. This reflects delayed surgical intervention, similar to reports from other developing regions where patients often wait until profound visual impairment before seeking surgery¹⁴.

The time interval analysis revealed that nearly half of the patients (45%) underwent second eye surgery only after 1–2 years, with 25% delaying 3–5 years. This gap is concerning, as delayed second eye surgery is associated with impaired binocular vision, reduced depth perception, increased risk of falls, and poor quality of life^{11,12,15}. Timely second eye surgery is therefore essential to restore functional vision and reduce the burden of avoidable blindness.

The present study identified multiple factors contributing to the delay in second eye cataract surgery, with loss of work or income (33%), good vision in the fellow eye (24%), and lack of an accompanying person (19%) being the leading causes. These findings are consistent with reports from other developing regions, where socio-economic and logistic constraints often outweigh clinical concerns in determining the timing of surgery¹⁶.

The influence of loss of work/income highlights the significant economic vulnerability of patients, many of whom belong to daily wage or agrarian occupations. For such individuals, taking time off work to undergo surgery is perceived as a financial burden, resulting in postponement despite visual disability. Similarly, the dependence on an accompanying person reflects the social and logistic challenges faced by elderly patients, particularly women, in accessing tertiary care centres.

A considerable proportion of patients (24%) delayed surgery due to satisfactory vision in the fellow eye. This suggests that patients often tolerate monocular vision until the cataract in the fellow eye reaches maturity, which is problematic as it prolongs visual disability and affects depth perception, mobility, and quality of life.

Interestingly, fear of surgery and unsatisfactory outcome in the operated eye and lack of awareness contributed minimally (2% each). This contrasts with earlier studies where fear and lack of knowledge were more prominent barriers^{17,18}. The reduced role of these factors may reflect the success of ongoing community education and counselling programs. However, the persistence of barriers such as the non-availability of outreach camps (9%) and other health issues (3%) indicates that accessibility and comorbidity management remain relevant challenges.

CONCLUSION

Delay in second eye cataract surgery in this cohort was primarily related to socio-economic and logistic barriers, particularly loss of work or income, good vision in the fellow eye, and lack of an accompanying person, rather than fear or lack of awareness. Most patients presented with very advanced cataracts and underwent second eye surgery only after a significant interval, leading to prolonged periods of compromised binocular vision. Targeted interventions such as financial assistance, improved outreach services, and patient support systems are essential to encourage timely second eye surgery, restore functional vision, and reduce the burden of avoidable blindness.

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