



Incidence of Cataract in Tertiary Care Hospital

KEYWORDS

Associated factor, cataract, rural area

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ABSTRACT *Background: The most recent estimates from World Health Organization (WHO) reveal that 47.8% of global blindness is due to cataract. Cataract has been documented to be the most significant cause of bilateral blindness in India. The most recent estimates from WHO reveal that 47.8% of global blindness is due to cataract and in south Asia region which includes India, 51% of blindness is due to cataract. In India cataract is the principal cause of blindness accounting for 62.6% cases of blindness. The key to the success of the Global Vision 2020: The right to sight initiative is a special effort to tackle cataract blindness which includes estimation of magnitude of the problem and understanding factors associated with it. Therefore, a study was conducted in the hospital to estimate the magnitude of cataract and study various epidemiological factors associated with it. Materials and Methods: A cross-sectional study was conducted in a tertiary health center in Amritsar. Total 746 patients who availed services from ophthalmology department during study period were included in the study and relevant data was collected from them. Data analysis was done by percentages, proportions, and tests of significance (Chi-square test). Results: Out of 746 patients, 400 (53.6%) were suffering from cataract. Senile cataract was the most common cause (54%). Fifty-five percent patients were in the age group of 60-80 years and majority of them were from low socioeconomic strata. Conclusion: The prevalence of cataract in a medical college hospital was 53.6%. Age, sex, and educational status were significantly associated with cataract.*

Introduction:

Elimination of avoidable blindness is the goal of Vision 2020. [1] India is one of the signatory of Vision 2020. Cataract has been documented to be the most significant cause of bilateral blindness in India where vision <20/200 in the better eye on presentation is defined as blindness. Blindness, especially related to cataracts, poses a major challenge all over the developing world. India, as one of the biggest developing countries, has a large number of blind requiring sight restoring cataract surgery. In India, cataract has been reported to be responsible for 50-80% of the bilaterally blind in the country. [2],[3],[4],[5] The most recent estimates from World Health Organization (WHO) reveal that 47.8% of global blindness is due to cataract; and in south Asia region which includes India, 51% of blindness is due to cataract. [6] In India, cataract is the principal cause of blindness accounting for 62.6% cases of blindness. [7] In India, according to a recent survey in the Rapid Assessment of Avoidable Blindness (RAAB) study, cataract was responsible for 77.5% of avoidable blindness. [8] Considering current population (121 crore) of India as per census 2011, approximately 62%, that is, 72 lakhs (7.2 million) are blind due to cataract. As per National Programme for Control of Blindness (NPCB), incidence of cataract to be operated upon each year comes to 61.5 lakhs (6.15 million). [9] Since cataract is a major cause of avoidable blindness in the developing countries, the key to the success of the Global Vision 2020: The right to sight initiative is a special effort to tackle cataract blindness. [10] One recent study found that over two-thirds of adults in a rural Indian population with low vision, cataracts, glaucoma, and refractive error had never sought eye care. [11] In a developing country, the government alone cannot meet the health needs of all owing to a number of challenges like growing population, inadequate infrastructure, low per capita income, aging population, diseases in epidemic proportions, and illiteracy. Partnering with local doctors is essential for efficient and effective healthcare delivery. Local providers

are familiar with the etiologies, epidemiology, and distributions of diseases in their communities. Primary physicians can thus play a lead role especially in rural area in providing primary eye healthcare by diagnosing and referring the patient for specialist services. To deal with such a vast problem of curable blindness it is necessary to know its magnitude especially in rural area where health resources are scarce in order to mobilize the resources. Equally important is knowledge of epidemiological factors associated with cataract. Knowledge regarding magnitude, associated sociodemographic factors will be helpful for healthcare managers and practitioners (physicians). Therefore, the present study was conducted among the patients in ophthalmology department of a tertiary health center to study the prevalence, sociodemographic profile, and trend of causes of cataract.

Material and Methods

Study design

Cross-sectional study.

Study setting

Medical College Hospital.

Sampling

All patients who visited or admitted in ophthalmology department during study period. Total 746 patients participated in the study.

Data collection

Participants were interviewed by using a structured questionnaire. Eye examination was done by the faculty members of Ophthalmology Department. Visual acuity was tested and lens opacities were graded at the slit lamp using the Lens Opacities Classification System (LOCS) III. [10]

Statistical analysis

Data was compiled and analyzed by using appropriate statistical techniques like percentages, proportions, and Chi-

square test was used as test of significance.

RESULTS:

The study was conducted among 746 patients. Out of these 437 (58.5%) were males and 309 (41.5%) were females. Out of 746 patients, 400 (53.6%) were suffering from cataract. The prevalence of cataract among the patients in the medical college hospital was 53.6%. Majority of patients (55%) suffering from cataract were in the age group of 60-80 years. Cataract was significantly common among males ($P < 0.05$); 62.8% patients from lower socioeconomic status had cataract, but no significant association was observed after applying Chi-square test. However, significant association was observed between education and cataract [Table 1].

Table 1: Sociodemographic profile of study participants (n=400)

	No. of patients	Cataract absent	Total
Age wise			
<15years	15	11	26
15-60 years	122	118	240
60-80years	220	188	408
>80years	43	39	82
Total	400	346	746
Sex			
Male	247	190	437
Female	153	156	309
Total	400	346	746
Economy			
Upper	149	153	302
Lower	251	193	444
Total	400	346	746
Education			
Literacy	170	109	279
Primary	133	84	217
Secondary	87	135	222
Graduate	10	18	28
Total	400	346	746

In the present study, senile cataract was the most common cause (53.85%), while traumatic and congenital cataract were least common (3.8%) [Table 2]. Out of 400 patients of cataract, 114 were diabetic, 130 were nondiabetic, and diabetic status of 156 patients was not known.

Table 2: Etiological distribution of cataract

Etiology	No. of patients
Senile	215 (53.8%)
Metabolic causes	106 (26.5%)
Traumatic	50 (12.5%)
Other	15 (3.8%)
Congenital	15 (3.8%)
Total	400 (100.0%)

Out of 400 cataract patients availing healthcare in the hospital, 57% had mature cataract and 31.5 and 11.5% had immature and hypermature cataract, respectively [Table 3].

Table 3: Stage of maturity of cataract

Stage	No. of patients
Immature	126 (31.5%)
Mature	228 (57%)
Hypermature	46 (11.5%)
Total	400 (100%)

In the present study, more than half of the total cataract patients 209 (52.25%) had bilateral cataract.

DISCUSSION :

Present study was conducted to estimate the magnitude and epidemiological factors associated with cataract. This data is essential for healthcare managers and practicing physicians to understand and manage the problem. This was a cross-sectional study, which was conducted in a medical college hospital among 746 patients, 400 patients (53%) had cataract and out of them majority of them were males and in the age group 60-80 years. Similarly, in a study conducted by Raizada *et al.*, incidence of cataract increased with the age. 88.67% of persons in the age group of 70-80 years had cataract, while only 15.91% persons had cataract in the age group of 40-45 years. [12] Age was the commonest risk factor observed for the cataract in the study conducted by Chatterjee *et al.* [13] In the present study male outnumbered females. Similarly, Singh *et al.*, also mentioned that the prevalence of cataracts among elderly males was slightly higher (412.2/1,000) than females (372.6/1,000) in their study. [14] However; in the study conducted by Raizada *et al.*, prevalence of cataract was more in females. Cataract was significantly associated with educational status in our study ($P < 0.05$). Similar association was observed by Chatterjee *et al.*, and Nirmalan *et al.*, in their studies, [15] Mahajan *et al.*, mentioned that though women are more commonly affected, cataract extraction is 1.6 times more common among males and low literacy and socioeconomic status are associated. [16] Diabetes is one of the important risk factor for the development of cataract. In our study, 28.5% cataract patients had diabetes. Nirmalan *et al.*, in his study mentioned that diabetes was associated with cataract. Senile cataract was most common cause followed by metabolic cause, in present study. More than half of the cataract patients had mature cataract and 11.5% patients had hypermature cataract. Raizada *et al.*, mentioned the incidence of 7.1% in their study; while incidence was only 1.4% in study conducted by Chatterjee *et al.* This variation in the stage of maturity of the cataract could be explained on the basis of variation in awareness, availability, and utilization of healthcare services.

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