

Prevalence of age related eye disease the cataract in India

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Abstract

Aim: The prevalence rate of blindness in India is 1.1%, the most important cause for blindness in aged people is cataract. The present study was conducted to find out the prevalence, barriers and facilitating factors related to cataract in ESIC Medical College and Hospital, Santhnagar, Telangana state. **Methods:** The study was carried out in Telangana state over a period of 6 months July 2016 to December 2016. All adults of more than 45 years (n = 1000) were examined for lens opacity and visual acuity. A structured proforma was used to assess the cataract in aged people above 45 years. **Results:** Prevalence and risk factors of cataract in Telangana state. As age increases the incidence of cataract increases in persons above 45 years. **Conclusion:** Prevalence and risk factors of cataract in Telangana state. It is important to increase the awareness programmes regarding the availability of cataract health services.

Key Word: Blindness, cataract, age related, prevalence, risk factors

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INTRODUCTION

A cataract is defined as clouding of the lens in the eye. This cloudiness can cause a decrease in vision and lead to blindness¹. cataract has remained the major cause of blindness over the years. It develops over period of time and can affect one or both eyes². Cataract is not a contagious disease and not spread from one eye to another eye. Most of the cataracts are age related and common in older people. By age of 75 yrs all Indians either have cataract or had cataract surgery. Symptoms include blurred vision, troubles with bright lights, and trouble facing at night. Cataracts cause half of all cases of blindness and 33% of visual impairment worldwide.

The objective of World Health Organization is to facilitate reduction of blindness worldwide by bringing the resources needed to do so. To be effective, this have to be translated into practical action at the community level in each country by development of appropriate national plans to eliminate avoidable blindness. Prevalence of blindness was reported to be 10% in the age group of more than 45 years as per National blindness survey⁴. A national survey done during 1987–1989 reported that 1.5% of the population in India was blind, with presenting visual acuity < 6/60 in the better eye, and that 80% of this blindness was caused by cataract. Consequently, in the 1990s the focus of the National Program for the Control of Blindness was almost exclusively on reducing cataract blindness. In India, an estimated 20-25 lakhs new case of cataract is being added to the burden every year⁵. The prevalence of cataract clearly shows a increasing ranging from 0.7% above 30 years to 94.6% above 65-75 years of age. The prevalence of cataract tends to be higher in the Indian population than other country. It is observed that the prevalence of cataract was five times higher in the Indian population.

MATERIALS AND METHODS

A cross-sectional survey was carried for a period of 6months during July–December in Ophthalmology Department of ESIC Medical College and Hospital, Sanathnagar, Hyderabad. Subjects with blurred vision with age above 45years from outpatient department of Ophthalmology, ESIC Medical College and Hospital, Santhnagar, Telangana. Informed consent was obtained after explaining the research procedure, Ethical Clearance: Obtained from Institutional Ethics Committee Subjects with blurred vision with age above 45years, troubles facing with light, corrected visual acuity was 6/9 or worse in the affected eye of age-related origin were included but all cataracts that could be ascribed to congenital or secondary causes were excluded. The examination for cataract was carried out by direct ophthalmoscopy and direct and retroillumination with the slit-lamp. Visual acuity was assessed with the help of a pictorial chart or E chart for those persons who have cataract. Ophthalmic examination was carried out by ophthalmologists with the help of a hand torch. All adults with mature cataract were facilitated for surgery was arranged in ECIL hospital, telangana state.

Statistical Analysis

The obtained data was analyzed by SPSS software. Chi-square test and student t test was used for assessment of level of significance. P-value of less than 0.05 was taken as significant.

RESULTS

Of the total 1000 subjects above 45 years were examined. Prevalence of cataract, among male and female was 60.9% and 66.2% respectively. In our study, women exhibited a higher tendency to have cataract than men. Previous studies also found the prevalence of cataract higher in females. We found women and those belonging to the lower socioeconomic strata, particularly in the rural areas, to be at a higher risk of having blindness (Table1). The average age of the study population was found to be 50.7 (±8.1) years. The prevalence rates for age-related cataract are given in Table 2. Causes and risk factors of cataracts include smoking, alcohol consumption, diabetes, wear and tear of proteins in the lens, prolonged exposure to ultraviolet rays, dietary habits, history of medicationetc (table 3) The prevalence of un-operated cataract was found to be 60.5% of which immature cataracts constituted the major proportion of 58.7% .More than 2yrs (56.7%) of subjects diagnosed for cataract during the survey were willing to undergo surgery. Most of the subjects are motivated by Free surgery camps (80.2%) by self-decision to undergo cataract surgery due to their defective vision. Subjects who had been operated for cataract at private hospital 47.2%, 25% in free camps,

20% in government hospitals The study subjects had near normal vision, 10.4% had economic blindness, and 12.6% had social blindness The associations between age and cataract ($P < 0.001$), education and cataract ($P = 0.057$), cataract and visual acuity based on 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. Less than one-fifth (17.8%) reported the awareness regarding cataract as a condition affecting eye. Only13.3% study subjects reported that cataract can be treated by surgery. Few subjects (4-5%) came to know about cataract from family members and health staffs.

Table 1: Prevalence of cataract according to gender

Sex	Number (%)
Male	350
Female	650
Total	1000

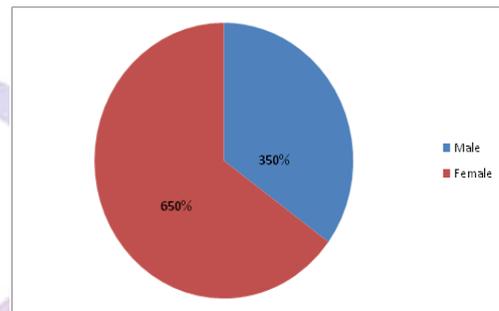


Figure 1: Prevalence of cataract according to gender

Table 2: Prevalence of cataract according to Age

Age	Number (%)
40-49	400
50-59	560
>60	40

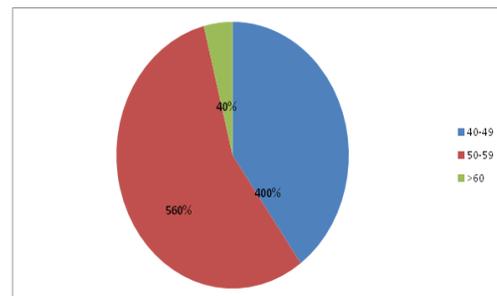


Figure 2: Prevalence of cataract according to Age

Table3: Risk factors for age related cataract

Diabetes
Personal behavior
History of smoking
Alcohol use
Environmental effect
Prolonged exposure to ultraviolet rays
Dietary habits
History of medication

DISCUSSION

We reported the prevalence of cataract over 45yrs of age from Telangana state of India. As age increases some proteins clump together and forms a cloud over the lens called as cataract. Over period of time it grows larger and making the lens harder and unable to see the objects. In middle age cataract small and do not affect the vision⁶. According to Bhatnagar et al⁷, that a vegetarian diet is a risk factor for age-related blindness⁷ Another study from the Punjab area of India also reported an association between cataract and low frequency of protein foods. Apart from risk factors of cataract analyses of systemic co-morbidities such as diabetes mellitus, hypertension, cardiovascular disease and high cholesterol revealed that only hypertension and diabetes mellitus is associated with poor visual outcomes⁸. (Harding et al⁸). The association of the cardiovascular disease and cataract⁹ (Goodrich et.al) Norregaard et al⁹. with patients aged 50-60 years and over having higher risk of visual outcomes when compared to those aged 40 to 49 years¹⁰. Telangana has conducted few studies in the last decade, some of which were conducted by rapid assessment survey methods. In the present study, the prevalence of blindness is 3.4%, whereas the corresponding prevalence of blindness in the previous study was 5.1%. The prevalence of blindness found in the present study were comparable with the earlier studies in Telangana. The Nationwide survey conducted in 2009 in India, found that the prevalence of blindness was 8% and another study conducted within the two districts in Telangana found 9.5% blindness¹¹. Both those studies included only those who were aged 50 years and older¹². There seem to be a large variation in the prevalence of age related blindness across the country and also within the districts in the state of Telangana¹³. The prevalence of cataract in this study was proportionately higher in females (68.9%) compared to males (60.2%), in contrast to certain studies that shows male preponderance 65.2% in males and 61.5% in females, Sexual predilection of cataract toward females was more significant with increasing of age. Awareness of cataract among the population around the world was found to be very low¹⁴. It is necessary for countries around the world to develop free cataract surgery camps. Cataract surgery has high success rate in improving visual function, with low morbidity and mortality. The prevalence of cataract surgery was high in India when compared to developing and some developed countries. The prevalence of age related cataract in rural area is lower than the urban Dandona et al¹⁵. National Program for Control of Blindness conducts (500- 600) cataract surgeries per 100,000 population over 2 years to clear the blindness induced due to cataract¹⁶. Applying this target to Telangana state, around 8–10 cases of visually

significant cataract have to be motivated every year to undergo cataract surgery through counselling and health education¹⁷.

CONCLUSION

We found most of blindness due to cataract to be high with a prevalence of 1.84% in the Indian population, 80% of which is preventable. This imposes substantial social and economic burden on society. Cataract surgery percentage was lower in India when compared to other countries, and poor visual outcomes are frequent. It is necessary for India to develop eye check up and free cataract surgery camps. This work more effectively to promote the popularity and quality of cataract surgery. It is important to increase the awareness programmes regarding the availability of cataract health services throughout the world is very essential.

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