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PREVALENCE OF VISION IMPAIRMENT AMONG PERSON ABOVE 50 YEARS AGE IN A SEMI-URBAN COMMUNITY OF PORBANDAR, GUJARAT

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ABSTRACT

Introduction: Visual impairment (VI) is a major public health issue, especially in individuals aged 50 and above. Understanding the prevalence and causes of visual impairment helps ophthalmologists plan effective interventions. A survey-based study is conducted in a semi-urban community to assess the prevalence and common causes of VI in individuals aged over 50. In India overall prevalence of blindness in all age groups is 0.36 %. Prevalence of blindness in the population aged more than 50 years is 1.99 % in India.

Aim: To assess the prevalence, severity, and primary causes of visual impairment in individuals aged 50+ years in semi-urban areas.

Methods: Participants were recruited through house-to-house surveys.The study was carried out in chhaya, Porbandar in 8 sub centres during September 2023. All adults of more than 50 years (n =1877) residing in the sub centres named Sandhiyavad , narsang tekri, navapara and Dharampur were examined for visual acuity and anterior segment. A structured proforma was used to assess the visual impairment, cataract evaluation, glaucoma evaluation, corneal pathology and retinal pathology.

Results: Survey based study on the total person 7520 in which age more than 50 years are 1877 persons suggest that 25 percentage are older population is more than 50 years which of them visual improvement is due to presbyopia and cataract are around 59% which are preventable and treatable. Blindness was not found to be significantly associated with either gender or locality.

Conclusion: Overall weighed, age gender standardized survey suggest that presbyopia and cataract have higher involvement in visual impairment age above 50 years and these impairment are preventable and curable which make india better for vision improvement in age above 50 years. Major causes of blindness included cataract (66.2%), corneal opacity (CO) (8.2%), cataract surgical complications (7.2%), posterior segment disorders (5.9%) and glaucoma (5.5%). The proportion of blindness and visual impairment that is due to avoidable causes include 92.9% and 97.4% respectively.

Key words:

INTRODUCTION:

A visual impairment is defined as presenting visual acuity less than 6/18 in a better eye with available correction. In 1999, WHO launched Vision 2020: The right to Sight, a joint endeavour with IAPB, to eliminate avoidable blindness by 2020. Approximately 45 million people are blind worldwide.

Data from the rapid assessment during the national blindness and visual impairment survey in India 2015 to 2019 put the prevalence of blindness 0.36% in all age groups. Prevalence of blindness was reported to 1.99% in the population aged more than 50 years. Major causes of blindness in population aged more than 50 years are cataract (66.2%), corneal opacity (8.2%), cataract surgical complication including PCO (7.2%), posterior segment disease (5.9%) and glaucoma (5.5%) according to NBVI survey.

The major cause of blindness in the population aged more than 50 years is cataract and second most common cause causing visual impairment is refractive error in people aged more than 50 years. After the health care revolution and ongoing National program for control of Blindness and Visual impairment (NPCB and VI) the major barriers for accessing health service reduced. Better surgical outcome and quality of services had a strong influence on service

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uptake. Higher income, higher education, motivation for getting operated from relatives and peer group plays an important role as facilitating factors.

Methods:
Cross sectional survey was carried out for a period of 2 weeks during September 2023 in an semi-urban area of Porbandar district named Chhaya, Gujarat. 4 sub centres are chosen from chhaya randomly under UPHC Chhaya, that provides comprehensive health care to a total population of 69620. All adults of 50 years of age (n=1877) served by sub centers Sandhiya vad, Narsang tekri, Navapara and Dharampur were included in the study. All these 1877 persons formed the study population out of the total 69620. Persons who were not resident in the area and those who could not be contacted even after two visits were excluded from the study.

Written informed consent was obtained from the subjects prior to data collection. The parameters studied were the demographic profile, visual acuity, lenticular opacity in one eye or both eyes, cataract surgery, intraocular lens implantation and awareness regarding cataract. The investigator was trained in interview techniques before data collection.

A house to house visit in all four sub-centres of UPHC chhaya was conducted. Houses with adults of more than 50 years of age were included in the study and interviewed by investigators after explaining the purpose of the study. Ophthalmic examination was carried out with the help of a hand torch by the investigator accompanied by an ophthalmic assistant posted in the Urban primary health centre. Any abnormality or discoloration of lens and corneal opacity was diagnosed by torch light examination. The number of people undergoing cataract surgery was noted. Visual acuity was also assessed with the help of an ill-literate pictorial chart or simplified E chart. Number of people who are using spectacles for distance and near vision are noted and persons with spectacles are divided into myopes, hypermetropia and presbyopia. Primary fundus examination for posterior segment pathology was done with the help of direct ophthalmoscope by the ophthalmology resident of first and second year of the Bhavsinhji General Hospital under guidance of assistant professor of the department. Signs of hypertensive retinopathy, diabetic retinopathy or any other abnormality was noted and patients were explained about it.

Discussion:

Category	Definition (based on presenting visual acuity of better eye with available correction)
Blindness	< 3/60
Severe visual impairment	< 6/60–3/60
Moderate visual impairment	< 6/18–6/60
Mild visual impairment	< 6/12–6/18
Moderate-severe visual impairment	<6/18–3/60
Visual impairment	< 6/12
Pinhole Blind	Best corrected vision <3/60 in better eye
Functional low vision	A person with impairment of visual functioning even after treatment and/or standard refractive correction, and a visual acuity of less than 6/18 to light perception, or a visual field of less than 10 degree from the point of fixation, but who uses, or is potentially able to use, vision for planning and/or execution of a task.

The study was conducted in Porbandar districts of Gujarat in active partnership with ophthalmology departments of medical colleges, non-governmental organizations (NGOs), “Vision 2020: The Right to Sight” partners and Regional Institutes of Ophthalmology (RIOs), depending on the location of the clusters. Concerted efforts have been made in the last few decades to eliminate avoidable causes of blindness and visual impairment in India. Nationally representative surveys have been conducted at periodic intervals to assist NPCB&VI in assessing the impact of ongoing eye care services. The last representative survey on blindness in India was conducted in 2006–07 using RAAB protocol among individuals aged 50 years and above. RAAB surveys form the key source of data on visual impairment and blindness from LMICs. They use a rapid method of examination and random cluster selection, are less expensive and utilize a standardized methodology that enables valid comparisons across countries and regions.

Result:

Table 1: Age >=50 years

Age group	No of cases	Percentage
2-95	7520	100%

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>=50	1877	25%

Table 2. Sex distribution

We examined 1877 subjects above 50 years of age and interviewed them. The proportion of male who participated in study was 35% as compared to females.

Sex	No of cases	Percentage
Male	657	35
Female	1220	65

Table 3 Patient with visual impairment in Right Eye age >=50 years

Disease	No of patients	Percentage
Presbyopia	1115	59
Myopia	7	0.3
Hypermetropia	4	0.2
Astigmatism	7	0.3
Mixed astigmatism	1	0.05
Mature cataract	6	0.3
Pseudophakia	505	27
Corneal pathology	6	0.3
Diabetic retinopathy	6	0.3
Hypertensive retinopathy	7	0.3
Glaucomatous changes	1	0.05
Squint	0	0

Table 4 Patient with visual impairment in Left Eye age >=50 years

Disease	No of patients	Percentage
Presbyopia	1114	59
Myopia	6	0.3
Hypermetropia	4	0.2
Astigmatism	7	0.3
Mixed astigmatism	1	0.05
Mature cataract	9	0.5
Pseudophakia	505	27
Corneal pathology	7	0.3
Diabetic retinopathy	3	0.15
Hypertensive retinopathy	7	0.3
Glaucomatous changes	1	0.05
Squint	0	0

Conclusion

The present study shows that India has made significant strides towards elimination of avoidable blindness. The prevalence of blindness and visual impairment has reduced significantly since the last survey. However, the problem still poses a significant challenge in achieving universal eye health and needs a comprehensive and dedicated approach to effectively tackle the situation. In particular, focus is required to improve the eye banking and corneal transplantation services and cataract surgical practices in the country and to integrate refractive services effectively in the existing eye care system.

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