

Clinical-ophthalmological profile of patients undergoing cataract surgery following their identification in screening eye camps

Angli Manhas¹, Rameshwar S Manhas², Gaurav S Manhas³, Dinesh Gupta¹

¹Department of Ophthalmology, Government Medical College, Jammu, Jammu and Kashmir, India, ²Department of Psychiatry, Government Medical College, Jammu, Jammu and Kashmir, India, ³Department of Radiodiagnosis, Government Medical College, Jammu, Jammu and Kashmir, India

Correspondence to: Angli Manhas, E-mail: anglimanhas@gmail.co

Received: September 18, 2018; Accepted: October 07, 2018

ABSTRACT


Background: Senile cataract constitutes about 50–70% of preventable blindness in the year 2000 in India. >3/4th of Indian populations live in rural areas which are away from medical facilities. Conducting of outreach camps forms an integral part in decreasing the visual morbidity due to cataract, etc., in rural areas, thus the unrecognized rural and poor population is benefited. **Objective:** The objective of this study was to see demographic and clinical-ophthalmological profile of patients undergoing cataract surgery. **Materials and Methods:** The present cross-sectional observational study which was conducted in a tertiary care hospital involved 72 cataract patients who were assigned to undergo extra capsular cataract extraction surgery (SICS with PC-IOL) following their identification in various screening eye camps of Jammu province. **Results:** The maximum prevalence was seen in the age group of >60 years, i.e., 76.39%. Males outnumbered females, i.e., 63.89%. Housewives comprised 36.11% followed by farmers who were 34.72%. About 37.5% among studied subjects were smokers and 38.89% were hypertensives while 19.44% had blood sugar level above normal value. Mature cataract was the most common seen in 72.22%. Majority of the patients, i.e., 59.72% had visual acuity of <1/60. **Conclusion:** Increasing age, housewives, and smoking were the most important risk factors, whereas mature type of cataract was more commonly seen in camp patients.

KEY WORDS: Cataract; Extracapsular Cataract Extraction; Screening Eye Camps

INTRODUCTION

Vision <3/60 in the better eye on presentation is defined as blindness.^[1] Blindness has an enormous personal and social and economic impact limiting the education and life choices of otherwise healthy people and placing a significant weight on family, community, social, and health service. According to the World Health Organization (WHO), about 75% of

causes of blindness can be avoided through preventive or therapeutic measures.^[2] Cataract has been documented as a leading cause of blindness in India^[1] as many patients with cataract do not have access to hospitals and surgery^[3] and to avoid blindness due to cataract, the only remedy is to perform hospital-based cataract surgery on a large scale.^[1] Compared to the prevalence of cataract in Western countries, the prevalence of cataract in India is more. Genetic factors, environmental factors (like constant exposure to sunlight in their occupation, as well as biomass fuel use), and nutritional factors are considered as important risk factors for cataract.^[4] The important cause of age-related cataract is gradual opacification of ocular lens which lead to loss of vision. As the person grows older, this becomes a major problem for most of them. Intraocular lens implantation is the only surgical approach available mostly in developing

Access this article online	
Website: http://www.ijmsph.com	Quick Response code
DOI: 10.5455/ijmsph.2019.1028707102018	

International Journal of Medical Science and Public Health Online 2018. © 2018 Manhas *et al.* 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.

countries.^[3] There is backlog of cataracts in our country where only 5 million cataract surgeries are performed annually in the country. There is an increase in a number of cataract patients due to improved quality of life, health indices, and increased life expectancy.^[1] Nearly 20 million persons in Asia are blind as estimated by the WHO, and this is going to increase over the period of time.^[5] The present study was conducted to study the profile of cataract patients who had been screened in various eye camps.

MATERIALS AND METHODS

The present cross-sectional observational study involved 72 cataract patients assigned to undergo extra capsular cataract extraction surgery (SICS with PC-IOL) in a tertiary care hospital following their identification in various screening eye camps of Jammu province. Due permission from institutional ethical committee was taken prior to start of study. The informed written consent from all the patients were undertaken before inclusion in the current study. The data was recorded by independent observer.

Inclusion Criteria

The following criteria were included in the study:

- Individuals of both sexes
- Aged >20 years
- Diagnosed with cataracts with surgical indication.

Exclusion Criteria

The following criteria were excluded from the study:

- Uncooperative patients
- Patients who had a complicated cataract, traumatic cataract, uveitis cataract, or other corneal comorbidities
- Patient refused to participate in the study.

All these screened patients were admitted to the indoor wards of the department of ophthalmology 1 day before surgery. From each patient, detailed history including age, sex, and residence was obtained. The complete ophthalmic history, relevant personal medical history, and family history were also collected from all patients. Visual acuity was checked with Snellen's visual acuity chart and pinhole improvement was noted. Intraocular pressure was measured by applanation tonometer, gonioscopy was done to see status of angle/any other pathology involving angle, detailed slit lamp examination was done before and after pupillary dilatation to grade the nucleus and to look for the pseudoexfoliative deposits on the cornea, iris, and pupillary margin, and on the anterior capsule of the lens, dilated fundus examination, blood pressure measurement, and laboratory tests such as hemoglobin, bleeding time, clotting time, fasting blood sugar, and urine examination were done.

Statistical Analysis

The data were analyzed using statistical software MS Excel/SPSS version 17.0 for windows. Data presented as percentage (%) as discussed appropriate for quantitative and qualitative variables.

RESULTS

Table 1 shows demographic profile of studied subjects. Maximum prevalence was seen in the age group of >60 years, i.e., 76.39% followed by 19.44% in 40–60 years. Thus, cataract is seen more commonly in the elderly age group. The prevalence of cataract was more in males, i.e., 63.89% as compared to 36.11% in females. This may be due to the gender-specific preference of treatment toward males in the society even today. All participants were from rural background, i.e., 100%. Housewives comprised 36.11% followed by farmers who were 34.72%.

Table 2 shows the clinical-ophthalmological profile of studied subjects. About 37.5% among studied subjects were smokers and 38.89% were hypertensives while 19.44% had blood sugar level above normal value. In 58.33%, right eye was involved, whereas left was involved in 41.67%. Mature cataract was the most common seen in 72.22% as compared to immature who was 27.78%. Majority of the participants, i.e., 59.72% had visual acuity of <1/60 which comprised 8.33% finger count close to face, 29.17% had hand movement, and 22.22% had perception of light. Thus, majority of the patients were blind.

In developing countries like India, a considerable percentage of the population seeks the help of an ophthalmologist only

Table 1: Demographic profile of studied subjects

Characteristics	Number of patients (%)
Age (in years)	
<40	3 (4.17)
40–60	14 (19.44)
>60	55 (76.39)
Sex	
Male	46 (63.89)
Female	26 (36.11)
Residence	
Rural	72 (100)
Urban	0 (0)
Occupation	
Farmers	25 (34.72)
Labourers	10 (13.89)
Office staff	0 (0)
Students	0 (0)
Housewives	26 (36.11)
Others	11 (15.28)

Table 2: Clinical-ophthalmologic profile of studied subjects

Characteristics	Number of patients (%)
Smoking habits	
Smokers	27 (37.5)
Non-smokers	45 (62.5)
Blood pressure status	
Hypertensive	28 (38.89)
Non-hypertensive	44 (61.11)
Blood sugar status	
Diabetic	14 (19.44)
Non-diabetic	58 (80.56)
Eye involved	
Right	42 (58.33)
Left	30 (41.67)
Type of cataract	
Immature	20 (27.78)
Mature	52 (72.22)
Pre-operative visual acuity	
≥1/60	29 (40.28)
Finger count close to face	6 (8.33)
Hand movement	21 (29.17)
Perception of light	16 (22.22)

when the vision is totally lost and the cataract has reached an advanced and mature stage.^[6] This might be due to the reason that >3/4th of Indian populations live in rural areas which are away from medical facilities. The population which does not seek medical aid due to various reasons need to be recognized. Thus, eye care services need to be planned and executed in these areas. A well-organized outreach camps in rural areas are necessary to diagnose and treat cataract.^[7]

DISCUSSION

As we all know one of the most important organs in the human body are eyes and the most wonderful gift is vision, the importance of eye is neglected by many people by not paying proper attention toward eye care.^[2] Cataract is one of the important cause of blindness and in India prevalence of cataract is more as compared to Western countries.^[4] Seah *et al.* in their study found a more prevalence of cataract after home visits as compared to clinic-based prevalence which signifies that many do not turn out to hospitals for early diagnosis and treatment. Hence, this is the most common reason of increased prevalence in developing countries as people do not turn out to hospitals.^[8] Nirmalan *et al.* stated that the prevalence of cataract is indirectly proportional to literacy level, i.e., the prevalence of cataract increased significantly as the literacy levels decreased and vice versa which might be due to negligence and ignorance among the illiterates.^[9]

In the present study, maximum prevalence was seen in the age group of >60 years, i.e. 76.39% followed by 19.44% in 40–60 years which shows that cataract is seen more commonly in the old age group. Seah *et al.* observed that as the age increased the prevalence of cataract also increased.^[8] Shori *et al.* also concluded in their study that cataract is seen more commonly in the age group of >50 years and mean age was found to be 58.4 years. Their findings agree with the findings of the present study that the prevalence increased with increasing age.^[3] Murthy *et al.* also found that the prevalence increased with increasing age.^[10] Islam *et al.* in their study found that 71.05% of cataract patients were >60 years.^[1] Krishnaiah *et al.* in their study found that cataract prevalence increased with the increasing age.^[11] Maiya *et al.* also found that the prevalence was more in 60–69 years age group, i.e., 52% in their study.^[6]

The prevalence of cataract was more in males, i.e., 63.89% as compared to 36.11% in females in the present study. Sitaula *et al.* in their study found that male patients were 54.80%, whereas females were 45.20%, and of the operated cases, 57% were male and 43% were female. This might be due to a disproportionately low utilization of services by women in relation to the burden of disease in them. Persistent gender inequity has marginalized women from accessing eye care services for long time.^[12] Maiya *et al.* in their study found that males outnumbered females.^[6] Seah *et al.* observed that the prevalence was similar for males and females.^[8] Xu *et al.* did not find any significant difference between the sexes.^[13]

All participants were from rural background, i.e., 100% in the present study. This might be due to reason that camps were organized in rural areas. Housewives comprised 36.11% followed by farmers who were 34.72%. This is due to reason that female population less commonly present to hospital for their reduced vision but as the camp was organized nearby area so they access easily to seek medical help without being dependent on their spouses or family members.^[7] Thus, early detection of diseases in this population will reduce the burden of blindness.

In the present study, about 37.5% among studied patients were smokers and 38.89% were hypertensives while 19.44% had blood sugar level above normal value. Tobacco, bidi, and hookah were common among smokers and 10–30 were the number smoked per day. Those who were hypertensives they had their blood pressure of more than 150/90 and many of them were taking enalapril/amlodipine while those who labeled as diabetic had their blood sugar level ≥ 126mg/dl. Krishnaiah *et al.* found that cigarette smoking was the significant risk factors for cataract and found that the prevalence of cataract also increased as the number of cigarette smoked increased.^[11] Tsai *et al.* found that cigarette smoking increased the risk of cataract.^[14]

Out of 72 patients mature cataract constituted 72.22% as compared to immature who was 27.78% in the present study. This might be due to reason that maximum number of cataract patients in the present study were elderly who are dependent

on their family members present less to hospital for their reduced vision but as the camp was organized nearby area so they access easily to seek medical help without need of family member.^[7] Islam *et al.* in their study found that 64.91% of patients had senile immature cataract and 35.08% were senile mature cataract.^[1] Maiya *et al.* in their study found that of 50 patients, 27 had mature cataract.^[6]

Majority of the patients, i.e., 59.72% had visual acuity of <1/60 which comprises 8.33% finger count close to face, 29.17% hand movement, and 22.22% perception of light. Thus, majority of the patients were blind. This might be due to reason that many people seek the help of an ophthalmologist only when the vision is totally lost and the cataract has reached an advanced and mature stage.^[6] Islam *et al.* in their study found that 57.45% had vision of counting finger 3 m or less, 14.47% had hand movement, and 28.04% had a perception of light only.^[1] Sitaula *et al.* found that visual acuity of <3/60-PL was found in 69 patients in their study.^[12] Maiya *et al.* in their study found that 40 patients had vision of perception of light only.^[6]

McCarty *et al.* in their multivariate logistic regression analysis found that age, female sex, duration of diabetes mellitus >5 years, >10 years of duration of gout, presence of arthritis, presence of myopia, patients using oral beta-blockers, as well as more exposure to ultraviolet B were the important risk factors for the development of cataract. They found that age, rural residence, and thiazide diuretics use were the risk factors for posterior subcapsular cataract.^[15]

Strength and Limitation of Study

Considering the burden of blindness due to cataract in India, assessment of the demographic and clinical-ophthalmological profile can provide useful information while implementing various health programs so that blindness due to cataract can be prevented and treated. Community should be educated regarding the importance of regular eye checkup. The limitation of the study is one of the sample sizes was less, and second, the study involved rural camp patients only.

Recommendations

Authors suggest that to provide maximum benefit of health services in rural area, regular organization of eye camps in rural areas is necessary as most of the patients reported in eye camps in rural areas are females and elderly population. Thus, early detection of diseases in this population will reduce the burden of blindness.

CONCLUSION

Increasing age, housewives, and smoking were the most important risk factors in the present study. Mature type of

cataract was more commonly seen in rural camp patients and maximum had low vision.

REFERENCES

1. Islam MN, Saha M, Mukherji S, Khanam BS. Efficacy of manual small incision cataract surgery at the base hospital at tertiary level in West Bengal. *Int J Sci Stud* 2017;5:157-60.
2. Manhas A, Manhas RS, Manhas GS, Gupta D. Prevalence of ocular morbidity among school children of less than or equal to 15 years-study from north India. *Int J Health Sci Res* 2018;8:117-21.
3. Shori C, Shori R, Laxmiprasad G, Alli A. A study of clinical and ophthalmologic profile of patients undergoing cataract surgery. *Int J Res Med Sci* 2017;5:2229-32.
4. Ravindran RD, Vashist P, Gupta SK, Young IS, Maraini G, Camparini M, *et al.* Inverse association of Vitamin C with cataract in older people in India. *Ophthalmol* 2011;118:1958-65.
5. Wong TY, Loon SC, Saw SM. The epidemiology of age related eye diseases in Asia. *Br J Ophthalmol* 2006;90:506-11.
6. Maiya AS, Dharmesh AM. Treatment of advanced white cataracts with manual small incision cataract surgery: A prospective study. *Indian J Clin Exp Ophthalmol* 2016;2:295-8.
7. Manhas A, Manhas RS, Manhas GS, Gupta D. Role of outreach eye camp in reducing ocular morbidity in rural areas-a study from Jammu, J and K, North India. *Int J Sci Res* 2018;7:504-5.
8. Seah SK, Wong TY, Foster PJ. Prevalence of lens opacity in Chinese residents of Singapore: The Tanjong Pagar survey. *Ophthalmol* 2002;109:2058-64.
9. Nirmalan PK, Krishnadas R, Ramakrishnan R. Lens opacities in a rural population of southern India: The Aravind comprehensive eye study. *Invest Ophthalmol Vis Sci* 2003;44:4639-43.
10. Murthy GV, Gupta SK, Maraini G. Prevalence of lens opacities in North India: The INDEYE feasibility study. *Invest Ophthalmol Vis Sci* 2007;48:88-95.
11. Krishnaiah S, Vilas K, Shamanna BR. Smoking and its association with cataract: Results of the Andhra Pradesh eye disease study from India. *Invest Ophthalmol Vis Sci* 2005;46:58-65.
12. Sitaula RK, Joshi SN, Khanal S. Surgical eye camp in rural area of Nepal and its role in vision 2020. *J Chitwan Med Coll* 2016;6:1-5.
13. Xu L, Cui T, Zhang S. Prevalence and risk factors of lens opacities in urban and rural Chinese in Beijing. *Ophthalmol* 2006;113:747-55.
14. Tsai SY, Hsu WM, Cheng CY, Tsai SY, Chou P. Prevalence and causes of visual impairment in an elderly Chinese population in Taiwan: The shihpai eye study. *Ophthalmol* 2003;110:1089-95.
15. McCarty CA, Mukesh BN, Fu CL. The epidemiology of cataract in Australia. *Am J Ophthalmol* 1999;128:446-65.

How to cite this article: Manhas A, Manhas RS, Manhas GS, Gupta D. Clinical-ophthalmological profile of patients undergoing cataract surgery following their identification in screening eye camps. *Int J Med Sci Public Health* 2019;8(1):38-41.

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