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KNOWLEDGE, ATTITUDE & PRACTICE PATTERN OF DIABETIC RETINOPATHY AMONG DIABETOLOGISTS OF VISAKHAPATNAM DISTRICT -A STUDY

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ABSTRACT

Background: Diabetic Retinopathy (DR) is the major cause of blindness in working age adults. Because of its asymptomatic nature, most of these patients do not seek ophthalmologists' care till the advent of visual loss. Patients who do not receive any form of educational intervention regarding Diabetes and DR, has a fourfold increased risk of developing Diabetic Retinopathy and its delayed recognition. Patients with Diabetes Mellitus (DM) look to their Diabetologists' guidance in managing all aspects of their disease including their eye care. According to ICMR guidelines, Diabetologists should discuss visual health with their patients and insist upon annual dilated eye examinations. Present study was undertaken to assess Diabetologists' self reported knowledge, awareness and practice patterns of DR relative to the published ICMR guidelines. **Methods**: A pre tested, semi structured questionnaire was given to 126 Diabetologists practicing in Visakhapatnam district with >5 years of experience in managing DM patients. **Results**: Study population consisted of 78 General practitioners, 44 General physicians and 4 Endocrinologists. Among 126 Diabetologists, 93.65% (n=118/126) had knowledge about DR. Only 32.53% (n=41/126) had knowledge about recent management modalities of DR. 81.74% (n=103/126) knew about the necessity of annual, fundus examination in DM pts. Only 20.33% (n=26/126) were imparting this knowledge to their patients. Only 6.34% (n=8/126) were advising Ophthalmologist's evaluation at the time of diagnosis of DM. **Conclusion**: DR related practice patterns of Diabetologists of Visakhapatnam district significantly differ from recommended strategies for Diabetes eye care . Based upon the results of our study, we suggest the need of certain measures and regulations.

KEYWORDS: Diabetes, Diabetic Retinopathy, Diabetes eye care, ICMR guidelines, Physicians' role.

INTRODUCTION

Diabetes mellitus (DM) is a chronic debilitating metabolic disorder of multiple aetiologies characterised by chronic hyperglycemia with disturbances of carbohydrate, protein and fat metabolism resulting from defects in insulin secretion, insulin action or both.[1] According to International Diabetes Federation (IDF)'s 5th edition of the Diabetes Atlas released on 14 November 2011 Brussels, the number of people living with Diabetes is expected to rise from 366 millions in 2011AD to 552 million by 2030AD.[2][3] In other words, one adult in ten will have Diabetes by 2030AD. Also, IDF estimates that as many as 183 million people are unaware that they are having Diabetes. Diabetes has reached epidemic proportions in developed as well as developing world. All countries, rich and poor alike are suffering the impact of Diabetes epidemic.[4] Diabetes is one of the most common non communicable diseases and the fourth leading cause of death all over the world. Diabetes is undoubtedly one of the most challenging health problems of 21st century, consuming a disproportionate share of health care resources.

GLOBAL SCENARIO

Diabetes caused 5.1 million deaths in 2013AD. One person dies every six seconds from Diabetes. 80% of people with Diabetes

live in low income and middle income countries. 175 million people (20-79 years) are living with Diabetes yet unaware of it. An estimated USD 548 billion was spent globally on diabetes in 2013AD. More than 21 million live births were affected by Diabetes during pregnancy.[1]

INDIAN SCENARIO

Currently, 63.1 million Indians are diabetics and by 2030AD, Indian diabetic population would be expected to rise to 79.4 million. Second to China, India is having the largest diabetic population of the world. In Indians, the average age of onset of Diabetes is 42.5 years i.e10 years earlier than our western counterparts. Total annual cost of Diabetic care In India is INR 1,230 billion to 1,837 billion.[5] Rapid epidemiological transition with increased urbanization, dramatic change in lifestyle from traditional to modern, sedentary life, physical inactivity due to technological advancement,[6] affluence leading to consumption of diets rich in fat, sugar and calories, high level of mental stress are causing insulin resistance in Indians. Strong genetic factors and Asian Indian phenotype associated with higher rates of central obesity and increased visceral fat are other contributing factors for making Indians more prone to Diabetes.(7)

COMPLICATIONS OF DIABETES

Complications due to Diabetes are a major cause of disability, reduced quality of life and death. Diabetes is among the top ten causes of disability in adults. Consistently high blood glucose level in people with Diabetes causes deleterious effects on the micro and macro[8] vasculature of every organ in the body causing a number of disabling and life-threatening health problems, affecting the heart and blood vessels, eyes, kidneys, and nerves. People with Diabetes are also at increased risk of developing infections. Maintaining blood glucose levels, blood pressure and cholesterol close to normal can help delay or prevent Diabetes complications. People with Diabetes need regular monitoring for complications. Most of the complications of Diabetes are related with the duration of the disease.[9] As the global prevalence of Diabetes increases, so also will the numbers of people with Diabetes related complications. For Indians, the average age of onset of Diabetes is 42.5 years and our life expectancy is 66.21yrs in 2012 AD .It is expected to increase to 75 yrs by 2030 AD. Hence more patients with Diabetes will live long enough with complications of Diabetes including vision threatening Diabetic Retinopathy (DR) to develop.

Diabetic Retinopathy (DR) is a chronic progressive, potentially sight-threatening micro vascular complication of Diabetes. DR is a major cause of morbidity in patients with Diabetes. Indeed, DR has become the leading cause of vision loss in working-age adults. The vast majority of patients who develop DR have no symptoms until the very late stages by which time irreversible visual disability would have occurred. Hence it is important to screen the patients with Diabetes regularly for the development of retinal disease.[10]

Globally, about 14.6% of people aged 40 years and above, develop DR after a 5-year duration of Diabetes.[1] 15,000 to 39,000 people lose their sight annually because of Diabetes. Prevalence of DR in India is 12%-37%. At this rate, approximately 37 million persons with Diabetes will have DR by 2030 AD.[11] DR is frequently asymptomatic and any degree of DR is a risk factor for further progression of disease. The preferred practice pattern of DR is to identify and treat the disease before irreversible visual loss occurs. Hence, 'Annual comprehensive eye examination' is recommended for all individuals with Diabetes.[12] Structured annual DR check-ups are not documented in our country. Measures to prevent diabetic complications are often either neglected or under recorded. Barriers for the effective management of Diabetes are many fold and include both doctor related and patient related issues.[13] Physician barriers include suboptimal knowledge of guidelines,time constraint or attitudinal issues.[14] Patient barriers include lack of knowledge about disease and its complications. For better self management ability and perceived quality of life, awareness about the disease and the disease related symptoms is essential. Awareness about and understanding of the disease is less than satisfactory among patients, leading to delayed recognition of complications.[13] Patients who do not receive any form of educational intervention has a fourfold increased risk of developing DR and also its delayed recognition.[9] Lack of trained Diabetes educators in India leaves the burden of educating the patients to the treating 'Family doctors' or physicians.[2] By furthering their knowledge of DM [13] and its effective management and specifically by

influencing their attitude,[14] effectiveness of physicians can be enhanced.

Objective: To know the knowledge, attitude and practice patterns of DR among Diabetologists in Visakhapatnam district of Andhra Pradesh state in India.

MATERIALS AND METHODS

The study was conducted according to the tenets of Declaration of Helsinki, [15] with the approval of the ethics committee of the Institute.

Type of the study: Cross sectional, Questionnaire based study

Inclusion criteria: Diabetologists practicing in Visakhapatnam district who were having more than 5 years of experience in managing DM patients and who were willing to participate in the study were included .

Sample size: The study population included 78 General practitioners or family doctors with MBBS degree and with diploma/certificate course in Diabetes,44 General physicians with MD (General Medicine) degree and 4 Endocrinologists with DM (Endocrinology) degree.

Study period: The study was conducted for a period of 6 months i.e from July 2013 to December 2013.

Methodology: After taking informed, oral consent from these Diabetologists, a pre tested, self designed questionnaire was administered to 126 doctors who were participating in the study. The questions were self designed and set by the author in such a way to achieve the objectives of the study. The questionnaire was set in English and was filled by a trained interviewer. The questionnaire consisted of 3 sets of questions, one set each to know the knowledge, attitude and practice patterns of study participants. Set 1 had open ended questions. Set 2 &3 had closed ended questions.

The questions given to know the knowledge were

1. What do you understand by Diabetic retinopathy?
2. What are the treatment options available for Diabetic retinopathy?
3. As per ICMR guidelines, how frequently should a person with Diabetes undergo eye check up?

The questions given to know the attitude were

1. Do you have any patient specific education program for your patients with diabetes? Yes/No
2. Do you have 'regular eye check up' of diabetes patients as your management goals, along with control of blood glucose levels? Yes/No
3. Do you have an Ophthalmologist in your panel of referral doctors? Yes/No

The questions given to know practice patterns were

1. Are you appraising your patient with diabetes about diabetes' complications including eye complications, at the time of diagnosis of diabetes / at first contact, as per ICMR guidelines? Yes/No
2. Are you insisting your patient to get the eye check up report at his annual review? Yes/No
3. Do you routinely examine the fundus of your patients? Yes/No

Responses to the questions in Set 1, to assess the knowledge, were evaluated separately. Responses to the sets 2 & 3 were considered positive if any two of the three questions were answered positively.

STATISTICAL ANALYSIS

The information obtained was entered in MS Excel and statistical analysis was done using SPSS version 9.0 and the results were obtained in the form of percentages, shown as bar diagrams.

RESULTS

Among the study population i.e 126 Diabetologists, 93.65% (n=118/126) had knowledge about DR. But only 32.53% (n=41/126) of these doctors had knowledge about recent management modalities of DR. Though 81.74% (n =103/126) knew about the necessity of annual, fundus examination in DM patients, only 20.33% (n=26/126) were imparting this knowledge to their patients. Only 6.34% (n-8/126) were advising ophthalmologist's evaluation at the time of diagnosis of DM as suggested by ICMR guidelines.

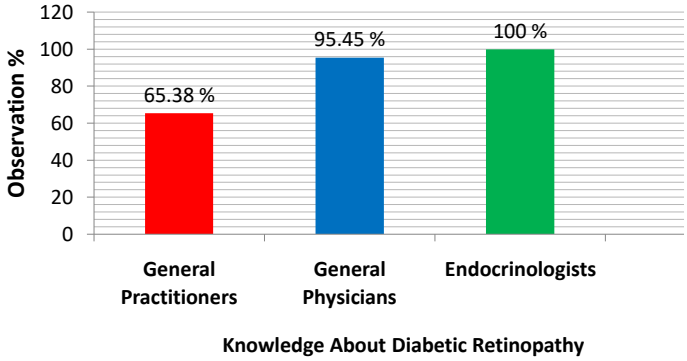

Fig .1: Knowledge About Diabetic Retinopathy

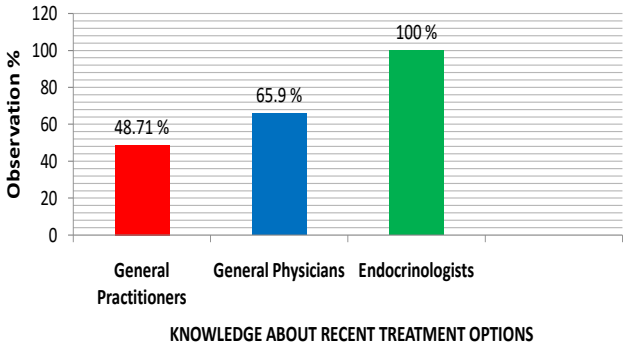

Fig .2: KNOWLEDGE ABOUT RECENT TREATMENT OPTIONS FOR DIABETIC RETINOPATHY

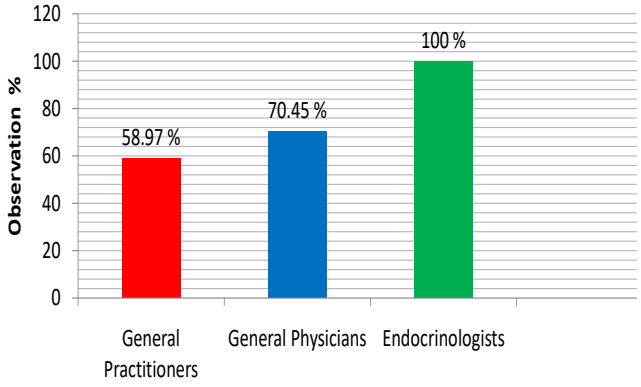

Fig.3: KNOWLEDGE ABOUT ICMR GUIDE LINES FOR DIABETES EYE CARE

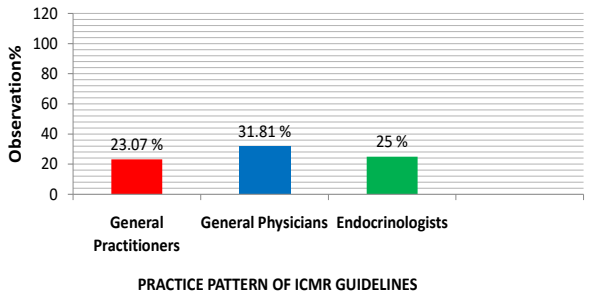

Fig.4: PRACTICE PATTERNS OF ICMR GUIDELINES FOR DIABETES'EYE CARE

DISCUSSION

Patient education is an important prerequisite for DM self management. According to ICMR guidelines [10], the diagnosing Diabetologist should provide unequivocal and consistent information to the patients regarding DM and its complications and various management options for DM with a view to influence patient perceptions and attitudes so that patient would be effectively involved in disease management[11].

Our study showed that though majority of Diabetologists were knowledgeable about DR, most of them were not aware of the recent trends in the management of DR i.e DR could occur insidiously in spite of well controlled systemic disease and the current standard care of DR is to identify and treat DR with timely Laser photocoagulation or Viterctomy etc [16].Though most of these doctors knew about the necessity of Annual ophthalmological evaluation / fundus examination through dilated pupil,[11] their compliance with these ICMR guidelines was poor i.e only 26.19% (33/126) were actually referring their patients to an Ophthalmologist. Few of these doctors were counselling their patients regarding DM and DR but they were doing that only when they find time or inclination or only to few educated patients who would ask questions about the disease. Very few among these doctors were educating their patients about DM and DR at the time of first contact or at the time of diagnosis of DM, as required.

Non compliance of Diabetologists with guidelines may be due to lack of awareness about recent trends in DR, lack of time, lack of councillors or health educators in their team, lack of communication skills or lack of empathy towards the patient and / or the problem.[17]

CONCLUSION

Our study showed that the practice patterns of Diabetologists significantly differ from the published guidelines. Based on the results of our study, we suggest certain measures to improve the standards of Diabetes eye care in our country.

RECOMMENDATIONS

1. Creating awareness and empathy among Diabetologists regarding the crisis of DM epidemic and their role in identifying and referring the patients at risk of DR through lectures and seminars by Ophthalmologists in academic meeting of physicians like Conferences, IMA meetings etc at local, state and national level.
2. Well planned, short term training to Diabetologists to empower them with recent management modalities of DR and fundus evaluation skills.
3. Physicians' counselling to the patients regarding the comprehensive annual eye check up that it should include fundus examination and not simply the 'Glasses ' prescription.
4. Essay competitions, quiz competitions, DR screening camps etc periodically to create awareness among general public regarding DM and DR.
5. Certain rules and regulations by the governing bodies like MCI etc to ensure uniformity in practice patterns of DR
6. National level alliance between Ophthalmologists, Diabetologists, Dieticians, Podiatrists and other health care providers and health policy makers.

A concerted national policy/program for DM care in line with the sustainable development of our country's health care system.

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CONFLICT OF INTEREST

Nil

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