

# IDENTIFICATION OF HURDLES IN AVAILING CATARACT SURGERY IN RURAL AREAS OF SOUTHERN PUNJAB

Submitted: 10 May, 2021

Accepted: 15 May, 2021

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## ABSTRACT

**PURPOSE:** Aim of this study was to evaluate the main hurdles in availing cataract surgery faced by the people residing in peripheral areas with cataract in one or both eyes.

**METHODS:** A descriptive cross-sectional study was done by house-to-house survey in the rural areas of Southern Punjab to enroll patients with cataract in the study. purposive sampling was done with informed consent. A pre-designed questionnaire was used related to the demographic and socio-economic status of the patients. Data was analyzed using SPSS version 25.

**RESULTS:** Total 96 patients were enrolled in this study. Out of these 54 (56.25%) were females and 42 (43.75%) were males. 54 (56.3%) of them were dependent. The barriers which were found in this study were myths about surgery (85.41%), distance from hospital (84.37%), no one to accompany (78.13%), fear of surgery (76.07%), presence of other diseases (62.50%), lack of ophthalmologist in the area (60.42%), expenses for surgery (60.41%), transportation cost (56.25%), had no time (55.21%), old age (52.08%), insufficient transport (52.08%) and lack of confidence on local hospital services (48.96%). Lack of free cataract services and unapproachable ophthalmologists were also reported by some patients.

**CONCLUSION:** Surgery phobia, lack of family support, co-morbidity and financial issues were the chief barriers for the people for delaying cataract surgery. Busy routine, old age, lack of eye care practitioners and poor cataract services available in the hospitals were also faced by some people. Proper counseling is required to alleviate fear of people and to encourage them to seek cataract surgery on time.

**KEYWORDS:** Cataract, Barriers, Rural areas.

## INTRODUCTION

The South Punjab has total population of about 1.7 million and land mass of this area is 1922km.<sup>1</sup> The main focus of this study is population of District Rahim Yar Khan and Bahawalpur. The total area of Rahim Yar Khan is 11880 km<sup>2</sup> where 4.7 million people are living. 82% of total population lives in rural areas while the other 18% resides in urban areas. The literacy rate is least in the South Punjab. There the people are getting reasonably best health care services but the regular health services

e.g. regular check-ups and screenings are impaired.<sup>2</sup> The total area of Bahawalpur district is 9587 square miles where the density of total population is 151 per square miles. 77.23% resides in rural areas and 22.76% in urban areas. The main problems that people are facing there are similar to that of district Rahim Yar Khan. These include no industrialization, illiteracy, increased crime rates, joblessness and lack of acknowledgment about health services available there.<sup>3</sup>

Cataract is the progressive decrease in vision due to opacity of the lens present in the eye. About 51% of total population has severe visual impairment due to cataract that means about 20 million people mostly living in rural areas of developing countries are affected by this.<sup>4</sup> By 2025 this number may be increased to double due to the aging population.<sup>5</sup> Globally, in 1990 about 12.3 million while in 2010 about 20 million were blind only because of cataract. In North America and Southeast Asia visual loss due to cataract ranges from 12.7% to 42% respectively. By 1990-2010 the blindness rate due to cataract has been decreased in Latin America due to increased rate of cataract surgery in this region.<sup>6</sup>

The major causes for cataract are smoking, aging, inherited genetic disorders, eczema, injury, use of corticosteroids and exposure to UV rays and diabetes.<sup>4</sup> Age related cataract proceeds slower than diabetic cataract that occurs in earlier ages.<sup>7</sup> As it is the leading cause of total world's blindness, so much effort is needed for the uptake of cataract surgeries. But there are different barriers which are faced by rural population to access cataract surgeries.<sup>8</sup>

Some barriers include destitution, gender discrimination, terror of surgery, wealth issues, old age, false assumptions, lack of awareness, lack of education and inaccessible transportation. These hurdles must be overcome so that the prevalence of blindness due to cataract can be reduced.<sup>9</sup> The main hurdles in the accessibility of cataract surgery are lack of skills and shortage of particular assets like well settled set up and eye care practitioners.<sup>10</sup> Type of work, family status and age of a person are some important associations of cataract. The rate of cataract increases as the person gets older. Cataract can affect quality of life as well. Vision can be increased after getting cataract surgery which has positive effects on one's everyday life.<sup>11</sup> There is a strong relation between visual loss and depression. By cataract surgery vision can be improved but this may or may not have any impact

on depressive symptoms.<sup>12</sup> By taking antidepressants the risk of having cataract is increased.<sup>13</sup>

Different types of cataract are present in the people for example, congenital or developmental cataract, acquired cataract, zonular cataract, traumatic cataract, secondary and age-related cataract. The most common of them is age related cataract.<sup>14</sup> The pre-senile cataract is a type of cataract occurring in the people of age group 18-40 years old. Posterior sub-capsular cataract is the commonest type of all cataracts because it causes early visual loss in the individuals. The incidence rate of pre-senile cataract is more in females than that in males due to poor general health, consumption of smoke while cooking, illiteracy and hormonal effects.<sup>15</sup>

Cataract surgery in children is usually delayed because of late diagnosis, lack of knowledge of mothers about cataract and low financial status. The cost of pediatric cataract surgery is much more than that of adults. Cataract is responsible for about 10-14% of the 1.4 million blind children of the world<sup>16</sup> so they should be treated timely to avoid further complications.

In different territories of the world the health care services and the eye care providers vary in number from one country to another that is in developed countries these services are several times more than that in developing countries.<sup>17</sup> Several studies have summarized the effect of diet on the development and progression of age-related cataract.<sup>18</sup> To reduce discrimination, greater steps are made by South Africa in order to access health facilities. PHC has been introduced which is meant for providing health services to all people ignoring their living and financial status.<sup>10</sup>

Education also influences the prevalence of blindness due to cataract. Study in United Kingdom has shown that the prevalence of blindness is 2 times more in illiterate than that in educated people. Worldly there is a well-built relationship

between visual impairment and socioeconomic components of different countries and an inverse relation exists between development of a community and visual loss. Blindness can be resulted by destitution but it can also be a cause of destitution.<sup>19</sup> Eye health services are made accessible for the people of remote areas by arranging free eye camps in these areas but some people still don't want to seek cataract surgery.<sup>20</sup>

### MATERIALS AND METHODS

Descriptive cross-sectional study was conducted in rural areas of Southern Punjab. The study was started from September till December 2020. Purposive sampling method was used to select 96 participants by house to house survey in some villages of South Punjab. The participants who fulfilled the inclusion and exclusion criteria were included in the study. An informed consent was obtained from each subject. Vision was assessed by using VA charts for distance vision and eyes were examined using pen torch and ophthalmoscope. Information regarding cataract surgery and barriers to cataract surgery was collected using a pre-designed questionnaire. For the data entry and data analysis we used Statistical package for social science (SPSS version 25). All the responses reported by the included participants were recorded in the form of frequencies and also in percentages expressed in different tables. The research protocol was approved by the Ethical Review Board of College of Ophthalmology And Allied Vision Sciences. The study methods adhered to the tenets of the Declaration of Helsinki for the use of participants in biomedical research.

### RESULTS

The gender distribution on the basis of different age groups and the percentage of both genders is given in Table 1. Financial status of the included individuals compared with the affordability is also shown. According to their financial status, 54 (56.3%) of them were dependent on their families to avail health care facilities, while 12 (12.5%) were

those earning 15000 or less and 30 (31.3%) were those earning more than 15000 per month (Table 2). p-value was 0.048 which is <0.05, hence, a significant difference occurs between financial status and affordability of people. The barriers which are faced by the people of rural areas are shown in Table 1. Total number of participants and percentage of their responses regarding available treatment options are also shown. About 60 (62.50%) knew that surgery was the best option to treat cataract while 22 (22.91%) did not even know about the available treatment options (Table 1).

**Table - 1: Barriers in Availing Cataract Surgery**

Questions	Strongly agree F (%)	Agree F (%)	Neutral F (%)	Disagree F (%)	Strongly disagree F (%)
According to you, is cataract curable?	14(14.58)	48(50)	19(19.79)	12(12.5)	3(3.13)
Can you see clearly?	-	12(12.5)	11(11.46)	61(63.5)	10(10.42)
Can you still do your house work properly?	3(3.13)	13(13.54)	16(16.67)	50(52.08)	14(14.58)
According to you, is cataract surgery safe?	-	38(39.58)	32(33.33)	19(19.79)	5(5.21)
Do you think surgery will be painful?	44(45.83)	38(39.58)	3(3.13)	11(11.46)	-
Did you delay treatment because you were afraid of undergoing an operation?	19(19.79)	54(56.25)	6(6.25)	12(12.50)	5(5.21)
Can you easily approach an ophthalmologist regarding cataract surgery?	-	33(34.38)	18(18.75)	38(39.58)	6(6.25)
Are you aware of government provision for free cataract surgery in THQ?	-	33(34.38)	21(21.88)	35(36.46)	7(7.29)
Can you afford the expenses for surgery?	2(2.08)	56(58.33)	18(18.75)	20(20.83)	-
Can you afford the transportation cost?	-	54(56.25)	19(19.79)	14(14.58)	2(2.08)
Do you have to borrow money from relatives or people in the village for the surgery?	8(8.33)	27(28.13)	25(26.4)	30(31.25)	6(6.25)
You didn't get surgery because Health facility center is too far from your house?	19(19.79)	62(64.58)	5(5.21)	-	3(3.13)
Due to the presence of other diseases you thought surgery might lead to further complications or death?	16(16.67)	44(45.83)	11(11.46)	18(18.75)	7(7.29)
Is there an insufficient transport to get to the hospital?	-	50(52.08)	14(14.58)	20(20.83)	3(3.13)
Because of old age, are you unwilling to go to the hospital?	-	50(52.06)	14(14.58)	19(19.79)	3(3.13)
Have you anyone to accompany you to go to hospital?	17(17.71)	58(60.42)	5(5.21)	15(15.63)	1(1.04)
You are willing to accept surgery but you don't have a time because you are busy in doing housework?	9(9.38)	44(45.83)	15(15.63)	23(23.96)	5(5.21)
Have you any confidence on local hospital services?	2(2.08)	45(46.88)	28(29.17)	21(21.88)	-
You are afraid of surgery because confidentiality is not maintained in hospital?	-	34(35.42)	24(25.0)	35(36.46)	2(2.08)
You didn't get surgery because of lack of eye surgeons in the area?	19(19.79)	39(40.63)	16(16.67)	16(16.67)	6(6.25)

## DISCUSSION

The concept of visual loss and blindness varies among people of different areas due to difference in their background and life styles. Some people do not want to get surgery even if they become blind. Whether a patient should get cataract surgery or not it all depends upon his visual need not on his present VA.

The main focus of this study was to identify the problems or barriers which cause delay in cataract surgery uptake. All the individuals having age more than 30 years were included in this study with no gender discrimination. The total participants were 96, who were asked to fill the self-designed questionnaire containing questions related to the barriers in the uptake of cataract surgery faced by them.

From the questionnaire the main reasons for not availing cataract surgery reported were misconception about surgery (n=82, 85.41%), distance from hospital (n=81, 84.37%), no one to accompany (n=75, 78.13%), fear of surgery (n=73, 76.07%) and presence of other diseases (n=60, 62.5%).

Surgery phobia existed in 73 (76.07%) people. The second main factor is distance of the hospital from rural residence. In this study, main focus was on the people of remote areas where the health care services are limited. Most of the rural areas are located away from the cities where they have to go for surgery so people living in such areas also need someone to accompany them to health care centers. This is one of the major issues faced by 75 people.

Another major issue that they are facing is the presence of other diseases along with cataract. It is a common observation that most people think that further complications may occur after they will undergo surgery due to other systemic diseases like diabetes. Other barriers which are related to hospital faced by the people include transportation cost (n=54, 56.25%), lack of confidence on the local

hospitals (n=34, 35.42%) and their services (n=47, 48.96%).

This study has shown that due to old age in 50 participants, (52.08%) they are unwilling to seek cataract surgery because they leave it on Allah's will. Usually younger people are more benefited by the uptake of cataract surgery because they are the hope for a nation. Busy schedule is also an issue in (n=53, 55.21%). Men are superior to women socio economically because they run their families so preference is given to their health as compared to that of women.

From the questionnaire the other barriers which came forward are cost of the surgery (n=58, 60.41%). In this study most of the people about were dependent (n=54, 56.3%). Expenses for surgery are the major issue in such patients. These expenses include both direct expenses like fee of the cataract surgery charged by the ophthalmologist and indirect expenses which include extra charges because for the stay in the hospitals or other assets and medications.

Lack of ophthalmologist (n=58, 60.42%) and unapproachable ophthalmologist (n=33, 34.38%) is another issue that due to the limited number of eye care practitioners in the area, these people even can't easily approach them and also because eye care practitioners do not have enough time to counsel each and every patient as per requirement. It was found that despite many people (62.5%) know that surgery is the best treatment for cataract but still some people are afraid of seeking cataract surgery.

All the barriers which came forward during my study were the quite same reasons as mentioned in other studies but there exists a noticeable difference in their orders according to the preference given by the people of the respective areas.

By study in West Java in 2014, the most common barriers that were identified were the fear for surgery, no need of getting cataract surgery, cost

issues and the lack of knowledge about the available treatment options. In 2015, a RAAB survey was done in Hungr which shows cost was not a major issue there. In another study that was done in Nepal, the major problems that were faced by the people were unavailability of any companion to accompany them, busy schedule, presence of other systemic disorders, cost, fear of further vision loss etc.

A similar study was carried out in Timor Tengah which showed the cost, inaccessibility to the available treatment, misconception regarding surgical results and no need of seeking cataract surgery were the common barriers there. In urban India a tertiary hospital-based study was done. According to this study, the major reasons for delaying cataract surgery were include surgical expenses, co-morbidity and rural residency.

In order to encourage people for not delaying the cataract surgery high quality cataract services should be provided which automatically reduce their anxiety. There should be proper counseling about the different options available for the treatment and to alleviate their myths about cataract surgery.

## CONCLUSION

In this study, we focused on the people of rural areas because they are facing more problems in availing cataract surgeries as compared to the people lining in urban areas mainly due to low literacy rate and lack of awareness. Most of the population of Southern Punjab resides in remote areas where the main barriers reported are misconception about surgery, distance from eye care centers, lack of companions, fear of surgery, presence of other diseases, transportation cost, busy schedule, old age, lack of confidence on hospital services and shortage of free cataract services. Health care awareness that mainly focuses on eye care service marketing is not adequate in these areas. Due to these barriers the people of remote areas cannot seek surgery on

time rendering their eyes to be blind.

## RECOMMENDATIONS

In order to overcome all these hurdles outreach services along with proper awareness about the available services should be encouraged. Free eye camps that provide free cataract services should be held near these areas. We need to direct the attention of the health department towards these hurdles so that their problems can be alleviated.

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Proof reading

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