

Barriers to the acceptance of cataract surgery in a hospital based population: A descriptive study

Prabha Gupta¹, Shauryakant Varandani², Abha Shukla^{3,*}

¹Senior Resident, ²PG Resident, ³Associate Professor, Dept. of Ophthalmology, Gajra Raja Medical College, Gwalior, Madhya Pradesh, India

***Corresponding Author:**

Email: drashukla26@gmail.com

Abstract

Introduction: Cataract is a leading cause of blindness in low and middle income countries like India. Despite free cataract services available in most government institution as part of national health program to curb blindness, there are certain barriers among people which prevent them from utilizing health services.

Aim: To determine the possible reasons for delay in acceptance of cataract surgery at tertiary care ophthalmic centre.

Materials and Methods: This is a questionnaire based descriptive study done at outpatient setting at tertiary care ophthalmic centre in northern India. The patient who were aware of the presence of cataract with visual acuity of $< 6/60$ (20/200) in worst eye with cataract were enrolled in study after informed consent. They were presented with questionnaire related to knowledge, attitude and behaviors regarding the cataract and its treatment.

Result: The study enrolled 356 patients with mean age of 58.6 ± 6.23 years. There were 199 (55.89%) males and 157 (44.11%) females. Mostly they belong to low socioeconomic class. The important barriers which came out in the study were ability to manage daily routine work 244 (68.54%), additional cost of surgery 221 (62.07%), fear for surgery 216 (60.67%), ability to see with other eye 202 (56.74%), busy with work 181 (50.84%), and cataract not mature 136 (38.2%).

Conclusion: There is need for individual and community health counseling regarding the cataract surgery so as to allay the fear and anxiety among the patients.

Keywords: Barrier, Cataract, Surgery.

Introduction

In year 2010, Cataract was responsible for almost 33% (10.8 million) cases of all blindness and nearly 18% (35.1 million) cases of visual impairment globally.¹ Cataract accounts for 41% of global blindness and 81% of blindness in India.^{2,3} By 2020, the proportion of cataract blindness may increase with increase in the elderly population.⁴

One of the strategies for reducing the cataract backlog is by increasing the number of surgeries performed.²⁻⁵ Despite this, cataract surgical coverage is inadequate in many places, for obvious reasons such as lack of trained manpower and supplies. Even when services for cataract surgery are available, there are many other barriers which keep the patients away from utilizing these services.⁵⁻⁹ Determining these barriers may be critical for planning strategies to prevent cataract induced blindness. Hence the study was planned to determine the possible reasons for delay in acceptance of cataract surgery at tertiary care hospital.

Materials and Methods

This was a hospital based descriptive study conducted on outpatient basis at tertiary care ophthalmic center in North India. The study was approved by institute ethical committee. Patient aged ≥ 50 years attending out-patient department of ophthalmology with decreased vision were screened for the presence of cataract. The vision was assessed by Snellen's chart and the diagnosis of cataract was based on torchlight and

distant direct ophthalmoscopy. Fundus and slit lamp examination was performed when needed.

The patient who were aware of the presence of cataract with visual acuity of $< 6/60$ (20/200) in worst eye with cataract were enrolled in study after informed consent. The patients who were not aware of the presence of cataract, or when cataract not accounting for visual loss and refusal of consent were excluded from the study. Patients with visual acuity of $< 3/60$ in better eye were considered blind as per WHO definition. Fig. 1 is showing the diagrammatic algorithm of study.

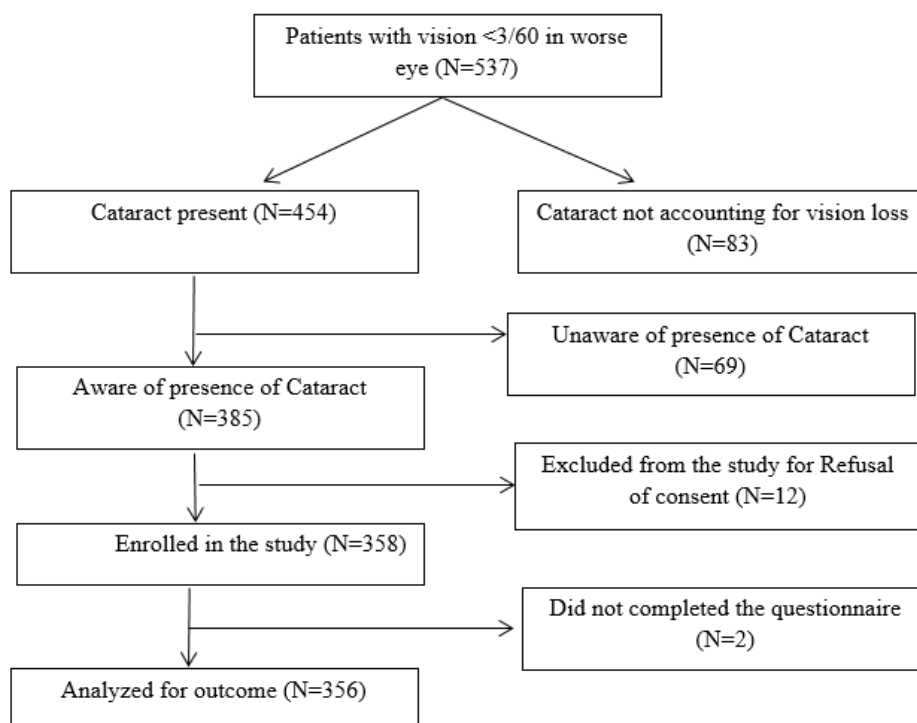


Fig. 1: Showing the diagrammatic algorithm of study

Base line socio economic and demographic data was collected which included the age, gender, family income, literacy, residence and employment status. A questionnaire to assess the patient's knowledge of cataract, its treatment and barrier for the acceptance of cataract surgery was modified and adapted from a study done by Upreet Dhaliwal et al.¹¹ The questionnaire included components of knowledge, service delivery, beliefs and attitude of patients regarding cataract surgery and barriers leading to delay in undergoing cataract surgery. The questionnaire was developed in local language (Hindi) which was presented to all the eligible participants. Participants were asked to respond as Yes/No/NR (no response/not known). The socio economic status was defined as per BG Prasad's socioeconomic scale 2016.¹²

To maintain uniformity and reliability of data collection, all questionnaire were delivered by the principal investigator and the co-investigator. The exercise was conducted in a separate OPD chamber away

from the patient's relative so as to avoid distraction and bias.

Result

The study enrolled 356 patients with mean \pm SD age of 58.6 ± 6.23 years. Of these 199 (55.9%) were males and 157 (44.1%) were females. Majority of patient 297 (83.4%) belonged to lower and lower middle class socio economic status as per the BG Prasad classification. Majority of patients were residing within 50 km from the hospital 253 (71.06%). Of the 356 patients, 213 (59.83%) were financially dependent.

Out of 356 patients, 40 (11.2%) presented with lens induced glaucoma (LIG) of which 6 (15%) were male and rest 34 (85%) were females. Among the LIG (lens induced glaucoma), 14 (35%) were pseudophakic in other eye. Among patients with bilateral cataract, 79 were cataract blind with vision less than 3/60 in the better eye. Majority of patients 263 (73.88%) were presented with visual acuity of less than 6/18 in the better eye (Table 1).

Table 1: Demographic profile of patients

Gender	Male female	199 (55.89%) 157 (44.11%)
Age	Mean \pm SD 58.6 \pm 6.23 years	
Literacy	Literate Illiterate	170 (47.76%) 186 (52.24%)
Financial Dependency	Dependent Independent	213 (59.83%) 143 (40.17%)
Other eye	Pseudophakic Cataract/WNL	68 (19.1%) 288 (80.9%)

Visual acuity(better eye)	6/6 – 6/18 <6/18 – 6/60 <6/60 – 3/60 3/60 – HM+	93 (26.12%) 82 (23%) 102 (28.65%) 79 (22.19%)
Socio economic status (BG Prasad)	Upper class Upper middle class Middle class Lower middle class Lower class	3 (.84%) 19 (5.33%) 37 (10.39%) 142 (39.88%) 155 (43.53%)
Distance from the health facility	<10km 10-50 km 50-100km >100km	101(28.37%) 152(42.69%) 89(25%) 14(3.93%)
LIG	40(11.2%)	6(15%) male* 34(85%) female* 14(35%) pseudophakic*

* Among LIG (Lens induced glaucoma)

Out of 356 patients, 288(80.89%) patients were knowing that cataract is curable but only 123(34.55%) patient considered surgery as best treatment for cataract. Spectacles were considered as treatment for cataract in 102(28.65%) patients and 63(17.69%) considered medicinal eye drops, while 68(19.10%) had no idea

about ideal treatment for cataract. Total of 113 (31.71%) patients were not aware that cataract surgery is safe and 166 (46.62%) considered surgery to be painful. Of 356 patients, 277(77.81%) patients who presented to hospital were aware of government provision for free cataract surgery (Table 2).

Table2: Assessment of patient's knowledge of cataract

Questions	Options	Numbers of subjects	Percentage
When did you first come to know that you are suffering from cataract?	<1 yr	178	50
	1-2yrs	107	30.05
	>2yrs	71	19.94
Is cataract curable?	Yes	288	80.90
	No	12	3.37
	NR/Don't Know	56	15.73
In your opinion what is the best treatment of cataract?	Eye drops	63	17.69
	Spectacles	102	28.65
	Surgery	123	34.55
	NR/others	68	19.10
Do you think surgery will be painful?	No	61	17.13
	Yes	166	46.62
	NR/Don't Know	129	36.23
Is cataract surgery safe?	No	15	4.2
	Yes	243	68.2
	NR/ don't Know	98	27.52
Do you know you can resume your work shortly after surgery (1week)?	No	56	15.73
	Yes	105	29.49
	NR/ Don't know	195	54.77
Are you aware of government provision for free cataract surgery in our hospital?	Yes	277	77.81
	No	79	22.19

NR- No response

Representation of male and female is quite comparable. More than half of the patients were illiterate and financially dependent on other family members. Around 50% of the patients were aware of presence of cataract for >1 year and 38.2% were waiting for cataract to get mature / operable. Of this, 60.67% documented

fear for undergoing surgery. Around 55-70% documented the ability to see clearly, could manage daily routine work, and worry for additional cost of operation as major barrier for delay in cataract surgery. Other reasons documented by 5-10% were – too old to undergo surgery, god's will, presence of other disease

which can be complicated by surgery, history of loss of sight/even poorer vision after surgery.

Barrier related service delivery were documented by 10-35% of patients include multiple hospital visits,

cumbersome procedure in assessing hospital facilities, distance from the hospital and postponement of surgery by provider (Table 3, Table 4).

Table 3: Reported barrier related to beliefs

Questions	Options	Numbers of subjects	Percentage
Your cataract was not mature (was not ready to get operate)	Yes	136	38.2
	No	123	34.55
	NR	97	27.25
You thought blindness was God's will	Yes	31	8.70
	No	278	78
	NR	47	13.20
You were worried about the additional cost of the operation	Yes	221	62.07
	No	115	32.36
	NR	20	5.61
Presence of other diseases so you thought surgery might lead to further complications or death	Yes	29	8.14
	No	284	79.79
	NR	43	12.07
History of sight loss after surgery in known/relatives	Yes	21	5.89
	No	227	63.76
	NR	108	30.4
Too old to undergo an operation	Yes	19	5.34
	NO	259	72.75
	NR	78	21.91

NR- No response

Table 4: Barriers related to attitude and service delivery

Barriers	Options	Number of subjects	Percentage
Did you delay treatment because you were afraid of undergoing an operation?	Yes	216	60.67
	No	112	31.4
	NR	28	7.86
Did you delay treatment because you could see clearly with the spectacles /other eye?	Yes	202	56.74
	No	154	43.26
Did you delay treatment because you could manage to do your daily routine work?	Yes	244	68.54
	No	112	31.46
Did you delay treatment because no one could come along with you for surgery?	Yes	128	35.96
	No	179	50.28
	NR	49	13.776
Did you delay treatment because of lack of time for surgery, when suggested as you were busy with work?	Yes	181	50.84
	No	104	29.21
	NR	71	19.94
Did you delay treatment because, treatment was postponed by providers?	Yes	42	11.79
	No	270	75.84
	NR	44	12.35
Multiple hospital visits/cumbersome procedure in assessing hospital facilities	Yes	99	27.8
	No	153	42.97
	NR	104	29.21
Did you delay treatment because, You were living very far from the hospital?	Yes	81	22.75
	No	232	65.16
	NR	43	12.08

NR- No Response

Discussion

There are few studies done in different part of world to assess barrier related to uptake of cataract surgery specially in developing Asian and African countries. In our study most common barriers which accounted for more than 55% of patients include ability to manage daily routine work (68.54%), additional cost for undergoing surgery (62%), fear for undergoing cataract surgery (60.67%) and ability to see with spectacles or other eye (56.74%)

Among studies done outside India, cost was one of the major barrier.^{6,13-15} Study from neighboring countries like Nepal¹⁴ and Pakistan¹⁵ has shown cost as an overwhelming cause for delay in surgery. Studies done from India^{16,17} on camp or community based population has also shown cost as important factor for delay in availing the health services. However a hospital based study from northern India (Delhi) does not show cost as the major barrier though they belong to lower socio economic strata.¹¹ Our study also shows that additional cost for surgery (lost income, travel, postoperative- care) is an important barrier in lower socioeconomic group despite free provision for cataract surgery.

Barriers like, able to do their daily work (68.5%) and good vision in the fellow eye (56.7%) were the major behavioral barriers in our study. Similar findings were observed in a study done by Dhaliwal et al from Delhi in 2006 and study from central India.^{11,17}

It is seen that even bilaterally blind people do not feel the need for cataract surgery till they are completely dependent on others. The perception of blindness is different among the societies and also different among the members of the same society. Visual need of the patient for performing their work is an important factor to decide the need for cataract surgery rather than their actual visual acuity. Majority of patients in our study (73.88%) were having visual acuity of 6/18 or less in the better eye and 79 (22.2%) were cataract blind (vision less than 3/60 in the better eye).

Barriers related to busy with their work schedule and cataract not mature were present in 50.84% and 38.2% patients respectively. Hence, it is important to assess the compliance of cataract patient before asking them to wait in case of immature cataract as other factor may prevent them to turn up again. In the present era of micro surgery, there is no need for cataract to mature before operating, but due to lack of awareness patients are coping with decreased vision and delaying the surgery.

Hospital related barriers involve how far the hospital is from their place of living. Most cataract blind live in rural areas whereas the health services are crowded in urban areas. As this was a hospital based population only 22.75% patient's reported distance as a barrier for undergoing surgery.

Other hospital related barriers were multiple hospital visits, complex and cumbersome procedure to avail health facilities, postponement of surgery by the

provider and no one to accompany. The needs of senior citizens and those who are dependents should get preference to cut short the long waiting time.

Other factors which came out from the questionnaire were too old to undergo cataract surgery and as gods will. As the blindness is still not considered a health priority in low socio economic class, it enforces them to live with blindness. Such barriers can be treated by educating the patients and targeting elderly group of population

Our study has also shown fear for surgery as one of the important barrier for accepting surgery. Despite availability of improved anesthesia and painless surgery people still have fear and anxiety for undergoing operation in 60.67% of respondents due lack of awareness regarding the disease condition. Fear for blindness or being left with even poorer vision, fear of death due to ill health being complicated by surgery are other factors related to cataract surgery. Similar to our study, financial reason, able to see with other eye and fear of operation are the factors identified in various studies from India, Gambia and Nepal.^{14,18-20}

Provision of high quality surgery with good outcome will encourage people to take up cataract surgery. It will reduce the fear and the lack of trust in cataract surgery. Patients who have been successfully rehabilitated can serve as excellent motivator for others in community to undergo cataract surgery. There is need for counseling following successful surgery to avoid unnecessary delay in other eye surgery and to motivate people of society who are waiting for surgery and delaying surgery by coping up with the poor vision.

Questions related to cost, pain during surgery, surgical complications and resuming their work after surgery should be incorporated in community and individual health counseling sessions so as to allay fear and anxiety related to the cataract surgery prevalent in the community. This study has shown that even among hospital based population only 34.55% patients document surgery as best treatment for cataract. Hence education should not only involve treatment options but information should be given about various facts which can reduce the anxiety as well as myths among the population.

Conclusion

The important barriers found out in the present study were ability to manage daily routine work, additional cost related to surgery and fear and apprehension related to surgery for delay in availing prompt cataract surgeries. There is need for counseling the patient and their relatives to avoid delaying other eye surgery and to motivate other people of the community regarding simplicity and advantages of cataract surgery.

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