

REASONS FOR DELAYED UTILIZATION OF CATARACT SURGERY AMONG PATIENTS ATTENDING A TERTIARY REFERRAL CENTRE, MAHARASHTRA.

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ABSTRACT: BACKGROUND: Cataract is a major cause of vision impairment in many low-income settings. Cataract blindness is a disease which has severe economic repercussions and adversely affects the productivity of country. However, despite rapid increase in the availability of quality services, surgical acceptance is still low in some segments of society. **AIM:** To study the various reasons for delayed utilization of cataract surgery. **METHODS:** In this cross sectional study 450 patients above 40 years of age who were admitted in ophthalmology ward for cataract surgery were enrolled by systematic random sampling technique. Socio-demographic data was collected by interviews in local language on predesigned and semi structured proforma. The various reasons for delayed utilization of cataract surgery were asked to them. Statistical tests applied were chi square test and percentages. **RESULTS:** Majority of the study subjects were illiterate females above 60 years of age belonging to lower socioeconomic status. Most of the study subjects were Hindus from rural area having unilateral blindness. The various reasons for delayed utilization of cataract surgery were economic problems (76.7%), ignorance by patient (29.1%), fear of operation (26.4%), ignorance by head of family (22.4%) and suspicion about improvement of vision after surgery (21.5%). Some subjects gave reasons as lack of accompanying person, fear of surgery causing death, lack of time, its God will and lack of transport. **CONCLUSION:** The predominant reason for delayed utilization of cataract surgery was economic constraints. Other reasons were ignorance by patients and head of family, fear of operation and death, suspicion about improvement of vision, God's will, lack of accompanying person and lack of transport.

KEY WORDS: Cataract, Blindness, Economic constraints, Fear.

INTRODUCTION: Cataract blindness is a public health problem of major proportions in the developing world¹. In South-East Asia Region, cataract is the single most common cause of blindness being responsible for 50-80% of all blindness. The National Survey on blindness (2006-2007) shows an estimated 1.0 % prevalence of blindness in general population in India².

Blindness leads not only to reduce economic and social status but may also result in premature death. With the increasing life expectancy and expanding population, the number of cases is expected to increase in the near future³. Despite major efforts towards information, education and communication (IEC) by the providers to increase the uptake of surgery by the cataract blind, several barriers at the community level and among individuals continue to hamper the efforts to motivate them for cataract surgery⁴. The concept of avoidable blindness (preventable or curable blindness) has gained increasing recognition during recent years. The eye camp approach to make cataract surgery available has been highly successful and has received wide popular support².

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A global initiative for the elimination of avoidable blindness was launched in February 1999 under the title "Vision 2020- the right to sight"⁵. So this study was planned to identify the reasons for delayed utilization of cataract surgery.

MATERIAL AND METHODS: The present cross sectional study was carried out in ophthalmology ward of Dr. Shankarrao Chavan Government Medical College, Nanded in Maharashtra State, India during January to June 2011. The 450 admitted patients above 40 years of age in the ophthalmology ward for cataract surgery were enrolled for the study after obtaining their informed consent by using systematic random sampling technique. The selected patients were interviewed in local language (Marathi) for data collection in the separate clinical room by the side of ophthalmology ward to avoid the influence of family members or relatives by using predesigned and semi structured proforma. The proforma was included detailed information on socio-demographic factors like age, sex, residence, education, occupation, per capita income and reasons for delayed utilization of cataract surgery. Socio-economic status was determined as per the B. G. Prasad's method for social classification of family⁶. The used operational definition of delayed cataract surgery was 'those patients who were unable to see anything either unilaterally or bilaterally at least for one year in the past due to cataract and were advised for cataract surgery'. Data was tabulated in Microsoft Excel and analysed by using statistical software Open Epi version 2.3 for chi square test and percentages.

RESULTS: Thus we included total 450 study subjects in our study. Out of 450, majority of study subjects, 54.7% were in the age group of 60 to 69 years followed by 25.1% in the age group of 50 to 59 years where as 57.3 % were females and 42.7% were males.

Demographic factors		Female	Male	Total
Age groups (years)	40 -49	22 (53.7)	19 (46.3)	41 (100)
	50 -59	66 (58.4)	47 (41.6)	113 (100)
	60 -69	142 (57.7)	104 (42.3)	246 (100)
	> 70	28 (56.0)	22 (44.0)	50 (100)
Literacy	Illiterate	192 (66.2)	98 (33.8)	290 (100)
	Primary	38 (45.2)	46 (54.8)	84 (100)
	Middle	17 (37.8)	28 (62.2)	45 (100)
	SSC	08 (38.1)	13 (61.9)	21 (100)
	HSC	03 (30.0)	07 (70.0)	10 (100)
	> Graduation	0 (0.0)	0 (0.0)	0 (0)
Socioeconomic Status	Class I	0 (0.0)	0 (0.0)	0 (0)
	Class II	0 (0.0)	0 (0.0)	0 (0)
	Class III	36 (62.1)	22 (37.9)	58 (100)
	Class IV	74 (56.9)	56 (43.1)	130 (100)
	Class V	148 (56.5)	114 (43.5)	262 (100)
Religion	Hindu	168 (57.5)	124 (42.5)	292 (100)
	Muslim	47 (55.3)	38 (44.7)	85 (100)
	Bouddh	36 (60.0)	24 (40.0)	60 (100)
	Others*	07 (53.8)	06 (46.2)	13 (100)

Table 1: Distribution of socio-demographic characteristics of study subjects.

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(Figures in parenthesis denote percentages) *Others- Sikh, Christian, Jain

Most of the females (66.2%) were illiterate compared to males (33.8%). Highest number of study subjects (58.2%) was belonged to socioeconomic class V. There was nobody from socioeconomic class I and II.

Maximum study subjects were Hindus (64.9%), followed by Muslim (18.9%) and Buddha (13.3%). Subjects from other religious group were 7 Sikh (1.6%), 4 Christian (0.9%) and 2 Jain (0.4%) (Table 1).

Residence	Female	Male	Total
Rural	186 (61.6)	116 (38.4)	302 (100)
Urban	72 (48.6)	76 (51.4)	148 (100)
Total	258 (57.3)	192 (42.7)	450 (100)

Table 2: Relationship between residence and sex of study subjects.

($\chi^2 = 6.79$, $df = 1$, $P < 0.01$) (Figures in parenthesis denote percentages)

Maximum study subjects (67.1%) were from rural area and 32.9% from urban area. Out of 302 rural subjects, 61.6 % were females and 38.4% were males. Out of 148 urban subjects, 48.6% were females and 51.4 % were males (Table 2). The association between residence and sex of the study subjects who were utilizing delayed cataract surgery was statistically highly significant ($p < 0.01$).

Cataract	Female	Male	Total
Unilateral	206 (56.9)	156 (43.1)	362 (100)
Bilateral	52 (59.1)	36 (40.9)	88 (100)
Total	258 (57.3)	192 (42.7)	450 (100)

Table 3: Distribution of Cataract in study subjects.

($\chi^2 = 0.13$, $df = 1$, $P > 0.05$) (Figures in parenthesis denote percentages)

The 80.4% (362/450) subjects had unilateral blindness and 19.6% (88/450) subjects had bilateral blindness. Out of unilateral blind subjects, 56.9% were females and 43.1% were males whereas 59.1% females and 40.9% males were belonged to bilateral blindness (Table 3). The association between sex and cataract in study subjects was not statistically significant ($P > 0.05$).

Sr. No.	Reasons*	Female	Male	*Total No.
1	Economic problem	203 (78.7)	142 (74.0)	345 (76.7)
2	Fear of surgery	78 (30.2)	41 (21.4)	119 (26.4)
3	Fear of surgery causing death	34 (13.2)	14 (07.3)	48 (10.7)
4	Ignorance by patient	82 (31.8)	49 (25.5)	131 (29.1)
5	Ignorance by head of family	66 (25.6)	35 (18.2)	101 (22.4)
6	Suspicion about improvement of vision after surgery	72 (27.9)	25 (13.0)	97 (21.5)

7	Lack of transport	18 (07.0)	12 (06.2)	30 (06.7)
8	Lack of accompanying person	38 (14.7)	19 (09.9)	57 (12.7)
9	Lack of time	27 (08.3)	16 (10.5)	43 (09.6)
10	God's will	34 (13.2)	18 (09.4)	52 (11.5)

Table 4: Reasons for delayed utilization of cataract surgery in study subjects.

*Multiple response (Figures in parenthesis denote percentages)

The predominant reason for delayed cataract surgery utilization was economic problem in both females and males (76.7%). The another reasons were ignorance by patient (29.1%), fear of surgery (26.4%), ignorance by head of family (22.4%) and suspicion about improvement of vision after surgery (21.5%). Some subjects had given reasons as lack of accompanying person (12.7%), fear of surgery causing death (10.7%), Lack of time (09.6%), it's God will(11.5%) and lack of transport (06.7%) (Table 4).

DISCUSSION: In the present study maximum study subjects were above 60 years of age as observed by Bhagwan J et al¹ and Gyasi ME et al⁷. We observed 57.3 % females and 42.7% males. Similar range of male and female cataract cases was observed by Gyasi ME et al⁷ and Limburg H et al⁸. Melese M et al⁹ of Ethiopia stated that as decision making was mainly in hands of husbands and male heads of households; these points to the need to gain support through promotional activities for eye care, especially surgery, for women. This kind of decision making is predominantly seen in Indian families and this is one of the reasons for delayed utilization of cataract surgery in females in India.

In our study, maximum study subjects (67.1%) were from rural area and 32.9% from urban area. The association between rural residence and females using delayed cataract surgery was statistically significant ($P < 0.01$). Dhaliwal U et al¹⁰ observed equal representation from urban and rural area for cataract cases presenting to a hospital, on the other hand Prasanna T et al³ reported that utilization of cataract surgery was greater in urban area (59%) compared with rural areas. The reason for this may be as they conducted study in JIPMER and Kurusukuppam area of Pondicherry, a major city in South India. As service providers are concentrated in major cities and towns so this has led to inadequate service provision to the rural poor⁴.

Dandona R et al⁵ stated that cases belonging to extreme lower and lower socioeconomic strata had 10 and five times higher risk of blindness respectively compared with those belonging to the upper socioeconomic status. Snellingen T et al¹¹ study in Nepal revealed that low socioeconomic status was a barrier to the utilization of cataract surgery and our study also showed similar conclusions.

In this study 80.4% subjects were having unilateral blindness and 19.6% were having bilateral blindness. Among bilateral blindness 59.1% subjects were females and 40.9% were males. Females were having higher rates of bilateral blindness compared to males but this difference was not statistically significant ($P > 0.05$). Bhagwan J et al¹ found that there were 62.74% cases having unilateral blindness and 21.21% cases having bilateral blindness. Further he stated that bilateral cataracts cases were higher in rural areas (67.46%) in comparison to urban areas (46.83%). We observed the similar finding and the reason for this may be due to less awareness and less facilities for surgery in rural areas in comparison to urban areas.

The predominant reason for delayed cataract surgery utilization was economical problem in both females and males (76.7%). A study conducted in Upper East Region of Ghana found that cost was identified by 91% of respondents as the most important barrier to the uptake of cataract surgery. This was especially so with regard to direct cost which included cost of operation, drugs, transport and feeding⁷. Snelling T et al¹¹ in Nepal studied socioeconomic barriers to cataract surgery and observed that even with the promise of free treatment, only 24% actually had surgery within the following year. For this population the promise of free surgery did not seem to be the main motivational factor to accept treatment. Economic constraints as the main reason for not getting cataract surgery were also observed by other authors as well^{1, 8, 9, 12}.

Efforts to reduce indirect cost include conducting operations in the patient's own villages or facilitating transport to and from the surgical facility¹⁰. Providing accommodation for attendants closer to hospital facility and reducing the length of hospital stay can be other ways to reduce such barriers⁴. Next to the quality of services, it is likely that real changes in economic wealth and adult literacy in the communities particularly in the female population will be the most important determinants for improving the surgical uptake. Other effective measures are increased inter-sectoral collaboration with NGOs and corporate organization⁷.

We observed that fear of surgery was the reason given by 26.4% subjects. Fletcher AE et al¹² reported that fear was the reason most commonly given (by about one third of persons). This fear ranged from a common belief that treatment would damage the eyes to more diffuse anxieties, including a fear of death. A poor treatment outcome in somebody known to the person was identified as the source of fear in a small proportion (5%) of persons not attending the eye camps.

Studies have shown that interaction with a patient who had undergone the operation could help in reducing fear and abolishing fatalistic beliefs that blindness was an inevitable part of old age or God's will¹⁰.

It is to be expected that as the experience in the community of successful cataract surgery increases, the elderly will become less afraid of surgical intervention and more prepared to accept that even in old age blindness can be reversible¹³.

Ignorance by patient themselves (29.1%) and head of families (22.4%) to undergo cataract surgery were the reasons even though subjects were unable to see in both unilateral and bilateral cataract blindness cases. Snelling T et al¹¹ observed that logistic constraints, i.e. guardian's willingness was the most important reason given for not accepting cataract surgery in 44.8% cases.

Some subjects gave reasons as lack of accompanying persons (12.7%) and lack of transport (06.7%) for delayed utilization of cataract surgery. Gyasi ME et al⁷ reported that lack of escort service was found to be the second most important barrier and this was attributed mainly to lack of accommodation for the escorts who usually come from the villages. Lack of accompanying persons and lack of transportation as a reason for not getting cataract surgery were also observed in other studies^{1, 8, 9, 11}.

27.9% females and 13.0% males were having suspicion about improvement of vision after surgery. Rotchford AP et al¹³ in rural South Africa noticed that several subjects were afraid that their vision might be made even worse after surgery. In a study conducted in Rural India, 5% of people gave poor outcomes in others as a reason for their non-use of eye services¹².

Snelling T et al¹¹ observed that lack of time because of harvesting and planting (18.8%) was the reason given for non use of eye care as found in the present study.

Fletcher AE et al¹² noticed that 13.9% people assumed their poor vision being “God’s will” and our study also showed similar observation. A door-to-door survey on cataract blindness in persons 40 years and older was conducted in Mohadi Block, Bhandara District of Maharashtra State, India and it was found that more than 50% of the cataract blind persons were not interested in surgery. This emphasizes the definite and clear need for more, and especially better quality information, education and communication on eye care to reach the public⁸. To make cataract surgery more acceptable and within the reach of the patients, a definite propaganda has to be started. Communication packages need to be devised to educate especially the rural population on the importance of curable blindness and prompt advanced surgery.

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