

Evaluation of Type 2 Diabetes Patient Management in A Rural Hospital of Coimbatore District.

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Abstract: The chronic hyperglycemia of diabetes is associated with long term damage, dysfunction, and failure of various organs especially the eyes, kidneys, nerves, and heart and blood vessels. The objective of our study was to evaluate Monitoring and Follow-up of Type 2 Diabetes patients using ICMR guidelines as standard in PSG Hospitals, Karadivavi. It is a retrospective study based on the information available for Type 2 Diabetic patients. Information on management and follow up for a period of one year, 1st June 2013 to 31st May 2014 was collected and analyzed. Nearly 40% of the patients belong to 61-70 yrs age group, next is 51-60 yrs age group (26%). Clinical examination including Blood pressure measurement was done to all the patients during every visit. Monitoring of Lipids, blood urea, Serum creatinine, ECG and Urine-protein/albumin yearly once was done in around 50% of the patients. In 12% of the patients they have recorded the weight during every visit and they have not calculated BMI in any these patients. HbA1c was done in only 22% of patients 6 months once. Only 4% of the patients were screened for ophthalmic complications which is the most common complication of uncontrolled diabetes. The concept of screening for peripheral vascular diseases was not followed in any of the patients. Maintaining and adhering to a protocol for Diabetic patient monitoring and follow-up based on Standard Guidelines by ICMR will aid in consistency of quality treatment to patients in Rural Hospitals in India.

Keywords: Type 2 Diabetes Mellitus, Indian Council of Medical Research, Patient Management

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I. Introduction

Diabetes mellitus is a group of metabolic diseases characterized by hyperglycemia resulting from defects in insulin secretion, insulin action or both. The chronic hyperglycemia of diabetes is associated with long term damage, dysfunction, and failure of various organs especially the eyes, kidneys, nerves, and heart and blood vessels[1].

Diabetes mellitus is growing at an alarming rate all over the world particularly in India. It has been estimated that the global burden of Type 2 Diabetes Mellitus for 2010 is 285 million people which is projected to increase to 438 million in 2030, a 65 % increase. Similarly, for India this increase is estimated to be 58%, from 51 million people in 2010 to 87 million in 2030[2].

The American Diabetes Association (ADA)[3]; and the European Association for the Study of Diabetes (EASD)[4] have evolved effective diabetes care programmes, which have succeeded in improving the lot of diabetics in these countries by bringing down the morbidity and mortality. These organizations have brought out consensus guidelines with an aim to achieve the defined goal. Their experience has shown that adopting guidelines by the clinicians improves the outcome of treatment[5]. These guidelines cannot be adopted or copied, for our country. We must evolve our own guidelines based on our needs. The major portion of our population lives in rural areas with meager facilities in terms of health care delivery. Such a guideline should also consider the economic realities of our people – hence such a guideline should not only be available but should be affordable for the average Indians[6].

A need for availability of a set of Guidelines which can be used by doctors all over the country was strongly felt. With this in view, the Indian Council of Medical Research (ICMR) and the World Health Organization (WHO) convened a workshop wherein experts drawn from different parts of India participated. The meeting was held at Chennai from 2nd to 4th May 2003 and aimed to develop specific guidelines for monitoring and follow-up of Diabetic patients. The guidelines were further ratified by circulation to extended group of researchers and practitioners drawn from all over the country[6].

In this study we used these standard ICMR guidelines for Monitoring and follow-up for evaluating Type 2 Diabetes management in the PSG Hospitals, Karadivavi which is situated in a rural set up where basic

laboratory facilities are available and the backup of PSG Institute of Medical Sciences and Research (PSGIMS&R) is also available in terms of referral and specialty camps.

II. Objective Of The Study

To Evaluate Monitoring and Follow-up of Type 2 Diabetes patients using ICMR guidelines as standard in PSG Hospitals, Karadivavi.

III. Methodology

Our research team planned to conduct a study based on the hospital records of Type 2 Diabetic patients in PSG Hospitals, Karadivavi. It is a retrospective study based on the information available for Type 2 Diabetic patients who have registered before 31st May 2013. Information on management and follow up for a period of one year, 1st June 2013 to 31st May 2014 was collected and analyzed. A checklist based on the ICMR guidelines for physical assessment and laboratory investigations was prepared. Permission was sought from the Medical officer in-charge through our Community Medicine department and information was collected from 100 case sheets maintained in the records room and analyzed.

ICMR Guidelines:

Monitoring and Follow Up of People with Diabetes

How to Monitor and Follow up People with Diabetes?

- Blood sugar-FPG and 2 hr PPPG every month
- HbA1c every 3-6 months
- Clinical examination need to be done during every visit- minimum three months
- Optimizing weight, blood pressure, lipids
- Screening for long term complications like retinopathy, nephropathy, peripheral vascular disease

What to do during Annual check-up?

- Lipids
- Ophthalmology check-up/Fundus examination through a dilated pupil
- Blood urea / Serum creatinine
- Urine- Protein/Albumin, Micro-albuminuria
- ECG in those over 40 years of age

The data collection tool was prepared based on the possible information we could gather from the hospital file of a Diabetic patient and it was analyzed

IV. Results And Discussion

In this study 100 patients records were enrolled. The basic demographic profile of the patients is shown in Table 1.

Table 1 : Demographic profile of the Patients

Variables	Number(n=100)
Sex	
1. Males	56
2. Females	44
Age (in years)	
30-40	4
41-50	20
51-60	26
61-70	42
71-80	4
81-90	2
91-100	2

Table 2: Management and follow-up based on ICMR guidelines

Domains (ICMR Guidelines)	Follow up (n=100)
1. Blood sugar-FPG and 2 hr PPPG(monthly once)	68
2. HbA1c (3-6 months)	22
3. Clinical examination on every visit(Minimum 3 months once)	100
4. Optimizing weight (Weight recorded during each visit)	12
5. Optimizing Blood pressure (BP monitoring during each visit)	100
6. Optimizing Lipids (Yearly monitoring of lipid levels)	44
7. Screening for Retinopathy (Yearly ophthalmic examination)	4
8. Screening for Nephropathy (Yearly Blood urea and Serum	48

creatinine tests)	
9. Screening for Peripheral vascular disease (Foot pulses examination for Posterior tibial & Dorsalis pedis, Yearly once)	0
10. ECG (persons above 40 years) (Yearly once)	56
11. Urine-Protein/Albumin (Yearly once)	56

Nearly 40% of the patients belong to 61-70 yrs age group, next is 51-60 yrs age group (26%). Clinical examination including Blood pressure measurement was done to all the patients during every visit. Monitoring of Lipids, blood urea, Serum creatinine, ECG and Urine-protein/albumin yearly once was done in around 50% of the patients. In 12% of the patients they have recorded the weight during every visit and they have not calculated BMI in any these patients. HbA1c was done in only 22% of patients 6 months once. Only 4% of the patients were screened for ophthalmic complications which is the most common complication of uncontrolled diabetes. The concept of screening for peripheral vascular diseases was not followed in any of the patients.

A meeting with the service providers could be conducted and explained about the importance of adhering to the guidelines for monitoring and follow-up of diabetes patients and identify their difficulties in following these protocol. A separate card for the monitoring and follow-up of Diabetic patients could be prepared mentioning the period interval. Two copies, one in the hospital and one could be issued to the patient so that the patient will be more educated and reminded about the protocol of follow-up. Also the hospital will not miss the entry of these follow-up procedures. All sub-ordinate staffs in the hospital could be educated about the importance of these guidelines and asked to educate the same to the patients during each visit. More Ophthalmology camps could be conducted in the hospital and patients must be informed in advance about the camp schedule. The importance of Peripheral vascular diseases and Diabetic foot must be felt by the service providers and screening through foot pulses examination and Ankle Brachial Index (ABI) must be done yearly once at least. Rolling audit must be done at regular intervals for further monitoring to confirm improvement.

V. Conclusion

These type of clinical protocols using standard guidelines provides the mechanisms for reviewing the quality of everyday care provided to patients with common conditions like Diabetes. It can confirm the quality of clinical services and highlight the need for improvement. Maintaining and adhering to a protocol for Diabetic patient monitoring and follow-up based on Standard Guidelines by ICMR will aid in consistency of quality treatment to patients in Rural Hospitals in India.

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