

“Assessment of Awareness of Diabetic Retinopathy among The Diabetics.”

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ABSTRACT:- The main objective of our study is to find out the awareness and knowledge of diabetic retinopathy among diabetic patients at Father Muller medical college Hospital, Mangalore India. Diabetic retinopathy results from poor management of diabetes mellitus and lack of awareness and knowledge on the complications of diabetes mellitus. Patients were selected randomly and requested to fill the questionnaires and who were not in a position to fill due to visual disability or illiteracy, researcher filled the questionnaire for them. In our study we found that, in terms of knowledge and awareness, 37.4% had heard about the eye complications of diabetes and 62.6% never heard about it. Out of 37.4% only 24.9% know the relationship between diabetes and diabetic eye disease; 29.5 % have heard that vision can be affected due to high blood sugar levels. 32% of 200 participants go for regular eye check-ups while 68% never go for check-ups. The results of our study suggests that there is lack of general awareness of diabetic retinopathy amongst majority of diabetic patients and there is a need to increase the awareness and knowledge among the population.

Key words:- Diabetes mellitus, Diabetic retinopathy, awareness, knowledge, India

I. INTRODUCTION

Program is successful to combat any disease relies on the knowledge and awareness of that disease in the community. Community should always be aware of the problem and the efforts which are being taken to solve it so that patient can engage actively in health seeking behaviour, such as coming in for the treatment. In addition to it, general knowledge of the disease and on what has to be done to combat that disease helps greatly in the effectiveness of any program.

Prevalence and incidence of diabetes:

- Indian Council of Medical Research to estimate the nationwide prevalence of diabetes (urban and rural) has been done.
- In this study, prevalence of diabetes mellitus in India ranges from 5.3% to 13.6% in different areas.¹
- New Delhi Birth Cohort study, which reported an annual incidence of 1.0% for males and 0.5 % for females.²
- Longitudinal cohort from Chennai, the incidence of diabetes was calculated as 20.2 per 1000 person years in subjects with prior normal glucose tolerance, and 64.8 per 1000 person years in those with prediabetes.³

II. AIMS AND OBJECTIVES

- To assess the knowledge and awareness of diabetic retinopathy among the diabetics.

III. MATERIALS AND METHODS

- Diabetic patients attending the Endocrine OPD and Medicine OPD at father Muller Medical College Hospital Mangalore.
- Sample size: 200 diabetic patients.
- The following formula was used to work out the sample size. $n = z^2 p (1-p) / d^2$ Where; n=Desired sample size. Z= Standard error of the mean which corresponds to 95% confidence level. (1.96) P= Prevalence of condition being studied. d=Precision with which p is determined (0.05).
- In our study, prevalence is 13.6%. Hence the value of n=180. The desired sample size is 180 Diabetic patients. But we are including 200 patients in our study.
- Statistical analysis will be done by using Chi square test. Descriptive statistics by using Statistical Package for social sciences (SPSS) version 12.0.

- Study design: Observational study
- A written informed consent will be taken from each patient enrolled in this study.
- Patients were randomly selected and were requested to fill the questionnaires and for those who were unable to fill due to illiteracy or being visually impaired, the researcher filled the questionnaire on their behalf.
- Determinants of knowledge on diabetes and diabetic retinopathy such as age, gender, literacy and duration of diabetes will be taken into consideration.
- The Association of knowledge of DR with attitude and practices will be evaluated.

IV. RESULTS

A total of 200 patients (115 men, 85 women) participated in the study (Table 1)

	Number	Percentage (%)
Gender	Male	42.3
	Female	57.7
Age	50 and below	38.3
	51 - 60	21.4
	61 - 70	20.4
	71 - 80	16.9
	Above 80	3.0
Education	No formal education	45.8
	Primary	25.9
	secondary	17.4
	Graduate/postgraduate	10.9
Occupation	Farmer	15.9
	self-employed	27.9
	Professional	10.9
	Un-employed	45.3
Duration of DM	< 5 years	32.3
	5-10 years	41.3
	> 10 years	26.4
Treatment	Diet and exercise	17.9
	OHA	50.7
	Insulin	23.9
	Not on any treatment	7.5
Family history	Yes	49.3
	No	50.7

Criteria for diagnosis of diabetes mellitus ⁴

1. HBA1C \geq 6.5%. The test should be performed in a laboratory using a method that is NGSP certified and standardized to the DCCT assay. (or)
2. FPG \geq 126 mg/dl (7.0 mmol/l). Fasting is defined as no caloric intake for at least 8 h. (or)
3. 2-h plasma glucose \geq 200 mg/dl (11.1 mmol/l) during an OGTT. The test should be performed as described by the World Health Organization, using a glucose load containing the equivalent of 75 g anhydrous glucose dissolved in water. (or)
4. In a patient with classic symptoms of hyperglycaemia or hyperglycaemic crisis, a random plasma glucose \geq 200 mg/dl (11.1 mmol/l).

V. SELECTION CRITERIA

Inclusion criteria:

- All diagnosed cases of diabetes mellitus including newly diagnosed diabetics attending the Medicine and Endocrine out-patient Department at Father Muller Medical College Hospital Mangalore are included in the study.
- Patients willing for the study

Exclusion criteria:

- Patients not willing for the study.

Table 1 In terms of occupation, 15.9% were farmers, 27.9% were self-employed, 10.9% had different professions e.g. teachers, 45.3% were unemployed.

Table 2:

Q no	Knowledge and awareness	percentages	
5.	Have you heard about general complications of diabetes mellitus?	Yes	40.9%
		No	59.1%
6.	Have you ever heard about eye complications of Diabetes Mellitus?	Yes	37.4%
		No	62.6%
7.	If yes, do you know relationship between Diabetes mellitus and Diabetic eye disease?	Yes	24.9%
		No	75.1%
8.	Do you know that vision can be affected due to high blood sugar levels?	Yes	29.5%
		No	70.5%
9.	Do you go for regular eye check-ups?	Yes	32%
		No	68%
10.	Has your vision being affected?	Yes	49.3%
		No	50.7%

In regards to knowledge and awareness, 200 participants in our study, 37.4% had heard about the eye complications of diabetes and 62.6% never heard about it. Out of 37.4% only 24.9% know the relationship between diabetes and diabetic eye disease; 29.5% have heard that vision can be affected due to high blood sugar levels. 32% of 200 participants go for regular eye check-ups while 68% never go for check-ups. Of these 49.3% Participants vision had their vision affected in one way or the other.

In terms of gender and knowledge and awareness, out of the 37.4%, 25.7% were female and 74.3% were male. In terms of education, out of 37.4%, 42.9% were graduated/post-graduated, 48.6% completed their secondary education and 8.5% went to primary school. In our study it showed that literacy and its impact on increased awareness or knowledge of diseases.

VI. DISCUSSION

Many studies on health awareness have been performed in developing countries (James et al, 2008), however literature is very limited. The results of our study suggest that knowledge and awareness of retinopathy amongst diabetic is less satisfactory, that is only 37.4% of the screened population were aware and had the knowledge of the eye complication, diabetic retinopathy. Although, 32% of patients go for regular eye check-ups. The study done in Singaporean Malay population on awareness of diabetes by Huang OS et al, showed that, high proportions of the diabetic patients were unaware of their disease. Lack of awareness is associated with poor control of risk factors of diabetic retinopathy.⁵In our study it showed that higher educational level amongst diabetics is associated with increased awareness. Similar study done in U.S also showed literacy has its impact on increased awareness and knowledge of the disease.⁶Creation of awareness in the community is a very important step for any program to be successful to battle against any disease. This is very true of the increasing problem of Diabetic Retinopathy. Studies previously done have revealed that Diabetic Retinopathy is one of the leading cause of blindness in both developed and developing countries, is virtually unknown to majority of the population. Without awareness of the diabetic retinopathy, it is impossible to prevent blindness caused by retinopathy in the community as a whole. Creation of awareness is therefore very necessary as one of the first steps in any program which aims at reducing Diabetic Retinopathy (Vision2020 e-resource, 2004). People with diabetes should have the right to understand the disease, receive care and make informed choices. This can only be achieved if people with diabetes have the proper information, awareness and tools to make changes based on best practice. (IDF, 2010).

VII. CONCLUSION

In our study, there is no general awareness of diabetic retinopathy amongst majority of diabetic patients (37.4%) and there is little or no knowledge of its risk factors and prevention. Therefore a very much need for awareness and also provision of access to screening services to the patient. Comprehensive and aggressive awareness is very much required to educate diabetic patients on diabetic retinopathy.

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