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A retrospective study on acquired causes of visual impairment in persons seeking visual disability certificate

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Abstract

Background: The World Health Organization (WHO) estimates there are approximately 253 million visually impaired. Mostly in the industrialized world, blindness registers have been used as data sources for population-based research and are a crucial tool for public eye health programmes. The purpose of this study is to find out the prevalence and incidence of acquired causes of visual impairment, including those who approach the tertiary care centre for a certificate of visual impairment.

Methodology: This is a retrospective study done by analysing medical records in the disability register (secondary data analysis) of a tertiary eye care hospital from January 2022 – December 2022. The study included patients who had been diagnosed by a medical board as having a visual impairment. In the out-patient department, patients who were present for the board were examined. Age, gender, the underlying cause of the condition, and the reason for getting a certificate of visual impairment were the data collected and evaluation of those patient done were recorded.

Results: According to our study's findings, there were more male applicants than female applicants. Age of applicants was 13 years to 70 years, most of the applicants belong to the age group of 41 years to 65 years. The prevalent category was with mild visual impairment (39%) followed by 100% blindness were 18%. In our study, the leading causes of acquired visual impairment were Refractive Error with Amblyopia 36.5% followed by corneal opacity 22.2%. In that 80 applicants 44 were one eyed and 46 had bilateral visual impairment.

Conclusion: The most frequent etiological factors causing vision impairment in our study are preventable, so we advocate strengthening the school health system and the general health delivery system, early

identification of amblyogenic factors and prompt treatment, and the use of strict safety precautions.

Keywords: Disability, WHO, NSSO.

Introduction

Blindness has always been one of the important public health problems in India. The World Health Organization (WHO) estimates there are approximately 253 million visually impaired in those 217 million persons with moderate to severe vision impairment and 36 million blind people worldwide. Data from the fifty-eighth round of the National Sample Survey Organisation (NSSO) shows that, of all the disabled people in India, 10.88% were blind and 4.39% had limited vision despite the widely recognised global issue of under-registration. Mostly in the industrialised world, blindness registers have been used as data sources for population-based research and are a crucial tool for public eye health programmes. Various ocular illnesses can cause damage to the visual system and functional loss, which can result in blindness and low vision, while some of them can be treated, others cannot.

In India, visual impairment is categorized according to its severity and percentages are given in accordance with recommendations made by a subcommittee established by the Ministry of Social Justice in 1999, and Empowerment. Only those with disabilities more than 40%, as stated in the Ministry of Health's announcement, shall be qualified for any discounts or benefits.

The purpose of this study is to find out the prevalence and incidence of acquired causes of visual impairment, including those who approach the tertiary care center for a certificate of visual impairment. The main objective of this study is to promote public awareness regarding the acquired causes of visual impairment, the need for early detection, prompt treatment, regular follow-up, and preventive measures to safeguard the eyes from injuries.

Methods

This is a retrospective study done by analysing medical records in the disability register (secondary data analysis) of a tertiary eye care hospital from January 2022 – December 2022. The study included patients who had been diagnosed by a medical board as having a visual impairment.

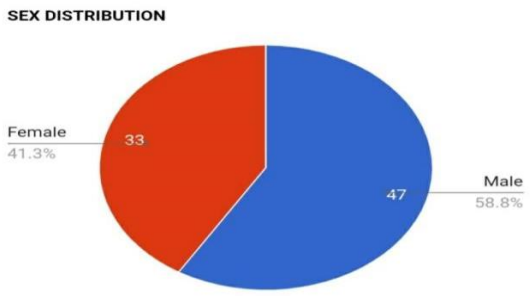
In the out-patient department, patients who were present for the board were examined. Age, gender, the underlying cause of the condition, and the reason for getting a certificate of visual impairment were the data collected. The evaluation of those individuals includes Assessment of visual acuity with pinhole using Snellen's chart, Field of vision assessment using Bjerrum's screen, Anterior segment evaluation was done with a torch light and a slit lamp. Posterior segment assessment, Tonometry, Optical Coherence Tomography (OCT), visual field charting using perimetry, and ultrasonography (B-SCAN) of the eye as needed.

The department's consultants needed to determine the final diagnosis and category of the visual impairment in accordance with the regulations set forth by the government, the certificate was issued.

Results

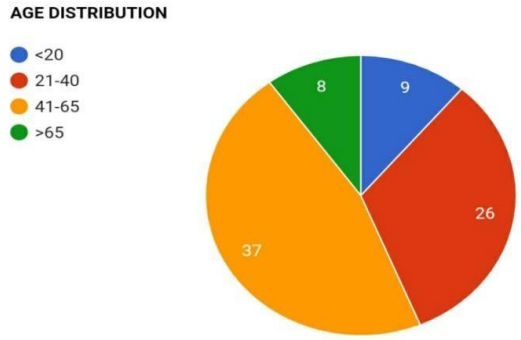
The total number of applicants in our study were 80.

Gender Distribution



Of the 80 patients' males were 47 [58.8%] and females were 33 [41.3%] with M:F ratio being 1.4:1.

Age Distribution

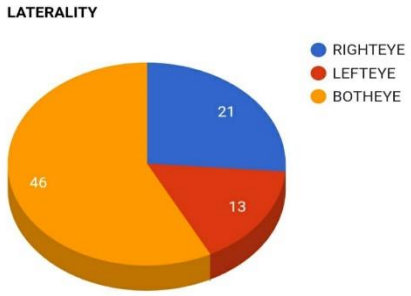


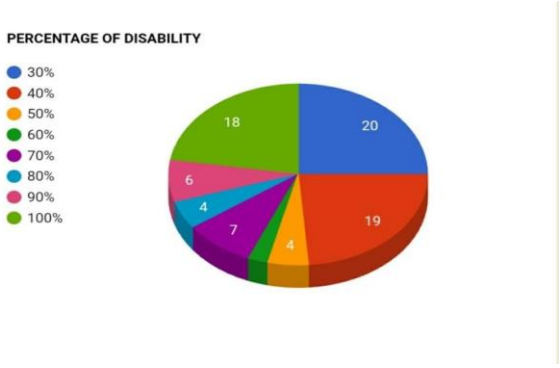
Their age group was ranging from 13 years to 70 years. Maximum numbers of applicants were between 41-65 years (37%), followed by 21-40yrs [26%]. 9%were in the group of <20yrs and 8% were above 65yrs.

Laterality:

In that 80 applicants 44 were one eyed and 46 had bilateral visual impairment.

Amount of visual disability





Visual disability of 30% was noted in 20 applicants. 19 had 40% disability followed by 18 persons had 100% and 2 applicants had 6%.

Acquired causes of visual impairment

ACQUIRED CAUSES	PERCENTAGE
1.REFRACTIVE ERROR WITH AMBLYOPIA	36.5
2.CORNEAL OPACITY RELATED	22.2
3.GLAUCOMA	9.5
4.PTHISIS	4.8
5.OPTIC ATROPHY	14.3
6. DIABETIC RETINOPATHY	1.6
7.RETINAL DETACHMENT	2.4
8.STAPHYLOMA	1.6
9.MISCELLANEOUS	7.1

The leading causes of acquired visual impairment were Refractive Error with mblyopia 36.5% ,second leading causes Corneal Opacity 22.2% ,followed by 14.3% had optic atrophy and 9.5% had Glaucoma. Miscellaneous causes were 7.1% which includes post evisceration and eventration status, artificial eye. Pthisis bulbi were noted in 4.8%. 2.4% had retinal detachment and least one was diabetic retinopathy and staphyloma 1.6 % each.

Discussion

Blindness has a major impact on the emotional, personal, physical, educational, social, and economic well-being of individuals. Numerous research on the prevalence of blindness in society have been conducted in India and overseas. A visual disability certificate not only aids in the rehabilitation of the disabled, but also aids government organizations in developing more effective initiatives to enhance community eye health generally.

According to our study's findings, there were more male applicants than female applicants; this difference was statistically significant and comparable to findings from

studies by Sambuddha Ghosh et al. In West Bengal and Ambastha A et al. In Bihar, both in India. Due to social and economic constraints, men in India typically provide the majority of the family's income. As a result, they are traditionally more mobile and have easier access to health care than women. Additionally, registration for visual impairment and blindness is optional and institute-based, so those who want to benefit from certification are the most likely to apply. Age of applicants was 13 years to 70 years, most of the applicants belong to the age group of 41 years to 65 years and are in line with the similar studies. The prevalent category was with mild visual impairment (39%) followed by 100% blindness were 18%. In our study, the leading causes of acquired visual impairment were Refractive Error with Amblyopia 36.5% followed by corneal opacity 22.2%. 14.3% had optic atrophy followed by Glaucoma 9.5% and the least acquired cause were staphyloma 1.6%. Miscellaneous acquired causes include were post exenteration and evisceration, empty socket. Common causes of moderate visual impairment include amblyopia and corneal opacity, which can be avoided by strengthening school health programmes, identifying amblyogenic factors early and treating them promptly, and taking strict precautions with industry workers who are prone to ocular injuries. The findings are equivalent to those of a study carried out in West Bengal by Sambuddha Ghosh et al. Uncorrected refractive errors were the most common cause of visual impairment, followed by other factors, according to a community-based study conducted in Haryana by Malhotra S. Et al. However, their study population was distinct from that of the disability certificates. This might be a drawback of our study because we used a hospital – based sample and corresponded with disability certificate.

Our studies have shown that the Blindness Register is a useful tool for assessing the etiological factors and pattern of visual impairment in a given area. It can be used to enhance eye health services by expanding outreach diagnostic camps, screening the population for particular factors according to age group, enhancing school health programmes with routine eye exams for children, and timely education of factory and other workers who are susceptible to ocular injuries.

Conclusion

With the identification of the acquired causes, the burden of visual impairment can be lessened by implementing the required preventative measures. Visual handicap registers are helpful for the rehabilitation of visually impaired people as well as for determining the pattern or acquired causes of blindness in a certain location. The most frequent etiological factors causing vision impairment in our study are preventable, so we advocate strengthening the school health system and the general health delivery system, early identification of amblyogenic factors and prompt treatment, and the use of strict safety precautions.

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