



## The relationship between family social support and quality of life in diabetic female patients

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*Journal of Research & Health*  
Social Development & Health Promotion  
Research Center

Vol. 7, No. 2, Mar & Apr 2017

Pages: 712- 718

DOI: 10.18869/acadpub.jrh.7.2.712

Original Article

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Received: 16 Sep 2014

Accepted: 2 Jun 2015

How to cite this article: Mousavi SA, Vahedi Z, Kiaea Z, Rahimi MA. The relationship between family social support and quality of life in female patients with diabetes referred to Kermanshah diabetes research center. *J Research & Health* 2017; 7(2): 712-718.

### Abstract

Life quality of diabetic patients is always affected by psychosocial problems, physical disorders, and life style changes. It seems that the perceived social support could intervene in improving the life quality of these patients. The present study was carried out aiming to examine the relation between family social support and life quality of female patients with diabetes. This was a cross-sectional study. The statistical population included 173 diabetic females who were randomly selected from patients referred to Kermanshah diabetes research center. Data were collected using life quality questionnaire (Short Form-36) as well as perceived social support scale. The data analysis indicated that there is a significant correlation between family support and life quality of patients. Furthermore, concerning the components of life quality, there is a significant correlation between family social support and physical performance, physical limitation, tiredness, emotional health, social performance, pain, and general health of patients. However, no significant relation was found between family support and limitation of patients. Results showed that there is a direct relation between family support and the life quality in females with diabetes. Hence, it can be concluded that giving the family support to the female diabetic patients can increase their quality of life.

**Keywords:** Diabetes, Family, Quality of Life, Social Support

### Introduction

Chronic diseases are among the major health and therapeutic issues in the present societies. The increasing rate of obesity, tobacco abuse, and elderly population has significantly increased the prevalence of chronic diseases in societies [1]. Diabetes is one of the major problems for general hygiene that is rapidly increasing in the contemporary world. This disease is the fifth cause of death in the western societies and the fourth common cause for

referring to physician [2]. The World Health Organization (WHO) has estimated that the number of diabetic patients reaches from 171 million in 2000 to 366 million in 2030 [3]. Diabetes is a syndrome in which the metabolism of carbohydrate, fat, and protein is disordered owing to the lack of insulin or the decreased sensitivity of tissues to insulin [4]. Diabetes is categorized into two forms of diabetes mellitus and diabetes

insipidus. Diabetes insipidus is resulted from disorder in hormonal marked by excessive urine volume. Diabetes mellitus is classified into two main forms of type 1 and type 2. In type 1, the disease is resulted from disorder in the immune system in cells producing insulin in pancreas. Type 2 diabetes is the result of muscle cells' inability for responding to insulin (resistant to insulin) [5]. Regarding diabetic patients need for accurate revision and control of blood sugar, the psychological factors and metabolism control should be taken into account [6].

Ming Li et al. examined disease-related stresses and signs of stress and depression among 333 outpatients with type 2 diabetes in Hong-Kong. Results showed that major stresses were relevant to fear of diabetes, job problems, and compatibility in life challenges, disease label, and discrimination. Furthermore, stress and depression signs were common among diabetic patients [7]. The existence of diabetes also can be an important stress source in these patients. Diabetes makes various changes in patients' life style, imposes particular food regimes on them, requires many on-time medical experiments, and makes patients to inject insulin regularly which all of these consequences are sources of difficulties and stresses [8-9]. Diabetes is a great challenge for health care specialists, because it affects patient's socio-psychic performance and as a result, threatens health-related life quality [10].

Important characteristics of life quality agreed upon by many experts of human and social sciences include multidimensionalism, subjectivity, and dynamism. These three dimensions constitute the foundation of life quality relevant to physical and psychic as well as social health [11]. The life quality in diabetic patients is affected by complex and various factors that in interaction with each other determine health consequences of diabetes. The results of some studies show that life quality of patients with diabetes is affected by demographical and physical factors as well as other characteristics of the disease, so that the improvement of metabolic control, participation in sports activities, and observing

therapeutic programs can result in the better life quality. On the other hand, increasing patient's age, disease duration, hemoglobin glucosaline level, body mass index, and other health side effects decrease the patient's life quality [10]. Various socio-psychic factors can affect the individuals' life quality that one of them is social support. Social support as one of the confrontation emotional-looking mechanism has the potential to affect life quality. Support understanding is more important than Support receiving. In other words, patient's understanding and attitude towards the received support is more important that the rate of provided support to him/her [12].

Social support is interpersonal interchanges among the members of social network that may be in the form of two-way or informal relations which is usually automatic and useful. Social support can be measured in terms of functional support (perceived social support) or structural support (social network size). Perceived social support reflects individuals' view regarding the provided support and social network size refers to the all recognized individuals by the individual or patient [13]. Social support emphasizes on the availability and the quality of relationships with individuals who provide supportive resources if needed and believes that races, family, friends, acquaintances and so on provide objective services that make individual to experience being focused, loved worthy, and self-confident and find himself as a component of the network. Social support provides a secure relationship for each individual that kindness and closeness feelings are of its main characteristics and individuals' needs are met through the sources provided by the society [14]. The relation of social support with hygiene and its positive effect on human's physical and psychic health has been taken into consideration by researchers in recent years. Social-emotional support can be considered as a kind of intimate relationship with individuals and the purpose of social-tool support is providing services,

helping in activities, giving money, and other help provided for individuals. Family members always are considered as the most important source of social support, while friends have a less important role. Furthermore, both family members and friends can manifest emotional support [15].

Various studies show that social support has an important role in maintaining individuals' health and shows some effects on the decrease of negative consequences of great stresses from the environment and society. In addition, with increasing the rate of social support, the rate of patients' death decreases and the manifestation of physical and psychic illnesses will be lower in individuals. Social support is relevant to the rate of having kindness, accompaniment and attention of family members, friends, and other individuals [16]. Conducted investigations have shown that social support can affect individuals' experience of disease, therapy period, and disease-related outcomes and decreases the death rate of chronic diseases, improves the rate of getting better, and increases the observation of therapeutic regime. In addition to, researchers' findings have shown that understanding of social support can prevent manifestation of undesirable physiological effects in individual and increases individual's self-care and self-confidence and has a positive effect on individuals' physical, psychic, and social position and clearly increases individual's performance and life quality [12]. Regarding various stressing factors for diabetic patients, long-term physical problems, and wide-range changes in the life of such patients that bring the possibility of life quality decrement as well as with respect to the necessity of supporting these patients to be more compatible with experienced stresses and the effect of social environment on the patients' confrontation, the present study was carried out aiming to examine the relation between family social support and life quality of female patients with diabetes referred to the Kermanshah Diabetes Research Center.

## Method

This was a cross-sectional study. The statistical

population included all female patients with diabetes referred to the Kermanshah diabetes research center. 173 diabetic females was selected to participate in this research according to the convenience sampling method. The inclusion criteria were females with diabetes aged from 18 to 70. The female diabetic patients with brain and neurological disorders and substance abuse were excluded from the research. One of the employed questionnaires in this study was the multidimensional perceived social support (MSPSS). Zimen *et al.* compiled this questionnaire in order to measure the perceived social support by family, friends, and important persons in the individual's life. This scale is composed of three subscales with total twelve questions that are scored based on the seven-point Likert pointing from completely disagree to completely agree. The questions of 8, 4, 3, and 11 are related to the family subscale, questions of 9, 7, 6, and 12 related to the friends subscale, and questions of 5, 2, 1, and 10 related to the important person subscale. A study in 2010, found a positive significant relation between the scores of this scale and subscales and life satisfaction that indicates convergent and divergent validity of this scale. In a case study, the internal equality through Cronbach's alpha for the subscales of family, friends, and important persons was calculated as 0.90. Total score of the scale is obtained from the sum of questions' scores. Obtaining high score indicates high perception of social support [17]. In Edwards's study, Cronbach's alpha for the dimensions of family, friends, and important persons was reported as 0.88, 0.90, and 0.61, respectively [18]. In Orozco's study, Cronbach's alpha for the dimensions of important persons, family, and friends was reported as 0.95, 0.86, and 0.93, respectively [19].

The life quality was evaluated using the Short Form-36 questionnaire composed of 36 questions. This questionnaire is a reliable tool widely used to evaluate the quality of life. The score range is between zero score (the lowest score indicating undesirable life quality) and

100 score (the highest score indicating desirable life quality). This questionnaire has 36 phrases evaluating eight different fields of health: 1- physical performance 2- role-playing limitations of physical position 3- role-playing limitations of emotional problems 4- tiredness or happiness 5- emotional health 6- social performance 7- pain 8- general health. Researches concerning life quality showed that this questionnaire has a high validity and reliability. Brazier in a research obtained its validity coefficient in all dimensions except social performance higher than 0.75. Furthermore, McHorny has reported the validity of the mentioned questionnaire higher than 0.7. In Iran, the indigenous form of the questionnaire has been made. The reported reliability coefficient for the subscales is from 77% to 90%. Except the scale of liveliness that was 65%, the findings showed Iranian version of this questionnaire is an appropriate tool for measuring the life quality [20].

The gathered data were evaluated using descriptive statistics such as mean and standard

deviation and analyzed using inferential statistics such as Pearson and regression coefficients all in SPSS-18 software.

### Results

The results of data analysis showed that there is a positive significant correlation between family support and life quality among females with diabetes ( $r=0.368$  and  $p=0.000$ ). In other words, as the rate of family support increases, the life quality of patients with diabetes increases. In addition, regarding the life quality components, there is a significant correlation between family social support and physical performance ( $r=0.299$  and  $p=0.000$ ), physical limitations ( $r=0.176$  and  $p=0.020$ ), tiredness ( $r=0.167$  and  $p=0.028$ ), emotional health ( $r=0.411$  and  $p=0.000$ ), social performance ( $r=0.348$  and  $p=0.000$ ), pain ( $r=0.340$  and  $p=0.000$ ), and general health ( $r=0.289$  and  $p=0.000$ ) among females with diabetes, however there was no significant relation between family support and limitations of females with diabetes.

**Table 1** Frequency of participants based on the type of diabetes

		Frequency	Percentage	Frequency percentage	Gathered frequency percentage
Diabetes	Type 1	45	26.0	26.0	26.0
	Type 2	128	74.0	74.0	100.0
	Total	173	100.0	100.0	

**Table 2** Mean and standard deviation of indices

Indices	Mean	Standard deviation
Life quality	47.02	19.27
Physical performance	56.01	27.86
Role-playing limitations of physical position	44.35	30.26
Role-playing limitations of emotional problems	79.07	50.35
Tiredness and happiness	47.32	29.17
Emotional health	49.76	16.00
Social performance	57.02	25.41
Pain	44.33	26.90
General health	39.64	20.25
Family support	5.57	1.11

**Table 3** Correlation and significance level between family social support and life quality of females with diabetes

		Physical performance	Physical limitation	Emotional limitation	Tiredness	Emotional health	Social performance	Pain	General health	Life quality
Family support	Correlation	0.299	0.176	0.115	0.167	0.411	0.348	0.340	0.289	0.368
	Sig.	0.000	0.020	0.031	0.028	0.000	0.000	0.000	0.000	0.000

Significance level at  $p < 0.05$ 

## Discussion

The aim of the present study was to examine the relation between family social support and life quality among females with diabetes. Concerning the relation between social support and life quality, the findings of this research showed that there is a significant correlation between family support and life quality of patients with diabetes. In other words, the increase of family support leads to the increased life quality among females with diabetes. The findings of study conducted in Tehran in 2013, showed that it was also a direct, significant relation between life quality and social support [21]. Furthermore, Strudel and Kennardi in the longitudinal study of Cohort, which was conducted on 10300 women from 1996 to 1999, dealt with the examination of socio-psychic factors in the new diagnosis of diabetes of aged women. Results showed that the lack of spouse, low social support, and low psychic hygiene are relevant to the danger of manifestation of diabetes disease, which are in accordance with the findings of present research [22]. Others and family support are the best predictor of problem-orienting confrontation in patients with diabetes [23]. The results of a research on Japanese men showed that high job stress, low social support, and long-time work are effective in the increase of diabetes manifestation [24]. Nakahara et al. in a study examined the effect of psychological factors on blood sugar control among 256 Type 2 Japanese patients. They showed that self-efficiency directly affected therapy treatment adherence and treatment adherence itself affected the level of HbA1c directly. Other psychological factors including stress of diabetes, social support, psychological indigence, and emotion-focused strategies could affect HbA1c level through the increase of self-efficiency [25]. Furthermore, the present research concerning the components of life quality showed that there

is a significant correlation between family social support and physical performance, physical limitation, and tiredness in women with diabetes. Social support is one of the confrontation emotional-looking mechanisms affecting the life quality and the support given by patient's spouse is the most important supportive source in individuals with chronic diseases, so that social support can decrease adverse effects of chronic diseases and help patients being more compatible with their disease [26] which is consistent with the results of this research. There is a positive significant correlation between life stressing events and weak control of diabetes. Small daily stressing occurrences are even more significant and important stresses accompanied with weak metabolic control [27]. Different aspects of perceived social support, confrontation strategies, and resiliency have a positive correlation with quality of life. The life quality of patients with Multiple Sclerosis (MS) can be predicted based on these variables. In addition, the rate of perceived social support, confrontation strategies, and endurance can affect their psychic and physical health [28]. Regarding the relation of family social support and other components of life quality, we found a significant correlation between family support and emotional health, social performance, pain, and general health of women with diabetes. A research showed that among six supportive sources, the highest support was provided by three sources of personal compatibility, health carers, and family-friends (explanation coefficient of 43%). Health carers are considered effective factors in self-regulation and interaction with carers and family-friends were predictors of compatibility with disease, self-regulation, and interaction with carers [29], which is consistent with our research findings.

Complications of diabetes have inverse, significant effects on all dimensions of patients' life quality [30]. Diabetic patients' life quality is one of the main objectives in controlling diabetes disease. Different aspects of life quality in different patients have particular importance. In chronic diseases, particularly owing to the duration and disease intensity, the life quality is affected [31]. Various psychological factors can affect individuals' life quality. One of these factors is perceived social support. Social support as one of the emotional-looking confrontation mechanisms has a potential for affecting life quality [32]. In a similar research, it was observed that there is a direct relation between social support and life quality as well as survival rate of hemodialysis [33]. As observed, the results of previous similar studies confirm the results obtained in our study.

Since the present research was a cross-sectional descriptive study, it is not possible to presume from the findings mechanism of action of family social support in life quality of female patients with diabetes. Another restriction of this research was the absence of control group. Another considerable point is that other effective variables on life quality in this research were not evaluated. Therefore, it is suggested that other complementary researches regard the assessment of other factors in quality of life.

### Conclusion

The present research confirmed the previous studies by showing a significant relation between family social support and life quality among women with diabetes. It seems that increasing social support of diabetic patients may result in creating the self-care behaviors, following the therapeutic regime, improving life quality, and finally increasing the survival rate among such patients. Furthermore, care planners and authorities can remove emotional and informational deprivation in this group of patients by investigating diabetic patients for receiving social support level and can promote their quality of life by providing appropriate supportive interventions.

### Acknowledgements

Hereby, authorities and patients of Kermanshah diabetes research center participated in this study are gratefully acknowledged.

### Contribution

Study design: SAM

Data collection and analysis: ZV, MR

Manuscript preparation: SAM, ZK

### Conflict of Interest

"The authors declare that they have no competing interests".

### Funding

The author (s) received financial support for the research from the research deputy of Tarbiat Modares University.

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