



AWARENESS AND KNOWLEDGE OF DIABETIC RETINOPATHY AMONG HOSPITAL PERSONNEL IN A TERTIARY CARE CENTER IN RURAL KARNATAKA

Ophthalmology

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ABSTRACT

PURPOSE: To evaluate the awareness and knowledge of Diabetic Retinopathy (DR) among hospital personnel.

METHODS: A Cross-sectional study conducted in hospital consisting of hospital staff irrespective of the presence or absence of DR in them. Patients who have already undergone treatment for DR were excluded. After taking an informed consent, a self-designed questionnaire was administered.

RESULTS: 513 people participated in the study, mean age of participants 34.36 \pm 5.686 year. Only 100% were aware of DR. Causes and treatment awareness was higher among clinicians (90%) & 28% among nursing & administrative staffs. 42% were aware that DR periodic follow-up.

CONCLUSION: Awareness was higher among clinicians and hence a considerable effort is required to improve awareness of DR so as to translate this improved awareness to actual utilization of services.

KEYWORDS

Diabetes mellitus, awareness, diabetic retinopathy

INTRODUCTION:

Diabetes mellitus is a major clinical and public health problem accounting for 4.6 million deaths annually world-wide¹. The Indian Council of Medical Research India Diabetes Study (ICMR-INDIAB study) showed that India had 62.4 million people with diabetes in 2011². These numbers are projected to increase to 101.2 million by 2030¹. Studies have indicated that the incidence of blindness from diabetic retinopathy is significantly reduced by early treatment with laser photocoagulation. Early treatment can only be instituted if retinopathy is detected early.

Diabetes is often associated with several significant ocular conditions, such as diabetic retinopathy (DR), refractive changes, cataracts, nerve palsies, glaucoma and macular edema. Proliferative diabetic retinopathy (PDR) affects 5–10% of the diabetic population; type 1 diabetics are at particular risk, with an incidence of up to 90% after 30 years. Importance of early diagnosis in Diabetic Retinopathy cannot be underestimated, for its effective management and prevention of blindness. Lack of awareness about Diabetic Retinopathy is an important reason for its late presentation, which significantly increases the risk of blindness. Lack of awareness may not only influence the timing of the diagnosis, but also the utilization of eye care services. Assessment of awareness is the first step in the planning of disease management.

There is also evidence to show that increasing knowledge regarding diabetes and its complications has significant benefits including increase in compliance to treatment, thereby decreasing the complications associated with diabetes³.

With our self-experience we have noticed that even the educated people don't know about the complications of Diabetic Retinopathy. Given that the outreach of the health care system in developing countries remains far from optimal, it is essential that each of the health care providers be educated about diabetic retinopathy so as to reach a large sector of the population, which does not have access to a comprehensive eye care centre.

The present study has been undertaken to evaluate the awareness and knowledge about diabetic retinopathy among hospital personnel.

OBJECTIVES

To evaluate the awareness and knowledge about diabetic Retinopathy among hospital personnel.

Methodology:

A cross-sectional study has been carried out at R L Jalappa Hospital and

Research centre, a tertiary care hospital attached to Sri Devaraj Urs Medical college, Tamaka, Kolar. The study population consists of medical and non-medical staff excluding those who have already undergone treatment for Diabetic Retinopathy. There are two major directorates in the hospital: the clinical directorate comprised of the medical doctors (Nonophthalmologists), Nurses, Pharmacists, Physiotherapists and laboratory staff and the administrative directorate comprised of administrative staffs.

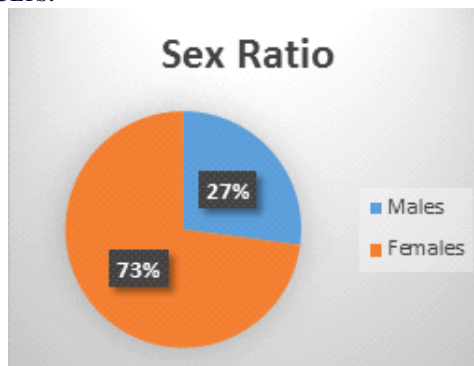
After taking an informed consent, a self-designed questionnaire about and Diabetic retinopathy were administered to all the hospital workers. Each questionnaire had two sections: The first section pertaining to information about the participants demographic characteristics (age, gender, education level, occupation and address). Section two, pertaining to participant's awareness and knowledge about Diabetic Retinopathy respectively through a set of questions. All the questions are framed in English as the study is done among educated people. All questions shall be answered with a "Yes", "No" or "Don't know".

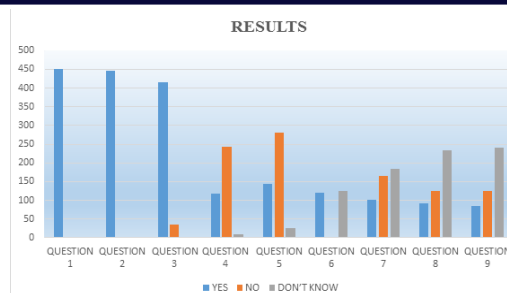
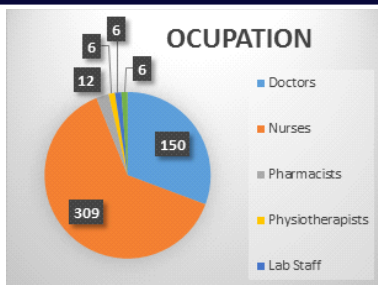
At the end of the study, same interviewers (PI) assessed each of the respondents in terms of their awareness and knowledge associated with Diabetic Retinopathy.

INCLUSION CRITERIA: Medical doctors (Nonophthalmologists), Nurses, Pharmacists, Physiotherapists, Laboratory staff and Administrative staffs.

EXCLUSION CRITERIA: Participants who have already undergone Laser and surgical treatment for Diabetic Retinopathy.

RESULTS:





DIABETIC RETINOPATHY QUESTIONNAIRE	Saying Yes	%	Saying No	%	Saying Don't Know	%
Have you heard of Diabetic Retinopathy (DR)?	513	100	0	0	0	0
Do you know that Diabetes causes DR?	510	99.41	3	0.58	0	0
Do you know that DR depends on the duration of Diabetes?	475	92.59	38	7.4	0	0
Do you know that DR requires periodic examination?	219	42.69	284	55.3	10	1.9
Do you know that visual rehabilitation cannot be complete in patients with DR?	166	32.35	320	62.37	27	5.26
Do you know that along with retinopathy, renal and other systemic involvement may be present?	140	27.29	244	47.56	129	25.1
Do you know that blood sugar control is important along with treatment for retinopathy?	122	23.78	204	39.76	187	36.4
Do you feel laser treatment will cure retinopathy?	101	19.6	146	28.46	256	49.9
Do you feel laser treatment will give back normal vision?	94	18.3	145	28.26	274	53.4

From a total of 513 participants, we received responses to the questionnaire from 150 doctors, 309 nurses, 12 pharmacists, 6 physiotherapists, 12 laboratory staff and administrative staffs and 24 other hospital personnel. Mean age of participants were found to be 34.36 \pm 5.686.

Female participants (73%) were more than male participants (27%) in this study.

100% were aware of diabetic retinopathy (DR) & 99.5% knew that diabetes mellitus cause diabetic retinopathy. 92.57% were not aware of risk factors for retinopathy whereas 92.4% & 23.7% knew that DR has correlation with the duration of diabetes & glycaemic control. Only 32.3% knew that there will not be complete visual rehabilitation & 27.29% were aware that DR will involve other systems. 19.6% & 18.3% feel that laser treatment cures & will give back normal vision respectively. Only 42.69% feel that DR requires periodic examination.

DISCUSSION

Many studies have revealed that Diabetic Retinopathy, despite its status as one of the greatest causes of blindness in both developed and developing countries, is virtually unknown to a large majority of the population. But in our study the general retinopathy awareness rate amongst the participants was 100%. This is higher than any other studies⁵. The large proportion of persons who were not aware of risk factors for retinopathy is a matter of concern. Assessing the level of knowledge of diabetic retinopathy and health care personnel has been documented in many countries.^{4,6,7} A study in Alexandria, Egypt revealed that information on causes and complications of diabetes was very good among physicians but knowledge about the diagnosis and management of diabetes and its complications was poor. The non-doctors in this study had less knowledge compared to the physicians.⁸ This mixture of different types of health care staff likely explains the overall low levels of knowledge among participants of our study. The comparison of our study with similar studies evaluating the knowledge of different categories of health staff suggested that the level of knowledge about diagnosis of diabetes, its management and its complication was low.

Among the 513 patients in our study, 510 were aware that eyes could be affected by diabetes. Babu N et al., and Dandona R et al., have reported poor awareness of diabetic retinopathy (7% and 27% respectively) among the subjects in their studies done in South India^{9,10}. However, in the study done in South India by Mahesh G et al., 36.31% felt that they were well educated about retinopathy, while 30.9% of the patients in the study done in North India by Koshy J et al., knew that diabetes could lead to retinal disease^{11,12}. In our study, only 27.80%, were aware of retinopathy complication and had good knowledge of retinopathy. Das T et al., also reported poor knowledge of retinopathy among the patients in their study conducted in Eastern India¹³. In contrast to this, 37.1% had 'knowledge' of retinopathy in the study by Rani PK et al⁵.

rehabilitation & 27.29% were aware that DR will involve other systems. 19.6% & 18.3% feel that laser treatment cures & will give back normal vision respectively.

Out of the 513 patients in our study, 219 (42.67%) were aware of regular follow up visits for the management of diabetes. This is one the most common barrier identified.

CONCLUSION

Visual impairment and blindness due to diabetic retinopathy are almost entirely preventable with early detection and timely treatment. Although 100% of participants of the study were aware of diabetic retinopathy, there is however little knowledge of its risk factors, prevention and treatment. There is therefore a need for increasing this awareness in order to decrease the number of cases of blindness resulting from diabetic retinopathy.

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In our study only 32.3% knew that there will not be complete visual