

Assessment Of Patterns Of Visual Impairment And Percentage Disability In Patients Seeking Visual Disability Certificate In District Doda, Jammu And Kashmir, India

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ABSTRACT

PURPOSE: To find the causes of vision impairment and blindness in patients seeking visual disability certificates.

METHODS: A retrospective analysis of applications received for blindness certificates done over a period of one year. The main causes of visual impairment and blindness were ascertained. Percentage of visual disability calculated as per the guidelines issued by Ministry of Social Justice and Empowerment 2018.

RESULTS: 303 applications were reviewed. Male preponderance (189 Males, 120 Females) was seen. Most of the applicants (64%) were in 21-60 years of age group. 20.38% of the study group had Cataract and Cataract Surgical Complications, 18.44% had Congenital malformations, 16.82% Refractive Errors with amblyopia, 14.88% Phthisis Bulbi, 9.70% Corneal Opacities and Scars, 9.06% Retinitis Pigmentosa and other fundus dystrophies, 5.17% had Glaucoma, 1.94% ARMD, whereas 3.55% had other non-specified causes. Majority of the causes were preventable. 40% visual disability was observed in 42.4% of the cases, whereas 35.9% patients had a visual disability ranging between 50 to 100%. Visual impairment of 30% and less was observed in 21.6% applicants.

CONCLUSION: This study gives an idea about the visual disability patterns and helps the authorities to plan the preventive measures as Majority of the causes were preventable.

KEYWORDS: Visual impairment, Disability certificate.

Globally, around 2.2 billion people have near or distance vision impairment and of these 1 billion have a vision impairment that could have been prevented¹. In India, currently, there are an estimated 4.95 million blind persons and 70 million visually impaired individuals, out of which 0.24 million are blind children². Vision loss can affect people of all ages but maximum visual impairment is seen in the population above 50 years of age³. Vision Loss Expert Group (VLEG) of Global Burden of Disease (GBD) shows approx. 33.6 million blind people and 206 million people with moderate to severe visual impairment globally⁴. The international classification of diseases classifies vision impairment into two groups⁵

1)Distance vision Impairment

- Mild- Visual acuity worse than 6/12 to 6/18
- Moderate- Visual Acuity worse than 6/18 to 6/60
- Severe- Visual acuity worse than 6/60 to 3/60
- Blindness- Visual acuity worse than 3/60

2)Near vision impairment

- Near visual acuity worse than N6 or M.08 at 40cm

MATERIALS AND METHOD

A retrospective study by secondary data analysis of those patients who had applied for the visual disability certificates for pension purposes from the social welfare department was conducted at Govt medical College, Doda of Jammu and Kashmir. The data of 303 applicants who were issued Disability certificates was stratified according to age, sex, percentage and type of visual disability. The disability certificates were issued by our board of members as per the guidelines of the Ministry of Social Justice and Empowerment 2018⁶.

Better Eye Best Corrected	Worse Eye Best Corrected	Percent Impairment	Disability Category
6/6 to 6/18	6/6 to 6/18	0%	0
	6/24 to 6/60	10%	0
	Less than 6/60 to 3/60	20%	I
	Less than 3/60 to No Light Perception	30%	II (One eyed person)
6/24 to 6/60 Or Visual Field less than 40 upto 20 degree around centre of fixation or hemianopia involving macula	6/24 to 6/60	40%	IIIa (Low Vision)
	Less than 6/60 to 3/60	50%	III b (Low Vision)
	Less than 3/60 to No Light Perception	60%	III c (Low Vision)
Less than 6/60 to 3/60 Or	Less than 6/60 to 3/60	70%	III d (Low Vision)

Visual field less than 20 upto 10 degree around centre of fixation	Less than 3/60 to No Light Perception	80%	III e (Low Vision)
Less than 3/60 to 1/60 Or Visual field less than 10 degree around centre of fixation	Less than 3/60 to No Light Perception	90%	IV a (Blindness)
Only HMCF Only Light Perception No Light Perception	Only HMCF Only Light Perception No Light Perception	100%	IV b (Blindness)

For Visual Acuity the line should be read completely, in case of partial line read, one line below that line should be taken for visual acuity.

RESULTS

309 patients who had come to the hospital for disability certificates were examined in the department of ophthalmology GMC Doda, among which 189(61.2%) were male and 120(38.8%) female with M:F ratio of 1.57:1 (Pie Chart). Majority of the patients were in the age group of 21-40 years followed by 41-60 years age group and <20 years age group (Table 1).

Age Group	Upto 20 years	21-40 years	41-60 Years	61 years and Above
No of visually Disabled	74 (23.9%)	123(39.8%)	75 (24.2%)	37 (11.9%)
Male	42	76	47	24
Female	32	47	28	13

Causative agents	Number of visually disabled
Cataract and Cataract Surgical Complications	63 (20.38%)
Congenital malformations	57 (18.44%)
Refractive Errors with amblyopia	52 (16.82%)
Phthisis Bulbi	46 (14.88%)
Corneal Opacities and Scars	30 (9.70%)
Retinitis Pigmentosa and other fundus dystrophies	28 (9.06%)
Glaucoma	16 (5.17%)
ARMD	06 (1.94%)
Others	11 (3.55%)

Visual disability of 40% and above was observed in 78.4% of the patients. Majority of the visual impairment and disability was preventable with early intervention.

Percentage disability	Number of visually disabled
Upto 20%	19 (6.14%)
30%	48 (15.53%)
40%	131 (42.39%)
50-80%	67 (21.68%)
90-100%	44 (14.23%)

DISCUSSION

Majority of the patients were male (Male : Female ratio was 1.57 :1). This could be attributed to the fact that females may not be able to access the institutional certification system due to social obstacles and stigmas, higher dependency, low levels of literacy, and also the females in rural areas being mostly housewives do not feel the necessity of obtaining a certificate. This finding is in accordance with the findings of the study conducted by Shubhratha Satish Hegde,⁷ Kareemsab et al.⁸, and Rajesh S Joshi.⁹ who found male: female ratio of 1.3:1, 1.2:1, and 1.3:1 respectively. Disability certificates offer a lot of benefits to the recipients. They get concessions in travel, income tax benefits, disability allowances and reservation in jobs and colleges. In our study, the maximum number of the applicants for certification were in the age group of 21-40 years followed by those in the 41-60 years age group. These two groups comprised 64% of the total applicants. This was probably for seeking job opportunities and reservations. Similar findings were noted in the study conducted by Thoudam Robi et al¹⁰. (63.82%) and Ghosh S et al¹¹(60.6%). The applicants were minimal in the age group above 60 years. This may be due to lack of awareness, higher dependency on other family members, and reduced need for certification. Different causes were identified in each age group. Among the children aged 0-20 years, major causes of visual impairment and disability were¹² 1) Corneal Staphyloma, Scar, Phthisis bulbi 2) Coloboma, Microphthalmos, Anophthalmos 3) Retinal dystrophies, Albinism 4) Cataract, Glaucoma, Amblyopia and Refractive errors. Among the adults aged between 21-40 years and 41-60 years of age group, the major causes were phthisis bulbi and corneal scars, Retinitis Pigmentosa, refractive errors and Amblyopia. Similar trends were found in the study conducted by Kritika Palchoudhary and Sagar Karmakar¹³. Phthisis bulbi and corneal scars in this age group were mainly attributed to trauma and infections since this age group is the main working group and more active in agricultural work, sports and outdoor activities. Retinitis pigmentosa may be due to consanguineous marriages which is very common practice in the area and requires genetic counselling. Among the population aged more than 60 years, the major causes were cataract and cataract surgical Complications, Glaucoma and posterior segment causes including diabetic retinopathy and vascular occlusions. This was in accordance with the study conducted by Dr Praveen Vashist et al¹⁴. The causes were preventable in more than 70% of the patients and their incidence can be reduced with better health education, eye care facilities and school eye screening.

CONCLUSION

Visual impairment is an important public health problem and impairs the quality of life and limits career choices and Job opportunities, thereby constituting the socioeconomic burden on society¹⁵. This study gives an idea about the visual disability patterns and helps the authorities to plan the preventive measures. In our study, Cataract and cataract surgery complications were the major causes followed by congenital malformations and amblyopia due to uncorrected refractive errors. Cataract surgery complications were mostly present in those patients who were operated more than 25 years back which may be attributed to poor healthcare facilities present at that time. Now there is a decline in such complications due to better healthcare and well-trained Eye Surgeons. Congenital malformations and retinitis pigmentosa can be prevented by genetic counselling and discouraging consanguineous marriages. Amblyopia and refractive errors can be treated with early intervention at school level. Phthisis and corneal scars were mainly due to trauma during agricultural and household work, and sports activities. The area being rural with poor socioeconomic status, people mostly earn their livelihood from working in agricultural fields breaking stones and cutting wood for fuel and other purposes, chopping off the twigs for fodder and other activities involving physical labour leading to Eye injury and blindness. This type of blindness could have been prevented by giving them better tools and facilities, educating the people about good practices and using protective glasses during such kind of activities. Other causes of visual disability like glaucoma, retinal detachment can also be prevented if diagnosed and treated at an early stage. Since most of the blindness cases were preventable (although not treatable), genetic counselling, nutritional supplementation, immunization and increasing awareness about Eye Health may play a crucial role in their management. Thus, based on these findings, guidelines should be framed to decrease the prevalence of blindness in the society.

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