

# Importance of social support in diabetes care

Ghalmreza Sharfi Rad<sup>1</sup>, Leila Azad Bakht<sup>2</sup>, Avat Feizi<sup>3</sup>, Siamak Mohebi<sup>4</sup>

<sup>1</sup>Department of Education and Health Promotion, School of Public Health, Isfahan University of Medical Sciences, Isfahan, Iran, <sup>2</sup>Department of Nutrition, School of Health, Isfahan University of Medical Sciences, Isfahan, Iran, <sup>3</sup>Department of Epidemiology and Biostatistics, School of Public Health, Isfahan University of Medical Sciences, Isfahan, Iran, <sup>4</sup>Department of Public Health, School of Public Health, Qom University Medical Sciences, Qom, Iran

## ABSTRACT

**Background and Objectives:** Diabetes is one of the major concerns in the third millennium, affecting more people every day. The prevalence of this disease in Iran is reported to be high (about 7.7%). The most important method to control this disease and prevent its complications is self-care. According to various studies, this method has not found its proper place among patients with diabetes due to several reasons. The present study was aimed at determining the relationship between social support, especially family support, and self-care behavior of diabetes patients. **Materials and Methods:** This study was a narrative review in which the relevant papers of cross-sectional, cohort, clinical trial, and systematic review designs were selected using databases and scientific search engines such as PubMed, ProQuest, SCOPUS, and Elsevier, with the keywords diabetes, social support, and self-care. Moreover, Persian papers were selected from MEDLAB and IRANMEDEX databases and through searching the websites of original research papers published in Iran. All the papers published from 1990 to 2011 were reviewed. **Results:** The results of the study indicated that the status of self-care and social support in patients with diabetes was not favorable. All the studied papers showed that there was a positive relationship between social support and self-care behavior. Also, some studies pointed to the positive effect of social support, especially family support and more specifically support from the spouse, on controlling blood sugar level and HbA1c. **Conclusion:** As social support can predict the health promoting behavior, this concept is also capable of predicting self-care behavior of patients with diabetes. Therefore, getting the family members, especially the spouse, involved in self-care behavior can be of significant importance in providing health care to patients with diabetes.

**Key words:** Diabetes, self-care, social support

**Address for correspondence:** Prof. Siamak Mohebi, Department of Public Health, School of Public Health, Qom University Medical Sciences, Qom, Iran. E-mail: mohebisiamak@yahoo.com

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## INTRODUCTION

Currently, diabetes is known as one of the major public health concerns in the third millennium and is the fifth main mortality cause in the world.<sup>[1]</sup> This disease kills 4 million people every year, which is 9% of the deaths all over the world.<sup>[2]</sup> In Iran, a national study which investigated the risk factors of non-contagious diseases estimated the prevalence of diabetes as 7.7% in 2008.<sup>[3]</sup>

Today, this disease is being paid more attention due to its high prevalence, imposed costs on health systems, and various negative effects on the patients.<sup>[4]</sup> Suffering from chronic

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complications of diabetes leads to the decrease in life expectancy and increase in death, imposes high economic burden on the person, family, and society, and affects the life quality of the person and his/her family.<sup>[5]</sup> Thus, many researchers believe that diabetes belongs to the person and his/her family<sup>[6,7]</sup> as suffering from this as a chronic disease disturbs the person's family life and future prospects,<sup>[8]</sup> threatens their personal independence, and generates a feeling of being different from others.<sup>[9]</sup>

In this regard, self-care is one of the most fundamental strategies in diabetes which can control the disease,<sup>[10]</sup> and it highly depends on the will of the person for performing self-care and having self-care behaviors.<sup>[11]</sup> This strategy includes: Following the recommended diet, doing regular physical activity, checking blood sugar, and consuming the medication regularly.<sup>[12]</sup>

Nevertheless, the results of some studies have indicated that the self-care situation of diabetic patients is not at an appropriate level and the patients have low self-care ability.<sup>[13,14]</sup> The results of the studies by Dailey showed the non-optimum self-care situation among diabetic patients.<sup>[15,16]</sup> In Iran, the research conducted by Seyedeh Roghayeh Jafarian,<sup>[17]</sup> Elham Shakibazadeh,<sup>[18]</sup> Mohammad Ali Morowati,<sup>[19]</sup> and Parvin Baghaei<sup>[20]</sup> revealed the same situation, and the study by Alireza Shahab Jahanloo demonstrated that only 27% of diabetic patients follow the recommended dietary behaviors.<sup>[21]</sup>

Although health care providers are responsible for orienting diabetes control programs, their attempts often do not lead to desirable results. The findings have shown that in spite of making the patients aware, healthy function (self-care) does not occur, so some researchers believe that increasing patients' knowledge of the disease is not sufficient *per se* for beginning and maintaining self-care behaviors and assuring the long-term control.<sup>[22,23]</sup>

Therefore, many quality studies have measured the reason for lack of implementing optimum self-care among the patients with diabetes,<sup>[24,25]</sup> and have introduced various individual, social, and environmental sources as the obstacles for the optimum self-care of diabetics. Some studies have also indicated that demographic factors like increased age decrease self-care.<sup>[26,27]</sup> Moreover, socioeconomic factors like less education,<sup>[28,29]</sup> low economic level,<sup>[28,30]</sup> and social factors like weak individual and family relationships<sup>[26]</sup> seriously impede self-management process.

As diabetes is a chronic disease which requires extensive behavioral changes and adherence to a complex diet, social support is considered as one of the influential and important factors for performing self-care and for adherence to the treatment and disease control<sup>[31]</sup> which can facilitate self-care behaviors and compatibility with the disease.<sup>[32]</sup> On the other hand, a major part of the care for this disease is done at home and inside the family.<sup>[33]</sup> Therefore, diabetes is sometimes called a family disease because its control and demands influence all family members.<sup>[34]</sup> Thus, social support, especially family

support, can be a vital component in the successful control of diabetes. This paper attempted to determine the relationship and effect of social support, especially family support, on the self-care behaviors in diabetic patients.

## MATERIALS AND METHODS

This narrative review study was conducted using scientific search engines and information databanks like PubMed, ProQuest, SCOPUS, and Elsevier, and keywords like self-care, diabetes, social support, and family support in order to select studies with cross-sectional, cohort, clinical trial, correlation, and qualitative designs. Moreover, Persian papers were selected from MEDLIB and IRANMEDEX information databanks and by searching websites of internal research journals. The time range of the reviewed articles was from 1990 until the end of 2011. Some investigated papers are given in Table 1.

## RESULTS

The findings of other studies showed that the perceived social support situation is not at an optimum level among diabetic patients; the research by Cooper *et al.* demonstrated that diabetic patients need others' support.<sup>[35]</sup> Gillibrand's study revealed that social support in diabetic patients is not at an optimum level.<sup>[36]</sup> The studies conducted in Iran have demonstrated that this support is not at an optimum level among diabetic patients; studies by Shiva Heidari<sup>[37]</sup> and Mohammad Ali Morowati Sharifabad<sup>[38]</sup> can be referred to in this regard.

As far as the relationship between social support and self-care behaviors is concerned, the following results can be mentioned: In the study by Alato which used the developed health belief pattern, it was determined that adherence to the self-care diet had a relationship with social support.<sup>[39]</sup> Wen, who investigated family support, diet, and sports among elderly American Mexican men suffering from type-2 diabetes, observed that with the increase in this support, adherence to diet and sports increased.<sup>[40]</sup> Gillibrand's research<sup>[36]</sup> and Albroght's study<sup>[41]</sup> demonstrated a positive significant relationship between social support and self-care behaviors. They reported that social and family fields are strongly accompanied by self-care behaviors, especially diets.

Lloyd *et al.* also studied psychosocial factors related to glycemic control. In their study, as social support increased for adherence to the self-care recommendations, this kind of adherence increased too.<sup>[42]</sup> In the study by Vijan on 446 urban and rural patients, one of the obstacles reported by patients was with regard to observing dietary recommendations, which was due to lack of family and social support. In that study, those who received more support from their families easily observed and adhered to diets.<sup>[43]</sup> Furthermore, Galsgow stated that family support is the strongest determining factor for following treatment diet among type-2 diabetic patients.<sup>[44]</sup>

Other studies have demonstrated that social support from diabetic patients affects their tendency toward doing self-care

**Table 1: The papers investigated in this paper**

Author	Year	Research type	Study samples
Aalto and Uutela <sup>[39]</sup>	1997	Cross-sectional	423 Type-1 diabetic patients
Wen <i>et al.</i> <sup>[40]</sup>	2004	Cross-sectional	138 Type-2 diabetic patients over 55 years old
Gillibrand and Stevenson <sup>[36]</sup>	2006	Cross-sectional	118 Diabetic patients between 16 and 25 years old
Lloyd <i>et al.</i> <sup>[42]</sup>	1993	Cohort	295 Type-1 diabetic patients over 18 years old
Albright <i>et al.</i> <sup>[41]</sup>	2001	Cross-sectional	397 Type-2 diabetic patients
Schafer <i>et al.</i> <sup>[79]</sup>	1996	Cross-sectional	Type-1 diabetic patients (54 adults and 18 below 19 years old)
Glasgow <i>et al.</i> <sup>[44]</sup>	1999	Library	-
Hiroshi <i>et al.</i> <sup>[53]</sup>	2001	Cross-sectional	117 Diabetic patients
Gleeson-Kreig <i>et al.</i> <sup>[45]</sup>	2002	Cross-sectional	95 Hispanic patients with insulin-dependent diabetes
Morowati Sharifabad <i>et al.</i> <sup>[46]</sup>	2009	Cross-sectional	120 Diabetic patients
Kokanovic and Manderson <sup>[80]</sup>	2006	Qualitative study	In-depth interview with 16 type-2 diabetic patients who immigrated to Australia
Schwartz <sup>[57]</sup>	2005	Cross-sectional	50 Diabetic patients over 40 years old
Klomegah <sup>[49]</sup>	2006	Cross-sectional	151 Diabetic patients
Chlebowy and Garvin <sup>[54]</sup>	2006	Comparative study	91 Type-2 diabetic patients
Trief <i>et al.</i> <sup>[81]</sup>	2001	Cross-sectional	78 Type-1 and -2 diabetic patients
Ilias <i>et al.</i> <sup>[59]</sup>	2004	Cross-sectional	42 Diabetic patients (22 men and 20 women)
Murphy <i>et al.</i> <sup>[55]</sup>	1994	Cross-sectional	131 Adult diabetics
Berkman <sup>[64]</sup>	1995	Library	-
Bovier <i>et al.</i> <sup>[65]</sup>	2004	Cross-sectional	2000 Students
Herpertz <i>et al.</i> <sup>[82]</sup>	2000	Cross-sectional	410 Diabetic patients (157 type-1 diabetes and 253 type-2 diabetes)
Miyaoka <i>et al.</i> <sup>[83]</sup>	1997	Cross-sectional	151 Non-insulin-dependent diabetes
Gucciardi <i>et al.</i> <sup>[84]</sup>	2008	Cross-sectional	275 Men and women with type-2 diabetes
Bia <i>et al.</i> <sup>[85]</sup>	2008	Descriptive correlation	156 Elderly with diabetes who were over 65 years old
Zhang <i>et al.</i> <sup>[86]</sup>	2008	Correlation	304 Type-2 diabetic patients
Sacco and Yanover <sup>[87]</sup>	2006	Correlation	86 Diabetic patients
Pineda Olvera <i>et al.</i> <sup>[88]</sup>	2007	Cross-sectional	175 Type-2 diabetic patients
Coates and Boore <sup>[89]</sup>	1998	Cross-sectional	263 Insulin-dependent diabetic patients
Bond <i>et al.</i> <sup>[90]</sup>	1992	Cross-sectional	56 Type-1 diabetic teenagers
Aljaseem <i>et al.</i> <sup>[91]</sup>	2001	Cross-sectional	309 Type-2 diabetic patients
Koch <sup>[92]</sup>	2002	Clinical trial	31 African-American type-2 diabetic women
Toljamo and Hentinen <sup>[93]</sup>	2001	Cross-sectional	213 Insulin-dependent diabetic patients
Pham <i>et al.</i> <sup>[94]</sup>	1996	Cross-sectional	76 Type-2 diabetic patients
Garay-Sevilla <i>et al.</i> <sup>[52]</sup>	1995	Cross-sectional	200 Non-insulin-dependent diabetic patients
Wang and Fenske <sup>[95]</sup>	1996	Descriptive correlation	106 Non-insulin-dependent patients
Rafique and Shaikh <sup>[48]</sup>	2006	Qualitative study	Semi-structured interview with 27 diabetic patients
Cooper <i>et al.</i> <sup>[35]</sup>	2003	Review study	21 Papers on educating diabetic patients
Trief <i>et al.</i> <sup>[31]</sup>	2004	Prospective	78 Diabetics were followed for 2 years
Epple <i>et al.</i> <sup>[32]</sup>	2003	Cross-sectional	163 Type-2 diabetic patients
La Greca and Bearman <sup>[34]</sup>	2002	Cross-sectional	74 Type-1 diabetic teenagers
Ilias <i>et al.</i> <sup>[56]</sup>	2001	Correlation	98 Type-2 diabetic patients
Whittemore <i>et al.</i> <sup>[50]</sup>	2005	Cross-sectional	53 Type-2 diabetic women
Pinar <i>et al.</i> <sup>[51]</sup>	2003	Correlation	100 Type-1 diabetic teenagers
Tillotson and Smith <sup>[96]</sup>	1996	Cross-sectional	465 Non-insulin-dependent diabetic patients
Shiva Heidari <i>et al.</i> <sup>[37]</sup>	2008	Descriptive correlation	230 Type-2 diabetic patients
Akbar Zare Shahabadi <i>et al.</i> <sup>[62]</sup>	2009	Cross-sectional	256 Type-2 diabetic patients
Morowati Sharifabad and Rouhani Tonekaboni <sup>[98]</sup>	2006	Cross-sectional	120 Diabetic patients
Shiva Heidari <i>et al.</i> <sup>[61]</sup>	2009	Descriptive correlation	150 Elderly with type-2 diabetes

activities.<sup>[45,46]</sup> Marzili's research showed that family support had high effect on following diet and sports in diabetic

patients.<sup>[47]</sup> Additionally, Rafique's study in Pakistan showed that affective stress and lack of social support are among

the self-care obstacles for diabetic patients.<sup>[48]</sup> A study by Klomegah indicated that if family members, friends, and others observe a healthy diet, it is easier for the patients to adhere to a healthy diet.<sup>[49]</sup> In their study on 76 type-2 diabetic patients which lasted for 2 years, Trief *et al.* noticed that quality of marital status (intimacy and compatibility) is a predictor of adherence to self-care dimensions (diet, sports, and doctor's advice).<sup>[31]</sup>

Whittemore reported that the most important predicting factor for the metabolic control and diet adherence among type-2 diabetic patients is support and self-confidence.<sup>[50]</sup> The study by Pinar on diabetic patients showed that factors like intimacy among family members, existence or lack of existence of conflict in the family, and current affective status of the family can affect the self-efficiency of patients and can lead to increase of self-efficiency and decrease of stress in the family.<sup>[51]</sup>

Garay-Sevilla found that adherence to diet and medication was related to the duration of illness and family and social support.<sup>[52]</sup> Moreover, Hiroshi showed that social support and its source are influential in the treatment and control of diseases.<sup>[53]</sup> Also, according to the study by Fleeson-Kreig, the more the receiving support from spouse and others, the more faithful the patient would be in terms of adherence to self-care activities.<sup>[45]</sup> In fact, the study by Chlebowy observed no significant correlation between social support and behavior.<sup>[54]</sup>

Murphy also showed that although family support leads to the improvement of self-care programs in diabetic patients, adherence to self-care programs does not automatically lead to more decrease in blood sugar.<sup>[55]</sup> Nevertheless, Ilias *et al.* conducted a study on 98 type-2 diabetic patients and concluded that optimal level of glycosylated hemoglobin had a relationship with the social support received from the family.<sup>[56]</sup> Moreover, Schwartz<sup>[57]</sup> and Dai<sup>[58]</sup> observed a relationship between social support and blood sugar control. The study by Ilias<sup>[59]</sup> and Glasgow<sup>[44]</sup> showed that family support decreased and controlled blood sugar.

Gholamreza Sharifirad conducted a study in Iran which demonstrated that lack of social and family support was among the obstacles for observing the diet, as mentioned by the patients.<sup>[60]</sup> Shiva Heidari studied diabetic elderly and found a significant relationship between social support and blood sugar control in that those patients who received more support from their family network could optimally control their blood sugar.<sup>[61]</sup> Moreover, the study by Akbar Zare Shahabad indicated a significant direct relationship between the level of perceived social support and the level of adherence to self-care activities.<sup>[62]</sup> Mohammad Ali Morowati Sharifabad also demonstrated that perceived social support had a positive and significant correlation with self-care in that supporting family behaviors predicted 9.1% of self-care changes. In his study, general perceived social support explained 6.4% of changes in the self-care behaviors.<sup>[38]</sup> Another study by Shiva Heidari showed a significant inverse

relationship between family support and HbA1c. In her study, family support led to the improvement in the control of blood sugar among patients and a significant relationship was found between family support and the number of family members.<sup>[61]</sup>

## DISCUSSION

Social support is one of the emotion-oriented coping mechanisms with the potential power for influencing life quality.<sup>[63]</sup> Studies have shown a significant relationship between health and social support, so people who receive higher social support have better health.<sup>[64,65]</sup> Some studies have shown that social support leads to the improvement in health functions and even immunity performance.<sup>[66-68]</sup> Other studies on AIDS, indicators of body immunity, and on hemodialysis patients demonstrated a relationship between social support and these diseases in terms of their control and treatment.<sup>[69-71]</sup>

The findings of the researchers have shown that perceiving social support can prevent the emergence of non-optimum physiological complications in the person, increase the level of self-care and self-confidence, and positively affect physical, mental, and social conditions; thus, it evidently leads to the increase in the performance and improvement of life quality.<sup>[72]</sup> In general terms, it should be stated that social support has a great impact on human health.<sup>[73,74]</sup>

Diabetes disturbs daily performance and social activities of the patient, changes his/her capability for performing normal roles and responsibilities, and creates new roles for him/her. The relationship with the spouse, children, parents, sister, brother, friends, and other members of the social network is not like before. These people more or less depend on others and can support others to a lesser degree. Therefore, their personal interactions with others are limited and they may be isolated in the society. Thus, their need for social support increases. Social support affects the control of diabetes through two processes: a) direct effect of social support via behaviors related to health, such as encouraging healthy behaviors, and b) moderating effect of social support which helps in the moderation of acute and chronic nervous pressure on health and increase of compatibility with the nervous pressure of the diabetes disease.<sup>[75]</sup>

Different definitions have been presented for the term social support. Social support has been defined as the level of enjoying love, accompaniment, and attention of family members, friends, and other people.<sup>[75]</sup> In fact, social support is "the facilities provided by others for the person." Moreover, this concept is considered as "the knowledge which leads the person toward believing that others respect him/her, are interested in him/her, and consider him/her as valuable, dignified, and a person who belongs to a social network of relations and commitment."<sup>[76]</sup> Social support is defined as the functional content of relationships, which can be categorized in the following four groups of support behaviors:

a. Affective support including feeling sympathy, love, trust,



and attention, which has a strong relationship with health

- b. Financial support including service and financial assistance
- c. Information support as recommendations, advice, and information used by the person for being faced with the problems
- d. Evaluative support as accessing useful information for self-evaluation.

Although these four functions are different in conceptual terms, they are not independent from each other in practice.<sup>[76]</sup>

In this regard, family is the first and the most important supportive source which sacrifices itself for providing care for its members. Each family attempts to constantly support the person, even if that person is injured and cannot compensate for it. Moreover, spouses are usually the first people who assist as supportive sources in critical conditions. Strong relationships with family, sister, brother, or friends do not make up for the lack of strong relationship with spouse and cannot prevent from depression and stress in patients at the time of life problems. Other studies have introduced spouses as the most important supportive sources in crises and stressful conditions of life.<sup>[77]</sup>

The use of incorrect support behaviors (like reproaching him/her for the lack of timely implementation of treatment programs) by close people in dealing with the patients has an inverse effect on self-care program implementation. An even more interesting point is that when others use positive reinforcing behaviors (such as accompanying or encouraging) to force the patients to follow the treatment program, better results are obtained and the patient could better perform the treatment program. Nagging and reproaching about lack of performing self-care programs not only does not lead to the increase of these behaviors, but also can lead to the feeling of despair among patients; as a result, they decrease self-care program implementation. Families should consider the point that providing and eating the food that is not appropriate for the diabetic patients can in fact lead them toward avoiding their treatment diet. For instance, eating food which is not a part of the patients' diet by family members is among the considerable points in the non-supportive family behaviors.

## CONCLUSION

In the health improvement model, Pender considered family support as interpersonal effects which can predict health improvement behaviors. In studies which were done based on the health improvement model, 75% supported interpersonal effects as a predicting factor of the behavior.<sup>[78]</sup> It has been observed that both general social support and diabetes-related support are in correlation with the adherence to self-care behaviors in diabetic patients. Since close family support and relationship have a special position in Iranian culture, it seems that presenting sufficient information with regard to the disease to the people who are close to the patient and

their involvement and cooperation in the treatment and control processes can facilitate the work of treatment team and help the patient in reaching the utmost life quality and health.

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