



## Original Article

# The Pattern of Ocular Morbidity in a Tertiary Care Hospital in North India-A Hospital Based Cross-Sectional Study

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## Abstract

**Objective:** To find the pattern of ocular morbidity in a tertiary care hospital in north India.

**Methods:** The present study is a cross-sectional study. A detailed history was obtained regarding any present complaints in either eye following which a complete ocular examination was done. Visual acuity was tested using Snellen's chart, and near vision using Jaegers Chart.

**Results:** Majority of patients had treatable causes of ocular morbidity. A total of 186 subjects suffering from any ocular disease were included in the study. About one third of subjects were between 20-30 years (30.1%). More than half (59.1%) of the subjects were males. Myopia was found to be most common ocular morbidity (17.2%). Cataract was the second most common ocular morbidity (16.1%). Hypermetropia was the third most common ocular morbidity (15.6%). Allergic conjunctivitis and corneal opacity was seen in 11.8% and 10.2% respectively. The percentage of other ocular morbidity less than 10% comprised.

**Conclusion:** Ensuring good quality ophthalmic care services at the primary level would greatly help in improving the utilization rates of the available health services. Health care services should be based on the felt needs of the elderly population.

**Keywords:** Ocular morbidity, Myopia, Hypermetropia.

## Introduction

Ocular morbidity has been described as eye diseases that are either significant to the individual (concerned enough to seek care) or to

professionals (who determines the benefit of advice, further review, and/or treatment) (Kimani et al, 2013).

Worldwide approximately 285 million people are visually impaired, of whom 39 million are blind, 246 million have low vision. The burden of visual impairment is not distributed uniformly throughout the world. The least developed regions carry the largest share. About 90% of visually impaired persons live in developing countries. In worldwide, blindness and visual impairment is not only disabling but economically crippling and available evidence clearly shows that blind people die earlier than those with sight. Visual impairment is unequally distributed across age groups, being largely confined to adults 50 years of age and older. A gender imbalance is also found throughout the world. Females have a significantly higher risk of having visual impairment than males. As per Millennium Developmental Goals of United Nations, Goal 3 (promote gender equality and empower women), two thirds of all those who suffer blindness are women. Women make up 80% of those suffering from severe trachoma and 75% of those with cataract are women (WHO, 2014)

The number of blind people worldwide is increasing at the rate of one to two million per year. The leading causes of blindness worldwide are cataract (39%), uncorrected refractive error (18%), glaucoma (10%) and age related macular degeneration (7%). Up to 80% of blindness and 85% of moderate or severe visual impairment is avoidable by prevention, treatment or cure (WHO, 2010).

In many less developed countries, uncorrected refractive errors, particularly myopia and hypermetropia, are the most common cause of visual impairment. Corneal blindness is estimated to be the second most prevalent cause of blindness, encompassing a wide variety of infectious and inflammatory diseases. (Matthew et al, 2012).

In a cross-sectional study conducted in district Aligarh of North India, there was a high prevalence of cataract, refractive errors, and corneal opacity among the population, all of which are treatable or preventable (Haq et al, 2009). Global agencies for the elimination of

avoidable blindness have pledged support to reduce the burden of avoidable blindness by following "Vision 2020: The right to sight" initiative. A major focus of 'Vision 2020' has been on improving access to health services to meet the health care needs of women and children (Murthy et al, 2005).

The present study was conducted to find the pattern of ocular morbidity in a tertiary care hospital of north India.

### **Material and Methods**

The present study was a cross-sectional study conducted among the subjects attending OPD of the Department of Ophthalmology, Integral Institute of Medical Sciences & Research, Lucknow, UP, India. The study was approved by the Ethical Committee of the Institute. Informed written consent was taken from each participant. Detailed Information about the subjects included in the present study was collected on a pretested schedule covering socio-demographic characteristics and ocular examination.

The descriptive statistics such as frequencies and percentages are presented.

### **Ocular Examination**

A detailed history for presenting complaints in either eye at the time of OPD arrival. Preliminary ocular examination taken was done using a standard torch. Distance visual acuity was tested using Snellen's chart, and recorded for each eye. Near vision chart was used to test for the near visual acuity at a distance of 25 cm from the eyes. Colour vision was tested using the plates of Ishihara colour vision chart. Detailed examination of the eye was done from the lids, lacrimal apparatus, orbits, visual axis, and slit lamp examination for conjunctiva, cornea, sclera, anterior chamber, iris, pupils, lens and colour vision. Opacity of lens when detected with the help of a torch light was then confirmed by slit lamp and direct ophthalmoscopic examination of all the subjects. This was followed by fundus

examination with indirect ophthalmoscope & slit lamp biomicroscopy using 90 D.

### Results

A total of 186 subjects of either gender suffering from any ocular disease with either gender were included in the study and majority of patients about between 20-30 years of age (30.1%) followed by 41-50 (24.2%), <20 (18.3%), 31-40 (14%) and >50 (13.4%) years. More than half (59.1%) of the subjects were males (Table-1).

Myopia was found to be most common ocular morbidity in subjects. (17.2%). Cataract was the second most common ocular morbidity (16.1%). Hypermetropia was the third most common ocular morbidity (15.6%). Allergic conjunctivitis and corneal opacity was seen in 11.8% and 10.2% respectively. The percentage of other ocular morbidity was less than 10% (Table-2).

**Table-1:** Age and gender distribution of subjects

Age and gender	No. (n=186)	%
<b>Age in years</b>		
<20	34	18.3
20-30	56	30.1
31-40	26	14.0
41-50	45	24.2
>50	25	13.4
<b>Gender</b>		
Male	110	59.1
Female	76	40.9

**Table-2:** Pattern of ocular morbidity

Ocular morbidity*	No. (n=186)	%
Myopia	32	17.2
Cataract	30	16.1
Hypermetropia	29	15.6
Allergic conjunctivitis	22	11.8
Corneal opacity	19	10.2
Infective conjunctivitis	17	9.1
Pterygium	15	8.1
Squint	14	7.5
Bitot spot	12	6.5
Glaucoma	8	4.3
Colour blind	5	2.7
Night blindness	4	2.2

\*Multiple response

### Discussion

Globally, estimated 272.4 million people are visually disabled (i.e. low vision) of whom nearly 42.7 million are blind. Out of them 175 million people are suffering from cataract and refractive errors in all ages all over the world. More than of these visually disabled in low income countries. These countries suffers 8% extra years loss due to disability (Years Lost due to Disability). Most people with visual impairment belong to older age group (>50 yrs all age groups with females being more at risk at every age, in worldwide. Approximately 71 million people above the age of 60 years suffer from the correctable visual impairment in the low income countries (Pisudde et al, 2015).

In the present study, cataract was found in 16.1% of subjects as compared to study by Haq et al (2009) in which it was observed that the prevalence of cataract was 21.7% above 20 years of age. Bae et al (2015) found cataract morbidity among Korean population being 21.1%. In our study it was found in 14.8% subjects. This finding was almost similar to the study by Haq et al (2009) and Sannapaneni et al (2009). Hypermetropia was the third most common ocular morbidity affecting 15.6% subjects in this study. The other ocular morbidity commonly detected was ametropia or refractive error. Haq et al (2009) reported the prevalence of hypermetropia being 9.8%. Shrote et al (2012) also reported the prevalence of hypermetropia being 11.6%. In the present study, corneal opacity was found in 10.2%. Wang et al (2014) reported the prevalence of corneal blindness being 0.3%. Li et al (2009) had found the prevalence corneal blindness to be 1%. The higher rate of corneal opacity in this study may be due to differences in the socio-demographic and environmental status between this study and other studies mentioned. The percentage of other ocular morbidity such as uveitis, glaucoma & retinal disorder was less than 10% in this study.

### Conclusion

Ensuring good quality ophthalmic care services at the primary level would greatly help in improving the utilization rates of the available health services. Health care services should be based on the felt needs of the elderly population. This would involve a comprehensive baseline morbidity survey and functional assessment in health areas that are perceived to be important to them. This should be transformed into a community database that would help to prioritize interventions and allocate finances accordingly.

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