

Original Research Article

Knowledge, attitude and practice of diabetic retinopathy amongst diabetic patients in a tertiary care hospital of Jammu

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ABSTRACT

Background: Diabetes mellitus is a common metabolic disorder which is characterized by elevated blood sugar level. It is a major cause of blindness in our country, which is preventable and treatable, if healthy practice and knowledge regarding this disease is applied. The study was undertaken to assess the knowledge, attitude and practice of Diabetic Retinopathy, amongst diabetic patients attending eye OPD in GMC Jammu.

Methods: 300 patients diagnosed with diabetes mellitus attending eye OPD, over a period of 10 months, in GMC Jammu, were incorporated in this study. Self administered questionnaires were used to assess knowledge, practice and attitude of diabetic retinopathy amongst the diabetic patient, after their due consent.

Results: This study incorporated 300 diabetic patients out of which 168 (56%) were males and 132 (44%) were females. Most of the patients (70%) were aware of the fact that diabetes can cause eye disorders. 67.33% believed that they should go for regular eye check-ups. 79.33% agreed that timely intervention can delay the complications in diabetic eye disease.

Conclusions: Diabetes can lead to serious ocular complications which can be prevented by appropriate awareness and optimistic attitude and good approach towards the disease.

Keywords: Awareness, Approach, Attitude, Diabetic retinopathy, Knowledge

INTRODUCTION

Diabetes mellitus is a common metabolic disorder, secondary to lack, diminished efficacy or both of endogenous insulin. Diabetes has been termed one of the largest health care emergencies as reported in 21st century.¹ It has an overall global prevalence of 34.6%.² Diabetic retinopathy accounts for 4.8% of cases of blindness, throughout world.³

Diabetes is characterized by increased blood sugar levels. It is one of the major non-communicable disease which requires wide prevention and treatment strategies. India also caters to 69.2 million of people with diabetes and this number will increase by 2040.¹ Diabetic retinopathy

is the commonest cause of blindness, between 20 to 65 years of age.

Diabetic retinopathy, is a major cause of visual complaints in India and patients might develop some form of retinopathy, within 15 - 20 years of onset of disease.⁴ Bresnite, stated that prevalence of retinopathy in diabetic population, is positively associated with duration of diabetes.⁵ He said if the patients are properly screened, educated timely and efficiently, the ocular complications of diabetes can be prevented. The deficiency regarding awareness and knowledge of diabetic retinopathy, has been mentioned many times.⁶ Education and awareness regarding retinopathy, among diabetic patients and other at risk patients, could result in decrease in burden of morbidity.

Proper and effective dissemination of information and vigilant health approach, regarding various aspects of diabetes, in other words, the knowledge, attitude and practice among patients of diabetes in terms of disease screening, check-ups and education is very essential. Understanding diabetic retinopathy is referred to as knowledge, what patient thinks about it is attitude and the aspect in which patients express their methods to improve it is referred to as practice.

In the backdrop of this perspective this study was undertaken to determine knowledge, attitude and practice patterns of diabetic retinopathy among diabetic patients attending tertiary care hospital in Jammu.

METHODS

This hospital based cross-sectional study was conducted among diabetic patients attending Eye OPD of Department of Ophthalmology, GMC Jammu over a period of 10 months (November 2018 to August 2019). 300 patients were included in this study, after obtaining informed consent. The approval was taken from institutional ethics committee. The presence and level of diabetic retinopathy was assessed by dilated fundus examination. Diabetic retinopathy was classified, according to ETDRS study.⁷

All these patients were subjected to interview, by oral questionnaire method (Annexure 1). The questionnaire contained information, regarding gender, age, literacy, duration of diabetes, economic status and occupation. Questions composed of aspects to measure knowledge, attitude and practice of these patients regarding diabetic retinopathy, used by doctor or health care professional, various management modalities for diabetic retinopathy. Data was entered into Microsoft excel and analysed using open epi version 3.01. Data was expressed as proportions and percentages and any association was calculated using chi square tests wherever appropriate.

Inclusion criteria

- Patients 18 years of age and above.
- Patients diagnosed with diabetic mellitus.
- Patients having mature cataract.

Exclusion criteria

- Hazy media due to other causes.
- Those with hypertensive retinopathy.
- Exposure to radiation and sickle cell disease or any other retinopathy which could mimic fundus features of diabetic retinopathy.

RESULTS

The results and other demographic patterns in the study are as shown in the tables. Majority of the patients in the study fell in the age group of 40 to 60 years. In the study

56% of the patients were males and 44% were females. 50% patients were suffering from diabetes for a period between 6 to 9 years. 60% of the patients belonged to the medium economic status (Table 1).

Table 1: Demographic profile of patients.

Variables	N = 300	Percentage (%)	
Gender	Male	168	56
	Female	132	44
Age range (years)	20-39	60	20
	40-60	176	58.6
	Above 60	64	21.33
Duration	5 and below	30	10
	6-9	150	50
	9-14	90	30
	15 and above	30	10
Economic status	Low	90	30
	Medium	180	60
	High	30	10
Education	Primary	90	30
	Secondary	150	50
	Graduate and higher	60	20

Table 2: Questionnaire depicting knowledge and attitude of patients.

Questions	Yes	No
Do you know diabetes can cause eye disease	215 (71.67%)	85 (28.33%)
Should persons with diabetes go for regular eye examinations	202 (67.33%)	98 (32.67%)
Is there a need to visit ophthalmologist if a person has having diabetes under control	120 (40%)	180 (60%)
Can timely treatment prevent/delay damage due to diabetes in eyes	238 (79.33%)	62 (20.66%)

Table 3: knowledge of patients regarding eye disorders.

Knowledge	Yes	No	Total
20 - 39 Years	45	15	60
40 - 60 Years	140	36	176
>60 Years	30	34	64
Total	215	85	300

Chi square test value = 25.08, Df=2. P-value <0.0001 (H.S). There was significant association between knowledge regarding eye disorders among diabetics in various age groups.

More than 70% patients were aware that diabetes can cause eye disease. 79.33% patients knew that timely treatment could prevent or delay the damage due to diabetes in eyes (Table 2).

There was a significant awareness about diabetic eye disease in 40 to 60 year age group.

This was followed by 20 - 39 year age group. In patients over 60 years of age, only 30 were aware of the eye disorders among the diabetics (Table 3).

63.33% patients were aware about consulting the ophthalmologist for the eye disease related to diabetes. 42% patients believed in seeking advice of any specialist (non- ophthalmologist) (Table 4).

Table 4: Knowledge of choice of health care professional among the patients.

Healthcare professional	Yes	No
Ophthalmologist	190 (63.33)	110 (36.67%)
Any specialist (non-ophthalmologist)	126 (42%)	174 (58%)
Optometrist	100 (33.33%)	200 (66.67%)
General practitioner	88 (29.33%)	212 (70.67)

Between ophthalmologist and non- ophthalmologist, chi² test value = 27.38, p value < 0.001 (hs), odd's ratio = 2.38 (1.72-3.3), between ophthalmologist and optometrist, chi² test value = 54.06, p value < 0.001(hs) odd's ratio = 3.4 (2.4-4.8), Between non-ophthalmologist and optometrist, chi² test value = 4.7, p value < 0.028 (significant) odd's ratio = 1.4 (1.039-2.02), between ophthalmologist and gp, chi² test value = 69.7, p value = 0.001(hs) odd's ratio = 4.15 (2.9-5.8), between non ophthalmologist and gp, chi² test value = 10.49, p value = 0.001 (hs) odd's ratio = 1.74 (1.2-2.4).

Table 5: Knowledge of available treatment options among the patients.

Treatment options	Yes	No
No treatment available	72 (24%)	228 (76%)
Modification of lifestyle	246 (82%)	54 (18%)
Control of diabetes	210 (70%)	90 (30%)
Only medication	108 (36%)	192 (64%)
Alternative medical therapies	144 (48%)	156 (52%)

chi square test value = 377.7, degree of freedom = 5, p value <0.001(hs), Hence there was significant difference in the treatment preferences of patients

Table 6: Practice of patients.

How often you go for eye examination	No.	Percentage (%)
Monthly	80	26.67
Once in six months	104	34.67
Yearly	86	28.67
This is first time	30	10

Majority of the patients believed that a change in life style and control of diabetes played an important role in preventing the development of diabetic eye disease. 48%

patients believed that alternative medical therapies were helpful (Table 5). 34.67% patients went for eye examination 6 monthly. This was closely followed by yearly eye examination (28.67%). Only 30% patients said that this was their first eye examination (Table 6).

DISCUSSION

Diabetes mellitus is one of the major challenging health problems in this 21st century, faced by both developed and developing countries. Diabetic retinopathy is a major primary complication of diabetes and significant cause of blindness. Prevention, early screening and effective follow up and management of diabetic retinopathy, can reduce the progression of devastating complications. Early recognition, timely screening, appropriate knowledge, positive attitude and effective treatment are beneficial in treatment of diabetic retinopathy. It is important for general public to understand the importance of visit to ophthalmologist and follow up for timely intervention. The community can be made aware by regular seminars, newspapers, articles, media publicity and medical screening. Keeping in mind these aspects, it is needed to conduct such a study regarding knowledge, attitude and practice of diabetic patients, regarding diabetic retinopathy in Jammu.

In present study, the knowledge regarding ocular complications, resulting from diabetes was 71.67%, which was slightly lower than the study conducted in Saudi Arabia by BK Alzarea which was 75.62%.⁸ Similarly good knowledge was reported by Hussain R et al and Rani PK et al, in 40.7% and 49.9% of the population respectively.^{9,10} In the present study, 67.33% individuals were known to have positive attitude for eye check up, which was at par with comparative studies in South India. 29.2% of patients had positive attitude in a study conducted by NK Srinivasan et al in Tamil Nadu which is less than present study.¹¹ 90% of patients in the study went for regular eye check up monthly, six monthly and yearly which indicates good practice pattern comparable to the study conducted by BK Alzarea, but not in accordance with the results of 57.6% and 48.45% respectively in studies conducted by Hussain R et al and Rani PK et al.⁸⁻¹⁰

Ophthalmologists, physicians, epidemiologists and common public should collaborate to strengthen knowledge regarding diabetes and diabetic retinopathy. Health education regarding potentially blinding complications of diabetic retinopathy should be addressed.

CONCLUSION

Diabetic retinopathy complication can be prevented, by appropriate knowledge, optimistic attitude and easy approach towards the disease. Participants in study had satisfactory knowledge about eye disease in diabetes but there is a need to strengthen awareness regarding diabetic

retinopathy. Good knowledge about diabetes was significantly associated with optimistic attitude and healthy practice patterns regarding diabetic retinopathy. There is a need for education of diabetic patients about this dreadful complication of diabetes and build newer strategies and policies to decrease the disease burden especially in developing countries.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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ANNEXURE 1

Questionnaire			
Name	Gender		
Age	Contact details		
Economic status	Low	Medium	High
Education level	Primary	Secondary	Graduate and higher
Duration of diabetes (years)			
	5 and below	6 - 9	9-14 15 and above
Knowledge and attitude of the patients			
• Do you know the that diabetes can cause eye disease			
	Yes	No	
• Should persons with diabetes go for regular eye examinations?			
	Yes	No	
• There is no need to visit ophthalmologist if a person his having diabetes under contro			
	Yes	No	
• Timely treatment can prevent/ delay damage due to diabetes in eyes			
	Yes	No	
Whom do you consult in the event of eye problem?			
(Knowledge of choice of healthcare professional in the event of eye problem)			
• Ophthalmologist			
	Yes	No	
• Any specialist (Non-ophthalmologist)			
	Yes	No	
• Optometrist			
	Yes	No	
• General practitioner			
	Yes	No	
Knowledge of available treatment for diabetic retinopathy			
• No treatment available			
	Yes	No	
• Modification of life style			
	Yes	No	
• Control of diabetes			
	Yes	No	
• Surgical procedures			
	Yes	No	
• Only medication			
	Yes	No	
• Alternative medical therapies			
	Yes	No	
How often you go for eye examination			
(Practice of patients')			
• Monthly			
• Once in six months			
• Yearly			
• This is the first time			