Original Article

Frequency of Risk Factors of Blindness

To Determine the Frequency of Risk Factors of Blindness in Blind People Living in Muhammad Bin Qasim Blind Welfare Organization, Multan

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ABSTRACT

Objectives: To determine the frequency of risk factors of blindness in patients and To provide them awareness about prevention of risk factor.

Study Design: Observational / Cross sectional study

Place and Duration of Study: This study was conducted at the Department of Community Medicine, NMC, Multan from October 2016 to December 2016.

Materials and Methods: A total of 46 blind persons were included in the study with their informed consent. A questionnaire was designed and data was collected and analyzed using SPSS.

Results: A total of 46 subjects were included in the study. Most of them, 24 (52.17%) were blind at birth. Of the remaining 22 (47.82%), 5 (10.8%) were victims of trauma and rest 17 (36.95%) had history of curable or preventable diseases as cataract (4.3%), glaucoma (6.5%) etc.

Conclusion: This study estimates the risk factors for blindness in the setting of the selected blind centre. A significant majority of subjects were blind at birth and were with poor socio-economic background. Awareness on blindness need to be further expanded to uneducated people, particularly to those from rural areas.

Key Words: Blindness, Risk factors, Blind People.

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INTRODUCTION

Blindness, loss of vision, is a condition of major public health importance. Blind people confront a number of visual challenges every single day, from reading the label on a frozen dinner to figuring out if they are at the right bus stop. Unfortunately, 39 million of the world population is currently blind[1]. While 2 million peoples are added to this list annually. The condition is even more pathetic in a developing country like Pakistan. In a population of about 182.1 million in Pakistan, about 2 million of the people are blind while 0.18 million people are new registrations annually. Globally, the leading cause of blindness is cataract followed by uncorrected refractive error. 85% of all visual impairment globally is avoidable. In Pakistan, accordingly to the Pakistan National Blindness and Impairment survey[2], the leading cause of blindness in adults more than 30 years of age is cataract.

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While globally 39.1% of all blindness is attributable to cataract, in Pakistan the burden of blindness due to cataract is significantly larger at 51.5% 85.4% of blindness is avoidable in Pakistan. On the other side of story is the developed world like USA where the major causes of blindness are unavoidable factors like macular degeneration, myopic degeneration, UV light exposure, outcome of obese lifestyle like diabetic retinopathy and cases of excessive use of steroid. Second most leading cause of blindness in Pakistan is corneal opacity. It accounts of 12.6% of total estimate. 4.5 million people of the world are the sufferers of Glaucoma. However about 0.08 million (3.9%) are effected in Pakistan. After cataract Glaucoma was the next most treatable cause of blindness.

Other risk factors includes Vitamin A deficiency causing night blindness, uncorrected refractive error (0.23 million), endemic trachoma, age related macular degeneration (8.7%) and metabolic disorder. Congenital cases of childhood blindness estimates about 0.7 per thousand children in Pakistan. Another problem to deal with is sudden blindness in which, certain type of vision changes of medical emergency, where delay can lead to loss of sight. E.g. eye injury, transient ischemic attach, stroke and allergy to medication.

MATERIALS AND METHODS

The study was Department of Community Medicine, NMC, Multan from October 2016 to December 2016.
There were 46 patients living at Muhammad Bin Qasim Blind Welfare Organization, Chowk Kumharan Wala, Multan.

Sampling Technique: Non probability purposive technique was used in this cross-sectional study. Blind patients completely blind persons who were living in the welfare centre. Person with either intact vision or impaired vision were excluded from this study. SPSS version 15 was used for analysis.

RESULTS

A total of 46 blind patients were enumerated, all of whom were included in this study. Among them 65.21% were male and 34.78% were female. Of the 46 subjects observed, 24(52.17%) presented with blindness at birth and the remaining 22 (47.82%) developed blindness later in their life. Of the latter 22 subjects, 5 were victims of trauma (entry of foreign particles into eye, accidents, wounds during fights etc.) and the rest had diseases that could have been prevented or cured.

Table No.1: Frequency Distribution of Age of Blind People.

Age	Number	(%)
Less than 10 Years	11	23.9
11 years to 15 years	24	52.2
16 years to 20 years	8	17.4
21 years to 25 years	3	6.5
Total	N = 46	100

Table No.2: Frequency Distribution of Gender of Blind People.

Gender	Number	(%)
Male	30	65.2
Female	16	34.8
Total	N = 46	100

Table No.3: Frequency of Risk Factor of Blindness.

Risk factors	Number of blind people	(%)
By Birth	24	52.2
Trauma	5	10.9
Untreated refractive error	4	8.7
Measles	4	8.7
Glaucoma	3	6.5
Night blindness	3	6.5
Cataract	2	4.3
Rubella	1	2.2
TOTAL	N = 46	100

Table No.4: Frequency Distribution of Blindness In The Families of Blind People.

	Number	(%)
Yes	31	67.4
No	15	32.6
Total	N = 46	100

Table No.5: Frequency Distribution of Blind People on the Basis of Socioeconomic Status

Income (in PKR)	Number	(%)
Less than 10 thousands	28	60.9
10 thousands-20 thousands	14	30.4
More than 20 thousands	4	8.7
Total	N = 46	100

Table No.6: Frequency Distribution of Medical Checkup / Treatment of Blind People in Hospital

	Number	(%)
Once a month	3	6.5
Once in 6 months	4	8.7
Once in a year	4	4.3
Only when problem arises	37	80.5
Total	N = 46	100

These included 4 cases of untreated refractive error, 4 of measles, 3 of glaucoma, 3 of vitamin A deficiency night blindness, 2 of cataract and 1 of rubella. 6 subjects out of the total sample were not vaccinated which rubella. 31 out of 46(67.39%) subjects had significant family history (a sibling, a cousin, parent or sibling of parent who was also blind). Among other medically relevant details observed was, history of trauma / disease in mothers (esp. during the pregnancy). Of the subjects, 16 subjects were born to mothers with hypertension, 8 to mothers with diabetes, mothers of 4 were victims of accidents during pregnancy and 18 had no significant history in this regard. 40 out of 46 were born by SVD and 6 by C-sections. 32 were born in homes and only 14 in health units or hospitals. 32 patients had tried allopathic treatment, 7 had tried both allopathic and homeopathic treatment, 2 had tried only homeopathic and peer / taweez whereas 5 of them had made no efforts to treat their blindness. Only 3 get regular monthly checkups at hospitals, 4 get checked once every 6 moths, 2 once a year whereas the remaining 37 only visit doctors when they get ill. 21 out of 46 subjects were from urban areas whereas as 25 (54.34%) of them were from rural areas with lack of education, awareness and next to no health facilities. 16 of them had completely uneducated parents, 15 of them had parents with secondary level education, 6 with primary level and only 9 had parents who studied beyond Matriculation. This presents as a significant

point when it comes to awareness of parents for the well-being of their children during pregnancy and after birth. The results show this is to be underlying cause in several of the 22 cases with preventable or curable causes of blindness. The income of the families is also an important factor in the healthy upbringing of children and the maintenance of health of their mothers during pregnancy. 28 of the 46 patients had monthly household incomes of less than 10,000 PKR due to which families were probably unable to afford health facilities or a clean healthy environment and nutritious diet.

DISCUSSION

The research conducted by us figured out that most of the cause were present at birth and men were comparatively more affected. Other less frequent risk factors[3] involved were trauma and foreign particles in eyes, glaucoma, night blindness, and cataract. Neonatal conjunctivitis though one of the major worldwide cause was not found in our study. Compared to the research carried out by The Scrippo Research Institute[4], United States, involving entire population of United States the number of blind females was more compared to that of males. Moreover "Age" a modifiable risk factor was the culprit. Ageing[5] associated problems like refractive errors, macular degeneration were pointed out. Likewise metabolic disorder like Diabetes[6] causing cataract was also one of the major cause.

The paper vision 2020[7] published by WHO figured out that the 82% of all blind people are 50 years of age older. Although the prevalence of blindness among children is about 10 times lower than that among adults. Studies consistently figured out in every region of the world and of all ages females have a significantly higher risk for being visually impaired than males, mostly because of higher life expectancy and poor access to resources. According to study, prevalence of uncorrected refractive errors is an emerging cause of blindness in school children especially in South-East Asia[8].

CONCLUSION

Blindness is one of the major problem our society is encountering, considering the number of blind population in Pakistan and the stigma associated with it. Our study pointed to the fact that most of the subjects were from the rural areas, born to a family with poor socio-economic condition. It also put light on the poor antenatal care, counseling and nutritional supplements our mothers are provided with. As a result children who are 1/3rd our present and whole of our future are the sufferers. Although our study was carried out in a very small sample size of 46, it did reflect the relative decrease in blindness compared to what it was a decade ago. It also suggests blindness (esp. Night blindness) due to nutritional (Vit. A) deficiency is now a less important risk factors. To summarize, they all suggest improvement in eye-care. It is very encouraging. However, journey doesn't stop here. We need to identify priorities to reduce blindness and to mobilize human and financial resources wisely to ensure all our people receive comprehensive eye care.

The study was done on blind patients attending Muhammad Bin Qasim Blind Centre, therefore results can't be applied to the whole community. Some subjects were not able to answer the questions related to their birth history and maternal health. Age group was limited and Some of the subjects were unaware of their immunization status.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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