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ORIGINAL ARTICLE

The Assessment of Self Care Practices amongst Diabetic Patients of Rawalpindi, Pakistan

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ABSTRACT

Background: Diabetes Mellitus is a chronic disease and with rapidly increasing prevalence, it requires continuous diabetic care beyond just glycemic control. It needs continuous self-management and multi factorial risk reduction strategies. This study aims to assess the self-care practices of diabetic patients living in Rawalpindi and to determine the relationship of sociodemographic characteristics with their self-care practices.

Methodology: This cross-sectional study was conducted in two private diabetic clinics of Rawalpindi from February to July 2022. A validated structured questionnaire using Summary of Diabetes Self-Care Activities (SDSCA) scale was administered to assess self-care practices of the study participants. A total of 230 participants through convenience sampling aged 25 to 86 years were recruited in the survey. SPSS version 22 was used to carry out the statistical analysis.

Results: The current study comprised of 107(46.5%) males and 123 (53.5%) females with mean age of 54.85 ±12.41 years. Among them, 65.2% had adequate self-care practices. It was found that marital status (p=0.004), educational status (p=0.002), monthly income (p=0.001) and duration of diabetes (p=0.006) were significantly associated with self-care practices of the participants.

Conclusion: More than half of the participants had adequate self-care practices. Sociodemographic variables like marital status, education, monthly household income and duration of diabetes were significantly associated with the self-care practices of diabetic patients.

Key words: Diabetes Mellitus, Pakistan, Self-Care, Self- Management, Survey

Authors' Contribution:
[1,2]Conception; Literature research; manuscript design and drafting; [2,3] Critical analysis and manuscript review; [5,6] Data analysis; Manuscript Editing.

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Article info:
Received: November22, 2022
Accepted: June 15 2023

Cite this article. Zulfiqar R, Masood S, Mahmood H, Hassan U, Bano B R, Tahreem R.The Assessment of Self Care Practices among Diabetic patients of Rawalpindi. J Islamabad Med Dental Coll. 2023; 12(2): 127-132
DOI: https://doi.org/10.35787/jimdc.v12i2.929

Funding Source: Nil
Conflict of interest: Nil

Introduction

Diabetes mellitus with its increasing prevalence is a significant public health concern.[1] Globally in the past few decades, the burden of diabetes is increasing continuously and in the coming years this trend is expected to continue.[2] Around 425 million people are diabetic, among them four-fifths are in low- and middle-income countries.[3] As it is a chronic condition, so it requires continuous medical care and

self-management.[4] Diabetes results in a heavy economic burden as it leads to increased disability rates and several other complications. In view of the rising disabilities and comorbidities due to diabetes, it is need of the time to develop appropriate and reasonable prevention strategies.[5]

Self-management support is an important element of the "Chronic Care Model" for the management of chronic conditions.[6] The process of self-management comprises of various self-care activities such as planning healthy meals, physical activity, monitoring levels of blood glucose regularly, and to deal with diabetes related complications.[7] Self-care activities are associated with various sociodemographic variables so there is a need for self-management interventions as it is the only way possible to make individuals self-sufficient to combat this chronic disease. Self-care is crucial for diabetic people as it involves gaining knowledge of the complex nature of diabetes and learning to live with it in a social context.[8] This study aims to assess the self-care practices of diabetic patients in Rawalpindi and the association of these self-care practices with sociodemographic characteristics of the diabetic patients.

Methodology

This cross-sectional study was conducted in two private clinics of Rawalpindi from February to July 2022 after taking ethical approval from Armed Forces Postgraduate Medical Institute (AFPGMI), NUMS Rawalpindi. The study population comprised of type 2 Diabetic patients and sample size came out to be 230 by applying the following formula:

$$S = \frac{Z^2 \times P \times Q}{E^2}$$

(where Z= 1.96 (95% CI), P= 0.17 (As prevalence of Diabetes is 17.1% in Pakistan [9], Q (1-P)= 0.83, E= 0.05)

Type 2 Diabetic patients were recruited as study participants by using non-probability convenience sampling technique. The known patients of type 2 diabetes of both genders, aged ≥ 13 years, diagnosed for at least 6 months, willing to participate and able to take part in interview were included in the study. Women suffering from gestational diabetes were excluded.

The Toobert and Glasgow Self Care Questionnaire was used in this study.[10] It is a validated questionnaire as it has been utilized in several studies. It consists of several self-care behaviors and questions related to physical activity self-care (2 questions), blood glucose monitoring (2 questions), feet selfcare (2 questions) and diet self-care (4 questions).

The data was self-administered to minimize methodological bias. The participants reported their self-care behaviors in 7 days. Informed verbal and written consent were given by the participants.

Mean scores for all the domains of self-care (Diet, physical activity, foot care and blood glucose monitoring) were calculated individually. The overall mean score of the self-care practices was calculated by adding scores for diet, physical activity, foot care and blood glucose monitoring then dividing by the sum of number of questions under each sub-scale. After calculating an overall mean score, self-care practices would be categorized as adequate if the patient scored more than or equal to mean score or self-care practices would be categorized inadequate if the patient scored less than mean score. Statistical analysis was carried out using SPSS version 22. For descriptive statistics, percentages and frequencies were calculated while associations among independent variables and self-care practices of the study population were checked by applying chi square test of significance.

Results

The sociodemographic characteristics of participants are shown in Table 1.

Table I: Frequencies and Percentages of Demographic Variables (n=230)		
Variable	Category	Frequency (%)
Gender	Male	107 (46.5)
	Female	123 (53.5)
Age (years)	< 35	10 (4.3)
	≥35-≤60	153 (66.5)
	>60	67 (29.1)
Marital Status	Single/widow/ divorced	27 (11.7)
	Married	203 (88.3)
Educational Status	No Formal Education	46 (20)
	Primary	45 (19.6)
	Secondary	37 (16.1)
	Graduation or above	102 (44.3)
Occupation	Housewife	81 (35.2)
	Private/govt Job	89 (38.7)
	Self Employed	37 (16.1)
	Unemployed/ Retired	23 (10)
Monthly Income (PKR)	< 25000	31 (13.5)
	≥25000- < 50000	67 (29.1)
	≥50000- < 100000	94 (40.9)
	≥100000- < 150000	14 (6.1)
	≥ 150000	24 (10.4)
Duration of Diabetes	≤ 10 years	171 (74.3)
	>10 years	59 (25.7)

Among 230 study participants, 107(46.5%) were males and 123 (53.5%) were females with a mean age of 54.85 years (SD = ±12.41). The average duration of diabetes was 7.6 years (SD = ±5.6 years). Most of the participants were married (88.3%), with 44.3% of participants having graduation or above level of education. Majority of the participants were working in private and government sector (38.7%) with 40.9% of the participants earning a monthly income between Rs.50,000 to Rs.100,000.

Distribution of various domains of self-care practices is presented in table 2.

Table II: Distribution of Self- Care Practices Domains		
Self-Care Practice Domains	Adequate n (%)	Inadequate n (%)
Physical Activity	151 (65.7)	79 (34.3)
Diet	144 (62.6)	86 (37.4)
Foot Care	128 (55.7)	102 (44.3)
Blood Glucose Monitoring	127 (55.2)	103 (44.8)

Among different domains of self-care practices, the most practiced domain was physical activity with 65.7% participants having an adequate physical activity and least practiced (55.2%) domain was blood glucose monitoring. The participants who reported following adequate diet were 62.6% while 55.7% of the participants followed adequate foot care practices.

The association of socio-demographic variables with self-care practices are shown in table 3 after applying chi square test of significance.

It was found that marital status, educational status, monthly income and duration of diabetes were significantly associated with self-care practices of the diabetic patients while age and gender had no significant association with self-care practices.

Discussion

The findings of the current study revealed that 65.2% (n=230) have adequate self-care practices. Among different domains of self-care practices, the most practiced are the physical activity and diet. Sociodemographic variables like marital status, education, duration of diabetes and monthly household income are significantly associated with the self-care practices.

The percentage of adequate self-care practices reported by the current study is higher than studies conducted in Ethiopia[11] and India[12] which reported 60.7% and 46.4% respectively but it is less than a

Table III: Association of Socio-demographic variables with Self-Care Practices			
Variable	Category	Self-Care Practices Adequate Inadequate	p- Value
Gender	Male	73 (68.2%) 34 (31.8%)	0.407
	Female	77 (62.6%) 46 (37.4%)	
Age	< 35	4 (40%) 6 (60%)	0.203
	35-60	100 (65.4%) 53 (34.6%)	
	>60	46 (68.7%) 21 (31.3%)	
Marital Status	Single/widow/divorced	8 (29.6%) 19 (70.4%)	0.004*
	Married	142 (70%) 61 (30%)	
Educational Status	No Formal Education	18 (39.1%) 28 (60.9%)	0.002*
	Primary	29 (64.4%) 16 (35.6%)	
	Secondary	21 (56.8% 16 (43.2%)	
	Graduation or above	82 (80.4%) 20 (19.6%)	
Monthly Income	< 25000	7 (22.6%) 24 (77.4%)	0.001*
	≥25000- < 50000	31 (46.3%) 36 (53.7%)	
	≥50000- < 100000	81 (86.2%) 13(13.8%)	
	≥100000- < 150000	13 (92.9%) 1 (7.1%)	
	≥ 150000	18 (75%) 6 (25%)	
Duration of Diabetes	≤ 10 years	97(56.7%) 74 (43.3%)	0.006*
	>10 years	53 (89.8%) 6 (10.2%)	

study conducted in Nigeria`[13] according to which 79.5% had adequate self-care practices. These differences could be due to culture or socio-economic aspects of the participants under study.

The most practiced domain of self-care activities among diabetic patients is physical activity and diet with 65.7% and 62.6% of the participants following it. It is consistent with the results of another study performed in Ethiopia which reported physical activity and diet as the most practiced domain.[(11)] The least followed self-care practice was blood glucose monitoring and foot care. Same has been observed in a study conducted in China.[14]

As already discussed, the current study reported that sociodemographic variables like marital status, level of education, monthly household income and duration of diabetes are significantly associated with the self-care practices. In another study conducted in Lahore to assess the impact of sociodemographic variables on self-care practices of patients suffering from type 2 diabetes, same has been observed except that there is an association of age and gender as well in their study but in the current study no such association has been observed.[15] This could be due to influence of other factors like education status and monthly income. According to another study done by Allah Bakhsh and his colleagues, there is no association of age and gender with self-management practices of diabetic patients.[16] In the present study participants with higher education are more likely to adhere to good self-care practices. It is consistent with the finding of study conducted in India.[17] Duration of diabetes has a significant association with self-care practices. The patients diagnosed with Diabetes for more than 10 years have better self-care practices. Similar findings were reported from Ayder Comprehensive Specialized Hospital.[18]

The current study highlighted the compliance of diabetic patients with self-care practices in Rawalpindi. The use of a validated instrument in native Urdu language for measuring self-care practices is one of the strengths of this study. Limitations of this study include inclusion of only those diabetics who attended private health care facilities. Like elsewhere in low and middle-income countries, private sector provides better healthcare facilities. Therefore, the findings cannot be easily generalized to people with diabetes who receive public sector care. Secondly, this study provides an insight into the practices of people living in urban

areas only and thirdly, it was self-reported practices, so reporting bias could have occurred.

Conclusion

More than half of the participants had adequate self-care practices. Sociodemographic variables like marital status, education, monthly household income and duration of diabetes were significantly associated with the self-care practices of diabetic patients.

Recommendations

It is the need of the time to provide more vigorous support of diabetes education and self-management by the identification of priority areas for action. The shortcomings identified in the diabetes related self-care practices recommend an urgent action to develop and incorporate diabetes self-care education programs in standard clinical practice. The engagement of health care providers should be made mandatory in the planning, implementation and evaluation of such programs.

Disclaimer

This manuscript is a part of thesis of Master in Public Health at AFPGMI.

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