Self-care Practices among Type-II Diabetic Patients visiting tertiary care hospitals of Peshawar

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Abstract

Background: Diabetes mellitus is a serious public health issue globally as 366 million people were estimated having diabetes in year-2011. Self-care plays a key role in controlling type-II diabetes, however, little is known about self-practices from Pakistani context. The aim of this study was to assess self-care practices among type-II diabetes patients visiting tertiary care hospitals of Peshawar, KPK.

Methods: A cross sectional survey was carried out using a self-reported validated questionnaire to collect data. A total of 113 patients admitted in endocrinology, cardiology and surgical wards; having type-II diabetes, at two public sector tertiary care hospitals of Peshawar were recruited through convenient sampling technique. SPSS version 22 was used to analyze data.

Results: The participants had good self-care practices in some domains like foot care (74.3%), taking recommended diabetic medicines properly (70.8%) and self-blood glucose monitoring (84.1%). However, in other key self-care areas participants had poor practices like physical activity (21.2%) and following healthy diet plan (29.2%).

Conclusion: The type-II diabetic patients, visiting tertiary care hospitals of Peshawar, KPK needs more awareness and education about self-care regarding healthy eating diet and physical activity. Policy makers needs to adopt a multidisciplinary approach involving physicians, nurses, physiotherapists and dietitians for a comprehensive care of diabetic patients.

Key words: Diabetes Mellitus type-II, Self-care practices, Health education, Awareness, Diet, Exercises.

INTRODUCTION

Diabetes mellitus (DM), an illness and silent killer, is a serious public health problem globally as 366 million people were estimated having diabetes mellitus in year-2011; and was projected to be raised to 552 million by year-2030.1 In 2013, it was reported that Diabetes Mellitus had caused 4.6 million deaths in a single year of 2011.2 International Diabetes Federation calculated the prevalence rate of Diabetes Mellitus for the year-2013 as 382 million adults (8.3%) and is projected to increase to 592 million adults (8.8%) by the year-2035.3

The most prevalent form of diabetes is Type-II Diabetes Mellitus; that results from genetic, environmental and behavioral risk factors, and is characterized by relative insulin deficiency; hyperglycemia and insulin resistance.4 The insulin insensitivity is resulted from insulin resistance, pancreatic beta cells failure and declined insulin production.5 Genetic as well as a number of life style factors namely physical inactivity, cigarette smoking, sedentary lifestyle and increased consumption of alcohols are involved in the development of Type-2 DM.6 Obesity, which mainly develops due to sedentary lifestyle and physical inactivity, has been found contributing approximately 55% of all cases of type-2 DM.7 Additional factors contributing to an increased risk of type-2 DM development are high fat diet and aging.8 Diabetes accounts for an increased risk of various macrovascular as well as microvascular diseases like stroke, coronary artery diseases, kidney failures, retinopathy and foot amputation, that result in increased morbidity.9 Self-care activities like foot care, diet, exercise and self-monitoring of blood glucose are factors important in controlling serious chronic diseases including diabetes mellitus.10 Inadequate knowledge and practices regarding diabetes among diabetic patients have negative effect on the prognosis and treatment of disease and may lead to long term complications.11 Current socio-demographic trends indicate that type-II Diabetes is becoming an epidemic in Pakistan. Despite the significant role of self-care practices in controlling and managing Type-11 DM, very rare information is available about the self-care practices of these patients in Pakistan. This study was aimed to determine the self-care practices among type II diabetic patients admitted in tertiary care public sector hospitals of Peshawar.

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MEATHODS

The study was conducted in two major public sector tertiary care hospitals of Peshawar, Khyber Pakhtunkh-

wa, using a descriptive cross-sectional survey design. The study duration was five months from September 2017 to January 2018. Using convenient sampling technique, a total of 113 patients diagnosed with type-II diabetes for at least three months were recruited. IRB approval was secured and ethical issues pertaining to this study were addressed appropriately. Data were collected from the diagnosed diabetic patients admitted to endocrinology, cardiology wards and surgical wards at both hospitals. A self-administered validated tool, Summary of Diabetes Self-care activities (SDSCA), comprising of two sections; demographic information and diabetes self-care practices measurement was used to collect data. Demographic information included participants background information such as age, gender, marital status, occupation, monthly income, family history of the disease and duration of the disease in participants. The second part of the tool had four main domains; diet of the participants, foot care, self-blood glucose monitoring and exercise pattern of the participants. The participants were briefed about the purpose of the study and informed consent was secured. Data were analyzed using SPSS version 22.

RESULTS

The demographic characteristics of participants were as shown in table 01. Out of 113 participants, 57.5%(N= 65) were female while 42.5% (N=48) were male participants. The participants' mean age was 55.06 years with a standard deviation of 13.104. Out of 113 participants, 85.8% (N=97) were married while8.8% (N=10) were separated and 5.3% (N=6) participants were unmarried. Out of total, 54% (N=61) of the participants had no formal education while 24.8% (N=28) had only primary education. Majority of the participants had a positive family history of the disease with a total of 64.6% (N=73). In the dietary domain, the results showed that 45.1% (N=51) of the respondents did not follow healthy diet plan during the whole week. On analyzing the monthly diet of the participants, the results demonstrated that 38.9% (N=44) of the participants had not followed a healthy diet plan even for a single day. A very low percentage i.e. 27.4% (N=31) of the participants had followed healthy diet plan maximally for seven days during that month while another 11.5% (N=13) had followed healthy diet plan maximally for 04 days during the month. In addition, regarding the high fat food intake, the results revealed that 51.3% of the participants did not consume high fat food on daily basis and 22.1% of the participants consume high fat foods for the whole seven days of a week. Instead of the carbohydrate rich resources like vegetables, fruits, whole grain products and legumes, 46.9% of the participants completely do not consume carbohydrate and consume protein rich foods like eggs, chicken, milk and milk products, however, 53.1% of them did consume carbohydrate during some days of the week. In the self-monitoring domain of feet, the results show that 85% of the participants had checked their feet during the seven days of the week whereas 15% of the participants had not checked their feet during the whole week. On assessing the participants' response regarding looking into the inside of their shoes, the results show that 66.4% of the of the participants had checked the inner of their shoes before putting it to feet while 33.6% of them had not looked for the inner of their shoes.Similarly, the exercise pattern of the participants revealed that a great number of the participants did not participate in any exercise session that lasted minimally for 30 minutes. On average, 70.8% of the participants did not participate in physical activities while the remaining 29.2% of the participants participated in exercise session. Moreover, in special exercise sessions such as swimming, walking and biking 92% of the participants did not participate. In compliance to treatment regimen, the results depicted that only 70.8% participants had taken their recommended diabetes medications properly without any missed dose during the seven days. In addition, 32.7% of participant reported using herbal or homeopathic therapy for their disease.

Lastly, regarding health education of these participants, it was found that health care professionals such as physicians, nurses and dietitian guided and educated these patients. During their last visit to hospital facility, the participants response; 65.5% of the participants were given multiple advices, 25.7% of the participants were specifically advised to eat very few sweets and 3.5% of them were specifically advised to follow a low-fat eating plan.

DISCUSSION

The overarching aim of this study was to assess the self-care practices of Type-II diabetic patients, visiting tertiary care hospitals of Peshawar, KPK. In overall the dietary component of self-care practices of the participants was not satisfactory as 45.1% of the study participants did not adopt a healthy eating diet plan during the week. The importance of adopting a healthy eating diet plan both in quality and quantity lies in the fact that proper weight management and adequate blood glucose are linked to it. The study findings contrast the International Diabetes Institutes (IDI-2005) dietary recommendations for diabetic patients aiming to help the diabetic patients stabilize the blood glucose levels and reduce the cardiovascular risk factors by getting a balanced diet12. It means, dietary precautions are not being properly followed for optimal outcomes by these patients. For instance, only 15% of the participants reported eating fruits and vegetables on daily basis throughout the week which is not in line with the World Health Organization (2009) recommendations13. Adequate consumption of vegetables and fruits helps in good control of blood glucose level and minimizes complications like CVDs, GI tumors and stroke, etc14. The risk of Cardio Vascular Diseases is high amongst people suffering from diabetes, so it is essential to focus on this component of self-care in diabetic patients.

Regular physical activities are recommended for diabetic patients as it can benefit them in many ways like blood glucose monitoring, reducing insulin resistance, blood pressure level control and better control of cardio active action.15-16 Majority of the participants (60.3%) are being advised by the health care team to get proper exercise on daily basis, however, most of them (70.8%) did not participate in any exercise session that lasts minimally for 30 minutes, including walking. The International Diabetes Institutes (2005) common health goal recommends minimum 150 minutes of physical activity each week, which is not being followed by these patients. The IDI also stresses the importance of adopting healthy lifestyle that lowers the mortality rates, improves the body's sensitivity to insulin and controls glycemia17 So in

Table #01: Demographic variables

Variable	Frequency	Percentage
Gender:		
Male	48	42.5
Female	65	57.5
Marital status:		
Single	06	05.2
Married	97	85.8
Separated	10	08.8
Education level:		
Primary school	28	24.8
Secondary school	05	04.4
High school	08	07.1
College	03	02.7
Bachelor	08	07.1
No formal education	61	54.0
Occupation:		
Worker	02	01.8
Govt. servant	16	14.2
Technician	02	01.8
Merchant	05	04.4
Farmer	05	04.4
Gardner	01	00.9
House wife	61	54.0
Other	21	18.6
Income:		
Enough	42	37.2
Barely enough	62	54.8
Totally insufficient	09	08.0
Family history of disease:		

Table #02: Key findings

Variable	No. of days	Frequency	Percentage
The participants had checked his/her feet in a week	0	17	15.0
	1	01	00.9
	2	04	03.5
	3	02	01.8
	4	01	00.9
	5	03	02.7
	6	01	00.9
	7	84	74.3
The participants had taken recommended medications properly	0	5	04.4
	1	2	01.8
	2	4	03.5
	3	2	01.8
	4	6	05.3
	5	9	08.0
	6	5	04.4
	7	80	70.8
Exercise session adopted by he participants in a week:	0	80	70.8
	1	01	00.9
	2	01	00.9
	3	02	01.8
	4	02	01.8
	5	03	02.7
	7	24	21.2
The participants had followed a healthy eating plan in a week	0	51	45.1
	1	03	02.7
	2	06	05.3
	3	06	05.3
	4	08	07.1

order to achieve the common health goal, it is essential to focus the exercise component of self-care practices of the diabetic patients.

The study reflects that a great number of the participants (89%) are advised by the physicians to check their blood glucose level on regular basis and 68.1% of all of the participants had checked it once in a week. These results contrast the findings of a study that gussets checking blood sugar level on regular basis before each meal and before sleeping hours which is related to good improvement of metabolic control18. However, the results are consistent with the IDI-2005 guidelines of self-glucose monitoring being dependent on the available resources. The results also contrast with the findings of a study that state that those patient who are on insulin therapy should monitor their self-blood glucose level four times daily to prevent hypoglycemia19. Feet care is crucial in the treatment plan of type-II diabetes patients and this study found that majority of the participants take care of their foot. 85% of the participants had checked their feet and 66.4% of all of the participants had checked the inner of their shoes before putting it to feet. Majority of the participants (93.8%) had washed their feet and 59.3% of all of the participants had soaked their feet. On average, 50.4% of the participants did not dry their toe after wash. The results agree with the American College of Foot and Ankle Surgeons (ACFAS, 2009) recommendations, as diabetic patients need to clean their feet daily and dry it carefully especially between the toe. The ACFAS also recommends that the patients' need to inspect their feet daily.

CONCLUSION

The study reveals that most of the Type-2 diabetic patients, visiting tertiary care hospitals of Peshawar, lacks good self-practices like healthy eating diet plan and exercise. The results suggest that nurses should educate diabetic patients regarding self-care home practices such as diet, exercise, blood glucose monitoring etc. Moreover, physical therapists and dieticians should also be involved in the care of these patients. Based on the study findings, it is recommended that, for type-II diabetic patients self-care shall be made an integral component of the treatment plan to prevent further complications to these patients.

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