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Knowledge on Diabetic Diet and Exercise Among Type 2 Diabetic Patients

Medical Science

KEYWORDS : Diabetes mellitus, Diabetic diet, exercise, foot care and knowledge

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ABSTRACT

Diabetes Mellitus is one of the leading challenges of the globe and specifically India which is a developing country. Clients diagnosed to have type 2 diabetes mellitus are expected to follow lifestyle changes in terms of diet and exercise in order to maintain their blood glucose values in normal limits and to prevent complications. The study evaluated the knowledge on diabetic diet and exercise among type 2 diabetes. A total of 50 samples were taken and a questionnaire on knowledge on diet and exercise was administered. Distribution of knowledge scores regarding diabetic diet, exercise and foot care shows that 43.42% patient had poor knowledge regarding diabetic diet, exercise and foot care. However 58.56% had average knowledge regarding Diabetic diet; 47.41% had average knowledge regarding Exercise and 62.54% had poor knowledge regarding foot care

INTRODUCTION

Diabetes Mellitus has become a major health challenge today worldwide. It represents a spectrum of metabolic disorders. The unprecedented economic development and rapid urbanization in Asian countries, particularly in India has led to a shift in health problems from communicable to non-communicable diseases. Of all the non-communicable diseases, diabetes and cardiovascular diseases lead the list.

Type 2 diabetes mellitus is increasingly common, primarily because of increases in the prevalence of a sedentary lifestyle and obesity. The world prevalence of diabetes among adults (aged 20–79 years) will be 6.4%, affecting 285 million adults, in 2010, and will increase to 7.7%, and 439 million adults by 2030. Between 2010 and 2030, there will be a 69% increase in numbers of adults with diabetes in developing countries and a 20% increase in developed countries.1

India has a high prevalence of diabetes mellitus and the numbers are increasing at an alarming rate. In India alone, diabetes is expected to increase from 40.6 million in 2006 to 79.4 million by 2030. Studies have shown that the prevalence of diabetes in urban Indian adults is about 12.1%, the onset of which is about a decade earlier than their western counterparts and the prevalence of

Type 2 diabetes is 4-6 times higher in urban than in rural areas. (1).

In a multistage cross sectional population survey that was undertaken in India in 77centers (40 urban and 37 rural) to determine prevalence of diabetes mellitus and impaired glucose tolerance (IGT) in subjects aged 25 years and above, it was found that the standardized prevalence rate for DM in the total Indian, urban and rural populations was 4.3, 5.9 and 2.7%, respectively. The corresponding IGT rates among the three populations were 5.2, 6.3 and 3.7%, respectively. The urban prevalence of DM and IGT was significantly greater than in the rural population ($P< 0.001$ in both instances). The prevalence of DM was significantly, more than that of IGT ($P< 0.001$) within both the rural and urban populations.Subjects were categorized as having IGT or DM using the World Health Organization (WHO) (1999) criteria.

In such a major health problem existing in India, the knowledge on diabetic diet and exercise helps the diabetic patient to maintain his blood sugar levels within normal limits. Therefore a study was done to assess the knowledge of diabetic patients on diabetic diet and exercise.

THE PROBLEM

A study to assess the knowledge on diabetic diet and exerciseamong type 2 diabetes patients in a selected hospital.

OBJECTIVES

- To assess the knowledge of diabetic diet among type 2 diabetic patients
- To assess the knowledge of exerciseamong type 2 diabetic patients
- To associate the knowledge on diabetic diet with selected demographic variables of type 2 diabetic patients.
- To associate the knowledge of exercise with selected demographic variables of type 2 diabetic patients.

METHODOLOGY:

The study was done in a diabetic OPD in a selected hospital. Prior permission from the authorities was sought and obtained. Consent was taken from the samples. Fifty T2DM patients who met the inclusion criteria were recruited by convenient sampling method. The inclusion criteria included patients between age group of 40 to 60 years, who were diagnosed as T2DM for a minimum of one year and who could speak English or Tamil. A questionnaire was prepared on knowledge of diabetic diet and exercise and the same was used for interviewing each sample.

SAMPLE CHARACTERISTICS:

Majority of the diabetic patients in the study were between 40-60years(94%).All were married. 17 samples had completed high school education(34%) and 17 had completed higher secondary and above(34%).Most of them were employed(76%) and 26 worked for more than 6 hours (48%). 34 samples were known diabetics for more than 5 years(68%). 31samples were nonvegetarians (62%) and 50% were also hypertensive patients. 41 samples had already received information on diet and exercise (82%).

FINDINGS:

TABLE 1

Knowledge on diet among diabetic patients

n=50

Variable	Max Score	Mean	SD
Knowledge on diet	20	7.52	2.45

The above table shows that the mean and SD of the knowledge on diet among diabetic patients were consistent. The knowledge of type 2 diabetic patients on diet was low. x=7.52(SD= +2.45) (Table 1)

TABLE 2
Knowledge on exercise among diabetic patients

n=50

Variable	Max Score	Mean	SD
Knowledge on exercise	10	6.66	2.17

The above table shows that the mean and SD of the knowledge on diet among diabetic patients were consistent. The knowledge of type 2 diabetic patients on diet was moderate. x=6.66 (SD= +2.17) (Table 2)

TABLE 3
Association of knowledge on diet with selected demographic variables among diabetic patients

n=50

Demographic Variable	< mean	>mean	χ^2	Tabulated Value
	No	No		
Age	24	26	1.134 NS	6.991
Education	24	26	10.524 **S**	7.815
Duration of DM	25	25	2.4496 NS	5.991
Information on diet	24	26	0.365 NS	3.841
Type of family	24	26	2.42 NS	3.841

There was significant association between the knowledge on diet and the educational level of type 2 diabetic patients. χ^2=10.52 ($p < 0.05$). Also there was no significant association between age, duration of diabetes mellitus, information on diet, type of family and knowledge on diabetic diet among type 2 diabetic patients ($p>0.05$) (Table 3)

TABLE 4
Association of knowledge on exercise with selected demographic variables among diabetic patients

n=50

Demographic Variable	< mean	> mean	χ^2	Tabulated Value
	No	No		
Age	22	28	0.8225 NS	5.991
Education	22	28	13.621 S	7.815
Duration of DM	22	28	0.4461 NS	5.991
Information on diet	22	28	0.116 NS	3.841
Type of family	22	28	0.019 NS	3.841

There was significant association between the knowledge on exercise and the educational level of type 2 diabetic patients. χ^2=13.62($p < 0.05$). Also there was no significant association between age, duration of diabetes mellitus, information on diet, type of family and knowledge on diabetic diet among type 2 diabetic patients ($p>0.05$) (Table 4)

DISCUSSION:

The findings of the study are supported by a study done by Jain, Pavankumar (July 2012) in Pune city.Distribution of knowledge scores regarding diabetic diet, exercise and foot care shows that 43.42% patient had poor knowledge regarding diabetic diet, exercise and foot care. However 58.56% had average knowledge regarding Diabetic diet; 47.41% had average knowledge regarding Exercise and 62.54% had poor knowledge regarding foot care. In another study done byYanuarPrimanda (2011), in Indonesia it was found that there is a positive relationship between the knowledge regarding diabetic diet and total dietary behaviors.

CONCLUSION:

The knowledge on diet was low and therefore type 2 diabetic patients need educational intervention on diet. The knowledge on exercise was moderate. They should be encouraged to practice physical exercise.

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