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Patient-Physician Trust, Emotional Distress, and Self-Care Activities of Adults with Type II Diabetes Mellitus

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The present research was set out to examine the relationship between patient-physician trust, diabetes related emotional distress, and self-care activities of adults with Type II Diabetes Mellitus. Moreover, the aim was to identify the mediating role of diabetes related emotional distress on the relationship between patient-physician trust and self-care activities. Correlational research design was used in the current research. The sample consisted of 180 adults diagnosed with Type II Diabetes Mellitus, recruited through purposive sampling technique. Interpersonal Physician Trust Scale (Hall et al., 2002), Problem Areas in Diabetes Questionnaire (Polonsky et al., 2005), and Self-care Inventory (La Greca, 1992) was used to assess patient-physician trust, diabetes related emotional distress and self-care activities, respectively. Pearson Product Moment Correlation and multiple hierarchical regression analyses were used to infer the proposed hypotheses. The results revealed a positive relationship between patient-physician trust and self-care activities, while, diabetes related emotional distress, was negatively related to self-care activities. There was a negative relationship between patient-physician trust and diabetes related emotional distress. Diabetes related emotional distress mediated the relationship between patient-physician trust and self-care activities of adults with Type II Diabetes Mellitus after controlling for gender, age, age at onset, and treatment modality. The findings have important implication in the field of health and counseling psychology, as physician and counselors can assist patients through their diabetes' self-care practices by developing trust, which is likely to reduce emotional distress.

Keyword. Patient-physician trust, diabetes related emotional distress, self-care activities

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Diabetes Mellitus, a global epidemic, impacts millions of individuals globally and is identified as one of the most challenging and serious health concerns of the 21st century (International Diabetes Federation [IDF], 2006). It is listed as the 7th leading cause of death in 2007 and a contributing cause for many more deaths (Ogden, Carroll, Fryar, & Flegal, 2015). The prevalence of Diabetes Mellitus showed that approximately 7.1 million people are suffering from this disease in Pakistan, with maximum number of adult patients. If crucial steps are not taken to control Diabetes Mellitus, the figure could go up to 11.5 million by 2025 in Pakistan (IDF, 2006).

Type II Diabetes Mellitus is a chronic and self-managed ailment, which requires long-lasting self-monitoring and self-management by indulging in self-care activities such as quitting smoking, exercise, weight loss, and balanced diet (Lee, Ahn, & Kim, 2008). The treatment can be extended by the prescription of oral medication, lowering blood glucose to maintain or achieve adequate levels of blood glucose. When lifestyle and oral blood glucose lowering medications are not sufficient to maintain blood glucose levels, patients are recommended insulin therapy (Geyer et al., 2006; Sarfraz, Sajid, & Ashraf, 2016).To avoid insulin therapy, adhering to an appropriate regimen of diet and exercise are crucial, along with these, previously discussed (Pearson & Raeke, 2000) psychosocial factors such as trust in one's physician and emotional distress can influence diabetes related outcomes. Previous studies predominantly focusing on White-English-speaking adults with diabetes highlighted that increased trust in one's physician has been associated with better glycemic control (Alazri, Heywood, Neal & Leese, 2007; Wellenet al.,2010).

The successful management of Diabetes Mellitus through self-care activities involves considerable interaction between the patients and their physicians. With high level of interaction between patients and physicians in the treatment of Diabetes Mellitus, the degree to which adherence to guidelines related to self-care activities can be successfully achieved by enhancing trust that patients have in their physician (Pearson & Raeke, 2000). Patient-physician trust has been defined as the optimistic acceptance of a vulnerable situation in which the patient believes that the physician will care for the patients' interests (Hall, Dugan, Zheng, & Mishra, 2001).

Health care is influenced by diabetes related emotional distress. A variety of emotional reactions and responses to life with Diabetes Mellitus effect health care, particularly, those that are related to treatment and challenges for self-care (Polonsky et al., 2005). Diabetes related emotional distress might create difficulty in the

required self-management of the condition, and is likely to bind the person's management of self-care activities which is important to attain a particular level of glycemic control. Research has documented that diabetes related emotional distress often occurs in people with Diabetes Mellitus and is frequently related to problems in coping with the daily treatment and concerns about evolving complications latter on (Hupcey, Penrod, Morse & Mitcham, 2001). Concerns associated with emotional distress are metabolic lack of control (Weinger & Jacobson, 2001), low self-efficacy, and poor quality of life (Fisher et al., 2010), therefore, it can be hypothesized that diabetes related emotional distress is likely to hinder self-care activities.

Safran et al. (1998) explored that patients' trust in their physician was related to compliance with lifestyle changes and patients' satisfaction. Likewise, in a longitudinal study of patients in primary care clinics, researchers documented that high level of patients' trust in their physician was related with greater compliance to recommended medicines (Thom, Ribisl, Stewart, & Luke, 1999). Lee et al. (2008) reported that trust between patients and their physicians is a significant factor in control of diabetes mellitus, as it improves self-efficacy, adherence related to self-care activities, and diabetes outcomes. Bonds et al. (2004) reported that high level of trust in physicians was related to lesser difficulty in carrying out self-care activities. Patients with high trust had better ability to carry out self-care activities. Patients with low trust may expect a negative outcome, and therefore, avoid compliance to health care.

Lloyd et al. (2010) explored that there was a strong relationship between depressive symptoms, diabetes related emotional distress, and physical activity. Moreover, findings suggested that diabetes related emotional distress negatively predicted physical activity, which was one of the aspects of self-care activities required to manage the Diabetes Mellitus. Zuberi et al. (2011) reported a strong association between diabetes related distress to glycemic control and adherence to self-care activities that is, taking dose as prescribed, restrictions of diet, and food care. Polonsky et al. (1995) conducted a study on female patients with Type I and Type II Diabetes Mellitus and endorsed that diabetes related emotional distress was reported in over half of the sample, with serious worries about the possible development of late complications, and feelings of guilt and anxiety regarding poor adherence to treatment regimen. Adherence to self-care activities negatively predicted diabetes-related emotional distress after adjusting age, diabetes duration, and overall emotional distress (Whittermore, 2005). Slean, Jacobs, Lahiff, Fisher, and Fernandez (2012) reported that effective communication behavior by doctor and

higher trust in physician reported by patient were inversely related to emotional distress among patients with Diabetes Mellitus. Rubin and McDonnell (2010) found that patients' trust in their physician and ease of access to physician is related with improved wellbeing and can help in sorting out diabetes-related distress.

The current study is conducted in the context of Orem's self-care theory (1995), which asserts that patients are entitled to be more independent once being cared by their physicians. It also posits that an essential need in patients depends on the standards of self-reliance and free will. In Orem's understanding, self-care is a learned and determined action of the individual that requires a definite level of maturity facilitating the individual to perform successful, purposeful, controlled, and regular lifestyle and self- care activities. The theory incorporates healthcare providers to help a person with their real or possible self-care shortfalls. In the current study, self-care is seen as a dependent ability of intrinsic and extrinsic conditions. Therefore, self-care activity is not only a process influenced by individual conditions, but is likely to be influenced by external conditions, thus, the context and the dynamics of accessible means to govern the performance of self-care activities (Orem, 1979, 1991, 1995).

Although, few western researches have shown interaction between patient-physician trust, diabetes related emotional distress, and self-care activities. The evidence seems still inconclusive and the need to do research in the West and the East, in order to generalize these results at broader cultural contexts, remains. Number of systematic literature reviews (Keyserling et al., 2002; Norris, Engelgau, & Naryan, 2001; Norris et al., 2002) focused on self-care activities in adults with Type II Diabetes Mellitus, however they identified interventions and patients' difficulties rather than exploring contributing factors in self-care activities of adults with Type II Diabetes Mellitus.

To the best of researcher's knowledge, there exists no international as well as indigenous research that explain the mediating role of diabetes related emotional distress in the relationship between patient-physician trust and the self-care activities. Therefore, this study was conducted to address this gap in the literature. However, there are many international researches, which explained the mediating role of diabetes related emotional distress on the relationship between depression and glycemic control (Bastelaar et al., 2010; Gonzalez, Shreck, Psaros, & Safren, 2015; Schmitt et al., 2014) that confirmed the mediating role of diabetes related emotional distress on the relationship between depression and the glycemic control. Thus, the current study was aimed to investigate the

relationship between patient-physician trust, diabetes related emotional distress, and self-care activities. Researchers were interested to investigate the mediating role of diabetes related emotional distress on the relationship between patient-physician trust and self-care activities of adults with Type II Diabetes Mellitus after adjusting for gender, age, age at onset of diabetes, and the treatment modality. For this, the following hypotheses have been formulated:

1. There is a positive relationship between patient-physician trust and self-care activities in adults with Type II Diabetes Mellitus.
2. There is a negative relationship between diabetes related emotional distress and self-care activities in adults with Type II Diabetes Mellitus.
3. There is a negative relationship between patient-physician trust and diabetes related emotional distress in adults with Type II Diabetes Mellitus.
4. Diabetes related emotional distress is likely to mediate the relationship between patient-physician trust and self-care activities of adults with Type II Diabetes Mellitus after controlling for gender, age, age at onset, and the treatment modality.

Method

Research Design and Sample

Correlational research design was used to carry out the research. Sample of the study consisted of adults (N = 180) having a confirmed diagnosis of Type II Diabetes Mellitus, aged between 40 to 69 years (M = 53.01, SD = 8.15), recruited from hospitals through purposive sampling strategy.

Table 1 shows that sample has equal representation of male and female participants. Most of the participants are married, belong to nuclear family system, and live in urban setting. As a treatment modality, most are taking pills and have a family history of diabetes.

Table 1

Descriptive Statistics along Demographic and Clinical Variables of Study Sample (N = 180)

Variables	*f(%)*	Median	*M*	*SD*
Age (Years)			53.01	8.15
Age at Diagnosis (Years)	-	-	46.23	8.06
Duration of Diabetes (Years)	-	-	6.71	4.39
Duration since Treatment (Years)	-	-	6.09	4.17
Monthly Income (PKR)	-	30000	31538.89	18943.717
Gender				
Male	90(50)	-	-	-
Female	90(50)			
Marital status			-	-
Married	177(98.3)			
Unmarried	3(1.7)			
Family system			-	-
Nuclear	96(53.3)			
Joint	84(46.7)			
Area of residence			-	-
Rural	17(9.4)			
Urban	163(90.6)			
Treatment Modalities			-	-
Pills	117(65)			
Insulin	30(16.7)			
Both	33(18.3)			
Family History			-	-
Present	95(52.8)			
Absent	85(47.2)			

Assessment Protocol

Interpersonal Physician Trust Scale (IPTS; Hall et al., 2002). It was used to measure overall patients trust in their individual physician. The scale comprised of 10 items; 7 items were positive whereas 3 items (2, 3, and 8) were worded in a negative direction. Each item was scored on 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Overall, reliability of the scale in original article was α = .93 (Hall et al., 2002). For the current study, the Cronbach's alpha reliability of IPTS is .83.

Problem Areas in Diabetes Questionnaire (PAID; Polonsky et al., 2005). It was used to measure emotional distress arising as a result of management and dealing of Diabetes Mellitus and its complications. It was a 20-items self-report questionnaire. Respondents responded on a 5-point Likert type scale ranging from 0 (*not a problem)* to 4 (*a serious problem)*. The Cronbach alpha

reliability of PAID was .95. Patients, who score 40 or high, were assessed as having emotional burnout (Polonsky et al., 2005). In the current study, Cronbach's alpha reliability of PAID is .89.

Self-care Inventory (SCI-R; La Greca, 1992). It was a self-report inventory that consisted of 15-items, measuring patients' perceptions related to various self-care behaviors that is, diet, monitoring of blood glucose, taking medication, exercise, low glucose levels, and preventative aspects of care. Three items of the inventory (adjusting insulin, checking ketones, and wearing a Medic Alert) were not scored for the patients with Type II Diabetes Mellitus. Participants rated their specific self-care activities on a 5-point Likert scale (1 = *never*, 2 = *rarely*, 3 = *sometimes*, 4 = *usually*, and 5 = *always)* to disclose how well they followed recommendations over the past 1–2 months. The SCI-R provides a total score instead of subscale scores. High scores on SCI-R indicated greater degree of self-care. SCI-R had satisfactory ($\alpha = .85$) internal consistency (La Greca-Swales, Klemp, Madigan, & Skyler, 1995). Cronbach's alpha reliability of SCI-R is .68 for the current study.

Procedure

To begin with the study, formal permissions were sought from the concerned authors to translate and use the measures. These scales were translated in Urdu using Mapi guidelines provided by Mapi Research Institute (Mapi, 2000). The main aim of the translation was to translate scales in foreign language into Pakistani Urdu language to eradicate language barriers. Following Mapi guidelines a formal forward-backward translation procedure was adopted and after making consensus and taking expert opinion final Urdu versions were retained. An authority letter was obtained from the Institute of Applied Psychology, University of the Punjab, Lahore to start data collection. Formal permission from the administrations of Shiekh Zayed Hospital, Lahore, was taken for the purpose of data collection. Written consent form was prepared in Urdu. Participants were briefed about the nature of the study. They were assured that confidentiality and privacy of their responses would be maintained. Participants were provided with the right to quit from the study anytime if they felt uncomfortable. After taking consent, the booklet comprising of instructions, demographic, and clinical information sheet and the assessment measures were given to the participants. They were briefed about how to fill in the questionnaires. They were provided with the right to ask questions regarding the questionnaires and clarify any ambiguity or confusion. Participants were briefed that they can inquire regarding the results. Finally, humble gratitude was shown to each of

the participants for their collaboration. After collecting data, results were reported accurately and discussed in the light of previous researches, theoretical framework, and sociocultural perspective.

Results

The primary purpose of the research was to examine the relationship between patient-physician trust, emotional distress, and self-care activities of the adults with Type II Diabetes Mellitus. It was hypothesized that patient-physician trust would be positively related to self-care activities, while, there is likely to be a negative relationship between diabetes related emotional distress and self-care activities. Pearson Product Moment Correlation Analysis was performed to infer about the proposed hypotheses. Analyses revealed a significant positive relationship between patient-physician trust and self-care activities (r = .21, p = < .01)indicating that the those who have higher level of trust in their physician, indulge more in self-care activities required for Type II diabetes mellitus. Results also suggest that diabetes related emotional distress has a significant negative relationship with self-care activities (r = -.27, p= < .001) pertaining that higher the level of diabetes related emotional distress, lesser the participants are likely to indulge in self-care activities. Moreover, a significant negative relationship between patient-physician trust and diabetes related emotional distress is found (r = -.25, p < .001). These results indicate that participants who report high level of trust in their physician, experience less diabetes related emotional distress.

It was further hypothesized that diabetes related emotional distress would mediate the relationship between patient-physician trust and self-care activities of adults with Type II Diabetes Mellitus after controlling for gender, age, age at onset, and treatment modality. Baron and Kenny's (1986) mediation procedure, which requires four assumptions to be met, were followed for the analysis. Firstly, to predict patient-physician trust in self-care activities; multiple hierarchical regression analysis was performed. As shown in Table 2, control variables such as gender, age, age at onset, and treatment modality are entered in Block 1, which explains12% of variance in the score for self-care activities. Overall model is significant, F(4,175) = 5.72, p < .001. In Block 2, patient-physician trust was added as an independent variable and it explains 2% of variances in the score for self-care activities. Overall, the model is significant, F(5,174) = 5.46, p< .001. Results reveal that patient-physician trust is a significant positive predictor of self-care activities suggesting that as the scores on patient-physician trust increases, the score which signify self-care

activities also increases. These findings met the first assumption of the mediation procedure (Barron & Kenny, 1986).

Secondly, it was assumed that patient-physician trust predicts diabetes related emotional distress. To check this assumption of mediation, multiple hierarchical regression analysis was performed. As shown in Table 2 (Model 2), gender, age, age at onset, and treatment modality are entered as control variables in Block 1, that explains 10% of variance in the diabetes related emotional distress and the overall model was significant $F(4,175) = 5.04$, $p < .01$. When patient-physician trust is entered in Block 2, it explains 7% of variance in diabetes related emotional distress that is significant, $F(5,174) = 7.39$, $p < .001$. Results show that patient-physician trust negatively predicts diabetes related emotional distress highlighting that as the scores on patient-physician trust increases, the score which signifies diabetes related emotional distress decreases. These findings meet the second assumption of the mediation procedure (Baron & Kenny, 1986).

Table 2

Hierarchal Multiple Regression Analysis for Patient-Physician Trust Predicting Self-Care Activities with Diabetes related Emotional Distress as Mediator (N=180)

	DV					
	Self-care activities		Emotional distress		Self-care activities	
	Model 1		Model 2		Model 3	
Predictors	ΔR^2	β	ΔR^2	β	ΔR^2	β
Block 1 Control Variables*	.12***		.10**		.12**	
Gender		.17*		.13		.17*
Age		-.07		-.02		-.07
Age at Onset		.26		-.26		.26**
Treatment Modality		.24**		-.09		.24**
Block 2 Patient-Physician Trust	.02*	.15*	.07***	-.28*	.02*	.11*
Block 3 Emotional Distress					.02*	-.16*
Total R^2	.14***		.17***		.16***	

Note. *Female adults had more trust in their physician and tend to indulge in more self-care activities as compared to male adults. Adults taking both medicine and insulin as a treatment for their Type II Diabetes Mellitusindulge more in self-care activities as compared to adults who were on medicine.

*$p<.05$.**$p<.01$.***$p<$ .001.

According to the third assumption of the mediation procedure (Baron & Kenny, 1986), when both patient-physician trust and diabetes related emotional distress are simultaneously added to the regression analysis, the relationship between patient-physician trust and the self-care activities should become weaker or nonsignificant, while, the relationship between the diabetes related emotional distress and the self-care activities is likely to remain significant. To check this assumption of the mediation procedure, diabetes related emotional distress is added into the model. Multiple hierarchical regression analysis reveal that overall Model 3 is also significant $F(6,173) = 5.33$, $p < .001$, explaining 2% of variances in the score for self-care activities. Moreover diabetes related emotional distress negatively predicts self-care activities when controlled for demographic factors in the presence of patient-physician trust.

Hence, third assumption of mediation procedure (Baron & Kenny, 1986) is also met showing that when both the patient-physician trust and diabetes related emotional distress are simultaneously added to the regression analysis, the relationship between the patient-physician trust and the self-care activities becomes nonsignificant, while, β value becomes smaller. All the assumptions of mediation were fulfilled explaining partial mediation among variables.

Further, to test the significance of partial mediation, Sobel test is applied ($z = 1.96$, $p = .04$), which revealed that diabetes related emotional distress partially mediates the relationship between patient-physician trust and self-care activities of adults with Type II Diabetes Mellitus after controlling for demographic and clinical variables such as gender, age, age at onset, and treatment modality.

Overall, results of mediation analysis reveals that patient-physician trust has indirect positive effect on self-care activities of adults with Type II diabetes mellitus through diabetes related emotional distress.

Discussion

The current study was aimed to find out the relationship between patient-physician trust and self-care activities of adults with Type II diabetes mellitus and it was hypothesized that this relationship would be positive. The results supported the hypothesis indicating a significant positive relationship. The findings of the current study corroborated previous studies, in which a significant positive relationship between patient-physician trust and the self-care activities

was endorsed (Bell et al., 2013; Bonds et al., 2004; Kerse et al., 2004; Lee et al., 2008; Safran et al., 2002, Thom et al., 1999). According to Orem's theory (1995), self-care is a person's capacity to accomplish health promoting activities to maintain health and well-being. It is an intricate process and progresses through experiences and can be improved through assistance and guidance provided by the physician if feelings of trust are induced. The findings of the current study is in line with the above mentioned theory; results of the study show that more the patients have trust in their physician, more they indulge in self-care activities that is diet, exercise, self-monitoring of blood glucose, and adherence to medication.

There may be several possible reasons for the relationship between patient-physician trust and the self-care activities. Trust begins with responsiveness and building rapport between the patient and the physician. Patients who actively get involved in their care and make health care decisions with their physicians, they develop higher trust levels in their physician and may have less trouble in carrying out self-care activities. Good patient-physician concordance leads to better trust in the physician, which in turn leads to continuity of care and compliance to medications (Baron, & Kenny, 1986; Kerse et al., 2004). Patients develop more trust in their physician when physicians are informative and responsive to the patients' situations and when patients have a chance to discuss their worries. The idea that patients are worthy human beings helps to build up trust, especially, for physician if they conveyed they are concerned and attentive in the patient's needs related to health care, rather than considering the patient as just another case. Physician's accessibility, spending more time with patient, and willingness to talk to caregivers and giving personalized care promotes higher levels of trust in one's physician, which in turn improves performance of self-care activities (Bundesmann & Kaplowitz, 2011). When patients do not trust their physicians, they are less likely to maintain continuity, because they may be concerned about treatment decisions that the physicians might make and not want to put themselves at a risk to the physicians recommended treatment (Beverly, Miller, & Wray, 2008).

The second major finding of the current research was that diabetes related emotional distress had a significant negative relationship with self-care activities as suggested by Balkrishnan et al. (2003) and others (Aikens, 2012; Karlsen, Oftedal, & Bru, 2012; Lloyd et al., 2010; Peyrot et al., 2005; Polonsky et al., 1995; Slean et al., 2012; Zuberi et al., 2011). The reason of this relationship may be that the patients living with Type II Diabetes Mellitus have numerous emotional challenges arising from apprehensions and worries related

to Diabetes Mellitus, its control, and the experience of getting more complications (Fisher et al., 2007; Whittemore, 2005). These emotional challenges might bring about negative emotions that can undermine emotional well-being and physical well-being. Self-care related to Type II Diabetes Mellitus is a difficult task that stresses behavior change related to choice of diet, exercise, self-monitoring of blood glucose, and compliance to medication in patients on daily basis. As a result, patients may become disturbed, upset, or depressed (Egede & Zheng, 2003). Patients with Type II Diabetes Mellitus may also experience diabetes related emotional distress, a condition where patients are worried about management of their conditions, receiving the support they need, managing the emotional burden, as well as access to care that is needed; these are conditions that are different from depression (Polonsky et al., 2003).Recognition of diabetes related emotional distress and its negative contribution in performing self-care activities places an emphasis on the application of effective strategies to reduce its intensity. Lowering of diabetes related distress helps to enhancing self-care activities required to manage Type II diabetes mellitus, thereby, attaining better glycemic control.

The results of current study also highlighted that patient-physician trust was negatively related to the diabetes related emotional distress in adults with Type II diabetes mellitus. The current research findings are consistent with previous researches (Rubin, Peyrot, & Saudek, 1993; Slean et al., 2012). The relationship between the patient and the physician is also related to better treatment adherence; a good relationship and a good teamwork is more essential than access to the physician to improve treatment adherence. The main task of physicians is to educate the patient, so that the patient has knowledge about the nature of the diabetes and its symptoms, risk of complications, goals of the treatment, significance of regular exercise, physical activity, food intake, insulin, oral hypoglycemic medicines, and other drugs. In this way, a patient develops trust in one's physician that may be helpful in managing diabetes related emotional distress.

Another major finding of the current study was that diabetes related emotional distress partially mediated the relationship between patient-physician trust and self-care activities of adults with Type II Diabetes Mellitus after controlling gender, age, age at onset, and treatment modality (pills/insulin/both). It is found that when patient-physician trust increased, diabetes related emotional distress decreased, which ultimately enhanced self-care activities. The mediating role of diabetes related emotional distress on the

relationship between patient-physician trust and self-care activities might be explained that physicians can help patients to manage diabetes related emotional distress in ways that lessen or relieve misery. Clear and thorough explanations about health and options related to treatment provided by physician might help patients increase a greater sense of control, become more optimistic, and manage ambiguity. Communication between the patient and physician boosts patient's self-efficacy, confidence, and trust in one's physician. If patient's trust in one's physician decreases, diabetes related emotional distress is likely to decrease motivation and energy needed to perform self-care activities, and permit the patient to enjoy better quality of life with Diabetes Mellitus.

Conclusion and Implications

Hence, the current study makes an important effort in emphasizing the significance of patients' trust in their physician as an imperative factor for enhancement of health related outcomes like self-care activities through diabetes related emotional distress. Findings of the current research indicate that physicians should pay more attention to psychological factors such as diabetes related emotional distress when addressing self-care activities of adults with Type II Diabetes Mellitus.

Strengths and Limitation of the Study

The current study holds its theoretical and practical implications in health and counseling psychology. The results provide significant contribution to the existing literature, by finding out the mediating role of diabetes related emotional distress in the relationship between patient-physician trust and the self-care activities which was lacking in previous researches. Despite of new contributions, no study is without any limitation, so the current study also has a number of limitations that must be taken into consideration. First of all, self-care activities were assessed by a self-report measure. Therefore, there might have been recall bias and social desirability error. Second, the generalizability of the results of the current study to a larger sample is limited due to modest sample size. Finally, due to its design, no causal link could be inferred about the relationship between patient-physician trust, diabetes related emotional distress, and the self-care activities.

Recommendations for the Future Study

In the light of the above mentioned limitations, future researches may acquire additional information on performing self-care activities from various sources, for example, pill counts, electronic monitors, diaries, and interviewer administered questionnaires. Besides taking patients' perspective, researcher may take physician's perspective as well. Experimental researches are needed to confirm the cause and effect relationship between patient-physician, diabetes related emotional distress, and the self-care activities. Further, longitudinal study is needed to fully understand the lifespan changes and challenges which may provide avenues to enhance physician trust among patients to improve self-care. Large sample is likely to improve generalizability of the results.

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