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ANALYSIS OF FREQUENCY AND CAUSES OF VISUAL IMPAIRMENT AND BLINDNESS IN POPULATION OF PAKISTAN

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Abstract:

Introduction: *Visual impairment and blindness is a global problem with important socio-economic consequences that have proven effects on the quality of life of individuals, and usually impose great family-related and socio-economic losses.*

Aims and objectives: *The main objective of the study is to analyze the frequency and causes of visual impairment and blindness in population of Pakistan.*

Material and methods: *This survey analysis was conducted in Allama Iqbal Medical College, Lahore during January 2018 to August 2018. The data was collected from 200 patients of both genders. Individuals of aged 40 or > 40 years to 70 or > 70 years and visual acuity of 6/18 to ≤ 3/60 were included in this study. These subjects had gone through detailed eye examination which included measurement of visual acuity, auto refraction, intra ocular pressure measurement, slit lamp examination and dilated fundoscopy by slit lamp bio-microscopy through 90D lens. The detailed demographic history of patients were also examined for finding the causes of blindness in Pakistan.*

Results: *The data were collected from 200 selected individuals. Out of 200 subjects 53.2% subjects were male and 46.8% subjects were female. The prevalence of visual impairment based on presenting vision was 3.95% (95% CI, 3.13–4.77). There was no significant difference between the two genders (P = 0.837). The prevalence of visual impairment based on presenting vision significantly increased with age from 1.59% in children under 5 years of age to 43.59% in the over 65 age group. The leading causes of blindness were conjunctivitis (38.8%), cataract 18 (36.7%) and diabetic retinopathy 9 (18.4%).*

Conclusion: *It is concluded that there was no significant inter-gender difference in the prevalence of visual impairment, but the prevalence of visual impairment significantly increased with aging.*

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INTRODUCTION:

Visual impairment and blindness is a global problem with important socio-economic consequences that have proven effects on the quality of life of individuals, and usually impose great family-related and socio-economic losses. According to the World Health Organization (WHO) estimates, visual impairment is responsible for 3.9% of the overall disease burden and disability-adjusted-life-year [1]. Also, the report by the WHO in 2010 indicated that about 39 million people were blind and 285 million of the world's population suffers from vision impairment. In light of the importance of evaluating the trend and causes of visual impairment, the WHO established the Vision 2020 program in 1999 in order to eliminate preventable blindness throughout the world by 2020 [2].

The prevention of blindness and visual impairment is a high priority topic in public health with a continuing need for population-based studies to provide an up-to-date characterization of the magnitude and nature of the blindness problem [3]. Societal changes and medical advances in the last decades have resulted in corresponding changes in the burden of blindness and visual impairment [4]. Progressive urbanization, longer life expectancy, and behavioral changes in many parts of the world have contributed to an increase of newly emergent blindness causes, such as diabetic retinopathy and age-related macular degeneration, and a decrease of classical causes, such as oncocerchiasis, trachoma, and xerophthalmia [5]. Identification of the prevalence and causes of visual impairment and blindness are crucial for the establishment of local programmes and supra-national, continental, and world prevention strategies [6]. This information is of critical importance for both scientists and international agencies working in the field [7].

Aims and objectives:

The main objective of the study is to analyze the frequency and causes of visual impairment and blindness in population of Pakistan.

MATERIAL AND METHODS:

This survey analysis was conducted in Allama Iqbal Medical College, Lahore during January 2018 to August 2018. The data was collected from 200 patients of both genders. Individuals of aged 40 or > 40 years to 70 or > 70 years and visual acuity of 6/18 to ≤ 3/60 were included in this study. These subjects had gone through detailed eye examination which included measurement of visual acuity, auto refraction, intra ocular pressure measurement, slit lamp examination and dilated fundoscopy by slit lamp bio-microscopy through 90D lens. The detailed demographic history of patients were also examined for finding the causes of blindness in Pakistan.

Statistical analysis

All analysis were performed using statistical analysis software SPSS version 21. Frequencies and proportions were reported for categorical variables including outcome measures blindness and visual impairment.

RESULTS:

The data were collected from 200 selected individuals. Out of 200 subjects 53.2% subjects were male and 46.8% subjects were female. The prevalence of visual impairment based on presenting vision was 3.95% (95% CI, 3.13–4.77). There was no significant difference between the two genders ($P = 0.837$). The prevalence of visual impairment based on presenting vision significantly increased with age from 1.59% in children under 5 years of age to 43.59% in the over 65 age group. Based on presenting vision, the prevalence of blindness was 0.86% (95% CI, 0.51–1.22) with no significant inter-gender difference ($P = 0.771$); the highest prevalence was 7.69% in persons over 65 years of age.

Table 01: The frequency of visual impairment, low vision, and blindness

	Based on best corrected visual acuity			Based on presenting visual acuity		
	Visual impairment	**Low vision**	**Blindness**	**Visual impairment**	**Low vision**	**Blindness**
	% (95% CI)	**% (95% CI)**	**% (95% CI)**	**% (95% CI)**	**% (95% CI)**	**% (95% CI)**
Age-sex standardized prevalence	2.76 (1.9–3.63)	2.42 (1.61–3.22)	0.35 (0.09–0.61)	4.31 (3.35–5.27)	3.46 (2.58–4.33)	0.85 (0.48–1.23)
Male	2.39 (1.24–3.53)	1.97 (0.92–3.02)	0.41 (0.01–0.82)	3.84 (2.42–5.26)	2.90 (1.68–4.13)	0.93 (0.27–1.6)
Female	2.14 (1.44–2.85)	1.87 (1.23–2.5)	0.27 (0.04–0.51)	4.01 (3.08–4.93)	3.19 (2.37–4)	0.82 (0.42–1.22)
Age group (years)						
1–5	126	1.59 (0.41–6.19)[a]	1.59 (0.41–6.19)[a]	0	1.59 (0.41–6.19)[a]	1.59 (0.41–6.19)[a]	00

The leading causes of blindness were conjunctivitis (38.8%), cataract 18 (36.7%) and diabetic retinopathy 9 (18.4%).

Table 02: Causes of blindness and visual impairment.

Causes	Blindness (%)	Visual impairment (%)	Both conditions (%)
Diabetic retinopathy	18.2	13.4	7.1
Conjunctivitis	39.01	31.2	64.3
Cataract	12.5	43.0	28.1
Corneal Opacity	36.67	9.82	1.34

DISCUSSION:

Blindness was shown to be associated not only with older age, as expected, but also with the lack of formal education. This is generally consistent with the finding of a higher age-adjusted risk of blindness in the illiterate found in the other studies with a similar examination protocol [8]. Blindness was not associated with female gender, as found in some studies. (It should be noted that because examination response rates were also associated with older age and lower education, the prevalence of blindness reported for the study population is likely to have an upward bias.)

Retinal disorders (including diabetic retinopathy, macular degeneration, retinal detachment, and other retinal causes) were the main cause of blindness, followed by cataract and glaucoma [9]. One explanation for the relatively high ranking of retinal disorders as a cause of blindness is the success of the Brazilian initiative to improve access to cataract surgical services [10]. With a more than tripling of the annual number of cataract surgeries over the past 5-year period, cataract blindness is likely to have been significantly reduced, and therefore, blindness due to other ocular diseases/conditions becoming more prominent [11, 12].

CONCLUSION:

It is concluded that there was no significant inter-gender difference in the prevalence of visual impairment, but the prevalence of visual impairment significantly increased with aging. It was also shown that economic inequality and low education are determinants of a higher prevalence of visual impairment.

REFERENCES:

1. Liu J.H., Cheng C.Y., Chen S.J., Lee F.L. Visual impairment in a Taiwanese population: prevalence, causes, and socioeconomic factors. Ophthalmic Epidemiol. 2001;8(5):339–350.
2. Feghhi M., Khataminia G., Ziaei H., Latifi M. Prevalence and causes of blindness and low vision in Khuzestan Province, Iran. J Ophthalmic Vis Res. 2009;4(1):29–34.
3. Soori H., Ali J.M., Nasrin R. Prevalence and causes of low vision and blindness in Tehran Province. Iran J Pak Med Assoc. 2011;61(6):544–549.
4. Hashemi H., Rezvan F., Yekta A. The prevalence and causes of visaual impairment and blindness in a rural population in the north of Iran. Iran J Public Health. 2015;44(6):855–864.
5. Hashemi H., Khabazkhoob M., Emamian M.H., Shariati M., Fotouhi A. Visual impairment in the 40- to 64-year-old population of Shahroud, Iran. Eye (Lond) 2012;26(8):1071–1077.
6. Rajavi Z., Katibeh M., Ziaei H. Rapid assessment of avoidable blindness in Iran. Ophthalmology. 2011;118(9):1812–1818.
7. Katibeh M., Pakravan M., Yaseri M., Pakbin M., Soleimanizad R. Prevalence and causes of visual impairment and blindness in Central Iran; the yazd eye study. J Ophthalmic Vis Res. 2015;10(3):279–285.
8. Yamamah G.A., Talaat Abdel Alim A.A., Mostafa Y.S., Ahmed R.A., Mohammed A.M. Prevalence of visual impairment and refractive errors in children of south sinai, Egypt. Ophthalmic Epidemiol. 2015;22(4):246–252.
9. Cedrone C., Nucci C., Scuderi G., Ricci F., Cerulli A., Culasso F. Prevalence of blindness and low vision in an Italian population: a comparison with other European studies. Eye (Lond) 2006;20(6):661–667.
10. Rajavi Z, Katibeh M, Ziaei H, et al. Rapid assessment of avoidable blindness in Iran. Ophthalmology, 2011; 118: 1813-8.
11. You QS, Xu L, Yang H, et al. Five-year incidence of visual impairment and blindness in adult Chinese the Beijing Eye Study. Ophthalmology, 2011; 118: 1069-75.
12. Dandona L and Dandona R. Revision of visual impairment definitions in the International Statistical Classification of Diseases. BMC Medicine 2006; 4: 7.