DOI: 10.14260/jemds/2014/2631

ORIGINAL ARTICLE

DIABETIC RETINOPATHY: HOW AWARE ARE THE PHYSICIANS?

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HOW TO CITE THIS ARTICLE:
Narendra P. Datti, Ashwini Mahajan, Subhratanu Chakrabarty, Shalini, Rashmi N. R. "Diabetic Retinopathy: How aware are the Physicians?" Journal of Evolution of Medical and Dental Sciences 2014; Vol. 3, Issue 20, May 19; Page: 5575-5580, DOI: 10.14260/jemds/2014/2631

ABSTRACT: PURPOSE: The purpose of the study was to assess the awareness of physicians in rural Kolar district towards diabetes and diabetic retinopathy. **MATERIALS AND METHODS:** A cross sectional survey was conducted in rural Kolar district during May 2013. The study participants were 38 physicians and 2 general practitioners who had special training in diabetes. The data were collected by means of filling up of pre-tested specially designed questionnaires focused on awareness towards Diabetes Mellitus and Diabetic retinopathy. The assessment was done by total score as satisfactory (Diabetic retinopathy awareness index >12), moderately satisfactory (DRAI 9-11) or unsatisfactory if index <8. **RESULTS:** The mean of overall awareness score (±SD) for all the respondents were 10.9+1.8 (Maximum 15). In the present study, the satisfactory score (DRAI>12) was attained by only 55% (22/40) practitioners. Nearly 62.5% of physicians refer the diabetics to ophthalmologists only when they develop significant vision problems. **CONCLUSION**: This survey highlighted some of the lacunae in the knowledge about referral system of the general physicians and identified the need for improvement in awareness regarding the management of the patients with diabetes and diabetic retinopathy. To improve patient compliance, physician needs to educate their diabetic patients about the importance of setting an annual eye examination routinely before the development of vision loss.

KEYWORDS: Diabetic retinopathy, Diabetic screening, diabetic referral, Diabetic retinopathy awareness index.

INTRODUCTION: Diabetes mellitus (DM) is a global public health problem.[1] The prevalence of diabetes mellitus is increasing and the number of persons with the disease will be doubled by 2025.[2] The morbidity caused by its ocular complication has placed this disease as the 4th leading cause of blindness worldwide.[3]

Prevalence of Diabetic retinopathy (DR) in India varies in different studies[4, 5] from 19 to 34.1%. By 2025, there may be approximately 11-20 million persons with diabetic retinopathy including 5.7 million people with severe retinopathy needing intervention. Treatment can arrest its development but not restore lost vision. Fortunately, screening examinations can detect it in its early stages. Yet only about half of patients with diabetes actually receive this recommended examination.

Many diabetes patients, particularly in rural areas, visit physicians and optometrists at government health units for their medical and visual problems respectively. In this regard, first contact health professionals like doctors and paramedics can play their role in two ways that is they can generate awareness and can make timely referral to appropriate person.

To achieve this goal, these health personnel should have had adequate knowledge about these entities which in turn helps in making the patients understand about the importance of eye health and eye check-up in patients with diabetes.

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This study was conducted to assess the awareness of general practitioners in and around Kolar regarding diabetes and diabetic retinopathy. Understanding their baseline awareness regarding these issues, will allow us to formulate the strategies and design the programmes, which address the flaws and lacunae in combating needs of diabetic community.

AIM/OBJECTIVE:

- To know the level of awareness about Diabetic retinopathy among physicians in and around rural Kolar.
- Plan strategies to increase awareness which can result in prompt screening and treating of Diabetic retinopathy.

MATERIALS AND METHODS: This cross-sectional descriptive study was conducted in the month of May 2013. The study population consisted of General physicians and General practitioners with special training in DM.A total of 40doctors were included in our study.

A consent letter from the Ethical committee board, SDUMC was obtained before starting this research. The participants were assured that the outcome would not be used for performance appraisal of the individuals. The Questionnaires were distributed to practitioners by Dr. M.A, Dr. S.C, Dr. S, and Dr. N.R. To maintain the confidentiality, the practitioners sent the completed questionnaires directly to the principal investigators, and the first page of the questionnaire containing the name of the physician was immediately removed.

Questionnaires consisting of 10 questions specially designed to assess the awareness of retinopathy caused by diabetes were distributed among physicians in Kolar district. The first five questions were general physician oriented questions. The last five questions which were ophthalmic oriented had 3 possible responses and were scored from 1 to 3. Diabetic retinopathy awareness index (DRAI) was calculated from a total score of 15 from last 5 questions. DRAI>12 was considered satisfactory, moderately satisfactory when DRAI is between 9-11 and unsatisfactory when DRAI is <8.

The questionnaires consisted of the following questions.

1. What is the number of the patients examined by you in a month?
2. Diabetic patients constitute what percentage of total patients visiting your clinic?
3. What are the treatment modalities you offer to diabetic patients?
4. How frequently are they called for follow up?
5. How frequently do you check their blood parameters?
6. Do you have any knowledge of DR
   a) None b) Some idea c) Knows well.
7. When do you think fundoscopy is needed in your diabetic patients?
   a) Never b) When patient c/o blurred vision c) routinely in all diabetic patients.
8. When should you refer your diabetic patients to an ophthalmologist?
   a) Never b) When patient c/o blurred vision c) Routinely in all diabetic patients.
9. When should you refer your diabetic patient to a retina specialist?
   a) Never b) When patient c/o blurred vision c) Routinely in all diabetic patients.
10. How often should the diabetic patients be informed about the risk of Retinopathy?
    a) Never b) Occasionally c) Routinely.

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RESULTS:

Basic Characteristics of the Study Participants: A total of 40 doctors were recruited during the study period, consisting of 38 General physicians and 2 General practitioners with special training in DM. 3-5% of patients attending the clinic were diabetic and majority (65%) were on Oral hypoglycaemic drugs followed by Insulin therapy (25%) and Diet control (10%).

They follow-up the diabetic patients on an average 3-6monthly with blood parameters check-up every 1-6months, the flexibility was depending on the severity of diabetes and associated complications.

Overall score of the physician is concerned, 55% (22/40) are adequately aware about diabetic retinopathy with DRAI >12.20% were unaware with DRAI <8 and the rest 25% were partially aware about diabetic related issues (DRAI 9-11).

In the table number 2, most concerned numbers are related to question no 8 & 9. Here, 25 out of 40physicians feel referrals to general ophthalmologists should be done only after patient complaining of decreased vision (Q-8) and among them none refer their patients to retinal specialist (Q-9). Only 5% of doctors do direct ophthalmoscopy as routine procedure.

DISCUSSION: This research was aimed to assess the awareness of the physicians toward the diabetic and diabetic retinopathy patients. As most and first accessible health care professionals to general public, physicians are at the frontline of diabetes and diabetic retinopathy management. Compliance of the physicians in following screening guidelines, knowledge about ocular morbidity secondary to diabetes and commitment towards prompt early referral of cases influences overall management of problem in the community.

Mukamel D.B et al[6] analysed barriers to compliance with screening guidelines for diabetic retinopathy and concluded that the very low rate of diabetic retinopathy screening had implications on quality of life of patients with diabetes, long term costs of caring for them and social costs due to lost productivity. Interventions to increase screening rates are needed and should target both patients and their Primary Care Physicians.

The mean of the overall DRAI Score for all the respondents in the present study was 10.9+1.8 SD. Among which, the satisfactory score (DRAI>12) about diabetic retinopathy awareness was attained by only 55%(22/40) practitioners. A study conducted by Ghosh et al[7] observed that the knowledge of 74-78% physicians about issues related to diabetic retinopathy was graded as not acceptable. In that study, author was on the opinion that this knowledge deficit may interfere with prevention, early detection and effective management of care of diabetic ocular complications.

In present study**,** nearly 60% of physicians were of the opinion to refer the diabetics to ophthalmologists only when they develop significant vision problems and remaining felt regular referral of all cases routinely for screening of diabetic retinopathy was ideal. The above figures are still lagging and graded 'suboptimal' in preventing and treating vision related problems among diabetics. Surprisingly**,** none of the physicians referred the diabetic case to retinal specialist who has more and specialized knowledge than general ophthalmologists.

Why the awareness is so poor and so the referral rate? Perhaps physicians are not talking to their patients about eye care and not making referrals. They may not have time for it**,** given the many other problems of patients with diabetes.[8-10]

A second cause of the low rate of screening is poor communication among physicians. After the internist advises the patient about the eye examination, he or she then assumes it is the patient's responsibility to follow through and "comply."[12]

Awareness among primary care physicians and delivery of message to the patient about eye health in diabetes can have profound effect which may improve the screening rate and referrals. We recognize that these responsibilities place an additional burden on physicians, who already have a multitude of recommendations to follow from multiple organizations about preventing different diseases. As medicine becomes more complex, physicians are expected to do more and more. The only way they can do it all is by delegating work to others, whom they supervise.

Upgradation of knowledge about diabetic retinopathy among physicians through regular Continuous Medical Education (CME), guest lectures and symposiums will help to keep in touch with advancement of technology and care in ophthalmic practice, which can be adopted by interdepartmental collaboration. Diabetic retinopathy screening programmes have to be organized in remote areas which generally improves the awareness and also compliance of patient for diabetic retinopathy evaluation. The general practitioners and physicians need to be made aware of preventive and curative options available and trained regarding referral mechanism of diabetic patient.

To improve patient compliance, physician needs to educate their diabetic patients about the importance of setting an annual eye examination. It is preferable if they make the appointment for the patient or give the patient a note with ophthalmologist's name and telephone number. The physician should write to the ophthalmologist, the reason for the visit and enquire the patient on next visit about the status of retinopathy, and recommendations for follow-up. Teamwork between primary care physician and ophthalmologist in curtailing complications of diabetes is important which results in decrease in magnitude of blindness from diabetic retinopathy.

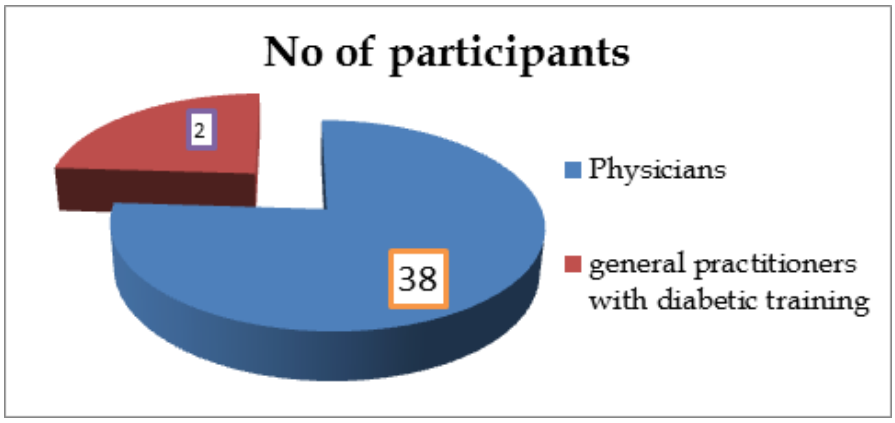
CONCLUSION: Diabetic retinopathy is becoming an increasing important cause of visual impairment in India. Vision loss and blindness due to DR are preventable to large extent, with early detection and timely treatment. However, many people with DR remain completely asymptomatic and unaware that their vision is under threat well beyond the optimal stage of treatment. A lack of knowledge regarding the need for screening of diabetic patients is the biggest hurdle in combating the burden of diabetic retinopathy. Hence the core solution needs to be analysed based on social, geographical and demographic parameters.

REFERENCES:

1. Accord Study Group, Ginsberg HN, Elam MB, Lovato LC, Crouse JR, 3rd, Leiter LA, et al. Effects of combination lipid therapy in type 2 diabetes mellitus. N Engl J Med 2010; 362:1563-74.
2. Wild S, Roglic G, Green A, Sicree R, King H. Global prevalence of diabetes: Estimates for the year 2000 and projections for 2030. Diabetes Care 2004;27:1047-53
3. Tumosa N. Eye disease and the older diabetic. Clin Geriatr Med 2008; 24:515-27.
4. Dandona L, Dandona R, Naduvilath TJ. Population based assessment of diabetic retinopathy in an urban population in southern India. Br J Ophthalmol 1999; 83: 937-40.
5. Rema M, Ponnaiya M, Mohan V. Prevalence of retinopathy in non-insulin dependent diabetes mellitus at a diabetes center in Southern India. Diabetes Res Clin Pract 1996; 34: 29-3.

DOI: 10.14260/jemds/2014/2631

6. Mukamel DB, Bresnick GH, Wang Q, Dickey CF. Barriers to compliance with screening guidelines for diabetic retinopathy. Ophthalmic Epidemiol. 1999 Mar; 6(1):61-72.
7. S Ghosh, S Mukhopadhyay, D Maji, D Halder. Awareness of Diabetic Retinopathy among Physicians and Optometrists in a District of West Bengal. Indian Journal of Public Health Vol.51 No.4 October-December, 2007.
8. Schoenfeld E, Greene JM, Wu SY, Leske C. Patterns of adherence to diabetes vision care guidelines: baseline findings from the Diabetic Retinopathy Awareness Program. Ophthalmology 2001; 108:563–571.
9. Kraft S, Marrero D, Lazaridis E et al. Primary care physicians' practice patterns and diabetic retinopathy: current levels of care. Arch Fam Med 1997; 6:29–37.
10. Jacques C, Jones R, Houts P et al. Reported practice behaviors for medical care of patients with diabetes mellitus by primary-care physicians in Pennsylvania. Diabetes Care 1991; 14:712–717.
11. Moss S, Klein R, Klein B. Factors associated with having eye examinations in persons with diabetes. Arch Fam Med 1995; 4:529–534.
12. Wender R. Preventive health care for diabetics: a realistic vision. Arch Fam Med 1997; 6:38–41.



Graph 1: Pie-chart showing professional experience of study participants

No. of Doctors	Total Score
2	6
3	7
3	8
2	9
4	10
4	11
20	12
2	14

Table 1: Showing score pertaining to diabetic retinopathy related knowledge of the physicians

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Score	Q-6	Q-7	Q-8	Q-9	Q-10
1	2	26	0	35	8
2	20	11	25	5	20
3	18	3	15	0	12

Table 2: Showing knowledge about management of diabetic retinopathy as answered in questionnaires

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Date of Submission: 13/03/2014.
Date of Peer Review: 14/03/2014.
Date of Acceptance: 08/05/2014.
Date of Publishing: 19/05/2014.