Original Research Article

Study to Assess Awareness, Attitude, Practices & Risk Factors amongst Type 2 Diabetes Patients Attending Rural Health Training Center in Maharashtra

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ABSTRACT

Prevalence of type 2 diabetes is increasing globally. Health Education is likely to be effective if we know the level of knowledge, attitude and practices about diabetes amongst patients. The Aim of Present study is to assess awareness, attitude, practices & risk factors of type 2 Diabetes amongst the diabetic patients. The Study is Cross sectional institute based. Universal sampling method used for sample size calculation during study period. Average age of the patient was between 40-60 years (72.8%). Nearly 60% of patients were from low socio-economical status and 31% were illiterate. 50% patients were in pre-obese & obesity grade 1 category.29% patients had family history of DM. The study findings highlight limited knowledge of treatment duration, complications and dietary modification amongst patients. Also it revealed a low level attitude and practice among the diabetes patients which might be one of the causes of their uncontrolled blood sugar levels. The study recommended that diabetes education must be imparted by every clinician *as per standard norms*; special emphasis should be placed on dietary modifications in DM & foot care.

Key words: - Type 2 Diabetes, Awareness, Attitude, Practices, and Rural population.

INTRODUCTION

Prevalence of type 2 diabetes is increasing globally, [1] more so in developing countries like India due to rapid urbanization. [2,3] It is estimated that prevalence of diabetes will rise to 5.5% in 2025 as compared to 4% in year 1995. [4] The total direct cost for diabetes management has doubled from 1998 to 2005. [5] Health Education is likely to be effective if we know the level of knowledge, attitude and practices about diabetes amongst patients.

RHTC under Department of Community Medicine, Medical College, is catering rural 'Aadivasi' area in Thane district; treating thousands of patients including geriatric patients. Most of these geriatric patients have type 2 DM, taking regular treatment, but in spite of regular treatment with good quality drugs in adequate doses it has been observed that diabetes control in terms of fasting & postprandial blood sugar level is not consistently achieved. There is no study available regarding KAP & risk factors from rural area of Maharashtra. The Present study

is undertaken to assess knowledge, attitude, practices & risk factors regarding DM amongst patients attending RHTC.

The aim of present study is to assess awareness, attitude, practices & risk factors of type 2 Diabetes amongst the diabetic patients. The objectives were to assess risk factors of type 2 diabetes amongst these patients, assess their current blood sugar control & suggest recommendations based on the study findings.

MATERIALS & METHODS

The present study was conducted at rural health training centre of a Medical College. The Study is Cross sectional institute based study carried out between September-November 2010. It included a single questionnaire based oral interview of the diabetes patient; the questionnaire was administered by the principal investigator at diabetes OPD after explaining about the study and taking their informed consent. The blood sugar levels of the same patients obtained from laboratory register of the RHTC. Universal sampling method used for sample size calculation during study period.

All diabetes patients taking outpatient treatment at RHTC & willing to participate in the study were included while recently diagnosed diabetes patients & unwilling to participate were excluded from the study. Institutional Ethical Committee approval was obtained for conducting the study.

Study variables were, Demographic profile of cases, Information regarding source of information, duration of diabetes, family history of diabetes; weight & height measurement for BMI. Knowledge of diabetes in terms of symptoms, diagnosis, treatment duration, complications, follow-up investigations, etiology & dietary changes in DM. Attitude of patients towards diabetes etiology, herbal treatment, insulin injections & rice consumption by diabetic. Practices

regarding diet, regularity of treatment, foot care & herbal treatment. Assessment of fasting & PP blood sugar.

Analysis done was Percentage analysis performed by Microsoft Excel.

RESULTS

Amongst the 61 study subjects, 47 (78%) had age above 40 yrs, with mean age of 50.79 yrs. (Figure 1). There were 44 (72%) male & 17 (28%) female; most of them are from Vasai taluka 36 (59%) followed by Palghar 15 (24%); Education - 20 (32%) had secondary education, 19 (31%) illiterate & only 3 (4.9%) were graduates; Farmers & labourers dominated occupations [28 (45.9%)], followed by housewives [12 (19.7%)]. 37 (61.0%) people had income between 750-1499, belonging to upper lower socio-economic status. (Table 1).
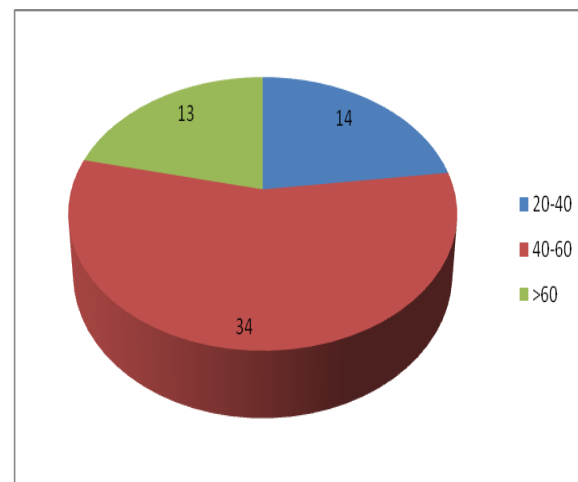

Figure 1: Age wise Distribution of diabetes cases during the Study period

Doctors & nurses informed about the illness to 59 (96.7%) patients. Mean duration of DM is 3.8 yrs, with 45 patients (78%) having DM for less than 5 yrs. Assessment of blood sugar level of interviewed patients showed that as many as 60% patients had uncontrolled diabetes i.e. above 126 mg% fasting & above 200

postprandial found to be above the recommended level by WHO .Assessment of risk factors showed that out of 61 patients, 18 (29.5%) patients had family history of diabetes mellitus. 28 (45.9%) were pre-obese & 3 (4.5%) were obese, 21 (34%) normal, 9 (14.8%) patients were undernourished.

Table 1: Sociodemiographic Variables of Diabetes cases during the study period

Socio-demographic Varibales	Numbers (n=61) (%)
Gender	
Male	44 (72)
Female	17 (28)
Education	
Illiterate	19 (31)
Primary	05 (8.9)
Secondary	20 (33)
Higher Secondary +	17 (27.8)
Occupation	
Farmers & Labourers	28 (45.9)
Housewives	12 (19.7)
Drivers	11 (18.3)
Other	10 (16.1)
Income	
375-564	05 (8.0)
565-745	08 (13.0)
750-1499	37 (61.0)
>1500	11 (18.0)

In the present study, knowledge about the diabetes disease among cases observed that .19 (31%) patients think that DM is curable & 24 (39.3%) patients had no idea. 44 (72%) patients were aware that regular blood check-up (every 3 months) necessary. 31 (50.8%) patients knew about eye, heart & kidney complications in diabetes, 11 (18%) answered that there are no complications of DM & 19 (31%) were not aware about complications. Only 10 (16.4%) thought it is familial & 9 (14.8%) thought it is infectious, 37 (60%) did not know the causes of diabetes. 20 (32%) patients mentioned one of classical symptoms of DM, 23 (37.7%) answered other symptoms not related to diabetes while 18 (29.5%) patients did not have any idea. Regarding diagnosis of diabetes, 44 (72%) patients were aware about blood test; 14

(22%) mentioned both blood & urine tests. 12 (19%) patients were aware that DM requires life-long treatment. All of them thought that rice, potato & sugar (including tea, sweets) should be avoided. (Table 2)

Table 2: Knowledge about Diabetes among diabetes cases during the study period.

Knowledge about DM (n=61)	Yes Numbers (%)	No Numbers (%)	Do not know Numbers (%)
Is DM Curable?	19 (31)	18 (29.5)	29 (39.5)
Is regular blood check up required in DM?	44 (72)	8 (13)	9 (15)
DM causes eye, heart & kidney complications	31 (51)	11 (18)	19 (31)
Is DM infectious?	9 (15)	16 (26)	36 (59)
Is DM familial?	10 (16)	14 (23)	37 (61)

As far as Attitude regarding DM is concern only four (5%) thought that DM occurs due to Gods anger, 43 (73%) did not blame God for the condition. 27 (44%) patients felt that herbs & ' Jadi-buti ' do not cure DM, only 15 (24%) believe in herbs; rest said they do not know. 31 (50%)patents felt that insulin injection may be required in treatment while 19 (31.1%) did not feel the need. Majority 50 (82%) patents thought that they should not be eating rice. (Table 3)

Table 3: Attitude towards diabetes among diabetes cases during the study period

Attitude about DM (n=61)	Yes	No	Do not know
Is DM caused by God's curse?	4 (5.5)	43 (73.5)	14 (23)
Is DM cured by herbs or Jadi-buti?	15 (25)	27 (44)	19 (31)
Injections (insulin) required in DM?	31 (51)	19 (31)	11 (18)
Diabetics should not eat rice?	50 (82)	8 (13)	3 (5)

During study period, Practices pertaining to DM were observed among diabetes cases. All patients answered that they are taking medicines regularly. 43 (70%) patients made changes in their diet after diagnosis of DM, 26 (60%) stopped eating rice, potato, sugar (including sweets & tea), 10 (23%) reduced the quantity of rice & tea, 7 (16.27%) stopped rice only.

Surprisingly only 7 (11%) patients were practicing foot care. 18 (29%) patients were taking/taken herbal medicines & 'jadi-buti'; 12 had taken it in the form of powder, three patients liquid formulation; most of them [15(83%)] consulted Vaidya, while rest had taken self medication.

DISCUSSION

Average age was between 40-60 years (72.8%). Nearly 60% of patients were from upper lower socio-economical status as per BG Prasad classification updated for May 2011 and 31% were illiterate. Since patients were recruited from government run hospital, there may be bias regarding these two factors. Both affordability and literacy may be the problem in diabetes education and management. Education of vulnerable communities can become a cost-effective public health strategy. It has been shown that self-care among individuals with type 2 diabetes improved glycemic control [6] and reduced complications. [7] Assessment of diabetic's current blood sugar levels showed that in most of the patients (60%) it was above recommended level.

As the patients interviewed were of type 2 DM, 72% patients were above 40 yrs. BMI of 50% patients was in pre-obese & obesity grade 1 category. 29% patients had family history of DM. Most of patients were farmers & laborers by occupation these people usually have hard work i.e. physically active still have Diabetes.

American Diabetic Association has defined self management education as the process of providing the person with diabetes the knowledge and skill that is needed to perform self care, manage crises and make life style changes. National standard for self care management in diabetes has been set by Mensing et al. [8] To achieve such standard self care patients and doctor should work together. There is emphasis on teaching pathophysiology and its relation with treatment, nutritional aspects, medications, complications, goal setting and psychosocial adjustments. Considering these standards, we formulated our questionnaire.

The study findings highlights limited knowledge of treatment duration, complications and dietary modification amongst patients similar to findings of Shah et al [9] & Upadhyay et al. [10] Most patients didn't know duration of treatment of DM and 31% mentioned that it is for short period. 68% either had no idea or wrong information about symptoms of diabetes. Significantly, 72% of patients knew about diagnostic & follow-up investigations of DM.these could be explained by free & regular blood sugar testing available at RHTC. About the consequences of diabetes in the long run, 31% of patients were unaware of complications; knowledge about diet is limited to avoidance of sweets & rice only. This might explain uncontrolled blood sugar in most patients

Most Patients did not blame God for diabetes. Almost 50% felt that insulin might be required in emergency. One of important finding is that 82% patients relied on avoidance of rice for diet management. As far as Practices regarding diabetes is concern 70% patients changed diet after diagnosis of DM; most of them either restricted rice & sugar or avoided rice in diet; Study shows poor practices about foot care; 29% patient's tried/on herbal treatment similarly Upadyay et al [10] found low levels knowledge, attitude & practice regarding Diabetes in Nepal.

Though there are some limitations like the study enrolled the patients only from one hospital in one region and hence cannot be generalized to the diabetic population of India. But Based on these findings of the study it is recommended that diabetes education must be imparted by every clinician as per standard norms, special

emphasis should be placed on dietary modifications in DM & foot care. High risk screening for type 2 DM might be started at OPD of RHTC with screening criteria as, age >40yrs, BMI > 23.5 kg/m2, family history of DM.

CONCLUSION

The study confirms the risk factors for type 2 DM such as age, obesity & familial tendency. Study revealed a low level of knowledge, attitude and practice among the diabetes patients which might be one of the causes of their uncontrolled blood sugar levels. Also two main findings of the study which may be responsible for low diabetes education among the patients were lower socio-economical status hence could not afford even minimum standard care and therapy.

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