

Impact of Diabetes Distress on Self-management, and Self-esteem among Diabetics

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Abstract

Background: Diabetes Mellitus is one of the most significant public health concerns. The prevalence of DM has enlarged dramatically in nearly all countries in the world. Apart from emotional difficulties, diabetic patients' life gets affected in diverse ways. This study investigated the impact of diabetes distress on self-management and self-esteem among diabetics.

Objective: The objective of this study was to observe the impact of diabetes distress on self-management and self-esteem among diabetics.

Study type settings and duration: The survey research design and convenient sampling technique was used for data collection from different hospitals of Sargodha, Mianwali and Khushab from 2017 to 2018.

Methodology: Sample of this study consisted of diabetic patients (n = 255) including both male (n = 100) and female (n = 155). Sample size was calculated by using Morgan formula. Diabetes Distress scale, Self-Management scale and The Rosenberg self-esteem scale were utilized. The collective data was then analyzed by using SPSS-23.

Results: Results revealed that diabetes distress negatively predicts self-management and self-esteem amongst diabetics. Additional findings showed that diabetes distress and self-management was higher in type 1 diabetes than type 2 diabetes.

Conclusion: It was concluded that diabetes distress had significant negative effect on diabetes self-management and self-esteem.

Key words: Diabetes distress, diabetes self-management, self-esteem.

Introduction

Various developing countries like Pakistan face countless health issues. Diabetes is the major universal health emergence of 21st century. Countries like Pakistan; are quiet unaware of the societal and cost-effective power of diabetes.¹ Further it was recommended that the two types of diabetes differ in their symbols and symptoms, medication and in threat factor. Occurrence of diabetes in Pakistan was 11.77%. Pakistan has

biggest population in the world with deprived health quality therefore it is essential to perform large sample size studies that would signify both age groups and areas which will aid in highlighting the real prevalence in Pakistan.² It is needed that diabetes be discussed in diverse educational, scientific and in electronic and print media to inform the society about its obstacle. Diabetes distress is a stress that patient experience due to their diabetes. It refers to the exceptional, for a moment unseen, emotional drains and doubts that a patient experiences when they are managing a severe chronic disease like diabetes.³ Self-management as preparation of guidance of the people with chronic condition who are capable to deal with them by taking medicine or therapy for managing their daily routines.⁴ It was concluded that diabetes generate psychological burden in life which was very problematic as its medication cause high level of distress.⁵ High glucose level cause high level of distress and in turn it reduces self-esteem.⁶

Diabetes distress negatively influences the relation with self-care. It has been viewed that having type 2 diabetes and making full use of self-management in one's life style cause fewer

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Authors Contribution

AK conceptualized the project and performed the statistical analysis along with the drafting, revision & writing of manuscript. NM did the data collection. Literature search was also done by NM & AK.

interpersonal distress, and diabetes distress.⁷ Previous researches conducted in Pakistan, China, Saudi Arabia and South India have examined diabetes distress, diabetes self-management and other experiences only in type 2 diabetes.⁸⁻¹¹ Current study aimed to find out distress and diabetes self-management in both type 1 and 2 diabetes- mellitus.

In Pakistan, the middle-aged population has both psychosocial and cultural barriers for their diabetes management¹². Researchers investigated the negative association between diabetes distress and self-management.¹³ Findings of another study discussed the diabetes distress and its associated factors in the Pakistani population.¹⁴ The study conducted in Pakistan on diabetes knowledge, beliefs and practices among people with diabetes provided evidence that there was a lack of information available to people with diabetes in Pakistan as the large population has never received any diabetes education at all.¹⁵

Earlier literature showed that Pakistan need more work on the psychological factors related to diabetes. People need education about psychological factors related to diabetes and also on how to cope with this emerging disease. The current study intended to investigate the impact of diabetic distress on self-management, self-esteem among diabetics.

Methodology

Survey research design and convenient sampling technique was used for data collection from different hospitals of Sargodha, Mianwali and Khushab. Sample of this study consisted of diabetic patients (N =255) together with both male (n=100) and female (155) with age range of 20 to 70 years (M =45.34, SD= 10.57). Both types of diabetes (type I and type II) were included in sample. Following instruments were used for present study.

Diabetes Distress Scale,¹⁶ has 17 items and 6 point rating scale. It has 4 subscales together with Emotional Burden (1,3,8,11,14), Physician Related Distress (2,4,9,15), Regimen Related Distress (5,6,10,12,16), and Interpersonal Distress (7,13,17). Diabetes self-management scale¹⁷ is a 16 item scale with 4-point rating scale. It also has four subscales consisting of; Glucose Management (1,4,6,10,12), Dietary Control (2,5,9,13), Physical Activity (8,11,15), and Health care use (3,7,14). Rosenberg self-esteem scale¹⁸ consists of 10 items having 4 point Likert scale. Permission was taken from the head of relevant hospitals, and then diabetic patients were approached. Informed consent was

obtained from each participant ensuring full confidentiality of the data. Participants were free to leave the study at any stage if they feel any problem. A set of questionnaire along with demographic sheet was given to every participant. At the end participants were thanked for their cooperation. The gathered data was then analyzed by using SPSS-23. Descriptive statistics was used to summarize data, Pearson correlation was conducted to assess relationship between study variables and multiple regression analysis was carried out to assess the prediction of variables and for further additional analysis t-test was carried out to analyze the comparison of type I and type II diabetes distress and diabetes self- management.

Results

There were 255 diabetic patients, 155 were female and 100 were male with age range 20-70 (mean age 45.34). Reliability coefficient ranged from 0.71 to 0.78 showed that all scales have satisfactory internal consistency. Table-1 showed the multiple regression analysis of Emotional Burden, Physician Related Distress, Regimen Related Distress and Interpersonal Distress as predicting variables of Glucose Management, Dietary Control { $F(4, 250) = 12.96, p < .01$ } suggesting that emotional burden, physician related distress, regimen related distress and interpersonal distress predict glucose management account for 4% variance in the glucose management ($R^2 = .04$) and { $F(4, 250) = 11.97, p < .05$ } suggesting that diabetes distress's components predict dietary control account for 1% variance in dietary control ($R^2 = .01$).

All factors of diabetes distress were found to be positive predictor of Physical Activity and Health care use. { $F(4, 250) = 14.00, p < .01$ } suggesting that emotional burden, physician related distress, regimen related distress and interpersonal distress predict physical activity account for 6% variance in the outcome variable ($R^2 = .06$). It is further observed that physician related distress predict ($\beta = .08, t = 1.72, p < .05$). Second model found significant with { $F(4, 250) = 16.04, p < .05$ }. Suggesting that diabetes distress's components predict health care use account for 7% variance in the outcome variable ($R^2 = .07$). Table-2 showed { $F(4, 250) = 18.39, p < .05$ } suggesting that emotional burden, physician related distress, regimen related distress and interpersonal distress predict self-esteem account for 9% variance in the outcome variable ($R^2 = .09$). Table-3 for comparison of diabetes distress and self-

Table 1: Multiple regression analysis of diabetes distress predicting self-management. (N=255)

Variable	Glucose Management			Dietary Control			Physical Activity			Health Care Use		
	B	R ²	F	B	R ²	F	B	R ²	F	B	R ²	F
EB	.23*	.04	12.96**	.29**	.01	11.97*	.23*	.06	14.00**	.25	.07	16.04*
PRD	.36**			-.21*			.30*			-.260		
RRD	.25*			-.31			.24			.21		
ID	-.11			-.16			-.02			-.04*		

Table 2: Multiple regression analysis of diabetes distress predicting self-esteem. (N = 255)

Variables	SE Total		
	B	R ²	F
		.09	18.39*
EB	-.18**		
PRD	-.23		
RRD	-.11		
ID	-.17*		

management showed mean difference on type 1 and type 2 diabetes with diabetes distress $t(253) = 7.8, p < .001$. The findings showed that type 1 has higher distress ($M = 56.99, p < .001$) than type 2 ($M = 47.25, p < .001$). Results showed mean difference on type 1 and type 2 diabetes with diabetes self-management $t(253) = 3.06, p < .05$. The findings showed that type 1 has higher self-management ($M = 25.42, p < .05$) than type 2 ($M = 24.04, p < .05$).

Discussion

The current study examined the impact of diabetes distress on the self-management, self-esteem among diabetics. Results revealed diabetes distress negatively predicted diabetes self-management. Findings support this hypothesis to be accurate (Table-1&2) existing literature also support this finding by a study that diabetes affects self-management in several ways. Diabetes has increased the quantity of difficulties regarding their health and fear of death than those who do not have high level of distress.¹⁹ It was concluded that diabetes distress has influential negative relation with self-care.⁷ Diabetes distress affects an individual's problem solving skill which is required to

carry out diabetes self-care and this may result in poorer self-care practices.²⁰ This study provided further evidence that there was a lack of information available to people with diabetes in Pakistan as the large population has never received any diabetes instruction at all. As Pakistan middle-aged people has overweight or obese, having lack of physical activity, unhealthy food and eating habits exposing this population to a high risk of type 2 diabetes.²¹

Further it was hypothesized that diabetes distress will negatively predict self-esteem. Findings of present study and existing literature support this hypothesis. It was examined that having high glucose level cause high level of distress and in turn it decrease self-esteem.⁹

There is lack of literature from Pakistan on diabetes facts, attitude and practices among people with diabetes.¹⁵ Current study also concluded that level of diabetes distress and diabetes self-management was higher in type I rather than type II diabetes. Other studies just examined the diabetes distress and diabetes self-management among only in type II diabetes. This study will help the psychologist to suggest patients' useful techniques to overcome their health related distress and improve their health to manage their diabetes.

Due to limited time period it was difficult to collect all possible information needed for this research. Otherwise qualitative examination can be done that may deliver thorough analysis of patients understanding of a patient and individual barriers in devotion to self-care.

Conflict of interest: None declared.

Table 3: Comparison between type 1 and type 2 diabetes for diabetes distress and diabetes self-management. (N = 255)

Variables	Type 1		Type 2		t(255)	p	95%CI		Cohen's d
	M	SD	M	SD			LL	UL	
DD	56.99	9.58	47.25	10.00	7.80	.000	7.28	12.19	0.99
DSM	25.42	3.55	24.04	3.54	3.06	.002	.49	2.26	0.38

Note DD = Diabetes distress, DSM = Diabetes self-management

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