

## The Role of Self-Efficacy and Social Support in Predicting Depression Symptoms in Diabetic Patients

Abdulaziz Aflakseir<sup>1\*</sup>, Farzaneh Malekpour<sup>1</sup>

1- Department of Clinical Psychology  
School of Education & Psychology  
University of Shiraz, Eram Campus,  
Shiraz, Iran.

**\*Correspondence:**

Abdulaziz Aflakseir, Department of  
Clinical Psychology School of  
Education & Psychology University of  
Shiraz, Eram Campus, Shiraz, Iran.

**Email:** aafalakseir@shirazu.ac.ir

**Tel:** (98) 711 613 4686

**Fax:** (98) 711 628 6441

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### Abstract

**Objectives:** Chronic diseases such as diabetes mellitus have negative effects on physical and mental health. Depression is the most common psychological problems in this group of patients. The purpose of this study was to predict depression symptoms based on self-efficacy and social support.

**Materials and Methods:** A total of 130 patients with diabetes recruited from several clinics in Shiraz. The participants completed the Beck Depression Inventory (BDI), the Medical Outcome Study Social Support Survey (MOSSS) and the Diabetes Self-Efficacy Scale (DSES).

**Results:** Results indicated that 22% of the patients with diabetes experienced the symptoms of depression. The findings also showed a significant association between low level of self-efficacy and social support and depression. The study also showed that self-efficacy and social support significantly predicted the lower rate of depression.

**Conclusion:** The study findings indicated that patients with a lower level of self-efficacy and social support were more likely to experience the symptoms of depression. This study highlights the importance of self-efficacy and social support on patients' mental health.

**Keywords:** Diabetes mellitus, Depression, Social support, Self-efficacy

### Introduction

Diabetes mellitus is one of the major health problems in developing countries in terms of its mortality and prevalence (1). One Iranian survey has reported the prevalence of diabetes 7.7 percent in Iran (2). Diabetic patients suffer from mental health disorders such as anxiety and depression. Depression is the most common psychological problems in these groups of patients (3). It is estimated that 10.9% to 32.9 % of diabetic patients have been affected by

depression (4). Depression is a common co morbidity of diabetes, two times more prevalent among individuals who have diabetes versus those who do not (4). Depressive symptoms experienced by diabetic patients have negative consequences on quality of life, medication and diet regimen adherence and diabetes management (5). In fact, studies indicate that severity of depressive symptoms is related to greater health care costs, dietary and medication non-

adherence, and primary care impairment in diabetic patients (6). Diabetic patients are more likely than the general population to experience clinical depression (6). Psychological distress directly affects health and indirectly influences a person's motivation to keep their diabetes in control (7). Several psychosocial factors have been shown to influence an individual's ability to maintain metabolic control, most likely due to adherence to treatment. These factors include external locus of control, maladaptive coping style, stressful life events, depression, family stress, low financial resources, and low social support (8). Studies have indicated that lack of social support has resulted in non-adherence to treatment in Diabetic patients. For example, in a meta-analysis, it was found that social support is related to glycemic control, regimen adherence and psychological functioning improvements (9). Social support also is associated with emotional adjustment, lower risk of depression and healthy behavior (10). On the other hand, the lack of social support has been related to mortality and poor disease management (11). Self-efficacy is another significant factor influencing Diabetic patients. Self-efficacy refers to people's belief in their own abilities to perform the desired behaviors in various situations (12). Previous studies reported that self-efficacy is related to exercise, diabetes knowledge, quality of life and self-care behaviors such as medication adherence in Diabetic patients (12). In addition, studies showed that a low level of self-efficacy is related to psychological distress (13). High levels of self-efficacy are related to improved glycaemia control and increase engagement in self-management, medication compliance, dietary meal plans, glucose monitoring stress management, better psychological well-being, good physical condition, and coping with acute and chronic diseases (14,15). In addition, low level of self-efficacy is correlated with anxiety and depression symptoms (16). Although, many studies have been conducted among Diabetic patients, there are very few studies examining

psychosocial factors such as social support and self-efficacy in Iran. The purpose of this study was to examine the role of social support and self-efficacy in predicting depression symptoms in diabetic patients.

## Materials and Methods

The present study was a correlational study. This study adopted a convenience sampling design in recruiting patients with diabetes type 1 and 2 from several clinics in Shiraz such as Nader Kazemi and Motahari Clinics. The participants included 130 (47.7% male, 52.3% female) patients. This research project was approved by the Research Committee of Shiraz University of Medical Sciences. The study protocol and patient consent forms were reviewed. Eligible participants were those men and women who: 1) were diagnosed with diabetes for at least one year, 2) were able to understand the questionnaires, and 3) did not have a diagnosable mental disorder.

**Beck Depression Inventory (BDI):** The BDI is one of the most commonly used self-report scales of depression. It was developed as an indicator of depressive symptomatology and severity. For the purpose of this study, the short-form version of the BDI was used. The scale includes 13 items, each consisting of 4 self-statements. The statements are assigned values of 0 to 3, with higher scores indicating more severe symptomatology. Total scores range from 0 to 39. Individuals are instructed to endorse those statements which have been true for them during the past week. Higher point values are given to statements more indicative of depression. This scale has been shown to be reliable, with alpha coefficient of .86 (17). It has been used in Iran and found to have a good validity and reliability (18)

**Medical Outcome Study Social Support Survey (MOSSS):** Social support was assessed with the Medical Outcome Study Social Support Survey (MOSSS) by Sherbourne and Stewart (1991). This scale is a multidimensional measure for use with chronically ill patients and includes four subscales measuring tangible,

informational/emotional and affectionate support and positive social interaction. Each item is responded on a 5-point Likert-type scale to indicate how often the respondent perceive the support (1 = none of the time and 5 = all of the time). The MOSSS was found to be a reliable measure, with a reported Cronbach's alpha of .97 for the overall scale and .91-.96 for the four subscales. The 1-year test-retest reliability was as high as .78 (19). This scale has been used in Iran and researchers reported an acceptable reliability (Cronbach's alphas of .94) (20).

Diabetes Self-Efficacy Scale (DSES) was used to measure self-efficacy in Diabetic patients. The scale consists of eight items with a 10-step Likert scale ranging from 1 "not at all confident" to 10 "totally confident". The studies found a good reliability and validity for this scale (Cronbach's alpha of .82) (21). This scale has been used in Iran and studies have reported an acceptable reliability and validity for it (22). The data was described by descriptive statistics such as mean and standard deviation, also Pearson's correlation, and simultaneous multiple regression analysis were done using SPSS version 16.

## Results

The mean age of participants was 45.4 years old (SD=10.35) ranging from 22 to 68 years of age. The descriptive findings showed that the majority of patients had diabetes type 2 (92%). Findings also showed that 22% of the patients met the criteria for clinical depression. The mean score of the BDI was 3.63 which indicate the mild depression range. The descriptive data are presented in Table 1. Correlation results indicated a significant

association between social supports ( $r=-.29$ ,  $P<0.01$ ) and self-efficacy ( $r=-.31$ ,  $P<0.01$ ) with lower level of depression. Simultaneous multiple regression analysis was utilized to examine the prediction of depression based on social support and self-efficacy in the sample. The scores of social support and self-efficacy were entered into the model as independent variables and the score of depression as a dependent variable. Regression analysis showed that both social support ( $\beta=-.24$ ,  $P<0.01$ ) and self-efficacy ( $\beta=-.27$ ,  $P<0.01$ ) predicted lower depression significantly. Furthermore, independents variables explained 32% of total variance of depression. The results of regression analysis are presented in Table 2.

## Discussion

This study examined the role of social support and self-efficacy in predicting depression. It was indicated that 22% of the diabetic patients experienced the symptoms of depression. This finding is in agreement with literature indicating a higher prevalence of depression in diabetic patients (4). According to the results, low level of social support and self-efficacy were related to the symptoms of depression. Consistent with the interpersonal aspects of depression theory and research, the present study confirms that social support has a significant role to protect psychological health against psychological damages caused by stressful life experiences. These findings are in agreement with previous studies which indicating a positive association between the lack of social support and depression in patients with diabetes (23,24,25). The findings of the present study show that social support is

**Table1. Mean and standard deviation on the bdi, moss and self-efficacy scale**

| Scale          | Mean  | Standard Deviations |
|----------------|-------|---------------------|
| Depression     | 3.63  | 1.56                |
| Social Support | 73.05 | 13.23               |
| Self-efficacy  | 58.12 | 19.01               |

**Table 2. Multiple regression analysis predicting depression among diabetic patients**

| Variable       | B    | SE  | $\beta$ | t     | P   |
|----------------|------|-----|---------|-------|-----|
| Social Support | -.16 | .02 | -.24    | -2.91 | .01 |
| Self-efficacy  | -.10 | .01 | -.27    | -3.18 | .01 |

B= unstandardized coefficient, SE= Standard Error,  $\beta$ = Beta, t = T-test

essential to diabetes patients' psychological health. In terms of self-efficacy, the result is consistent with other studies, showing a positive relation between low self-efficacy and depression (26). The present study highlighted the importance of self-efficacy as a psychological factor on mental health. This study supports the theories which maintain that social support and self-efficacy can serve as a protective function against depression in patients with diabetes mellitus (15). This study had several limitations that may restrict the generalizability of its findings. First, this study is based on a non-random sample and it may not be representative to the diabetic patients. There may be other important variables contributing in depression. Future studies need

to investigate the role of these factors in patients with diabetes.

### Conclusion

The present study indicated that 22% of the patients with diabetes had depressive symptoms. Moreover, diabetic patients with a higher level of self-efficacy and social support had a lower rate of depression. Therefore, it is essential that opportunities for social environment and social support be increased and supportive relations be created to provide diabetic patients with skills for handling their problems.

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