



“PATTERN OF BLINDNESS AMONG PATIENTS SEEKING VISUAL DISABILITY CERTIFICATE”

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ABSTRACT **PURPOSE** To determine the severity and various causes of visual impairment in patients seeking visual disability certificate.

METHODS Cross-sectional study of patients seeking visual disability certificate from September 2019 to September 2021 was done. Severity of visual impairment was calculated as per the guidelines of Ministry of Social Justice and Empowerment 1999. Cause was ascertained after detailed examination which included slit-lamp examination, direct ophthalmoscopy, indirect ophthalmoscopy, slit-lamp biomicroscopy with 78D lens, B scan wherever necessary.

RESULTS Study conducted on 100 patients, upto age group of 70. Male preponderance was seen (63%). The causes were congenital malformations 22%, retinitis pigmentosa 19%, refractive errors with amblyopia 19%, others 11%, optic atrophy 6%, cornea 5%, lens 6%, ARMD 5%, glaucoma 6%, uveitis 1%, diabetic retinopathy 1%. The causes were preventable in 48%.

CONCLUSION The leading causes for visual impairment were congenital malformations, retinitis pigmentosa and refractive errors with amblyopia. 48% patients suffered from visual impairment caused by potentially preventable conditions. The burden of visual impairment can be reduced by taking necessary preventive measures with the leading causes being identified.

KEYWORDS : Visual Disability Certificate, Congenital Malformations.

INTRODUCTION

- Blindness is a debilitating physical affliction with significant emotional and financial consequences.
- The effects have an impact not just on the individual, but also on their family and community. 1,2
- According to the WHO, there are 180 million visually impaired persons in the world, with approximately 45 million of them blind.
- India alone has 8.9 million blind people, accounting for nearly a fifth of the world's total.
- Blindness is a huge problem in India, not just because of its scale, but also because of its causes, which are mostly curable.
- Approximately 80% of blindness is theoretically avoidable. 1,3
- Blindness prevention is a global priority, and planning for it necessitates current data on its prevalence and causes, from which priority prevention, treatment, and management strategies may be developed.
- The current study is undertaken to study, ascertain the cause of visual impairment and to identify the leading causes of preventable blindness among the patients seeking visual disability certificate.

METHODOLOGY

Cross-sectional study of patients seeking visual disability certificate from September 2019 to September 2021 was done. Data was collected using pre structured pretested proforma. All patients were subjected to comprehensive ocular examination which includes assessment consists of:

- External examination
- Visual acuity recording (snellen's chart)
- Slit-lamp examination
- fundus examination
- B-scan

A standard clinical proforma was used, data on various causes of blindness, percentage of disability, age, sex and socio demographic profile distribution was assessed. Severity of visual impairment was calculated as per the guidelines of Ministry of Social Justice and Empowerment 1999.⁴

Category	Best corrected visual acuity in the better eye	Best corrected visual acuity in the worse eye	Percentage of visual disability
0	6/9-6/18	6/24-6/36	20%
I	6/18-6/36	6/60 to nil	40%
II	6/40-4/60 or field of vision 10°-20°	3/60tonil	75%
III	3/60 to 1/60 or field of vision 10°	F.C at 1 ft. to Nil	100%

IV	F.C at 1 ft. to Nil or field of vision 10°	F.C at 1 ft. to Nil	100%
One eyed persons	6/6	F.C at 1 ft. to Nil or field of vision 10°	30%

RESULTS

The study was conducted on 100 individuals. Of these individuals, 63% (63) were males and 37% (37) were females, the M:F ratio being 1.7:1. Of the total population which was studied, 55% were 40% visually disabled, 30% were 75% disabled and only 15% had 100% visual disability. The oldest in the group was 70 years old and youngest was 3 years old. Among the visually disabled, congenital anomalies accounted for microcornea, microphthalmos, anophthalmos and coloboma of the eye (22%), refractive errors (19%), retinitis pigmentosa (18%), others [(corneal dystrophy, corneal degeneration, anterior staphyloma, retinal dystrophy, central choroiditis, retinal detachment) (11%)], optic atrophy (6%), corneal opacity (5%), lens [(congenital cataract and complicated cataract) (6%)], [age related macular degeneration (ARMD) (5%)], glaucoma (6%), uveitis (1%) and diabetic retinopathy (1%).

Table 1: Age Wise Distribution

AGE IN YEARS	NO. OF PATIENTS	PERCENTAGE
0-10	6	6%
11-20	19	19%
21-30	30	30%
31-40	17	17%
41-50	19	19%
51-70	9	9%
TOTAL	100	100%

Table 2: Sex Wise Distribution

SEX	NO. OF PATIENTS	PERCENTAGE
MALE	63	63%
FEMALE	37	37%
TOTAL	100	100%

Table 3: Causes Of Visual Disability

CAUSATIVE FACTOR	VISUALLY DISABLED
CONGENITAL ANOMALIES	22%
REFRACTIVE ERRORS	19%
RETINITIS PIGMENTOSA	18%
OTHERS	11%
OPTIC ATROPHY	6%
CORNEA	5%

LENS	6%
ARMD	5%
GLAUCOMA	6%
UVEITIS	1%
DIABETIC RETINOPATHY	1%

Implementation, Government of India. Round Number 37th in 1981, 47th in 1991 and 58th in 2002.

Table4: Number Of Visually Disabled In Each Category

AMOUNT OF VISUAL DISABILITY	NO. OF VISUALLY DISABLED
40%	55(55%)
75%	30(30%)
100%	15(15%)

DISCUSSION

In our study, male preponderance was seen. This could be attributed to the fact that certification system is institution based and females may not be able to access it due to social obstacles. This findings in accordance with the findings of the study conducted by Kareemsab et al.,⁶ Joshi et al.⁷ and Gosh et al.⁸ However, in the 58th round of the NSSO survey⁹, nearly 54% of the total visual impaired individuals were females and the remaining 46% were males, depicting a female gender bias.

In our study, young patients were in a significant majority compared to the elderly. Most of the patients were in the age group of 21-40 years age group. This suggests that certification is sought for educational, employment and conveyance benefits which are more likely to serve the purpose of young individual than the elderly. Study by Gosh et al.⁸ also showed similar results. Congenital malformations was the leading cause for visual disability in our study followed by refractive errors and retinitis pigmentosa. This is similar to the findings of the study by Kareemsab et al.,⁶ Ghosh et al.⁹

With better health education, eye care and compulsory periodic school eye screening preventable causes of blindness can be reduced. Limitation of the study is that the exact prevalence of visual disability cannot be obtained as the registration is voluntary. Another limitation was that the rates could not be calculated as we had no specific population denominator as this was a hospital based survey, and we depended only on the number of cases. Since it is not a community based survey, it may not give the true reflection of the distribution of various causes of visual disability.

CONCLUSION

Results have shown that high number of congenital diseases of eye and retinitis pigmentosa explains the need for genetic counselling. Screening for the retinopathy of prematurity and diabetic retinopathy should be made mandatory. Presence of bilateral corneal scar can be avoided by proper health education and inadvertent use of systemic medications.

Avoidable causes (preventative and curative) of visual impairment were found in 48% individuals who were with phthisis, corneal opacity, diabetic retinopathy, glaucoma, retinal detachment. Avoiding trauma to eyes can reduce the visual disability due to corneal scarring and infections in large extent. Early diagnosis and treatment is necessary to prevent blindness from avoidable causes like diabetic retinopathy, glaucoma and retinopathy of prematurity. Quality of life of the blind should be improved through available, accessible and affordable well-maintained and sustained rehabilitation services.

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