



Reasons for Delay of Surgical Treatment among Patients with Mature Cataract in South India

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ABSTRACT

Introduction: Cataract is the leading cause of blindness in people above 50 years of age worldwide. Despite rapid increase in the availability of quality cataract services, surgical acceptance is still low amongst few sections of society because of the various factors limiting access to cataract surgery. Hence, the study was undertaken to determine the various factors which delays cataract surgery among patients with mature and hypermature cataract.

Objectives: To determine the reasons for delay of cataract surgery and compare the causative factors for delay in cataract surgery between male and female patients. To find out association between socio-demographic characteristics, reasons for delay in cataract surgery and duration of delay in cataract surgery.

Method: A Cross-sectional study was conducted in tertiary care teaching hospital from July 2022 to September 2022 on 82 patients by using convenient sampling method. After taking consent, the data was collected regarding patient details and Routine ophthalmic examination along with detailed slit lamp bio microscopic examination for grading the cataract were carried out. Data was entered in Microsoft- Excel and analysed using SPSS version 23.0.

Result: Majority (28.2%) of the subjects reported hospitals are far away from home as a reason for delay in undergoing cataract surgery. Among them, males (23.3%) were high compared to females (4.9%). Socio-economic status was found to have statistically significant association with duration of delay in cataract surgery.

Conclusion: Hospitals are far away from home and fear of surgery were the main reasons for delay in cataract surgery. Significant association found between socio-economic status and duration of delay in cataract surgery.

Key Words: *Mature, Cataract, Surgery, Delay*



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INTRODUCTION

Cataract is the leading cause of blindness in people above 50 years of age worldwide especially in the developing countries and it is one of the conditions responsible for painless and progressive diminution of vision in the elderly [1,2]. In both developed and developing nations, the percentage of elderly is expected to increase manifold, with a corresponding increase in patients with visual impairment due to cataract [3]. WHO reveals that 47.8% of global blindness is due to cataract and in South Asia including India, cataract blindness accounts for 51%. The burden is more in low income countries than in high income countries [4]. In India, some studies showed cataract related blindness accounts for as high as 80%. This is due to increase in life expectancy results in increase in the number of people aged 60 years or more, which in turn causes an increase in cataract number. Though cataract surgery is available across the country facility is not uniform and leads to suboptimal use of services. This creates a treatment gap in developing countries like India [4,5]. Surgery remains the only option for restoration of vision loss due to cataract. There has been vast improvement in the availability of hospitals providing eye health care as well as of the quality of cataract surgery [1,2,3&6]. Despite rapid increase in the availability of quality cataract services, surgical acceptance is still low amongst few sections of society because of the various factors limiting access to cataract surgery [3]. The present study aims to determine the various factors which delays cataract surgery among patients with mature and hypermature cataract.

Aim: To determine the various factors which delays cataract surgery among patients with mature and hyper mature cataract.

Objectives:

- 1) To assess socio-demographic characteristics of study subjects.
- 2) To determine the reasons for delay of cataract surgery.
- 3) To assess and compare the causative factors for delay in cataract surgery between male and female patients.

4) To find out association between socio-demographic characteristics and reasons for delay of cataract surgery.

MATERIALS AND METHODS

The Hospital based Cross-sectional study was undertaken in a tertiary care teaching hospital, Sri Venkateshwara Medical College Hospital and Research Centre at Puducherry by involving 82 patients from July 2022 to September 2022.

After obtaining institutional ethics committee clearance, study subjects were enrolled from the department of Ophthalmology by Convenient sampling technique after applying inclusion and exclusion criteria.

Inclusion criteria:

All patients who are diagnosed as mature and hypermature cataract presenting to the Ophthalmology Out Patient Department of Sri Venkateshwara Medical College Hospital and Research Centre and District blindness control society camps.

Exclusion criteria:

- 1) Patients who are not willing to participate
- 2) Patients with immature cataract

The interview method was used to collect data on socio-demographic details such as patient's name, age, gender, education, occupation, income and medical history such as history of systemic illness, the reasons for delay of cataract surgery, duration of delay in cataract surgery by using a pre-tested, semi-structured questionnaire after informed written consent from the subjects. Routine ophthalmic examination along with detailed slit lamp biomicroscopic examination for grading the cataract and routine preoperative evaluation as per the standard protocol were carried out on study subjects.

Data was entered in Microsoft- Excel and analysed using SPSS version 23.0. Categorical variables such as frequency and proportions were used. Chi square test was used to find the significant association between categorical variables. p-value less than 0.05 was considered to be statistically significant.

RESULTS

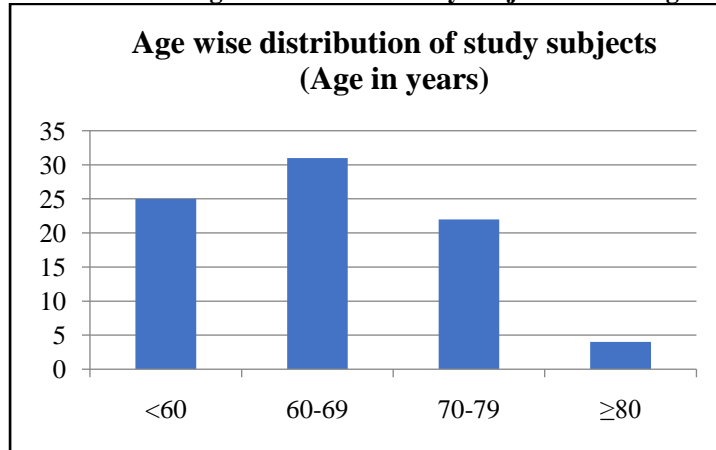
Table 1: Frequency distribution of study subject's socio-demographic details (n=82)

Socio-demographic details	Frequency (%)
Mean Age in years	63.7±9.2
Age(years)	
<60	25(30.5)
60-69	31(37.8)
70-79	22(26.8)
≥80	04(4.9)
Gender	
Male	53(64.6)
Female	29(35.4)
Occupational status	
Employed	62(75.6)
Unemployed	20(24.4)
Socio-economic status (according to modified B G Prasad classification)	
≤3	55(67.1)
>3	27(32.9)

*Figures in parenthesis indicate percentage.

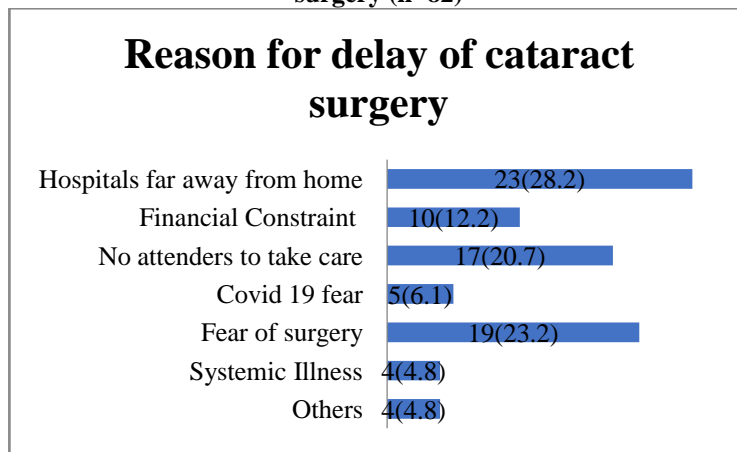
In the present study, Out of 82 subjects, 31(37.8%) were in the age group of 60-69 years, the mean age of subjects was 63.7±9.2 years. Males 53(64.6%) were more compared to females 29(35.4%). Most of them, 62(75.6%) were employed and 55(67.1%) belonged to class 3 or less according to B G Prasad classification. (Table 1)

Graph 1: Bar chart showing distribution of study subjects according to age (n=82)



Majority of the subjects i.e. 31(37.8%) belong to the age group of 60-69years, followed by <60 years which comprises of 25(30.5%) and 70-79 years comprises of 22(26.8%) (Graph 1)

Graph 2: Bar chart showing distribution of study subjects according to reasons for delay in undergoing cataract surgery (n=82)



*Figures in parenthesis indicate percentage.

In the present study, majority 23(28.2%) of the subjects mentioned hospitals are far away from home as a reason for delay in undergoing cataract surgery, followed by fear of surgery 19(23.2%), No attenders to take care (20.2%), Financial constraint(12.2%), Covid -19 fear (6.1%) and Systemic Illness (4.8%) (Graph 2)

Table 2: Gender Distribution of study subjects according to reasons for delay in cataract surgery (n=82)

Reasons for delay	Total	Male	Female
Hospitals far away from home	23(28.2)	19(23.3)	4(4.9)
Financial Constraint	10(12.2)	4(4.9)	6(7.3)
No attenders to take care	17(20.7)	9(11.0)	8(9.7)
Covid 19 fear	5(6.1)	3(3.7)	2(2.4)
Fear of surgery	19(23.2)	12(14.6)	7(8.6)
Systemic Illness	4(4.8)	2(2.4)	2(2.4)
Others	4(4.8)	3(2.4)	1(2.4)

*Figures in parenthesis indicate percentage.

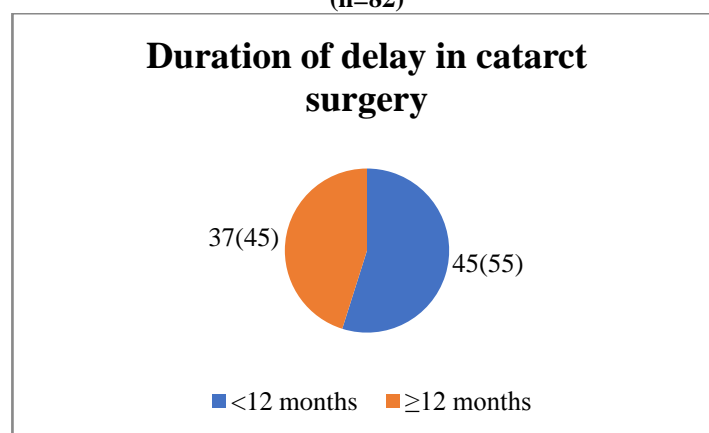
Most of the study subjects, i.e. 23(28.2%) reported hospitals are far away from home as a reason for delay in undergoing cataract surgery. Among them, majority were males 19(23.3%) compared to females 4(4.9%). (Table 2)

Table 3: Association between reasons for delay in cataract surgery and Gender

Reasons for delay	Male(n=53)	Female(n=29)	Chi Square value	P value
Hospitals far away from home			3.5	0.6
Yes	19	4		
No	34	25		
Financial Constraint			1.8	0.2
Yes	4	6		
No	49	23		
No attenders to take care			1.3	0.3
Yes	9	8		
No	44	21		
Covid 19 fear			0.1	0.8
Yes	3	2		
No	50	27		
Fear of surgery			0.02	0.8
Yes	12	7		
No	41	22		
Systemic Illness			0.4	0.5
Yes	2	2		
No	51	27		
Others			0.2	0.7
Yes	3	1		
No	50	28		

In this study, the percentage of males 53(64.6%) delaying cataract surgery was higher compared to females 29(35.4%). There is no significant association found between reasons for delay in cataract surgery and Gender (Table 3)

Graph 3: Pie chart showing distribution of study subjects based on duration of delay in cataract surgery reasons (n=82)



*Figures in parenthesis indicate percentage.

Majority i.e. 45(55%) of subjects presented with more than 12 months of delay in undergoing of cataract surgery. (Graph 3)

Table 4: Association between Socio-demographic characteristics and duration of delay in cataract surgery (n=82)

Socio-demographic characteristics	Duration of Delay		Chi Square value	P value
	<12 months	≥12 months		
Age(yrs)			5.1	0.02
<60	9	16		
≥60	36	21		
Sex			2.1	0.1
Male	26	27		
Female	19	10		
Occupational status			1.1	0.2
Employed	32	30		

Unemployed	13	07		
Socio-economic status			5.2	0.02
≤3	35	20		
>3	10	17		

In this study, Socio-economic status of study subjects was found to have statistically significant association with duration of delay in cataract surgery. Duration of delay was more in subjects who belong to 3 or less socioeconomic status according to modified B G Prasad classification. (Table 4)

DISCUSSION

- In the present study, 69.5% of subjects were in the age group of 60 years & above and there was a predominance of male subjects (64.6 %), which is similar to a study conducted by Naik VD et al., which concluded majority 51% were males and 77.5% were above 60 years of age [6].
- This study was conducted to determine the reasons for delay of cataract surgery among patients with mature and hypermature cataract. Overall, the results showed, majority 23(28.2%) of the subjects reported hospitals are far away from home as a reason for delay in undergoing cataract surgery. This is a common challenge in developing countries and was supported by various studies [7].
- Followed by fear of surgery 19(23.2%), which is similar to a study conducted by bizuneh et al, in which 16.7% subjects reported fear of surgery as a reason for delay in cataract surgery.⁷ This is due to poor knowledge regarding the cataract surgery and its complication.
- Financial constraint(12.2%) and no attenders to take care(20.2%) were the other reasons distinguished in this study, which is similar to studies done by Sebabi et al and Bizuneh et al. [7,8].
- In this study, the percentage of males 53(64.6%) delaying cataract surgery was higher compared to females 29(35.4%) and it was not statistically significant ($P > 0.05$)
- In contrast, a similar study by Chen et al in China found the percentage of women delaying cataract surgery was higher than that of men [9].
- In the present study, Duration of delay was more in subjects who aged more than 60 years, males and those who belong to 3 or less socioeconomic status. Socio-economic status of study subjects was found to have statistically significant association with duration of delay in cataract surgery ($p < 0.05$). Similarly, a study by Chen et al found that age and socio-economic status was significantly associated with the delay in time for cataract surgery [9].

CONCLUSIONS

- In this study, majority of subjects were in the age group of 60 years & above and there was a predominance of male subjects.
- Most of the subjects reported hospitals are far away from home as a reason for delay in undergoing cataract surgery, followed by fear of surgery, no attenders to take care, financial constraint, Covid -19 fear and systemic illness.
- The percentage of males delaying cataract surgery was higher compared to females. There is no statistically significant association found between reasons for delay in cataract surgery and gender.
- Socio-economic status of study subjects was found to have statistically significant association with duration of delay in cataract surgery.
- This study helps in determining the reasons for delay of cataract surgery.
- The study recommends extensive health education amongst the public to increase awareness regarding cataract progression and safe surgery to prevent cataract blindness.
- Barriers to delay in undergoing cataract surgery should be addressed by community based health education programmes to improve the uptake of cataract surgeries.

Ethics approval and consent to participate

Institutional ethical clearance was obtained and informed consent was taken from study subjects. If your manuscript does not report on or involve the use of any animal or human data or tissue, please state "Not applicable" in this section.
– Not applicable

List of abbreviations

WHO - World Health Organization
DOV- Diminution of Vision

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REFERENCES

1. Resnikoff S, Pascolini D, Etya'ale D, Kocur I, Pararajasegaram R, Pokharel GP, et al. (2004). Global data on visual impairment in the year 2002. *Bull WHO*. 82:844-851.
2. Michalska-Malecka K, Nowak M, Gościńiewicz P, Karpe J, Słowińska-Łożyńska L, Łypaczewska A, et al. (2013). Results of cataract surgery in the very elderly population. *Clin Interv Aging*. 8:1041–1046.
3. Brian G, Taylor H. (2001). Cataract blindness- challenges for the 21st century. *Bull WHO*. 79:249-256.
4. Murthy GVS, Gupta SK, John N, Vashist P. (2008). Current status of cataract blindness and Vision 2020: The right to sight initiative in India. *Indian J Ophthalmol*. 56(6):489–494.
5. Matuli das Matuli Das et al. (2022). Causes of Delayed Presentation for Cataract Surgery. *Journal of Clinical and Diagnostic Research*. 16(1): 1-5.
6. Naik VD, Usgaonkar UPS, Albal VH. (2018). Reasons for delay of surgical treatment among patients with senile mature cataract in Goa. *Int J Community Med Public Health*. 5(6):2529–2535.
7. Bizuneh ZY, Gessesse GW, Anbesse DH. (2021). Barriers to Cataract Surgery Utilization Among Cataract Patients Attending Surgical Outreach Sites in Ethiopia: A Dual Centre Study. *Clin Optom*. 13:263-269.
8. Sebabi FO, Okello WO, Nakubulwa F, Sempindu R, Driciru C, Nalukenge C, et al. (2021). Factors associated with delayed uptake of cataract surgery among adult patients at Mulago National Referral Hospital, Uganda. *Afri Health Sci*. 21(3):1259-1265.
9. Chen X, Chen C, Yuan R, Zhang Y, Ye J. (2010). Reasons for the delay of surgical treatment among patients with age-related cataracts in urban Chongqing, China. *Sci Res Essays*. 5(20):3095–3099.