

AWARENESS OF DIABETIC RETINOPATHY IN SELF-REPORTED DIABETIC PATIENTS ATTENDED AN EYE CARE CENTRE IN WEST BENGAL

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ABSTRACT

BACKGROUND

Diabetic retinopathy is the most common microvascular complication of diabetes and is a leading cause of visual impairment. The rate of development of diabetic retinopathy is a growing public health importance as the population will live longer with a high prevalence of developing diabetes in future. Appropriate eye health education regarding awareness of the sight threatening potential of diabetes and the need for regular eye examinations may encourage people at risk to seek timely and appropriate care who are attending the tertiary eye care centre.

The purpose of our study was to evaluate the awareness about diabetic retinopathy in self-reported diabetic patients attending the tertiary eye care centre.

MATERIALS AND METHODS

This was a prospective study, conducted on 217 diabetic patients attending Outpatient Department of Ophthalmology at Regional Institute of Ophthalmology, Kolkata, which included questionnaire and analysis of patients based on age, duration of diabetes, education level and presence of diabetes.

RESULTS

217 patients (55% males, 45% females) participated in the study. After thorough analysis, results showed 85% were aware of diabetic eye disease (DED), 57% knew the relationship between DED and diabetes. 51% used to go to eye check-up regularly and 52% had their vision affected.

CONCLUSION

Patients with longer duration of DM and more educated had marginally better awareness.

KEYWORDS

Diabetic Retinopathy, Awareness, Self-Reported Diabetic Patients, Diabetic Eye Disease.

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BACKGROUND

Diabetes mellitus is a global health hazard. It is a disease of high prevalence. Type 2 Diabetes mellitus (DM2) accounts for 90-95% whereas Type 1 Diabetes mellitus (DM1) accounts for about 5-10% of all diabetics. DR is a potentially blinding complication of DM. Increased life expectancy in the industrialised world, increased prevalence of sedentary lifestyle, changed food habits as well as genetic factors are the reasons for increased prevalence of diabetes. WHO in 2000 had estimated that worldwide 171 million people suffer from diabetes and predicted that 366 million people will suffer from diabetes mellitus by the year 2030. India ranks second in the prevalence of diabetes globally. The first complication of diabetes is damage to the vascular system

that increases the mortality and morbidity in diabetic patients. With the increased incidence of diabetes, its microvascular complication, i.e. diabetic retinopathy (DR) has also increased accordingly. Diabetic retinopathy still remains one of the major causes of blindness in the middle-aged population. About 2/3rd of type 2 and almost all type 1 diabetic patients are expected to develop DR over a period of time.¹⁻³ The prevalence of DR in India ranges from 17.6% to 28.2%, it has been documented that the risk of retinal complications increases with increasing duration of diabetes. The risk of DR is directly related to the duration of diabetes. The reported prevalence of DR in India ranges from 17.6% -28.2%.⁴⁻⁷ Studies have shown that development of retinopathy and worsening of retinopathy can be delayed by maintaining near-normal blood sugar level.⁸ The typical ocular complications range from impaired visual acuity due to diabetic retinopathy and premature cataracts all the way to blindness or loss of an eye. Even though diabetic retinopathy can be treated effectively, the risk of severe vision loss can be significantly reduced by timely diagnosis and management.

The potential economic and social burden of diabetes and DR demands definitive need for an effective screening

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strategy. Routine screening for early detection of DR offers best hope for preventing the complications of DR. For type 1 diabetes screening should be done within five years, and for type 2 diabetes screening should be done at the time of diagnosis. After initial diagnosis all diabetic patients should have yearly eye checkup at least once in a year.⁹

Awareness about retinopathy by the diabetic patient may help in early detection, management and prevention of retinal complications of diabetes.¹⁰ Without awareness it is impossible for an individual to aid the cause of preventing blindness from DR either him or herself or in the community as a whole.¹¹ Studies in India showed that nearly 50% of diabetic patients have knowledge of diabetes and only 37% have knowledge of DR. Women have a better knowledge about diabetes. Regarding practice pattern, only 36.5% of individuals with knowledge about diabetes believed that if they control their blood sugar level they can avoid a visit to an ophthalmologist compared to 55% with no knowledge.¹² Sight threatening potential of diabetes among diabetic patient and need for regular eye checkup is the key for an effective eye care programme. Proper eye health education may encourage people at risk to seek timely and appropriate care. It is important to create awareness of DR in self-reported diabetic patients attending tertiary eye care centre.

Aims and Objectives

The purpose of our study was to evaluate the awareness about diabetic retinopathy in self-reported diabetic patients attending the tertiary eye care centre.

MATERIALS AND METHODS

Study Design- This was a prospective study of diabetic patients performed at the tertiary eye care centre from August 2015 to July 2016.

Settings- This study was done in Outpatient Department at Regional Institute of Ophthalmology, Kolkata in the Department of Ophthalmology.

Patient Selection- All diabetic patients coming to Ophthalmology Department were taken for study with their informed consent. Patients were interviewed under structural questionnaire. Eyes were examined by slit-lamp biomicroscopy, detailed posterior segment examination with the help of +90 D lens and indirect ophthalmoscope to detect diabetic retinopathy. Complete analysis was done based on age, duration of diabetes, education level, presence of diabetic retinopathy.

Inclusion Criteria

Both male and female patients aged more than 10 years having the educational background from illiterate to graduate with the duration of diabetes between <1 year to > 35 years were included in our study.

RESULTS

A total of 217 patients (119 men and 98 women) participated in the study (Table 1). In terms of occupation, 15% were farmers, 22% were businessmen and women, 23% had different professions e.g. teachers. 28% were 'staying at home' while 12% (27 patients) did not respond to the questions. Among the respondents, 43% were diagnosed with DM between ages 41 and 50 years, 19% between ages 51 and 60 years and 15% between ages 31 and 40 years.

Variable	Number		Percentage
Gender	Male	119	55%
	Female	98	45%
Age (years)	30-39	29	13%
	40-49	37	17%
	>50	151	70%
Occupation	Farmers	33	15%
	Business persons	48	22%
	Professional (e.g. teacher)	49	23%
	Stay at home (parents)	60	28%
Age group diagnosed with diabetes (years)	11-20	13	7%
	21-30	21	9%
	31-40	34	15%
	41-50	86	43%
	51-60	43	19%
	61-70	7	3%
	>70	11	4%

Table 1. Characteristics of Participants

In regards to knowledge and awareness, 85% of the respondents had heard of DED, while 15% had never heard of it. Fifty seven% (57%) of those who had heard of DED knew the relationship between DED and diabetes. Only 51% of all the respondents went for eye checkup while 49% did not go for any eye checkup. Of those 51% who go for eye checkups, 29% of them went once a year, 11% went twice a year while the remaining 11% went for monthly checkups.

Serial No.	Knowledge and Awareness	Percentage	
1.	Have you ever heard about diabetic disease?	Yes	85%
		No	15%
2.	If yes, do you know the Relationship between Diabetic eye disease and diabetes?	Yes	57%
		No	43%
3.	Do you go for eye Checkups?	Yes	51%
		No	49%
4.	If yes, how often?	Once a year	29%
		Twice a year	11%
		Monthly	11%
5.	Whether your vision affected or not?	Yes	52%
		No	48%

Table 2. Questionnaire Regarding Knowledge and Awareness

In terms of gender and knowledge/awareness out of 84% of those who heard of DED, 62% were female while 22% were male. 52% of the respondents had their eye sight affected one way or the other.

DISCUSSION

Since the duration of diabetes is a major risk factor for diabetic retinopathy, rates of diabetic retinopathy are likely to increase over next few decades. Visual disability from diabetic retinopathy is a significant public health problem. However, this morbidity is largely preventable and treatable. Due to diabetic patients' unawareness and lack of eye complaints in many cases, screening programs for detecting diabetic retinopathy and early identification of disease could significantly decrease the complications of DR.

Planning for effective interventions needs to start much before it becomes epidemic. Therefore, strategising the programs for prevention of blindness due to diabetic retinopathy has to start at the earliest. Early detection of diabetic retinopathy is important to slow down disease progression and avoid severe vision loss in diabetic patients. Regular DR screening is paramount to ensure timely diagnosis and treatment. Awareness about diabetes and its retinal complications in the diabetic population is an important aspect of prevention of vision threatening complications of diabetic retinopathy. Glycaemic control is an important indicator of the awareness and behaviour of patients with longstanding diabetes.

A number of health awareness studies have been performed in developing countries,¹³ but very few studies in India exist on the knowledge and awareness of DR. A study from Singapore showed that a major portion of patients with diabetes were unaware of eye complications and that poor level of awareness was significantly much more among those with poor glycaemic control and other risk factors for diabetic retinopathy.¹⁴ The observation of a multicentre study in India was that 45% of respondents presented with visual loss long before their diabetic retinopathy was detected.¹⁵ More or less similar findings were reported from many parts of the world showing 25– 50% of patients with diabetes present at the first visit to an eye care facility.^{16,17,18} A study in Myanmar was conducted regarding awareness. It showed that only 34% seek eye checkup only when their vision deteriorates.^{19,20} Cultural belief,²⁰ poor literacy, poor doctor-patient communication, fear about laser treatment,²¹ are the causes of lack for eye examination awareness. The study also showed that only 49% of general practitioners examine their diabetic patients for detection of DR. The possible causes are lack of familiarity of funduscopy techniques, lack of familiarity with the fundoscopic signs of DR and the busy schedule of their day-to-day practice.¹⁹ Awareness campaign about DR involves social workers, voluntary organisations and local community leaders. Reminders for screening examination may be communicated to the patient via social medias like television, telephone, SMS or e mail by the social workers.^{22,23} The patients should be informed about the risk factors for developing DR.

Screening retinal examinations of hospitalised diabetics were also effective in creating a greater awareness of DR.²⁴

CONCLUSION

Diabetic retinopathy is a well-known complication of diabetes mellitus. Visual disability due to diabetic retinopathy is a significant public health problem. However, this disability is largely preventable and treatable. Early detection and early intervention is essential to combat the sight threatening complications of diabetic retinopathy. Comprehensive and aggressive awareness about the complications of diabetic retinopathy is of utmost importance for early detection and timely intervention to preserve the quality of life of diabetic patients.

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