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Knowledge on Diabetic Complications and Compliance To Therapeutic Regimen Among Patients With Diabetes Mellitus

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ABSTRACT

A descriptive study was conducted with aims to assess the level of knowledge on diabetic complications among patients with diabetes mellitus, to assess the compliance to therapeutic regimen, to correlate the level of knowledge on diabetic complications and compliance to therapeutic regimen among patients with diabetes mellitus. Data was collected from 200 subjects selected by consecutive sampling technique from Sree Gokulam Medical College Hospital, Thiruvananthapuram using a semi structured questionnaire and a rating scale. The study revealed that 45% had inadequate knowledge and only 1% had adequate knowledge on diabetic complications. There was a significant association between knowledge on complications with education and occupation. 32.5% had good compliance and only 0.5% had poor compliance. There was a significant association between level of compliance with gender, education, occupation, and source of information. There was a weak positive correlation (r=0.409) between level of knowledge on complications and compliance to therapeutic regimen significant at $p < 0.01$.

KEYWORDS : knowledge; diabetic complications; compliance; therapeutic regimen.

Introduction

Diabetes mellitus currently affecting 5-10% of most populations, has become the most frequently encountered metabolic disorder in the world; its prevalence is growing more rapidly among the developing nations due to rapid demographic and epidemiological transitions occurring in these countries as a consequence of urbanization, industrialization and globalization.

People with diabetes have an increased risk of developing a number of health problems. Consistently high blood glucose levels can lead to serious diseases affecting eyes, kidneys, nerves and blood vessels. According to IDF (2010) every year, over four million people die from diabetes, and tens and millions more suffer disabling and life-threatening complications such as heart attack, stroke, kidney failure, blindness and amputation.

Knowledge on complications of DM and compliance to therapeutic regimen helps in preventing complications and reduce the mortality rate to a great extent. Hence the researcher was intended to conduct a study to assess the knowledge on diabetic complications and compliance to therapeutic regimen among patients with DM.

1.1 Statement of the problem

A descriptive study on knowledge on diabetic complications and compliance to therapeutic regimen among patients with diabetes mellitus in SGMCH&RF at Thiruvananthapuram district.

1.2 Objectives

To assess the level of knowledge on diabetic complications among patients with diabetes mellitus.

To assess the compliance to therapeutic regimen among patients with diabetes mellitus.

To correlate the level of knowledge on diabetic complications and compliance to therapeutic regimen among patients diabetes mellitus.

To associate the level of knowledge on diabetic complications among patients with diabetes mellitus with selected socio-personal variables.

To associate the level of compliance to therapeutic regimen among patients with diabetes mellitus with selected socio-personal variables.

1.3 Assumptions

Patients have some knowledge on diabetic complications.

Compliance to therapeutic regimen varies among patients with diabetes mellitus.

Subjects respond truly to the researcher's questions.

2. Materials and methods

2.1 Research design

In this study the researcher used a quantitative approach and a descriptive design. The setting of the study was Sree Gokulam Medical College and Hospital, Venjaramoodu, Trivandrum. The population under the study is all patients who are diagnosed to have DM. Subjects include 200 patients who all are diagnosed to have DM for more than six months and those who satisfy the inclusion criteria.

Tools/Instruments

The tools used in the study are

1. Tool I. Section I: Socio-personal performa

It consisted of ten items related to personal information of patients including age, gender, religion, education, and occupation, duration of illness, and previous hospital admission with diabetes, family history of diabetes, co morbidities and source of information regarding diabetes.

2. Tool I. Section II: Semi structured questionnaire on knowledge on diabetic complications

The questionnaire consisted 30 items to assess knowledge regarding complications such as knowledge on hypoglycemia, diabetic keto acidosis and hyperglycemia, diabetic nephropathy, diabetic neuropathy and foot ulcer, diabetic retinopathy and knowledge on insulin therapy. Each item consisted of four options and each correct answer carried one mark and the scoring system is as follows

0-10 (0-33%): inadequate knowledge

11-20 (34-67%): moderate knowledge

68-100%): adequate knowledge

3. Tool I. Section III: Rating scale on compliance to therapeutic regimen

A three point rating scale was used to assess the compliance to therapeutic regimen. The rating scale consisted 24 items. Each item had

three responses such as always, often and never, which carried scores of 2, 1 and 0 respectively and the total score are 48. The scoring is as follows

0-16 (0-33%): Poor

17-32 (34-67%): Average

33-48 (68-100%): Good

2.3 Data collection process

After obtaining permission from institutional research committee and institutional ethical committee of Sree Gokulam Medical College Hospital data collection process was started. By consecutive sampling technique 200 patients who attend the OPD and medical wards of SGMCH & RF were selected. A brief description of the study and its purpose was explained to patients and obtained an informed consent from them. Data were collected by using the socio personal performa, the semi structured questionnaire on knowledge on diabetic complications and the rating scale on compliance to therapeutic regimen.

3. Results of the study

Section 1: Distribution of subjects according to socio personal variables

Nearly half (46.5%) of the subjects belonged to the age group of 61-80 years and only 6.5% of subjects in the age group of below 40 years. 41.5% of the subjects belongs to the age group of 41-60 years and remaining 5.5% of the subjects are under the age group of above 80 years.

The male and female ratio in the study was almost equal. i.e., 49.5% males and 50.5% females were included in the study.

More than three fourth (76%) were Hindus, 18% were Muslims and 6% were Christians.

More than half (50.5%) of the subjects had their education up to high school. Nearly one third (31%) of subjects had only primary education. Only 16.5% of people had their education up to degree and 2% had completed post-graduation.

More than half of the subjects (58%) were unemployed. 9% of the subjects were professionals and 16.5% of subjects were engaged in occupations like agriculture, coolie work etc.

Among the subjects 43.5% of patients were identified to have diabetes mellitus for more than 7 years. Nearly a quarter (24%) for 3 to 5 years, 20.5% for 1-3 years and 12 % for 5-7 years.

More than two third (69%) of subjects never had a hospital admission in the last six months due to DM, whereas nearly a quarter (21%) had admission once, 4.5% twice, 3.5% thrice and 2% had hospitalization for more than three times in the last six months.

More than half (51.5%) of the subjects were hypertensive and nearly a quarter (23%) were suffering from diseases like COPD, Bronchial Asthma etc.

Half of the subjects (50%) had the family history of diabetes mellitus.

More than three fourth (76%) of the subjects received information regarding diabetes mellitus from health care professionals. 11.5% of subjects through relatives/ family members and 10.5% through mass media.

Analysis of knowledge on diabetic complications.

Table 1: Frequency and percentage distribution of subjects based on level of knowledge on diabetic complications.

Level of knowledge	Frequency (n)	Percentage (%)
Inadequate (0-10)	90	45
Moderate (11-20)	108	54
Inadequate (0-10)	2	1

More than half (54%) of the subjects had moderate knowledge, 45% had inadequate knowledge and only 1% had adequate knowledge on complications of diabetes mellitus.

More than half of the subjects (52.5%) had adequate knowledge regarding diabetic retinopathy, whereas only1.5% had adequate knowledge on DKA and hyperglycemia. With regard to insulin therapy complications only 1.5% of subjects had adequate and 81% had inadequate knowledge.

Knowledge on diabetic complications was significantly associated with education ($p<0.01$) and occupation ($p<0.05$).

Analysis of compliance to therapeutic regimen

Table 2: Frequency and percentage distribution of subjects based on compliance to therapeutic regimen (n=200)

Level of compliance	Frequency (n)	Percentage (%)
Poor	1 0	.5
Average	134	67
Good	65	32.5

67% of the total subjects had average compliance to therapeutic regimen. 32.5% had good compliance to therapeutic regimen and only 0.5% had poor compliance to therapeutic regimen.

Majority of the subjects (93.5%) had good compliance to medication. More than a quarter (32%) had poor compliance to foot care. Around half of the subjects had average compliance to remaining areas such as diet (52.5%), exercise (48.5%), foot care (56.5%) and follow-up (66%).

Compliance to therapeutic regimen is significantly associated with gender, education, source of information ($p<0.01$) and occupation ($p<0.05$).

Section 4: Correlation between knowledge on complications and compliance to therapeutic regimen.

There was a weak positive correlation ($r=0.409$) between knowledge on complications and compliance to therapeutic regimen which is significant at $p< 0.01$.

Mean score of knowledge on complications was 11.03 with a standard deviation of 3.969. The mean level of compliance to therapeutic regimen was 29.40 with a standard deviation of 6.71

Discussion:

The present study revealed that 67% of the total subjects had average compliance to therapeutic regimen, 32.5% had good compliance and only 0.5% had poor compliance. Majority of the subjects (93.5%) had good compliance to medication. More than a quarter (32%) had poor compliance to foot care. Around half of the subjects had average compliance to remaining areas such as diet (52.5%), exercise (48.5%), foot care (56.5%) and follow-up (66%).

A study on compliance of diabetic patients to therapeutic regimen among 100 diabetic patients showed that more than half of the patients (60%) had good compliance with diet regimen, and majority of the patients (78%) had good compliance with treatment regimen, and 75% of the patients had good compliance for periodic check- up for glycemic status. However, 45%, 70%, 56% and 88% had poor compliance with foot care, smoking cessation, blood pressure monitoring and eye examination respectively. This finding is consistent with the present study findings.

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