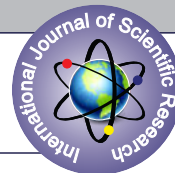


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STUDY OF THE DEMOGRAPHIC CHARACTERISTICS, CAUSES AND MAGNITUDE OF VISUAL DISABILITY AMONG CERTIFIED VISUALLY DISABLED INDIVIDUALS ATTENDING OPHTHALMOLOGY OUT PATIENT DEPARTMENT IN GOVERNMENT HOSPITAL.



Ophthalmology

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ABSTRACT

Aim: To determine the demographic characteristics, causes and magnitude of visual disability among certified visually disabled patients attending ophthalmology OPD in Government Hospital.

Materials And Methods: A cross sectional record based study, where data was obtained from visual disability certificates of patients who attended OPD during the period from April 2019 to March 2020.

Results: Total 509 patients were enrolled. Among certified individuals, males were more than females. Magnitude of visual disability of 100%, 75%, 40% and 30% was seen in 187 (37%), 39 (8%), 150 (29%) and 132 (26%) respectively. Among causes of visual disabilities Retinitis pigmentosa 70 (14%), Uncorrected refractive errors 70 (14%), phthisis bulbi 68 (13%) contributed to majority of cases.

Conclusion: Young adults contributed to majority of cases. Males were common than females. Most patients belong to category IV followed by category II. Retinitis pigmentosa and uncorrected refractive errors were the major causes of blindness.

KEYWORDS

Retinitis Pigmentosa, Visual disability, visual impairment.

INTRODUCTION

Eye health is an important aspect of healthcare services. Worldwide, 1.3 billion people have some form of distant or near visual impairment. With regards to distant vision, 188.5 million have mild visual impairment, 217 million have moderate to severe visual impairment and 36 million are blind.¹ The South Asia (That include India) contribute maximum burden i.e. 12 million blind people and 61 million people with moderate visual impairment.² Visual impairment in India is estimated 62 million; of these 54 million persons have low vision and 8 million are blind.³ Blindness and visual impairment can result in a lack of education, unemployment and can be burden on families and health care systems.⁴ It is linked with poverty, decreased autonomy and social interaction, mental health disorders, such as depression, as well as a decline in physical mobility and selfcare.⁵ About 80% of blindness is avoidable.⁶ However, analyzing applications for blindness certificates can help in determining causes of visual impairment and blindness. It is very important to plan and implement best possible treatment to avoid further visual loss. Therefore, in this study we aimed to analyze applications for blindness certificates to find causes of visual impairment, handicap and blindness in tertiary care hospital Kolhapur, Maharashtra. This is also crucial for resource allocation, planning of eye health services provision and synergies with other programs. The aim of this study was the assessment of the prevalence and causes of visual impairment and blindness in this area.

MATERIALS AND METHODS

A cross sectional study by secondary data analysis of medical records of 509 people who applied for blindness certificate was performed in tertiary care center from April 2019 to March 2020. All applicants were examined here and subjected to detailed history taking, visual acuity assessment on snellen's chart, slit lamp examination of the anterior segment and posterior segment examination with distant direct ophthalmoscope / Indirect ophthalmoscope / +90 D. The best corrected visual acuity was ascertained and value recorded. If the visual acuity could not be measured, we used following tests, as counting fingers, hand movements and light perceptions. Visual field testing done with Automated Humphrey perimeter using SITA standard 30-2/10-2, was done in indicated patients. After examining all applicants, final diagnosis was made after excluding avoidable causes of blindness. The exact cause and percentage of visual disability were determined according to WHO- criteria of visual disability. In this study, analysis was performed according to visual impairment disability categories and percentage proposed by Government of India. (Table 1)

Table No. 1 Categories Of Visual Disability:⁷

Category	BCVA Better eye	BCVA Worse eye	Percentage of Impairment
0	6/9 to 6/18	6/24 to 6/36	20 %

I	6/18 to 6/6	6/60 to PL	40 %
II	6/60 to 4/60 or Field of Vision 10° to 20°	3/60 to PL	75 %
III	6/60 to 4/60 or Field of vision <10°	FC 1 Feet to NO PL	100 %
IV	FC 1 Feet to NO PL or Field of Vision < 10°	FC 1 Feet to NO PL or Field of vision <10°	100 %
ONE EYED	6/6	FC 1 Feet to NO PL	30 %

FC: Finger counting, BCVA: Best Corrected Visual Acuity.

CRITERIA FOR SELECTION

Inclusion Criteria:

Patients of all age groups visiting the ophthalmology OPD for Visual Disability certification on specified days of disability certification during the period from April 2019 to March 2020.

Exclusion Criteria:

- Avoidable causes of decreased vision at presentation such as,
1. Cataract.
2. Correctable refractive errors.

RESULT

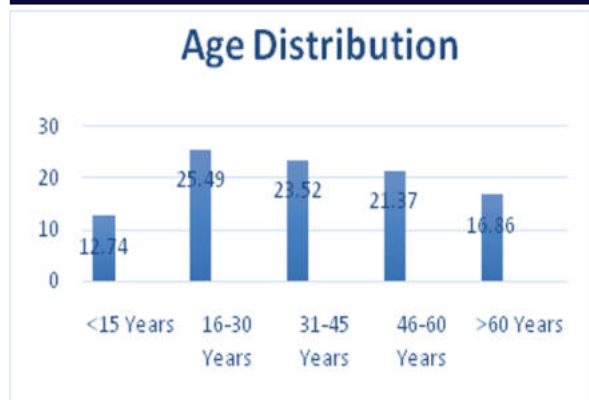
The total number of applicants in our study were 509. Mean Age was 38.8 ±18.9 (age range from 5 to 82 years). Maximum number of patients were between 16 to 45 years of age 250 (49%), followed by 46 to 60 years of age group 109 (21%). Males were 72% (364) and Females were 28% (145). Male to female ratio was 2.5:1.

Overall, the most common causes of visual handicap and blindness were Retinitis pigmentosa 70 (14%) and refractive errors 70 (14%), followed by phthisis bulbi 68 (13%).

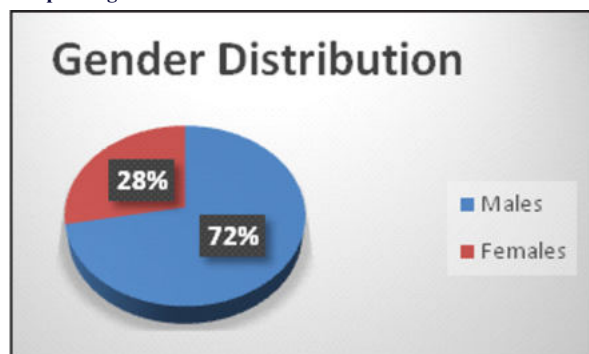
Corneal blindness 41 (8.1%) and congenital anomalies 51 (10%) were also common causes of blindness.

Among all patients of visual disabilities maximum number of patients 187 (37%) belong to 100 % visual disability i.e. category IV followed by 150 (29%) belong to 40% (Category II), 132 (26%) patients were one eyed having 30 % visual disability and 39 (8%) individuals belong to category III i.e. 75 %.

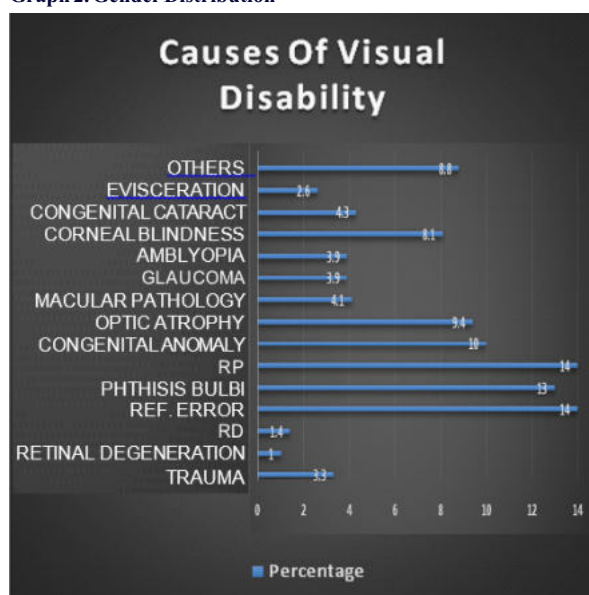
Out of all the patients with visual disability, those who belong to 30 % visual disability were not considered for benefits of disability certification.



Graph 1. Age Distribution

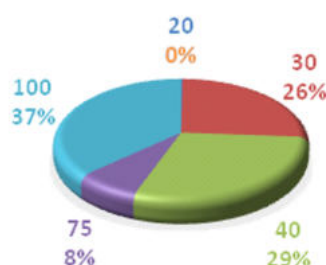


Graph 2. Gender Distribution



Graph 3. Causes of Visual Disability

MAGNITUDE OF VISUAL DISABILITY CATEGORY



Graph 4. Distribution Of Magnitude Of Visual Disability Category

DISCUSSION

In present study majority of subjects i.e. 250(49%) were in the age group 16 to 45 years. The mean age was 38.8 years $\pm$ 18.9 years. Similar findings were reported by Ambastha A et al⁸ and Malhotra S et al⁹ in their study. They found that maximum number of patients 43% were in the age group 15-45 years and 52.6% were in 15-30 years of age group respectively.

In present study Male to Female ratio is 2.5:1 (72% M, 28% F). Similar results found in Ambastha A et al⁸ and Siddegowda S et al¹⁰ where males outnumbered Females with ratio of 1.7:1 (M 64%, F 36%) and 2.23:1 (M 69%, F 31%).

Also, Retinitis Pigmentosa (14%) and Refractive Errors (14%) were the common visual disabilities in our study which were similar to the results of Malhotra S et al⁹ and Mactaggart I et al¹¹ where uncorrected refractive errors was the commonest cause of visual disability. In Siddegowda S et al¹⁰ study Congenital Anomalies (21%) and Retinitis pigmentosa (18%) were common causes of visual disabilities.

In present study maximum number of patients who applied for visual disability certification belong to category 4 i.e. 100% visual disability 187 (37%). Similar Findings were recorded by Monga PK et al¹¹ and Siddegowda S et al¹⁰ where most of the patients belong to category IV i.e. 65%

CONCLUSION

The data obtained from blindness certificates provide valuable information about the different causes of visual impairment and data regarding overall trend in disease profile. Retinitis pigmentosa and uncorrected refractive errors are the major causes of visual impairment and blindness. Also, majority of the Ambastha A et al⁸ and Siddegowda S et al¹⁰ people were males compared females and between the working age group. This increases financial burden on families. There is no appropriate treatment available for most of the cases of blindness. Only preventive and rehabilitative measures can be undertaken. So, we should stress on genetic counseling, nutritional supplementation, immunization, eye hygiene and discourage consanguineous marriages. Routine screening is a must to detect childhood causes of low vision and amblyopia. Followed by timely management can prevent further visual impairment. Appropriate diagnosis and timely intervention is required in patients with glaucoma and diabetic retinopathy whoever are at risk.

Conflicts of Interest: Nil

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