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BARRIERS TO THE UPTAKE OF CATARACT SURGERY IN A RURAL POPULATION OF SOUTH KARNATAKA, INDIA

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ABSTRACT

Purpose: To analyse the barriers to the uptake of cataract surgery in patients aged over 50 years in a rural set up and suggest possible remedial measures.

Methods: Sixty one clusters of 50 people aged over 50 years were selected by probability-proportionate to size sampling. All participants were evaluated using standard Rapid Assessment of Avoidable Blindness (RAAB) methodology. People with unilateral or bilateral cataract were interviewed about the reasons for not having undergone surgery.

Results: Of the 3050 people enumerated, 2907(95.3%) were examined. Among them 1360(47%) were males and 1547(53%) were females. Out of them, 73(2.51%) were bilaterally blind due to cataract(vision < 3/60). The main barriers noted in bilateral cataract blind were "No one to accompany" and "Waiting for maturity"(27.2% each).

Conclusion: Augmenting the outreach programmes accompanied by information and motivational campaigns will reduce barriers to uptake of cataract surgery and in turn reduce the cataract blindness.

Keywords: Barriers, Cataract surgery, outreach programmes, Rapid assessment, eyecare

INTRODUCTION

Cataract continues to be the commonest cause of blindness in India, with three out of every four blind, above 50 years being blind due to cataract.

[1] As a result of the National Program of blindness, various government and non-governmental organisations have increased the scope of the outreach programmes, thus making quality eye care available to the rural poor. Even though there has been tremendous progress in the number of cataract surgeries being performed across the country, some section of the population still have barriers to accepting this service even though they are blind. People's use of health services is influenced by a range of psychological, social, cultural, economic and

practical factors.[2] A proper analysis and understanding of these factors is critical to modify the eye care programmes and hence increase the uptake of cataract surgical services.

The present article discusses the reasons for not undergoing cataract surgery in persons aged over 50 years who were blind due to cataract in Kolar district, Karnataka.

MATERIALS AND METHODS

A Rapid Assessment was carried out by a team consisting of trained personnel from the departments of Ophthalmology and Community Medicine, Sri Devaraj Urs Medical College, Tamaka, Kolar. The survey was carried out between March and June 2011, in accordance

with the Helsinki Declaration. Ethical approval was given by the Ethical Committee of Sri Devaraj Urs Medical College. Written informed consent was obtained from all study participants, after explaining the purpose of the study in their local language.

Sample size was determined using a prevalence estimate of 4% for blindness (WHO definition of presenting vision- $<3/60$ in better eye) among those aged over 50 years. Using 95% confidence interval, 20% precision, design effect of 1.5 and 10% non-response rate, sample size was calculated to be 3,017, which would require 61 clusters of 50 people over 50 years. In each cluster, the survey team visited each household accompanied by local health worker to facilitate compliance. All the examinations were conducted in the respective household.

Standard Rapid Assessment of Avoidable Blindness (RAAB) Protocol was used for gathering information and for eye examination.^[3]

A survey form comprising 7 sections was filled for each participant. Among other things the form consisted of information on lens status, principal cause of visual impairment and barriers to uptake of cataract surgery.

Visual acuity (V.A.) was measured using a tumbling Snellen- E chart using optotype size 6/18 on one side and 6/60 on the other. All measurements were taken in full daylight with available correction. If visual acuity was less than 6/18 in either eye, pin hole vision was tested. A ocular examination was performed by an Ophthalmologist on each participant inside their respective households. Lens status was assessed by a bright torchlight or distant direct ophthalmoscopy. If presenting vision was $<6/18$, then pupil was dilated if needed and ophthalmoscopy done to assess the cause of blindness.

Persons with unilateral or bilateral cataract were asked about the reasons for not having undergone surgery. The survey form had different types of barriers enlisted in it. If there were multiple

reasons, the first two responses were recorded as the prime reasons. Double data entry and analysis was done using the RAAB software programme version- 4.02.

RESULTS

A total of 3050 persons aged more than 50 years were enumerated, and of these 2907(95.3%) were examined. Of them 1360 (47%) were males and 1547 (53%) were females. Out of them, 73 (2.51%) were bilaterally blind due to cataract, (V.A. $<3/60$), with females being more compared to males. (Table. 1)

People with unilateral or bilateral cataract were asked about the reasons for not having got the surgery done and the main barriers were "Waiting for maturity" and "No one to accompany" (27.2% each). (Table. 2) The main barrier in persons with unilateral cataract was that other eye was not blind (25.9%). (Table.3)

DISCUSSION

Various studies have noted that, people readily do not accept eye care services, even when offered to them free of cost.^[4,5,6,7] To the patient there are various other factors apart from surgical cost. Identifying these factors and modification of the eye care programmes can help reduce the barriers and increase the surgical coverage.

The common barriers encountered in our study was No one to accompany, waiting for maturity, lack of awareness about the treatment and place of surgery and accepting it as an aging process or GOD's will. This is similar to barriers reported from various other studies as well.^[4,8,9,10,11,12]

One of the main barriers was that the patient had no attenders to accompany. This has become all the more relevant with the decline in nuclear families and the aged living alone. Nevertheless, for the rural poor even when an attender is available at home, the transportation cost of the attender and loss of labour during the hospital stay as well as miscellaneous expenses hinder their accompanying the patient. This can be

overcome by extensive outreach programmes, cutting down the travel costs. A patient friendly approach involving educating the patient about the "pick up and drop" transportation service as well as the presence of trained paramedical and nursing staff at the hospital to take care of their needs will help mitigate the need of an attender. Also by adopting novel surgical technology, hospital stay as well as post-operative recovery can be reduced, thereby facilitating earlier return to their daily routine work.

Waiting for maturity has been another major barrier in our study, frequently reported in other studies as well.^[11] In spite of the increase in the outreach programmes and the surgical facilities, sometimes the patient may be asked to return at a later date if the cataract is not dense. Such patients are unlikely to return for surgery for various personal and economic reasons. One probable solution to this is to operate on people with bilateral cataracts, irrespective of the density, thereby ensuring they don't go blind. Other way out is to motivate them to come to the next screening camp by giving them proper information about the date and place of the next camp. Increasing the manpower, the surgical facilities and thereby the surgical output will help reduce this barrier to a great extent.

Visual needs differ and many patients with cataract attribute their vision loss as a normal aging process or GOD's will.^[14,15] They tend to cope up with this avoidable visual handicap, rather than report to health care facilities. Along with this, should be addressed the problem of ignorance of cataract itself as well as the treatment and facilities available. It is only through proper information, education and communication programmes that this ignorance can be eliminated.

Even when identified with having cataract and advised for surgery, very few people readily agree for the same. The role of local village health workers as well as the multipurpose

social workers/public relation officers of the institution/hospital conducting the camp becomes important. Community link workers in the form of anganwadi/ASHA workers must be trained to detect cases of blindness/decreased vision and a blindness registry at the village level should be prepared.^[16,17] These workers should also be involved in creating awareness about the problem of cataract as well as motivating them to undergo surgery for better quality of life. Motivation by village elders, community leaders as well as satisfied patients – "pseudophakic motivators" will help increase the awareness among patients. Equipped with calendar of events of screening camps in the neighbouring places, these workers can guide the patients accordingly.^[18]

The role of multipurpose social workers/public relations officer of the institute/hospital organising the camps is equally important. Their presence at the camp site, talking to the needy, motivating them, accompanying them to the hospital, frequent visits to the wards during their stay in the hospital, talking to them about post-operative hygiene and care; importance of post-operative follow up and once again accompanying them while dropping them back will help boost the morale of the patient as well as help to establish a personal rapport with them. Organising regular outreach camps at the same location helps build trust in the service provider and help reduce the various barriers.^[18]

Another factor which needs to be considered is about the patients who are found unfit for surgery during the screening process. Instead of just turning them back, proper counseling and guidance as to the next step regarding the management of their ocular or systemic problem will help them to get fitness for surgery and undergo the same at the earliest.

'Fear' as a barrier, is not without reasons. For the illiterate rural poor, fear of hospital, surgery and its consequences are natural.^[2,12] Interaction with people who have undergone successful surgery will help reduce these fears.^[19]

Even though females had greater prevalence of cataract blindness, the acceptance of surgery was less compared to males. Similar views have been reported from other studies as well.^[6,14,19,20] Reasons for this are many: females are more often illiterate, with a low self esteem, have little social support and adopt themselves to the reduced vision and have limited access to information. The major barrier in unilateral cataract blind was that "one eye not blind", indicating the operated eye had good vision and the patient was not bothered about poor vision in the other eye. Here again proper education about the need for surgery and improvement of the quality of life as well as reducing the complications of unoperated cataract needs to be disseminated.

CONCLUSION

Eye camps are still a major source of service delivery in the remote rural areas. Further augmenting these outreach programmes, will help take these services closer to the community. Reducing the uptake barriers by patient friendly, need related, region specific motivational and information education campaigns at the grass root level will help identify the cataract blind and motivate them to avail surgical services, thereby reducing the burden of cataract blindness. Proper case selection, good surgical techniques, adequate post-operative follow up care and provision of free spectacles will definitely help reduce the barriers and also improve surgical outcome.

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Table: 1. Prevalence of cataract blindness gender wise

	Male			Female			Total		
	N	%	95%C.I.	N	%	95%C.I.	N	%	95%C.I.
Bilateral cataract blind	25	1.84	1.04-2.64	48	3.1	1.87-4.34	73	2.51	1.65-3.37
Unilateral cat. Blind	67	4.93	3.44-6.42	96	6.21	4.72-7.69	163	5.61	4.48-6.73

Table: 2. Barriers to uptake of cataract surgery in sample, bilaterally blind (V.A.<3/60) –percentage

	Males	Females	Total
Unaware of treatment	7.7	3.6	4.9
Destiny/GOD's will	-	5.5	3.7
Waiting for maturity	38.5	21.8	27.2
No services	3.8	5.5	4.9
Don't know how to get surgery done	11.5	9.1	9.9
Cannot afford	-	7.3	4.9
No company	19.2	30.9	27.2
No time	3.8	3.6	3.7
Old age: no need	11.5	5.5	7.4
Fear of operation	-	5.5	3.7
Contraindication	3.8	1.8	2.5

Table: 3. Barriers to uptake of cataract surgery in sample, unilaterally blind (V.A.<3/60) – percentage

	Males	Females	Total
Unaware of treatment	2.9	1.9	2.3
Destiny/GOD's will	5.8	1	2.9
Waiting for maturity	27.5	13.3	19
No services	5.8	2.9	4
Don't know how to get surgery done	2.9	7.6	5.7
Cannot afford	5.8	11.4	9.2
No company	11.6	17.1	14.9
No time	2.9	2.9	2.9
Old age: no need	7.2	5.7	6.3
One eye not blind	24.6	26.7	25.9
Fear of operation	-	5.7	3.4
Contraindication	2.9	3.8	3.4