Awareness of Eye Diseases among the Rural and Semi Urban Population in North Dinajpur, West Bengal and Adjacent Area of Bihar

Niladri Saha[1]

ABSTRACT

Introduction: One of the major concerns of public health in developing countries, especially India is the preventable blindness. Along from affecting the person's the carrier orientation and amount of employment opportunities available for them, it also affects the person's self confidence and quality of life, visual impairment also has a significant impact on. Timely eye care is required by the patients for the early detection of these diseases. Hence; in the present study, we analyzed and assessed the knowledge and awareness of people from a given population in India about the various visual impairment diseases.

Material and methods: We conducted this population based study by analyzing 2000 persons in the four district areas of the state. Prevalence of the common eye diseases were assessed and analyzed using the odd ratios for the assessment of various risk factors for its development. Stratification of the subjects was also done according to their socio-economic status. For fulfilling the qualifying criteria's of selection, a total of 48 clusters were randomly chosen. Following eye diseases were analyzed: Cataract, Glaucoma, Night blindness, Diabetic retinopathy Awareness was defined as the answers to the question as having already heard of these eye diseases. Knowledge was defined as having some amount of understanding of the eye disorders. Assessment of all the demographic and clinical details of all the patients was also done. All the results were analyzed by SPSS software.

Results: Significant difference was obtained while comparing the knowledge and awareness of rural and semi-urban population in relation to various ocular diseases. Maximum number of subjects of the present study belonged to the age group of 30 to 39 years. Out of total 2000 persons, 1066 were males while remaining were females. Only 200 patients belonged to the age group of 80 years and above out which 108 were males while 92 were females. 53.3 percent of the total study population was of males. Housewives and employed persons formed bulk of the population. Partial insurance coverage was done by more than 60 percent of the subjects while less than 20 percent of the subjects didn't had any kind of insurance converge. More than 80 percent of the individuals had a history of eye examination while more than 85 percent had no history of any previous ophthalmic surgery. Significant correlations were obtained while comparing the glaucoma, night blindness, cataract and diabetic retinopathy.

Conclusion: In relation to the commonly encountered visual diseases, rural persons are less aware and less-informed about them.

Keywords: Awareness, Knowledge, Ophthalmic,

INTRODUCTION

In the developing countries like India, one of the major concerns affecting the general health of the people is the preventable blindness.[1] Indian government formed an association with the WHO and International Agency for Prevention of Blindness (IAPB) in 2002 to face the problem of untreated eye.[2] Apart from affecting the person's self confidence and quality of life, visual impairment also has a significant impact on the carrier orientation of the affected individual and amount of employment opportunities available for them. By increasing the awareness and attitude of the person along with their knowledge, the burden of this type of visual impairments and blindness can be reduced on the society. Timely eye care is required by the patients for the early detection of these diseases. Early detection, increase in awareness and knowledge of the patients will help in understanding of the pathogenesis and treatment planning of the disease. It is mandatory for the general population to utilize the available general eye care surfaces of the health care centres for reducing the burden of visual disorders from the general population.[3] Hence; in the present study, we analyzed and assessed the knowledge and awareness of people from a given population in India about the various visual impairment diseases.

MATERIAL AND METHODS

We conducted this population based study by analyzing 2000 persons in North Dinajpur, West Bengal and Adjacent area of Bihar. Prevalence of the common eye diseases were assessed and analyzed using the odd ratios for the assessment of various risk factors for its development. Various stages were manually and theoretically created for conducting the present study. 100 subjects belonged to rural population while remaining 1000 belonged to semi-urban population. The initial stage involved division and stratification of the study population based on the residential areas- rural or urban. Multistage cluster sampling procedure was used for selecting the persons for the assessment of knowledge.[4,5] Stratification of the subjects was also done according to their socio-economic status. For fulfilling the qualifying criteria's of selection, a total of 48 clusters were randomly chosen. For providing equal probability of selection to each subject among various clusters, systematic method of sampling was employed. Detailed interview of the subjects was done before doing the clinical examination.[4] Ethical approval was taken and written consent was obtained from all the patients

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after explaining them the entire research protocol before starting of the study. Collection of the data from the urban and rural population was done from 2012 to 2013. For conducting the clinical examination, well trained eye specialist were appointed. A list of questionnaire was prepared with reference to previous data and was given to all the subjects.[4,5] Following eye diseases were analyzed:

- Cataract
- Glaucoma
- Night blindness
- Diabetic retinopathy

Initial framing of the questionnaire was done in English language followed by gradual translation of the form into regional language by a computerized language changer programme which was later confirmed and authenticated by a professional person. Initial phase of the questionnaire involved assessment of the fact that whether the persons were aware and heard the names of these diseases. Further questioning was carried out only if the subjects responded positively to the previous parameter. List of options were given which matched all the possible answered which could be given by the subjects. Answers of the subjects of each and every question were marked against the best possible matchable answers. Awareness was defined as the answers to the question as having already heard of these eye diseases. Knowledge was defined as having some amount of understanding of the eye disorders. Assessment of all the demographic and clinical details of all the patients was also done.

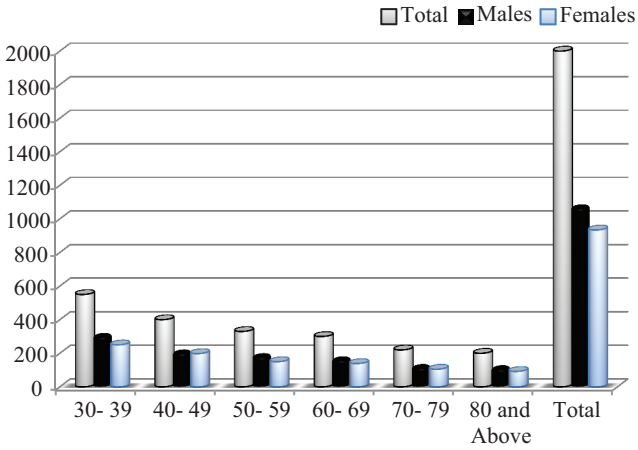

Figure-1: Divisions of various participants according to age

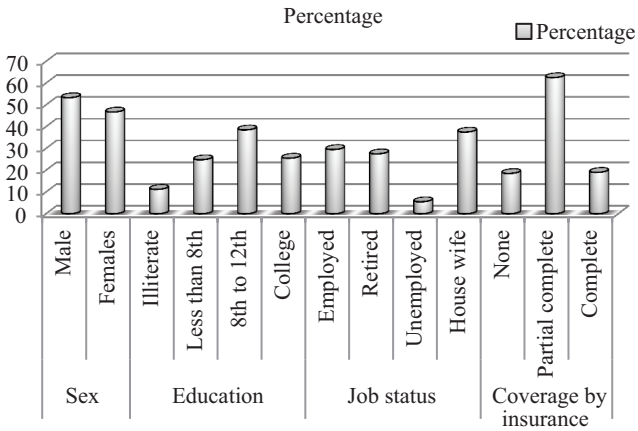

Figure-2: Demographic details of the patients

STATISTICAL ANALYSIS

All the results were analyzed by SPSS software. Univariate and multivariate regression variables were used for the assessment of odd ratios and level of significance.

RESULTS

Significant difference was obtained while comparing the knowledge and awareness of rural and semi-urban population in relation to various ocular diseases. Figure 1 shows the divisions of various participants according to age. Maximum number of subjects of the present study belonged to the age group of 30 to 39 years. Out of total 2000 persons, 1066 were males while remaining were females. Only 200 patients belonged to the age group of 80 years and above out which 108 were males while 92 were females. 53.3 percent of the total study population was of males. Most of the study population had education of upto twelfth standard followed by college subjects (Figure 2). Housewives and employed persons formed bulk of the population. Partial insurance coverage was done by more than 60 percent of the subjects while less than 20 percent of the subjects didn't had any kind of insurance converge. Hyperopia was reported in more than 40 percent of the individuals while both myopia and hyperopia was present in more than 30 percent

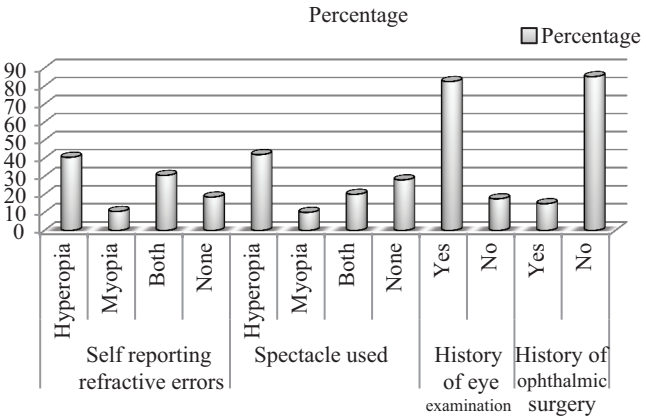

Figure-3: Clinical and history details of the subjects

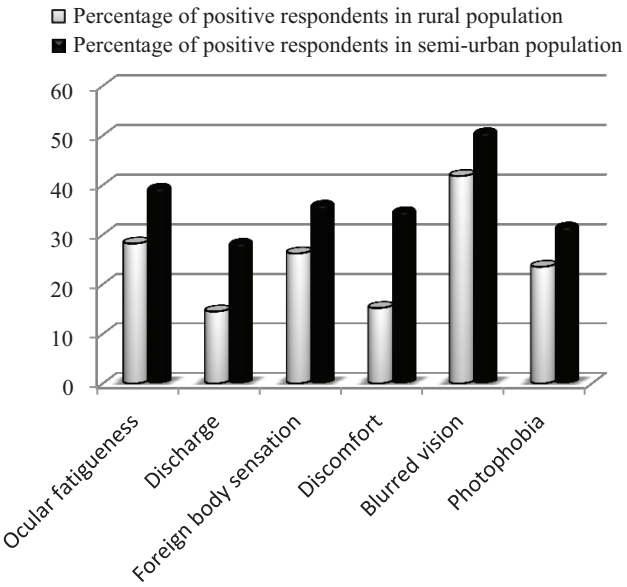

Figure-4: Comparison of knowledge and awareness of various ocular diseases between rural and semi-urban population

Parameter	Glaucoma	Cataract	Night blindness	Diabetic retinopathy	p-value
	95% CI	95% CI	95% CI	95% CI	
Awareness	42.2 to 47.8	81.7 to 86.7	52.5 to59.3	84.9 to 89.3	0.01*
Knowledge	17.2 to 22.9	53.4 to 58.4	24.5 to 29.5	70.2 to 76.8	0.01*
*: Significant					

Table-1: Awareness and knowledge of subjects more than 50 years of age regarding avoidable causes of blindness

of the individuals (Figure 3). More than 80 percent of the individuals had a history of eye examination while more than 85 percent had no history of any previous ophthalmic surgery. Table 1 highlights the awareness and knowledge of subjects more than 50 years of age regarding avoidable causes of blindness. Significant correlations were obtained while comparing the glaucoma, night blindness, cataract and diabetic retinopathy. Figure 4 highlights the comparison of knowledge and awareness of various ocular diseases between rural and semi-urban population. Table 2 shows the P-value for the comparison of awareness and knowledge of various visual impairment diseases in between rural population and semi-urban population

DISCUSSION

VISION 2020: The Right to Sight was launched in 1999 with the aim of reducing the burden of avoidable blindness in the while world especially in the developing countries like India. A number of world health agencies came together for this avoidable blindness prevention initiative which included WHO, International agency for prevention of blindness. It is the assistance of the government of various countries that the initiative of VISION 2020 has been successfully listed in the tasks of implementations for identification and reduction in the incidence of visual impairments diseases and identification of them as a public health problem.[6] Well designed demographic and cross-sectional studies which should aim on identifying the causes of visual impairments are required for the comprehensive identification of the magnitude and etiopathogenesis of these groups of ocular diseases. Government policies aiming the reduction of the blindness incidences should focus their bases on the formation of such regulations regarding public health care. National survey conducted by the government of India in 1980s formed the basis of the blindness control activities. WHO-NPCB (National Programme for Control of Blindness) survey is one such programme which regulates the controlling and spreading awareness about visual problems among general population. The programme showed the prevalence of blindness in less than one and half percent of the study population.[7] Cataract has become the main target of NPCB in the last few decades because of the results shown by various studies which highlighted that cataract accounts for about four-fifth of the cases of visual diseases.[8] World Bank-assisted Cataract Blindness Control Project has been started by various other states for controlling the incidence rates of visual impairments.[9] Hence; in the present study, we analyzed and assessed the knowledge and awareness of people from a given population in India about the various visual impairment diseases.

In the present study, we observed that more awareness regarding the various eye diseases was present in the subjects more than 50 years of age. This is in association with the previous results which highlights the same facts.[8] Significant role was found to be played by the socio-economic status of the patient along with their education standards.[9, 10] Noertjojo et al analyzed the knowledge of general population in Canada and assessed their risk factors and various treatment modalities for the prevention of major ocular diseases. They planned a cross-sectional survey and evaluated the patients about their knowledge of preventing blindness and ocular diseases. They evaluated a total of 882 patients and observed that vision loss was a major health concern among the study population.[11] Sperandio verified the knowledge and attitude of paediatricians about the general eye care. They assessed their knowledge along with their nurses through a questionnaire form and observed that very little amount of knowledge existed among children and the health care professionals regarding the prevalence of various ocular diseases. From the results, the authors concludes that early promotion of knowledge of various eye diseases and their treatment and prevention is necessary for promoting the global health of peoples.[12] Kamran et al assessed the knowledge of the general health population in gulf council about the occurrence of stroke. They conducted cross-sectional survey analysis and evaluated a total of 3750 persons through interviews. They observed that approximately 30 percent of the individuals had some form of knowledge about the Stroke. From the results, they concluded that knowledge stroke is limited to a very small amount of population.[13] Shrestha et al evaluated the literacy rate of common eye diseases in general population of Nepal. They conducted a cross-sectional study and analyzed over 1700 people and observed that

Parameter	Glaucoma (95% CI)		Cataract (95% CI)		Night blindness (95% CI)		Diabetic retinopathy (95% CI)		p-value
	Rural population	Semi-urban population	Rural population	Semi-urban population	Rural population	Semi-urban population	Rural population	Semi-urban population	
Awareness	44.2 to 49.8	52.4 to 55.8	81.7 to 83.7	86.2 to 87.9	46.7 to 49.2	52.5 to59.3	81.9 to 86.3	90.4 to 91.4	0.01*
Knowledge	18.2 to 27.9	30.2 to 31.8	53.4 to 58.4	61.4 to 66.5	20.1 to 22.6	24.5 to 29.5	60.2 to 66.8	75.2 to 79.8	0.01*
*: Significant									

Table-2: P-value for the comparison of awareness and knowledge of various visual impairment diseases in between rural population and semi-urban population

approximately 50 percent of the population had knowledge of night blindness and diabetic neuropathy. From the result, they concluded that low awareness about ocular diseases exists among general population and adequate measures should be taken to increase the awareness among them.[14,15]

CONCLUSION

From the above results, the authors concluded that in relation to the commonly encountered visual diseases, rural persons are less aware and less-informed about them. However, future longitudinal studies are recommended.

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