

FREQUENCY OF BLINDNESS AND LOW VISION IN PERIPHERY DISTRICT BATAGRAM

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ABSTRACT

Objective: To determine the frequency of blindness and low vision in adults.

Material and Methods: This was a cross sectional study conducted in the department of Eye Unit of District Headquarters Hospital Batagram from March 2012 to April 2012. A total of 2300 patients who fulfilled the inclusion criteria were included in the study.

Results: In our study total of 2300 adults were examined. In which 1550 (67%) were male, and 750 (32%) were female. Blindness was present in 40 (1.73%) while in 130 (5.65%) were having low vision. In 40 blind subjects 23 (1%) were male and 17 (0.73%) were female. In 130 low vision subjects 78 (60%) were male and 52 (40%) were female. In 40 blind patients 29 (72.5%) were treatable, and 11 (27%) were untreatable.

Conclusion: Statistics of blindness and Low vision in the district Batagram are consistent with similar statistics from other areas of Pakistan. Increased efforts are required to decrease the frequency of visual disability.

Key Words: Blindness, Low vision, visual impairment.

INTRODUCTION

Pakistan, a developing country situated in World Health Organization's (WHO) Eastern Mediterranean Region, is bordered by India, China, Iran, and Afghanistan. In 1998 the national population was approximately 132 million, making it the sixth most populous country in the world¹. According to the World Health Organization an estimated 45 million people are blind and 135 million people with low vision². Amongst these 45 million blind people 16-20 million are blind due to cataract³. Low vision is defined as a best corrected visual acuity of equal to 6/18 or less than 6/18 (20/70, 0.3.4 Blindness is the visual acuity less than 3/60 (20/400, 0.05) in the better eye with the best correction or visual field less than 5 degree in the largest diameter.

Cataract is one of the most common eye related problem world wide⁵. Due to the population growth and increased longevity of life, the figure is expected to increase to 50 million by the year 2020 if no additional intervention is implemented⁶.

Majority of blind people live in the developing world, in countries with limited resources. Glaucoma is considered, as the second leading cause of blindness in the world and fourth commonest cause of blindness in Pakistan⁷. Primary open angle glaucoma (POAG) is the commonest type of glaucoma. It affects both sexes

equally, and is 1 in 100 (1%) of general population over 40 years⁸. Frequency of glaucoma is increasing day by day, and it is estimated that it will be 79.6 million in the year 2020⁹.

Refractive error is the third major cause of avoidable and preventable blindness. Refractive error is 11.4% in Pakistan¹⁰. The main causes of blindness and low vision in adults are Cataract, Glaucoma, Refractive errors, Diabetes mellitus, trauma. Retinitis pigmentosa and meningeal infections etc¹¹. In developed countries community health workers screen the patients for visual problems and refer them for visual correction to the nearby eye care facility. Probably no screening program exists in our country. The literacy rate is very low, particularly in the female population, which hinders prompt access to the visual healthcare services. The aim of our study was to evaluate the frequency of blindness and low vision in adults who come to OPD of DHQ Hospital Batagram.

MATERIAL AND METHOD

All the adults coming to eye OPD, DHQ Hospital, Batagram were screened for visual problems. The age group of 30 years and above was selected for this study. Written consent was taken from all adults who were included in the study. Unaided visual acuity was tested using tumbling E CHART by a single technician to minimize observer bias. A proforma was filled by the optometrist for all patients included in the study. The refractive status of every individual was assessed by auto refraction and subjects with a visual acuity of <6/18 in either eye had their best refractive visual acuity measured using trial lenses by a single optometrist. The examination process also involved a dilated pupil

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examination of all eyes with a visual acuity <6/18, which evaluated the organic causes responsible for decreased vision. Main causes of blindness and low vision were determined and categorized.

RESULTS

Total 2300 adults aged 30 years and above were examined in district Batagram Khyber Pakhtunkhwa. Among 2300 patients 1550 (67%) were male, and 750 (32%) were female. Blindness was detected in 40 (1.73%) patients, while 130 (5.65%) were having low vision. Amongst the 40 blind patients 29 (72.5%) were having treatable causes while the other 11 (27.5%) were blind due to untreatable causes. Amongst the patients with untreatable causes 6 (54.54%) were male and 5 (45.45%) were female. In 11 blind patients 4 were advanced glaucomatous patients, 4 were having advanced diabetic eye disease and the remaining 3 were blind due to traumatic causes. Causes of low vision included cataract 45 (34%), advanced diabetic eye disease 24 (18.5%), uncorrected refractive error 17 (13%), Age related macular degeneration 16 (12.3%), Glaucoma 14 (10.7%), Albinism 3(2.30%), Amblyopia 6 (4.61%), and trauma 5(3.84%).

DISCUSSION

To the best of our knowledge no previous study has provided frequency data on low vision and blindness in district Batagram. Thus, this is the first study to present such data on low vision and blindness. Globally it is known that cataract is the leading cause of blindness, with some 16-20 million people suffering from blinding cataract¹². According to the World Health Organization (WHO) there are estimated 45 million people are blind and 135 million are with low vision (visually impaired)².

Visual disability and blindness is a serious public health issue. In a study conducted in Pakistan, cataracts accounted for 66.7% of blindness.¹⁰ In our study the frequency of cataract is (72%) greater which might be attributed to the fact that with the passage of time the prevalence of cataract increases in growing populations with limited access to quality health care resource.

In this study cataract was the main cause of blindness (72%) Followed by low vision (34%) of the studied population, and was the leading cause of visual impairment. This frequency is similar to other developing countries such as Indonesia,¹³ Saudi Arabia,¹⁴ Bangladesh,¹⁵ and India¹⁶. While this is greater than the frequency seen in developed countries such as Italy,¹⁷ Canada¹⁸ and Scandinavian countries¹⁹. In a study conducted in 1990 in Pakistan, the overall frequency of blindness was 1.8%. In our study the prevalence of blindness has the same results as the 1990 study.

In our study, diabetic retinopathy accounted for 18.5% of cases with low vision. A cross sectional study done in Tehran (Iran) province on diabetic retinopathy showed that 4.9% cases of low vision were due to diabetic retinopathy²⁰. In our opinion, the reason for

this may be, that most of our patients with advanced diabetic retinopathy were either due to lack of complete ophthalmic examinations or inappropriate treatment or irregular follow up.

In our study refractive error accounted for 13% of cases with low vision, while in a previous study conducted in Pakistan, refractive error accounted for 11.4% cases with low vision. The difference in this may be due to the fact that in growing populations with limited access to quality healthcare resources refractive error cases are increasing with time. An accurate evaluation of refractive error as a cause of visual impairment is important for planning refractive error corrective services which is a priority of the global initiative to eliminate avoidable blindness, VISION 2020: The Right to Sight²¹.

The findings of our study are similar to those reported in studies from India²². and Nepal. Blindness was also more prevalent among women. Our findings are markedly different from the findings in developed countries where the primary causes of blindness are age-related macular degeneration, diabetic retinopathy and myopic degeneration, A survey in the USA showed that these causes accounted for 63% of blindness²³.

Our study showed that diabetic retinopathy (18.5%) was the 2nd main cause of visual impairment, and it was obvious that its frequency peaked among patients between 50 to 59 years of age. This finding was in agreement with Pararajasegaram R. et al,²⁴ that amongst diabetics, the frequency of retinopathy may range from 22% to 49%²⁴.

We hope to reduce this treatable cause of visual impairment by the help of better screening and appropriate low cost facilities for cataract surgery in our country. Barriers to cataract surgery such as lack of awareness about the available treatment, inability to afford the expenses of surgery and lack of good quality local services for treatment should be addressed. This will help reduce the level of treatable causes of blindness in our studied population. The more challenging conditions to control, namely glaucoma, macular degeneration and diabetic retinopathy, are also emerging as priorities^{25,26}.

CONCLUSION

Reduction of blindness can be achieved by appropriate screening strategies and prompt availability of local, low cost access to treatment facilities.

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