

Awareness about diabetic retinopathy in patients with diabetes mellitus: A KAP study

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Abstract

Background: With rapidly increasing Diabetic population, the incidence of diabetic retinopathy is on the rise. As it can have vision threatening complications, early diagnosis and management of these can go a long way to prevent visual disability. **Aim:** To use KAP study for assessing awareness about diabetic retinopathy in patients with diabetes mellitus in a tertiary care medical college. **Methods:** A total of 145 patients attending Ophthalmology OPD in a tertiary care hospital were evaluated using a KAP questionnaire. KAP questionnaire consisted of 30 point close end question taken in patients vernacular language. statistical analysis was carried out using to analyze the data. **Results:** A total number of 145 diabetic patients were included in this study. 44.82% patients had disease >5 years with positive family history in 51% patients (37/145). 66.2% of patients were aware about the fact that diabetes can affect the eye. That diabetic retinopathy can lead to irreversible visual loss was known to 56.55% of patients. Source of Information about diabetic retinopathy was an ophthalmologist in 42.75% of patients followed by physician 33.1%, relatives 7.28% and other 11.03% and unknown 9.65%. Screening was done as per physician advice in 40% of patients followed by ophthalmologist in 27.58%, relatives 8.27%, others 14.48% and not know 12.32%. 57.93% of patients were not aware of the facts that frequent retina screening is required for diabetes. 65.51% of patients knew about importance of systemic control.

Key Words: diabetic retinopathy.

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INTRODUCTION

The increasing numbers of diabetic population worldwide has lead to this disease being a major health problem in both developed and developing countries. The prevalence of diabetes in adult worldwide was estimated to be 4% in 1995 and to rise to 5.4% by 2025. The number of diabetic patients is expected to rise from 135 million in 1995 to 300 million in year 2025¹. Diabetic retinopathy is emerging as a leading cause of blindness. In 2006, WHO called diabetic retinopathy a leading cause of blindness.²

The overall prevalence of diabetic retinopathy is 34.6%, 6.96% for proliferative DR and 6.81% for diabetic macular edema.³ According to NPCB definition, there are 12 million blind and 50 million visually impaired in India⁴. This is expected to rise to 31.6% in 2020 if there is no change in current trend of blindness.⁵ Studies have shown the prevalence of Diabetic India to range about 7.3%.⁶ The various changes seen in the retina range from mild to end stage retinopathy. There are various obstacles that prevent the patient to get eye screening done the main being lack of awareness, access to facilities and poor compliance. This study was conducted to assess the knowledge, attitude and practice patterns among diabetic patients with regards to diabetic retinopathy.

MATERIALS AND METHODS

This study was carried out in a Tertiary Care Medical College. Diabetic patients attending the Ophthalmology OPD were included. This was a cross sectional observational study. The study period was August 2016-April 2017. Approval was taken from the Ethics committee of the institution. Data was collected by the

investigators by administering a 30point written questionnaire. The questionnaire which was close end, had 10 questions in Knowledge section, 7 in Attitude and 13 in Practice sections. The questionnaire was printed in English, Marathi and Hindi language. The questionnaire had queries related to demographic details, awareness about the disease, its effects and management of the same. After informed consent, eligible patients were enrolled in the study. Each patient was administered the

questionnaire in the language of his/her choosing. The questionnaire was filled by the patients themselves. Those unable to do so were assisted by an independent person other than the investigators to eliminate bias regarding leading questions. The questionnaire was assessed and response calculated. The number of poor, average and good response in knowledge section was scored and calculated.

RESULTS

Table 1: Demographic Data

	Classes	Number	Percentage
Age	21-30	4	2.75
	31-40	11	7.58
	41-50	38	26.2
	51-60	41	28.27
	61-70	37	25.51
	71-80	11	7.58
	81-90	2	1.37
	91-100	1	0.68
Mean Age		55.92±11.97	
Gender	Male	64	44.13
	Female	81	55.86
Occupation	Businessman	3	2.06
	Conductor	1	0.68
	Doctor	1	0.68
	Driver	2	1.37
	Employee	3	2.06
	Farmer	31	21.37
	Housewife	54	37.24
	Labourer	10	6.89
	Nurses	1	0.68
	Officer	1	0.68
	Painter	1	0.68
	Retired	3	2.06
	Shopkeeper	1	0.68
	Tailor	1	0.68
	Teacher	3	2.06
	Unemployed	12	8.27
	Vendor	3	2.06
Worker	14	9.65	
Residence	Rural	26	17.93
	Urban	119	82.06

Table 2: Classification of patients based on knowledge regarding DR

	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid	Poor(1-4)	16	11.0	11.0
	Average (5-7)	109	75.2	86.2
	Good (8-10)	20	13.8	100.0
	Total	145	100.0	100.0

Table 3: Profile of patients included in the study

Questions		Number	Percentage
How long have you been diagnosed with DM	>5 years	65	44.82
	5-10 years	35	24.13
	11-15 years	20	13.79
	16-20 years	8	5.51
	<20 years	9	6.2
	Don't know	8	5.51
Is there anyone with DM in your family	Yes	37	25.51
	No	106	73.1
	Don't know	2	1.37
What other diseases are you suffering from	High blood pressure	65	44.82
	High cholesterol	12	8.27
	Heart attack	15	10.34
	Kidney disease	15	10.34
	None	53	36.55

Table 4: practices of patients included in the study

Questions		Number	Percentage
Do you know that DM can affect the eye	Yes	96	66.2
	No	49	33.79
Do you know the effects of DM on the eye	Yes	74	51.03
	No	69	47.5
Through which source did you come to know about Diabetic Retinopathy	Physician	48	33.1
	Ophthalmologist	62	42.75
	Relatives	11	7.58
	Others	16	11.03
	Don't know	14	9.65
Who advised you to get DR screening done	Physician	58	40
	Ophthalmologist	40	27.58
	Relatives	12	8.27
	Others	21	14.48
	Don't know	18	12.32
Do you know that DR requires frequent eye screening	Yes	78	53.79
	No	84	57.93
How many times have you been screened for DR	None	52	35.86
	Once	47	32.41
	More than once	37	25.51
	Don't know	9	6.2
Are you aware that DR can cause irreversible loss of vision	Yes	82	56.55
	No	63	43.44
Are you aware that good control of DM is required for controlling DR	Yes	95	65.51
	No	52	35.86

The collected data was compiled in EXCEL sheet and Master sheet was prepared. For analysis of this data SPSS(Statistical Software for social sciences) software version 24th was used. Qualitative data was presented by frequency and percentages. The quantitative data was represented in form of mean and standard deviation. The total knowledge score was classified by using Likert scale. Table 1 shows demographic data. Total of 145

patients with Diabetes Mellitus attending Tertiary care hospital were included in this study. The patients ranged from 20-100years with the mean age being 55.92 years. There were 64males and 81 females. The occupation of the patients were variable ranging from business person (3/145) to unemployed (12/145).The maximum being housewife (54/145) and farmers (31/145). Majority of patients were from urban area (119/145) while 26 were

from rural area. The knowledge section had a total of 10 points. The results in the knowledge section were scored as poor (1-4 correct answers), Average (5-7 correct answers) and Good (8-10 correct answers). Table 2 shows the result of this scoring. 11% patients had poor scoring, 75.2% had average score while 13.8% patients had good score. This indicates that most of the patients had only average knowledge about diabetes. Only a total of 38.62% of patients had accurate knowledge about the symptom of diabetes. Table 3 shows the patient profile enrolled in this study. Maximum number of patients 44.82% have been diagnosed for >5 years. There was family history of diabetes mellitus in 25.51% patients (37/145). Around 107 patients had other systemic disease maximum number of patients had hypertension 44.82%, followed by heart ailment 10.34%, nephropathy 10.34% hypercholesterolemia 8.27%. Around 66.2% of patients were aware about the fact that diabetes can affect the eye. While 51.03% of patients were aware of the various effect of the disease on the eyes as shown in Table 4. Source of Information about diabetic retinopathy was an ophthalmologist in 42.75% of patients followed by physician 33.1%, relatives 7.28% and other 11.03% or unknown 9.65%. screening was done as per physician advice in 40% of patients followed by ophthalmologist in 27.58%, relatives 8.27%, others 14.48% and not know 12.32%. 57.93% of patients were not aware of the facts that frequent retina screening is required for diabetes. Total of 35.86% were getting their retina screening for the first time. Around 65.51% of patients were aware that control of systemic disease is essential for stabilizing the retinopathy That diabetic retinopathy can lead to irreversible visual loss was known to 56.55% of patients.

DISCUSSION

This KAP study was a hospital based study among diabetic patients attending a tertiary care hospital. This study included total of 145 patients. A total of 96 patients (66.2%) of patients were aware that diabetes can affect the eye. Study done by Mridula Prabhu⁷ *et al* showed that 72.5% of subjects were aware that eyes are affected by diabetes. This is slightly higher than the studies conducted by Srinivasan⁸ *et al* (42%), Rani *et al*⁹ (49.9%), Hussain R *et al* (40.7%)¹⁰. The difference may be due to the different profile of patients studied. The fact that Diabetes can decrease vision was studied by Rani⁹ *et al* and Thapa R¹¹ *et al*. They found that a total of 37.1% and 46.6% of patients were aware of this. However in our study total of 56.55% patients were aware. This is comparative to study conducted by Mridula P⁷ *et al* 52.5%. Hence only approximately half of study population were aware of the effect of systemic diabetes on vision. About 65.51% of individual in present study knew that control

of systemic disease was essential for stabilizing retinopathy. Namperumalsamy¹² *et al* however had only 16% respondents that were aware of uncontrolled diseases as a risk factor for DR. 60% of patients were aware of duration of diabetes as a risk factor and 29% were aware about importance of blood sugar level in study by Mridula *et al*.⁷ 57.93% of patients did not know that frequent screenings are required for diabetic retinopathy. 35.86% had never got screened before. This is less than data from study by Rani PK⁹ *et al* (93.3%) and Namperumal samy¹³ (80%) about attitude for annual eye screenings. A similar study by Srinivasan⁸ *et al* showed that 61.1% did not go for a periodic eye checkup while 38.54% did not know that they should go for periodic eye checkup. More than half of patients were unaware that frequent eye screenings are required for diabetic patients. Although 66.2% patients were aware that Diabetes can affect the eye, the need for frequent eye screening was not known to 57.93% of patients. Non compliance with follow-up visits for eye screenings is one of the major factor with patients presenting with late sight threatening complications of diabetic retinopathy. The source of information about diabetic retinopathy in our study was physician (33.1%), ophthalmologist (42.75%), relatives (7.58%), others (11.03% and unknown (9.65%). Around 40% of patients included in our study were referred by physician for screening whereas the rest were by ophthalmologist (27.58%), relatives (8.27%), others (14.48%) and unknown (12.32%). Hussain *et al*¹⁰ showed in their study that only 36% of patients had information from treating doctor. Results from study by Mridula⁷ *et al* showed that 126/194 patients (64.2%) were guided about diabetes and eye disease and only 31/126 patients were referred to ophthalmologist. Knowledge about diabetes and its systemic complication has to be given to the patient by the treating doctor. As the patient becomes more aware of the disease, there will be a positive attitude regarding follow-up and prompt treatment. Reinforcing the eye complications of diabetes mellitus from the physician and ophthalmologist will go a long way in reducing blindness due to diabetic retinopathy.

CONCLUSIONS

With increasing number in diabetic population in India, more patients are going to report with ocular complications. Early diagnosis and treatment can prevent visual disability due to end stage diabetic retinopathy. The need for dilated fundus examination has to be emphasized for every patient as should be need for strict sugar control. Referral should be from treating doctor while ophthalmologist plays a role educating patients about the various risk factors, need for follow up and

early recognizing of various signs and symptoms. Integrated approach between the various treating faculty as well as health awareness programs is needed to tackle this mushrooming health problem.

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