

# A study of sociodemographic profile of patients undergoing cataract surgery in New Civil Hospital, Surat

Naveenkumar G Havale<sup>1</sup>, Mohua Moitra<sup>2</sup>, Deepak Saxena<sup>3</sup>

<sup>1</sup>Department of Community Medicine, Bidar Institute of Medical Sciences, Bidar, Karnataka, India.

<sup>2</sup>Department of Community Medicine, Government Medical College, Surat, Gujarat, India.

<sup>3</sup>Indian Institute of Public Health, Gandhinagar, Gujarat, India.

Correspondence to: Naveenkumar G Havale, E-mail: gnghavale@gmail.com

Received July 19, 2015. Accepted November 2, 2015

## Abstract

**Background:** Cataract is the leading cause for avoidable blindness in the world and also in India. Around 62.6% of total cause for blindness is by cataract in India. Government of India launched National Programme for Control of Blindness (NPCB) in the year 1976 with the goal of reducing the prevalence of blindness to 0.3% by 2020. In the 12th plan (2012–2017) NPCB is allocated Rs. 2,506.90 crores for implementing the program for 5 years.

**Objective:** To study the sociodemographic profile of the patients undergoing cataract surgery at New Civil Hospital Surat (NCHS) from September 2009 through February 2010.

**Materials and Methods:** Hospital-based pretested questionnaire interview of patients admitted for cataract surgery in ophthalmology ward of NCHS from September 2009 through February 2010.

**Result:** A total of 297 patients were interviewed of which 51.1% were men, 85.8% were Hindus, and 48.4% were illiterate. Majority (47.4%) belong to socioeconomic class IV.

**Conclusion:** The patients seeking cataract surgery in NCHS were mainly Hindus and their literacy status is also low. Majority of them belong to socioeconomic classes IV and V.


**KEY WORDS:** Cataract, education, NPCB, religion, socioeconomic class

## Introduction

Preventable (both avoidable and curable) blindness is one of the major causes for morbidity among the sub-Saharan and South Asian countries.<sup>[1]</sup> The major cause for preventable

blindness is cataract. To reduce the burden of blindness, Government of India launched National Programme for Control of Blindness (NPCB) in the year 1976 with the goal of reducing the prevalence of blindness to 0.3% by 2020.<sup>[2]</sup> The program is successful over the years in reducing the prevalence of blindness mainly the cataract by performing the cataract surgeries.

Initially in the program, cataract surgeries were carried out in mobile camps that have gradually shifted to permanent setup of operation theaters at district headquarters and medical colleges. In the 12th plan (2012–2017), the Government of India has earmarked Rs. 2,506.90 crores for NPCB for a period of 5 years.<sup>[3]</sup> Gujarat is the second best performing state under NPCB in terms of performance in relation to number of cataract surgeries with 98% intraocular lens (IOL) implantation.<sup>[2]</sup>

Access this article online	
Website: <a href="http://www.ijmsph.com">http://www.ijmsph.com</a>	Quick Response Code: 
DOI: 10.5455/ijmsph.2016.19072015175	

International Journal of Medical Science and Public Health Online 2016. © 2016 Naveenkumar G Havale. This is an Open Access article distributed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), allowing third parties to copy and redistribute the material in any medium or format and to remix, transform, and build upon the material for any purpose, even commercially, provided the original work is properly cited and states its license.

IOL implantation drastically improves the postsurgery visual acuity of the patient. This study is carried out to know the sociodemographic profile of patients undergoing cataract surgery in NCHS.

## Materials and Methods

In pursuance with the goal of NPCB, Department of Ophthalmology, New Civil Hospital Surat (NCHS) treats the causes for preventable blindness by running the outpatient and doing the surgeries. The Department of Ophthalmology has daily average 200 outpatients and approximately 1200 cataract operations yearly with 100% IOL implantation.<sup>[4]</sup>

This study is a hospital-based study with pretested semi-structured questionnaire interview of patients admitted for cataract surgery in ophthalmology ward of NCHS. The study is carried out from September 2009 to February 2010. A total of 297 patients are interviewed who fitted into the inclusion criteria. The data are collected for different variables of sociodemographic profile. The data are analyzed using EPI INFO software and results are summarized as proportions and percentages.

## Results

This study interviewed 297 patients who were admitted for cataract operation over a period of 6 months. This study was carried out to know the social and demographic profile of the patients undergoing cataract operation in NCHS. In this study, 51.2% were men and 48.8% were women. Among the 297 patients interviewed, mean age was 61 years and median of 60 years. It was observed that majority 119 (40.1%) were in the age group of 60–69 years. It was observed that early onset (aged <50 years) of cataract was seen in 28 (9.4%) patients [Table 1].

In the study population, 255 (85.8%) were Hindus and 41 (13.8%) were Muslims. Majority 144 (48.4%) in the study population were illiterate followed by 85 (28.6%) educated up to primary school and 50 (16.8%) up to secondary school. Among men 76.9% were literate, whereas in women only 24.8% were literate [Table 2]. It was observed that majority 141 (47.4%) of the study population belong to socioeconomic (SE) class IV followed by 121 (41.2%) in SE class V.

## Discussion

In India, 18.7 million people are blind of which 14.7 million are in rural areas. A total of 9.5 million have cataract-related blindness.<sup>[1]</sup> In an attempt to reduce the burden of blindness, Government of India launched NPCB in the year 1976 as a 100% centrally sponsored program with the goal of achieving a prevalence rate of 0.3% of population. Rapid survey on avoidable blindness conducted under NPCB during 2006–2007 showed reduction in prevalence rate of blindness from 1.1% (2001–2002) to 1% (2006–2007).<sup>[2]</sup> A total amount of

Rs. 2,506.90 crores has been earmarked for NPCB during 12th plan (2012–2017) for implementing of program in district/community health center/primary health center/subcenter level.<sup>[3]</sup>

In the study population, men constituted 152 (51.2%) and women constituted 145 (48.8%). Contrary to observations are documented by the SSU data of Surat city, women were in higher proportion (54.03%) to undergo cataract surgery compared to men (45.97%) in last 5 years (2005–2010).<sup>[5]</sup> This may be due to a smaller sample and time limitations of this study. In a similar study, Rekhi and Kulshreshtha<sup>[6]</sup> found that the sex distribution shows an overwhelming male predominance, 60.96% against 39.03% females.

In this study, highest percentages of participants were in the age group of 60–69 years (40.1%) followed by 28.6% in the 50–59 years and 21.9% in the more than 70 years group. Mean age at the time of surgery for men was 61.2 years and for women was 60.8 years. In this study, it was worth noting that the less than 50-year age group constituted 9.43%. This reflects a changing trend of occurrence of cataract at an earlier age. Similar findings (8.47%) were seen in the SSU data among those who underwent cataract surgery in NCHS.<sup>[5]</sup> Age is an important risk factor for development of cataract. As age advances the chances of developing cataract also rises. Globally 82% of all people who are visually impaired are aged 50 and older (although they represent only 19% of the world's population).<sup>[1]</sup> Murthy *et al.*<sup>[7]</sup> found cataract blindness affects 5.3% of adults over the age of 50 and 62.4% of bilateral blindness in adults over the age of 50 are due to cataract. Limburg *et al.*<sup>[8]</sup> in a similar study found that among people less than or equal to 50 years of age, 46% of all severe visual impairment (visual acuity <6/60) was caused by cataract. The age-gender-adjusted prevalence of all blindness was 2.9% in persons ≥50 years of age (6.7% for visual acuity <6/60).

In this study, Hindus constituted majority (85.85%), followed by Muslims (13.80%) [Table 2]. According to 2001 census, 80.5% were Hindus and 13.4% were Muslims in India.<sup>[9]</sup> NFHS-3 data show Hindus were 81.6% and Muslims were 12.5% in India. In Gujarat 90.5% were Hindus and 8.8% were Muslims.<sup>[10]</sup> Thus there was a higher representation of the Muslims in this study when compared to their distribution in the community. In a similar study, Haq *et al.*<sup>[11]</sup> found that the distribution of religion among the studied participants was Hindus 54.9%, Muslims 43.1%, and Christians 2%.

In this study majority (48.48%) of the participants were illiterates. The proportion of illiterates was much higher among

**Table 1:** Distribution of study population according to age and gender

Age group (years)	Males	Females	Total
≤50	19 (12.5%)	9 (6.2%)	28 (9.4%)
50–59	36 (23.7%)	49 (33.8%)	85 (28.6%)
60–69	66 (43.4%)	53 (36.5%)	119 (40.1%)
≥70	31 (20.4%)	34 (23.5%)	65 (21.9%)
Total	152 (51.2%)	145 (48.8%)	297

**Table 2:** Distribution of study population according to religion and education status

Variables	Male (152)	Female (145)	Total (297)
Religion			
Hindu	132 (86.8%)	123 (84.8%)	255 (85.9%)
Muslim	20 (13.2%)	21 (14.5%)	41 (13.8%)
Christian	0	1 (0.7%)	1 (0.3%)
Education status			
Illiterate <sup>a</sup>	35 (23.0%)	109 (75.1%)	144 (48.5%)
Primary <sup>b</sup>	59 (38.8%)	26 (17.9%)	85 (28.6%)
Secondary <sup>c</sup>	41 (26.9%)	9 (6.3%)	50 (16.8%)
Higher secondary <sup>d</sup>	13 (8.6%)	1 (0.7%)	14 (4.7%)
Graduate and postgraduate	4 (2.7%)	0	4 (1.4%)

<sup>a</sup>Illiterate refers to unable to read and write.

<sup>b</sup>Primary education refers to education up to seventh standard.

<sup>c</sup>Secondary education refers to education from 8th to 11th standard.

<sup>d</sup>Higher secondary refers to 12th standard complete.

**Table 3:** Distribution of the studied population according to socioeconomic classification (modified Prasad's classification)

Socioeconomic classification	Per capita monthly income (Prasad's classification)	<sup>a</sup> Per capita monthly income according to AICPI Sep 2009 to Feb 2010 (modified Prasad's classification)	Total
I	100 and above	≥3831	3 (1.0%)
II	50–99	1915–3830	13 (4.3%)
III	30–49	1149–1914	18 (6.1%)
IV	15–29	575–1148	141 (47.5%)
V	<15	<575	122 (41.1%)

<sup>a</sup>The average value (777) of All India consumer price index (AICPI) from September 2009 to February 2010.

women than in men, that is, 75.17% and 23.02%, respectively. The findings are consistent as the mean age for women getting operated in this study is 60.76 years so when they were in school-going age, that is, around 50 years back women's education was not a priority [Table 2]. Literacy according to 2001 census: India literates among men are 76% and women 54%, similarly in Gujarat, literacy among men is 80% and women 59%.<sup>[9]</sup>

Haq *et al.*<sup>[11]</sup> found that the distribution of education status among the studied participants was illiterates 49.6%, primary 22.3%, secondary 8.7%, higher secondary 14.1%, and graduate and postgraduate 5.3%. Prasanna and Rotti<sup>[12]</sup> in their study of role of socioeconomic factors found that among the educated, more people had high school-level education and above in the case group (43%) compared to the control group where the number of persons who have had high school education and above was less (16%). Pokhrel *et al.*<sup>[13]</sup> found that the education status among cases of cataract was 13.1% literates while those in controls was 26.6% literates.

In this study maximum (88.54%) participants were in SE classes IV and V [Table 3]. This skewed distribution is due to the fact that NCHS being a government hospital, maximum services are utilized by the people belonging to the lower SE strata. This may also be due to the fact that Surat being an industrial city, half of its population is migrants.

Haq *et al.*<sup>[11]</sup> in a similar study found that majority (96.8%) of study population belongs to SE classes IV and V. Prasanna and Rotti<sup>[12]</sup> in their study found that greater number of persons in the case group were in the high-income category than those in the control group. Majority from control group (93%) were in the low-income category.

## Conclusion

This study looked into the sociodemographic profile of patients utilizing the services from NCHS. Majority of the patients admitted for cataract surgery were men and mean age was 61 years. Going by religion, Hindus were majorly utilizing the services. Among the study population, majority of the patients were illiterates belong to SE classes IV and V, which shows that utilization of services from government hospital like NCHS are mainly the lower sections of the society.

## Acknowledgment

I would like to thank the Head of the Department and staff of Department of Ophthalmology and Department of Community Medicine, Government Medical College, Surat, and staff of

NPCB-Sentinel Surveillance Unit, Surat, for their cooperation in carrying out this study. Finally, I want to thank the patients who willingly responded to complete our study.

## References

1. World Health Organization. *Global Initiative for the Prevention of Avoidable Blindness*. Available at: [http://www.who.int/hq/1997/WHO\\_PBL\\_97.61\\_Rev.1.pdf](http://www.who.int/hq/1997/WHO_PBL_97.61_Rev.1.pdf)
2. Government of India. *National Programme for Control of Blindness 12th Five Year Plan.*, Ministry of Health and Family Welfare. Available at: <http://www.npcb.nic.in>
3. Government of India. *Pattern of Assistance During the 12th Five Year Plan*. Ministry of Health and Family Welfare, 2013. Available at: <http://www.npcb.nic.in/writereaddata/mainlinkFile/File298.pdf>
4. Department of Ophthalmology, Government Medical College Surat, Gujarat. *Ophthalmology: Goals/Objectives*. Available at: <http://www.gmcsurat.edu.in/doku.php?id=ophthalmology:start>
5. Data from Sentinel Surveillance Unit, National Programme for Control of Blindness Department of Community Medicine Government Medical College Surat, Gujarat.
6. Rekhi GS, Kulshreshtha OP. Common causes of blindness: a pilot survey in Jaipur, Rajasthan. *Indian J Ophthalmol* 1991;39(3):108–11.
7. Murthy GVS, Gupta SK, Bachani D, Jose R, John N. Current estimates of blindness in India. *Br J Ophthalmol* 2005;89(3):257–60.
8. Limburg H, Vasavada AR, Muzumdar G, Khan MY, Vaidyanathan K, Trivedi R, et al. Rapid assessment of cataract blindness in an urban district of Gujarat. *Indian J Ophthalmol* 1999;47(2):135–41.
9. Government of India. *Census of India 2011*. Ministry of Home Affairs, Office of the Registrar General & Census Commissioner. Available at: [http://www.censusindia.gov.in/Census\\_And\\_You/religion.aspx](http://www.censusindia.gov.in/Census_And_You/religion.aspx)
10. International Institute for Population Sciences (IIPS) and Macro International. *National Family Health Survey (NFHS-3), 2005–06: India: Volume I*. Mumbai, India: IIPS, 2007. Available at: <http://www.nfhsindia.org>
11. Haq I, Khan Z, Khalique N, Amir A, Jilani FA, Zaidi M. Prevalence of common ocular morbidities in adult population of Aligarh. *Indian J Community Med* 2009;34(3):195–201.
12. Prasanna T, Rotti SB. Role of socio-economic factors in cataract surgery utilization in JIPMER Pondicherry. *Indian J Community Med* 2007;32(1):51–3.
13. Pokhrel AK, Smith KR, Khalakdina A, Deuja A, Bates MN. Case-control study of indoor cooking smoke exposure and cataract in Nepal and India. *Int J Epidemiol* 2005;34(3):702–8.

**How to cite this article:** Havale NG, Moitra M, Saxena D. A study of sociodemographic profile of patients undergoing cataract surgery in New Civil Hospital, Surat. *Int J Med Sci Public Health* 2016;5:1163-1166

**Source of Support:** Nil, **Conflict of Interest:** None declared.