

ORIGINAL ARTICLE

EVALUATION OF KNOWLEDGE AND SELF CARE PRACTICES IN DIABETIC PATIENTS AND THEIR ROLE IN DISEASE MANAGEMENT

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ABSTRACT

Background: Poor awareness and practices among diabetic patients are some of the important variables influencing the progression of diabetes and its complications, which are largely preventable through education and involvement of the patient.

Methods: A hospital based cross sectional study was conducted among type 2 diabetics attending diabetes clinic in tertiary care hospital. Knowledge and self care practices were evaluated using a semi structured questionnaire. Statistical methods used included frequencies, proportions and chi square test.

Results: A total of 117 diabetic patients consented and participated in the study of whom 63 (53.85%) were male and 54 (46.15%) female. Majority of the respondents (45.30%) between the age of 41-50 years, 75 (64.10%) belonged to lower class, and 60 (51.28%) had a duration of disease between 1 to 5 years. 71 (61.68%) were aware of importance of exercise for the control of disease while 88 (75.21%) said that modification in diet is essential for the control of the disease. 75 (64%) of the respondents had achieved glycemetic control. Among self care practices, following a controlled diet ($p = 0.04$), regular exercise ($p = 0.04$) and compliance with drugs ($p = 0.03$) were significantly associated with the achieving glycemetic control.

Conclusion: As evidenced by the study, patients who were regularly involved in self care practices have achieved better glycemetic control.

Key words: knowledge, self care practices, type 2 diabetes, glycemetic control

INTRODUCTION

The prevalence of the diabetes is increasing at an alarming rate particularly in developing countries. Estimate of global diabetes prevalence predict 6.4%, affecting 285 million adults in 2010, and will increase to 7.7% and 439 million adults by 2030.¹ India harbors the largest number of diabetic patients in the world. The International Diabetes Federation (IDF) reported that the total number of diabetic subjects in India is 41 million in 2006 and that this would rise to 70 million by the year 2025.² Increased

prevalence in India is attributed to the lifestyle transition coupled with urbanization, industrialization and lifestyle changes.³

Poor awareness and practices among diabetic patients are some of the important variables influencing the progression of diabetes and its complications, which are largely preventable. Compared with the general population incidence of Coronary heart diseases and stroke are more among patients of diabetes. Quality of life further impacted by complications like diabetic renal disease and diabetic retinopathy

and neuropathy which are frequently occurring among the patients having poor glycemic control. Developing countries which are already overburdened have to muddle through with the additional challenges posed by the chronic non communicable disease. Sub-optimal treatment, inadequate health education and follow up leads to the poor glycemic control and increase the toll of unnecessary disabilities among the people⁴. It is therefore essential to provide comprehensive services including health education regarding the self management of the disease in order to prevent the debilitating complications which in long term reduces the enormous financial burden on the health care system. Helping patients to achieve their best possible level of glycemic control will require the utilization of appropriate therapy, appropriate monitoring, and comprehensive instruction in diabetes self-management. Self-care in the form of adherence to diet and drugs, blood glucose monitoring, foot care, exercise, recognition of symptoms is crucial elements in secondary prevention. Interventions to promote better self-management have reported improvements in blood glucose control and Improved glycemic control is highly advantageous in preventing the long term complications of type 1 and type 2 diabetes as demonstrated by various studies ^{5,6,7,8}. Diabetes self-management education is teaching people to manage their diabetes has become an important part of the clinical management of diabetes however the process is often complex, demanding and not given much emphasis at professional level because of the time constraint of clinicians. Assessment of patient's knowledge and practices about diabetes is imperative in developing various intervention strategies and educational material.

The study aimed to evaluate the role of disease knowledge and self care practices and their role in achieving glycemic control and disease management.

MATERIAL AND METHODS

A cross sectional study was conducted among patients with type 2 diabetes mellitus attending the diabetes clinic in a teaching hospital during September, 2010 were included in the study. The purpose of the study was explained and informed consent was obtained from the respondents. Privacy and confidentiality was ensured during the process. 117 patients were

consented and participated in the study. A semi structured questionnaire was administered which consisted of the following parts A) Socio-demographic information, B) Diabetes specific information C) Knowledge regarding diabetes among patients D) Self care practices followed by the patients. Socio-demographic information including patients age, gender, and educational status. Socioeconomic status of the patient was calculated by using Kuppuswamy classification including total family monthly income, occupational and educational status of the respondents⁹. Diabetes specific information including the duration of the disease, glycemic levels, mode of treatment and medical care personnel. Knowledge of the respondents was assessed by questions related to the nature of the disease, method of detection of diabetes, importance of diet, exercise and drug compliance in controlling the disease etc. Self care practices were assessed by patients' behavior regarding testing blood sugar, following healthy eating plan, exercise, compliance to the drugs and checking feet regularly etc.

Patients were classified into those who had achieved glycemic control and those who did not, based on the fasting blood sugar levels < than 110 mg/dl based on Consensus Statement on Guidelines for Glycemic Control provided by American College of Endocrinology¹⁰. Self care practices were compared across the two groups and significant associations evaluated. Statistical methods used included frequencies, proportions and chi square test.

RESULTS

Baseline characteristics of the respondents are depicted in table 1. A total of 117 diabetic patients consented and participated in the study of whom 63 (53.85%) were male and 54 (46.15%) female. Age ranged from 34 years to 66 years in the sample with majority of the respondents (45.30%) between the age of 41-50 years. Socioeconomic status was assessed by categorizing the patient into lower, middle and upper class, 75 (64.10 %) belonged to lower class, 30 (26.64%) to the middle class and 12 (10.26 %) to upper by Kuppuswamy classification. Most of the respondents, 60 (51.28 %) had a duration of disease between 1 to 5 years whereas 9 (7.6%) of the people were having duration less than one year. On the knowledge regarding diabetes questionnaire, 78

(66.67%) correctly answered regarding the hereditary nature of the disease, 105 (89.74%) correctly answered regarding non infectious nature of the disease. Regarding mode of investigation of the disease, 109 (93.16%) answered that diabetes can be diagnosed by blood sugar examination. 71 (61.68%) were aware of importance of exercise for the control of disease while 88 (75.21%) said that modification in diet is essential for the control of the disease. 73 (62.39%) said that quitting smoking or alcohol is beneficial for control. Drugs should be continued even after control of blood sugar was the response from the 88 (75.21%) while diabetes cannot be cured was the response from 74 (63.25%) of the respondents.

Tables 1: Baseline characteristics of sample respondents

Variables	Numbers (n=117) (%)
Age	
< 40 years	17 (14.53)
41-50 years	53 (45.3)
51-60 years	35 (29.91)
> 60 years	12 (10.26)
Gender	
Male	63 (53.85)
Female	54 (46.15)
Socioeconomic status	
Upper class	12 (10.26)
Middle class	30 (26.64)
Lower class	75 (64.10)
Duration of onset of Diabetes mellitus	
< 1 year	9 (7.60)
1-5 years	60 (51.28)
5-10 years	33 (28.21)
> 10 years	5 (4.2)

75 (64%) of the respondents had achieved glycemic control based on their fasting blood sugar levels less than 110 mg while 42 (36%) had not. Among self care practices, following a controlled diet ($p = 0.04$), regular exercise ($p = 0.04$) and compliance with drugs ($p = 0.03$) were significantly associated with the achieving glycemic control.

DISCUSSION

The present study is a hospital based cross sectional study conducted among subjects having type 2 diabetes attending diabetes clinic in tertiary care hospital and mainly focus on

evaluation of knowledge among diabetes patient and their self care practices and its relation with glycemic control. Majority of the respondents (45.30%) belonged to the age group of 41-50 years as the disease usually comes in light after middle years of life however the age group of the patient is little younger compared to the findings of the studies conducted by priyanka et al and shah et al^{11, 12}. This variation may be because of selection bias as we recruited the cases from the tertiary care hospital. 51.28% of the patients suffering from diabetes from

Table 2: Respondent's correct knowledge regarding diabetes mellitus

Variables	Numbers (%)
Is diabetes Hereditary?	78 (66.67)
Is diabetes Infectious?	105 (89.74)
How can diabetes be detected?	109 (93.16)
Is exercise beneficial for control?	71 (61.68)
Is dietary modification beneficial for control?	88 (75.21)
Stop smoking / alcohol is beneficial?	73 (62.39)
Once controlled drugs should be stopped?	88 (75.21)
Diabetes can be cured?	74 (63.25)

1-5 years and 64.10% belong to lower socioeconomic strata. One of the promising findings of our study is good number of respondents had positive knowledge regarding diabetes. Change in the knowledge brings change in the practice to bring desirable changes for controlling the disease. Highest scores were obtained on mode of detection of diabetes (93.16%). Almost two third respondents were aware of importance of exercise, diet control and drug compliance. These findings are consistent with the finding observed by shah et al and priyanka et al^{11, 12}. Significant numbers of the respondents, 75 (64%) achieved glycemic control in the present study. As evidenced by the study, there is a significant association between the patient following a healthy diet, involved in regular exercise and compliant to the drug therapy with their glycemic control and these findings are in consistent with the studies conducted by Wyun Nyunt S et al and Jones H et al^{5,6}.

Table 3: Self care activities and its association with glycemic control

Variables	Glycemic control achieved (75)	Glycemic control not achieved (42)	Total (n=117)	P value
Test blood sugar regularly	68	38	106	0.76
Follow healthful eating plan	62	27	89	0.04
Participate in exercise	35	11	46	0.04
Good Drug compliance	57	23	80	0.03
Check feet	13	2	15	0.09
Carry quick acting sugar	35	15	50	0.34

CONCLUSION:

As evidenced by the study, patients who were more self aware about the disease, having knowledge and regularly involved in self care practices achieve better glycemic control and better management of the disease. Regular inculcation of health education, making the patient aware regarding the disease and encouraging self care management during treatment will reduce health care burden and help achieve optimal control of the disease with minimal long term complications.

LIMITATION:

Glycemic control was evaluated based on Fasting blood sugar. Data regarding self care practices was mainly on verbal responses.

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