



PREVALENCE OF CATARACT AMONGST ADULTS ABOVE 50 YEARS IN A RURAL COMMUNITY OF UTTAR PRADESH.

**Dr Swarashtra
Prakash Singh***

MS (Ophthalmology) Assistant Professor, Department of Ophthalmology, AIIMS, RaiBareli. *Corresponding Author

Dr Rajeev Kumar

DOMS (Ophthalmology) Senior Resident, Department of Ophthalmology, Carrier Institute of Medical Sciences and Hospital, Lucknow.

**Mr. Amit Kumar
Verma**

B.Opt, M.Opt, FICALE, Technical Officer, Department of Ophthalmology, AIIMS, RaiBareli.

ABSTRACT

Background: In India, overall prevalence of blindness is 1.1%, the principal cause being cataract (62.6%) affecting over 9 million people.

Objectives: The present study was carried out to find the prevalence, barriers and facilitating factors related to cataract health services in a rural community of Uttar Pradesh.

Material and Methods: A cross-sectional survey was carried for a period of 4 months during September–December 2018 in Nabi Panah village of Malihabad district. All adults above 50 years of age ($n = 300$), were examined for lenticular opacity and visual acuity. A structured proforma was used to assess the awareness, barriers and facilitating factors related to available cataract health services.

Results: The prevalence of cataract among the population studied was 66.7% (95% confidence interval [CI]: 57.5-67.9%). There was a significant increase in cataract with increase in age ($P < 0.001$). Only 10% (95% CI: 9.6-16.3%) of the persons with cataract were operated at the time of interview. The major barriers were no one to accompany (25%) and absence of felt need (16.7%). The facilitating factors were free surgery in camps (40%), self-decision due to defective vision (30%) and quality of service provided (15%). More than one-half (55.5%) of subjects diagnosed for cataract during the survey were willing to be operated.

Conclusion: Prevalence of cataract was high in the study area. It is vital to increase the level of awareness regarding the need and availability of cataract health services.

KEYWORDS : Barrier, cataract, facilitating factors, prevalence

INTRODUCTION:

A cataract is a cloudiness or opacity in the normally transparent crystalline lens of the eye. This cloudiness can cause a decrease in vision and may lead to eventual blindness. [1] Globally, cataract has remained the major cause of blindness over the years. Approximately 45 million people are blind worldwide, out of which cataract accounts for 17.6 million (39%) cases.[2] South East Asian region contributes to 50-80% of all blindness.[2] Data from the rapid assessment during the national blindness survey (2006-2007) put the prevalence of blindness as 8% in individuals above 50 years of age in India.[3] Prevalence of blindness was reported to be 8% in the age group of more than 50 years as per National blindness survey.[3] Cataract accounts for 62.6% of all blindness affecting 9-12 million bilaterally blind persons.[4] In India, an estimated 20 lakhs new cases of cataract is being added to the burden every year.[4]

In Uttar Pradesh, the estimated prevalence of cataract per 1000 population was 7.3 and 127,514 new cases of cataract are added to the burden each year.[5] The prevalence of cataract clearly shows a steep rise ranging from 0.5% above 30 years to 94.5% above 70 years of age.[6] In a study to estimate the prevalence of blindness and its causes among those aged 50 years and above, bilateral cataract was found to be the principal cause (78.7%) in 2007.[7] As per the National Program for Prevention and Control of Blindness (NPCB) survey (2001-02) the prevalence of cataract in Uttar Pradesh above 50 years of age was found to be 48%.[8]

The major barriers for accessing health services revealed a changing trend from attitudinal to service delivery based reasons in a comparative study with a decade gap.[9] Attitudinal barriers like “could manage daily work,” “cataract not mature enough,” “fear of surgery,” “fear of surgery causing blindness,” “female gender,” “old age,” “no one to accompany” were reported than accessibility or cost.[10] Lack of access to personal funds delayed the utilization of cataract services besides stigma, mortality and ageing. Hear-say reports of surgical outcome and quality of services had a strong influence on service uptake.[11] Higher income, higher education, motivation for getting operated from relatives and peer group plays an important role as facilitating factors.[12] Increased burden of blindness from cataract and felt need of the community regarding cataract services necessitated this study.

AIM AND OBJECTIVES:

The objectives were to measure the prevalence of cataract among adults above 50 years and to document the factors influencing availing cataract services.

MATERIAL AND METHODS:

A cross-sectional survey was carried for a period of 4 months during September–December 2018 in Nabi Panah village of Malihabad district, under Rural Health Training Centre (RHTC) of Career Institute of Medical Sciences, Lucknow, Uttar Pradesh. Nabi Panah village is located 5 km away from Malihabad and 35 km away from district headquarter Lucknow. All adults above 50 years of age ($n = 300$) served by RHTC in village Nabi Panah were included in the study. All these 300 persons formed the study population out of the total of 3,613. Persons who were not resident in the village and those who could not be contacted even after two visits were excluded from the study.

Written informed consent was obtained from the subjects prior to data collection. The Performa was pretested on 30 subjects above 50 years of age in an adjacent sub-center to find out cultural appropriateness and suitability and modified accordingly. The parameters studied were the demographic profile, visual acuity, lenticular opacity in one eye or both eyes, cataract surgery/intraocular lens implantation, awareness regarding cataract, barriers and facilitating factors related to cataract health services. The investigator was trained in interview techniques before data collection.

A house-to-house visit in all the village Nabi Panah was conducted. Houses with adults of more than 50 years of age were included in the study and interviewed after explaining the purpose of the study. Visual acuity was also assessed with the help of an illiterate pictorial chart or simplified E chart for those persons who have cataract. Investigator with the help of an ophthalmic assistant posted in the primary health center carried out ophthalmic examination with the help of a hand torch (oblique illumination) after adequate training. Any grayish or whitish discoloration of the lens was diagnosed as cataract.

For the purpose of this study, cataract was defined as the presence of lenticular opacity.[1] Adults were classified as per NPCB guidelines[8] and facility for surgery was arranged in coordination with the Career Institute of Medical Sciences.

Data were entered and analyzed with Statistical Package for Social Sciences (SPSS) version 17. Categorical data were presented as frequencies and percentages and continuous data as mean with a standard deviation. All statistical analysis was carried out at 5% level of significance, and the $P < 0.05$ was considered as significant.

RESULTS:

The mean age of the study population was found to be 59.7 (± 8.1) years. The proportion of male who participated in the study was 40% compared to 60% females. The details of demographic characteristics are given in Table 1.

Table 1: Demographic profile of study population

Variables	Number (%)
Sex	
Male	120 (40%)
Female	180 (60%)
Age in years	
50-59	140 (46.7%)
60-69	110 (36.7%)
>70	50 (16.7%)
Type of house	
Pucca	60 (20%)
Semi-pucca	90 (30%)
Kaccha	150 (50%)
Religion	
Hindu	200 (66.7%)
Muslim	100 (33.3%)
Caste	
General	180 (60%)
OBC	70 (23.3%)
SC/ST	50 (16.7%)

Prevalence of cataract, among male and female was 66.7% (95% confidence interval [CI]: 58.2-74.8%) and 66.7% (95% CI: 53.7-66.9%) respectively in either of case Table 2.

Table 2: Prevalence of cataract in study population

Gender	Cataract %	Non cataract %	Operated %	Total
Male	80 (66.7%)	30 (25%)	10 (8.3%)	120
Female	120 (66.7%)	40 (22.2%)	20 (11.1%)	180
Total	200 (66.7%)	70 (23.3%)	30 (10%)	300

As per NPCB classification 50% of the study subjects had near normal vision, 10% had economic blindness, and 6.7% had social blindness [Table 3]. The associations between age and cataract ($P < 0.001$), education and cataract ($P = 0.057$), cataract and visual acuity based on NPCB classification of vision ($P < 0.001$), cataract and vision haziness ($P < 0.001$), education and motivation factors for increased cataract surgery uptake ($P = 0.018$) were found to be statistically significant.

Table 3: Distribution of visual acuity amongst study population

Vision	Number (%)
Normal vision (6/6-6/18)	150 (50%)
Low vision (<6/18-6/60)	100 (33.3%)
Economic blindness (<6/60-NPL)	30 (10%)
Social blindness (<3/60-NPL)	20 (6.7%)

NPL: No perception of light

Table 4: Barriers in accessing cataract health services (n=180)

Factors	Number (%)
Personal attitudinal reasons	
No one to accompany	45 (25%)
No felt need	30 (16.7%)
No time/other important job	20 (11.1%)
Fear of surgery	09 (5%)
Medical/service delivery reasons	
Advised specs/surgery later/drops	25 (13.9%)
Other physical illness	11 (6.1%)
Lack of awareness	10 (5.5%)
Economic reasons	
Loss of wages	15 (8.3%)
Fear of cost	10 (5.5%)
Cultural belief	
Spectacles/drops/medication sufficient	05 (2.75%)

Table 4 shows the barriers for accessing health services as reported by the study subjects. Personal attitudinal factors like no one to accompany (25%), no felt need (16.7%), were found to be the major reasons. Various factors that facilitated the acceptance of cataract surgery are given in Table 5. Free surgery was found to be the commonest motivating factor (40%) followed by self-decision to undergo cataract surgery due to their defective vision (30%).

Table 5: Facilitating factors for surgery (n=100)

Factors	Frequency (%)
Free surgery	40 (40%)
Self decision	30 (30%)
Quality of service	15 (15%)
Health care providers	10 (10%)
Family members/relatives	03 (3%)
Advice by operated persons	02 (2%)

DISCUSSION:

Subjects above 50 years of age were studied because the prevalence of cataract and blindness takes a definite steep rise from this age onwards as shown in certain studies. [6,7] The prevalence of un-operated cataract in the study was 66.7% that is comparable to the National survey on Blindness conducted in various districts in 2001-2002 (63.7%). [7] The rise in the cataract rates above 50 years of age was shown in a study conducted in a rural community of Puducherry that assessed prevalence of cataract in 30 years to be 24.7% and above 50 years as 75.1%. [6] The prevalence of any cataracts was similar in North and South India (71.8%). [13] The prevalence of cataract in this study were equal in males (66.7%) and females (66.7%), in contrast to certain studies that shows female preponderance; 61.2% in males and 68.5% in females, [14] 49.1% in males and 54.8% in females. [15] Sexual predilection of cataract toward females was more significant with increasing age (67.3% in males and 76.6% in females). [16] The percentage of economic blindness and social blindness as inferred from the study was 10% (30/300) and 6.7% (20/300) respectively, whereas the proportion of economic blindness was 2% and social blindness 3.9% as per NPCB as opposed to 1.7% and 2% as per Rapid Assessment of Avoidable Blindness survey in a district in Tamil Nadu. [3,8]

Among the various barrier factors elicited in this study, personal attitudinal reasons like "no one to accompany" (25%), "need not felt" (16.7%) were the major barriers. This finding is similar to another study where the barriers for uptake of cataract surgery was reported mainly to be attitudinal reasons. [10] In a study conducted in Madurai in 1986, "need not felt" (24%), "cannot afford" (17%) and "no one to accompany" to the treatment center (25%) were the most important barriers among the study population. Only a small proportion (2%) expressed "waiting for cataract to mature" as a barrier. "Cannot afford" was a barrier for 17% in the Madurai study. [9] A similar study in Karnataka to assess the barriers to cataract services in 1995 elicited that over 53% of the responses were related to service delivery, whereas in Madurai in 1986 the proportion was only 32%.

Limitations of study:

As it was a single centre study the results cannot be generalized to entire population. Furthermore comprehensive and multi centric studies including meta analysis of various earlier studies should be done, to have a more meaningful and high impact results.

CONCLUSION:

A study had found that stigma, mortality and ageing, lack of access to personal funds, dependency and wider family concept to patient decision were certain barrier factors in a follow-up outreach screening camp. [11] Free surgery in camps and self-decision were the main reasons for accepting cataract surgery. This is followed by the motivation given by the health care providers and family members. Findings in this study has clearly shown that, to effectively increase the utilization of available cataract surgery services in India, future research and programming should consider a broad promotion of services to those most marginalized, such as elderly rural women. Provision of high-quality accessible service can increase the cataract services utilization. [17]

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