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The role of social support and coping strategies in the prediction of psychological well-being in type 2 diabetic patients of Zahedan



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ABSTRACT

Background: The necessity of studying the concept of social support in well-being experiences is evident by the theoretical and practical nature of psychological well-being including interpersonal relations and support. Social support can diminish the adverse effects of chronic diseases and help patients cope with their condition more effectively.

Aim: The aim of this study is examine the role of social support and coping strategies in the prediction of psychological well-being in type 2 diabetic patients of the city of Zahedan, Iran.

Methods: The studied sample included 225 type 2 diabetic patients. All patients referred to the Aliasghar Hospital of Zahedan's Diabetes Center from 10/11/2015 to 03/02/2016 included in the study. The Ryff's 18-item Psychological Well-being Scales, the Multidimensional Scale of Perceived Social Support (MSPSS), and the Coping Strategies

Questionnaire administered to the subjects (N=225), and the scores were analyzed using inferential statistics (correlation coefficient and stepwise multivariate regression analysis).

Results: The Results suggested that there was a significant positive correlation between social support and coping strategies with psychological well-being. Results from the regression analysis demonstrated that from six predictor variables out of a 12-variable model, the perceived support from a significant other, avoidance-oriented coping, emotion-oriented coping, and perceived family support can predict 25.4% of the psychological well-being of type 2 diabetic patients, respectively, regarding their predictive power.

Conclusion: According to the results, it can concluded that there is a relationship between social support and coping strategies with psychological well-being.

Keywords: Social support, coping strategies, psychological well-being, type 2 diabetes

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INTRODUCTION

Noncommunicable diseases (NCDs) have attracted the attention of academia. The incidence of NCDs has increased from mid-20th century onward as a result of communicable disease control and changes in the quality of life and life-style of people, taking the place of communicable diseases as the major causes of premature deaths across the globe.¹

Diabetes represents one of the four major NCDs.² It is a chronic disease of the endocrine system caused by insufficient insulin secretion from pancreas or ineffective use of the produced insulin on the part of the body. The three major types of this disease include: type 1 diabetes, type 2 diabetes, and gestational diabetes.³

Type 2 diabetes, also referred to as non-insulin dependent diabetes mellitus (NIDDM) or adult-onset diabetes, occurs when the body cannot effectively use the produced insulin.⁴ It constitutes 90% of all cases of diabetes throughout the world. Until recently, type 2 diabetes had merely diagnosed in adults.³ However, it has been increasingly reported in children and adolescents in recent years

so that it has become the main diabetes type in children in some parts of the world. Type 2 diabetes is usually preventable,⁴ and incurs enormous costs on global health. It is the major cause of non-pathological blindness, lower-extremity amputations, and chronic renal failure.⁵

In a study by Azizi et al. (2015) in Tehran, it demonstrated that more than 70% of hospitalizations and deaths associated with NCDs, including diabetes. Each year, an estimated 4% of the Iranian adult population is diagnosed with pre-diabetes, increasing the risk of vascular complications. Pre-diabetes can also give way to diabetes. Each year, 1% of the Iranian population diagnosed with diabetes.⁶

Socio-psychological factors play a direct role in diabetes control and treatment, having independent effect on diabetes outcomes.⁷ Psychological well-being also has a direct impact on mental health and an indirect relationship with physical complications,⁸ meaning that, those with better psychological well-being enjoy a more favorable physical health.⁹

In defining mental health, the Psychological Well-being Model points to individual abilities and strengths rather than focusing on diseases and weaknesses.¹⁰ The Ryff's model is one of the most important models in the field of psychological well-being. According to Ryff, psychological well-being is about "seeking perfection and attempting to realize one's potentials".¹¹ Drawing on philosophical foundations, Ryff et al. have identified six criteria for a good life which are as follows: 1- self-acceptance, 2- purposeful life, 3- personal growth, 4- positive relations, 5- autonomy, 6- and environmental mastery.¹²

The necessity of studying the concept of social support in well-being experiences is evident by the theoretical and practical nature of psychological well-being including interpersonal relations and support.¹³ Studies have shown that social support and networks are of therapeutic value to mental and physical health.¹⁴ Social support refers to the perceived support and affection from family, friends, and acquaintances in face of stress and daily events.¹⁵ Social support can diminish the adverse effects of chronic diseases and help patients cope with their disease more effectively. It is also an effective social factor for the adequate blood sugar control in diabetic patients.¹⁶ By means of two main processes, social support brings about a helpful, positive effect in diabetes control: a) the direct effect of social support through health-related behaviors such as encouraging healthy behaviors, and b) the moderating role of social support with respect to the destructive effects of acute, chronic stress and the increased ability of coping with it.¹⁷

Coping strategies are among other possible variables affecting psychological well-being. To cope means to make cognitive or behavioral efforts to manage individually stressful situations. In studying general coping processes, individuals differentiated regarding three coping styles: task-oriented coping style, emotion-oriented coping style, and avoidance-oriented coping style.¹⁸ It has maintained that these three coping styles function as mediators between risk and health factors.¹⁹ It has also shown that coping strategies can play a significant role in the control, treatment, and psychological well-being of diabetic patients during the disease.²⁰ People with type 2 diabetes are more exposed to mental health risks than those without it. Diabetes and the obligations it brings to patients for special care, create considerable challenges in their daily lives, necessitating coping strategies to employed as an adaptation mechanism. Depending on their type, coping strategies have different effects; some of which exacerbate and others protect mental health. Burns et al. (2016) showed a negative, positive,

and neutral relationship between task-, emotion-, and avoidance-oriented coping strategies with the risk of mental health, respectively.²¹ However, Worthington & Scherer showed the positive effect of emotion-oriented coping strategy on psychological well-being.²² According to Lazarus, while coping strategies are beneficial to mental health, the effect of a specific strategy on health is not identical in all circumstances.²³

In sum and taking the studies above into account, the incidence of type 2 diabetes has vastly increased in the last 50 years. If not properly controlled, this chronic disease can impose great physical, mental, social, and financial burdens on individuals and the society. Studies suggest that a bio-psycho-social approach is needed to control and treat NIDDM and that a mere drug-oriented approach leads to limited success regarding reducing the incidence and complications of this disease. Since socio-psychological factors play an effective role in the management of type 2 diabetes, the identification of effective psychological factors in disease control and psychological functioning enhancement can greatly contribute to the development of preventive planning, identification of individuals subject to poor therapeutic adherence, and the design of psychotherapeutic interventions. Therefore, the present study aimed to determine the role of social support and coping strategies in the prediction of type 2 diabetic patients' psychological well-being.

METHODS

The present descriptive-analytical study was conducted using correlation coefficient and multivariate regression analysis. The population consisted of all type 2 diabetic patients referred to the Aliasghar Hospital of Zahedan's Diabetes Center from 10/11/2015 to 03/02/2016 (N=255). Zahedan University of Medical Sciences approved the ethical clearance with the Ethics Code of IR.ZAUMS.REC.1394.203. The questionnaires above administered to the subjects and the scores were analyzed using inferential statistics (correlation coefficient and stepwise multivariate regression analysis) and SPSS v23. Inclusion criteria were being over 30 years of age (since type 2 diabetes is most prevalently diagnosed in individuals over 30 years of age), diagnosis of the disease at least one year before the study to fully confirm the diabetes type, and informed consent and willingness on the part of patients for participation. Exclusion criteria were suffering from type 1 or gestational diabetes, or some serious medical condition (e.g., cancer), deplorable general medical condition judged by a

physician, the existence of psychotic disorders, and patients with communication difficulties incapable of understanding concepts or presenting accurate information.

The participant's age range was 32-89 years. Their mean age and standard deviation were 52.83 and 10.25, respectively. 199 (78%) of participants were female, and 56 (22%) were male. 184 (72.2%) of all participants were illiterate or partially literate, and 71 (27.8%) had junior-high-school-level education or higher.

Data were collected using the following instruments:

1. The short Ryff's Psychological Well-being Scales: This is the abridged version of the Ryff's Psychological Well-being Scales, consisting of six psychological well-being dimensions as follows: self-acceptance, positive relations, autonomy, environmental mastery, purposeful life, and personal growth. The scales comprise 18 items, with each dimension covered by three items. The scales' overall reliability coefficient was arrived at 0.73 using Cronbach's alpha. The reliability coefficients of factors were 0.67, 0.72, 0.65, 0.75, respectively.

2. The Multidimensional Scale of Perceived Social Support (MSPSS): Developed by Zimet et al. in 1981, this scale is used to evaluate the subject's perception of the adequacy of social support sources such as family, friends, and a significant other. It is a 12-item self-report scale consisting of three sub-scales, each having four items. The scales and sub-scales' reliability coefficient were arrived at 0.85-0.91 using Cronbach's alpha and a reliability of 0.72-0.85 was obtained using the test-retest method.
3. The Coping Strategies Questionnaire: Developed by Moos & Billings in 1981, this questionnaire consists of 21 items evaluating three coping styles (task-, emotion-, and avoidance-oriented). The internal consistency of scales has reported 0.44-0.88%. In another study, the questionnaire's reliability was arrived at 78% using the Spearman-Brown Prophecy Formula.

RESULTS

The Pearson correlation coefficient was used to test the hypotheses regarding the relationship between social support and coping strategies with

Table 1 A summary of the correlation matrix between the studied variables (N=225)

Variables		Psychological well-being	Perceived Family Support	Perceived support from Friends	Perceived support from a significant other	Task-oriented coping strategy	Emotion-oriented coping strategy	Avoidance-oriented strategy
Psychological well-being	Correlation Coefficient	1						
	Significance							
Perceived Family Support	Correlation Coefficient	0.399**	1					
	Significance	0.000						
Perceived support from Friends	Correlation Coefficient	0.372**	0.720**	1				
	Significance	0.000	0.000					
Perceived support from a significant other	Correlation Coefficient	0.408**	0.830**	0.697**	1			
	Significance	0.000	0.000	0.000				
Task-oriented coping strategy	Correlation Coefficient	0.326**	0.258**	0.302**	0.307**	1		
	Significance	0.000	0.000	0.000	0.000			
Emotion-oriented coping strategy	Correlation Coefficient	0.280**	0.056	0.143*	0.113	0.317**	1	
	Significance	0.000	0.376	0.022	0.072	0.000		
Avoidance-oriented strategy	Correlation Coefficient	0.332**	0.170**	0.310**	0.268**	0.454**	0.389**	1
	Significance	0.000	0.006	0.000	0.000	0.000	0.000	

* P<0.005, ** P<0.001

Table 2 Results of the stepwise regression analysis of predictor variables of psychological well-being

Change Source	Sum of Squares	Degree of Freedom	Mean Square	F	Significance
Regression	6643.035	3	2214.345	29.045	0.001
Remainder	18831.068	247	76.239	-	-
Total	25474.104	250	-	-	-

Table 3 Stepwise multivariate regression analysis of predictor variables of psychological well-being

Model	Multiple Correlation	Square of Correlation	Modified Square of Correlation	Standard Error of the Estimate	Significance
Perceived support from a significant other	0.414	0.171	0.168	16.8%	<0.001
Avoidance-oriented strategy	0.472	0.223	0.216	4.8%	<0.001
Emotion-oriented coping strategy	0.495	0.245	0.236	2%	<0.008
Perceived Family Support	0.515	0.266	0.254	1.8%	<0.009

psychological well-being. Table 1 demonstrates the correlation and significance level of participants' scores regarding social support, coping strategies, and psychological well-being.

Based on the results from Table 1, except for the perceived family support and the perceived support from a significant other with the emotion-oriented coping strategy, there is a significant positive relationship between all the other perceived social support sub-scales and psychological well-being.

Regression analysis was performed to examine the predictability of psychological well-being based on the perceived social support variables and coping strategies. As is evident from Table 2, the predictability of psychological well-being based on the research variables has confirmed ($F=29.045$, $P<0.001$). Table 3 shows the stepwise multivariate regression analysis between predictor variables and psychological well-being.

As can be seen from Table 3, two of the three perceived social support dimensions, i.e., a significant other and family, were included in the regression model. Moreover, two of the three coping strategy dimensions, i.e., avoidance- and emotion-oriented, were included in the regression model. In general, out of the six predictor variables (perceived social support from family, friends and a significant other; and task-, emotion-, and avoidance-oriented coping strategies) four can significantly predict psychological well-being of diabetic patients. Accordingly, regarding inclusion order in the model and predictive power, the variables are as follows: perceived support from a significant other (16.8%), avoidance-oriented coping strategy (4.8%), emotion-oriented coping strategy (2%), and perceived family support (1.8%). In general, the

model can predict 25.4% of type 2 diabetic patient's psychological well-being.

DISCUSSION

Based on the findings, there was a positive correlation between social support and psychological well-being which is consistent with the study of Guindon et al. (2010) on the elderly.⁸

In the present study (on diabetic patients with an age range of 32-89 years and a mean age of 52.83 years), the perceived social support from a significant other and friends were better predictors of psychological well-being. This finding is consistent with the study of Belanger et al. (2016) on the Canadian and Latin American elderly.²⁴ Aside from demonstrating the relationship between social support and psychological well-being, they showed that the impact of each dimension varied between the two societies, so that the perceived support from friends and a significant other (life partner) had a direct relationship with mental health in Canadians; while for Latin Americans the support from family and a significant other were important. Also, Heinze et al. (2015) illustrated variations in the significance of social support dimensions across different periods of life, so that during younger ages, family support becomes much more prominent while support from friends and other individuals becomes more significant in their psychological well-being during older ages.²⁵

All three coping strategies had positive correlations with psychological well-being. In the model, only avoidance-, and emotion-oriented strategies were predictive of the psychological well-being of participants. Although the results do not correspond with those of the studies by Huang et al. (2016),¹⁹

Burns et al. (2016),²¹ and Coelho et al. (2003) (26), they are consistent regarding the conclusion that diabetic patients are more inclined to use avoidance- and emotion-oriented strategies as opposed to task-oriented coping strategies to deal with their disease and stress. In line with the findings of this study are those of Bastak Nejad et al.'s (2012) on female university students in which a positive correlation between task-, emotion-, and avoidance-oriented coping strategies shown with mental health. Moreover, avoidance-oriented strategy was a better predictor of psychological well-being.²⁷

In a systematic review on prisoners, Picken (2012) concluded that there are few coping strategies and behaviors for prisoners due to harsh prison conditions and the impossibility of undoing the offense.²⁸ Therefore, task-oriented strategy are, in all probability, less effective for them. This finding is somehow similar to the results of this study considering the deprivation of the region, the uncontrollable nature of environmental conditions, and the low psychological education level of individuals. Consistent with the results of this study are those of Worthington & Scherer's (2004) in which the positive effect of emotion-oriented strategy demonstrated.²² According to Lazarus (1987), coping strategies are a set of individual actions that persist or become altered throughout time. What regarded as a useful coping technique at a specific period might not be so beneficial in another. In the same vein, what has been proved to be a useful strategy for a particular group to deal with a specific stressful factor might not be so helpful in other situations.²³

As the studies show, no coping strategy can be labeled as "superior" in and of itself without taking the immediate situation or the cultural and religious condition into account. Therefore, all coping styles can prove to be useful. The important thing is to employ a specific coping style and deal with the related outcomes. Using proper coping styles coexists with personality changes, alterations in or dissociations from the situation, and can lead to psychological satisfaction and mental health by helping individuals deal with their problems.

CONCLUSION

It can be concluded from the results that there is a relationship between social support and coping strategies with psychological well-being. Social support, particularly from the family and a significant other, has a positive impact on patients' psychological well-being. Also, avoidance- and emotion-oriented coping strategies are good predictors of the psychological well-being of type 2 diabetic patients of the city of Zahedan. The findings of this study

can be implemented in counseling programs and psychological treatments to enhance psychological well-being.

RESEARCH LIMITATIONS AND RECOMMENDATIONS

Like limitations in every study, low level of participants' education residing in the bordering areas contributed to the elimination of them in questionnaire studies. Almost 72% of the participants were illiterate or had low level of education. However, the researcher administered the questionnaires by reading the questions for these participants. Some recommendation for further study are: (1) Repeating the study among the illiterate and low-educated social groups. (2) Focusing on localization of educational content instead of the exclusive focus on problem-centered strategies

CONFLICT OF INTEREST

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