ORIGINAL PAPER

Social Support and Diabetes Control: a Study Among Patients Admitted to Specialized Clinic of Dr. Gharazi Hospital in Isfahan

Mahmoud Keyvanara[1], Seyed Mohssen Hosseini[1], Parirokh Emami[2]
Research Center of Social Factor Impact Health, Isfahan University of Medical Sciences, Isfahan, Iran[1]
Research Center of Social Factor Impact Health, Isfahan University of Medical Sciences Islamic Azad University- Unite of Dehaghan, Iran[2]

Introduction: Diabetes causes premature mortality, disability and sometimes irreversible health consequences. Scholars believe that social factors directly and indirectly could impact patient in control of diabetes. The main purpose of this research is to understand how social support related to control of diabetes. **Methods:** 320 diabetic patients were randomly chosen from specialized clinic of Dr. Gharazy hospital in Isfahan. The element was questionnaire which its reliability was calculated according to coefficients Cronbach's alpha (r = 0.78). The patients 'two previous sessions 'blood sugar level and also their HbA1C were studied via referring to their medical records. Then the patients were categorized into successful and unsuccessful groups in controlling the diabetes. Their relationship of social support and diabetes control was analyzed through SPSS software. **Results:** The findings show that there is a direct relationship between social support and control of diabetes. The patients who had better instrumental, emotional and informational social support, better controlled their diabetes. **Key words: Diabetes control, social support**

Corresponding author: Parirokh Emami. Research Center of Social Factor Impact Health, Isfahan University of Medical Sciences. Islamic Azad University- Unite of Dehaghan, Post code: 86415-111. bita emami: b.emami@yahoo.com

1. INTRODUCTION

One of the diseases that have been considered by health policy makers is diabetes. It is the most prevalent metabolic condition with an impact on every aspect of life. The frequency of this disorder is dramatically increasing worldwide. It is the fifth cause of death in western countries. More than 220 million people suffer from diabetes, and it seems that its number will increase twice as much in 2030 (1). Due to the increasing number of diabetes worldwide the World Health Organization (WHO) announced diabetes as a hidden epidemic and asked all countries to confront the epidemic since 1993 (2). WHO in 1998 reported that population of the world (more than 30 years) will have increased 64% from 1995 to 2025, and prevalence of diabetes which was 4% in 1995, will be 5/4% in 2025. The number of people who suffer from diabetes increase 122% and it means the diabetics population that was 135 million people in 1995, will be 300 million people in 2025 and developing countries' portion will be more (2). However, number of diabetics will grow 150% next 25 years (1). The significant changes in number of diabetics cause that prevention and controlling diabetes is considered main priority worldwide.

Although diabetes does not have an absolute cure it can be controlled by taking drugs, being on a diet, and changing the life style. In recent years there has been increasing attention to social factors of health. The activity of health care professionals now goes well beyond treating the sick. Social support plays a significant role in keeping up health. Social support refers to those aspects of social relationships that provide a sense of self-worth and offer resource in tackling life's troubles (3). It acts as a powerful mediating factor in a range of physical and mental health problems (4). It also operates at different levels. Emotional support can reassure individuals that they are still cared for and give the opportunity to vent worries and negative feelings. Instrumental support is often essential in helping people get through day-by-day life, such as physical care, financial assistance or help with responsibilities like shopping,. Finally, informational support helps people in situations that are unfamiliar such as information about diet and medication (5). Social support appears to be a significant factor in control and recovery from illness. A number of studies have shown the importance of social support in helping people to control, adapt to and make better recoveries from a range of chronic illness including diabetes and heart disease (6, 7, 8, 9). Otherwise,there are no many researches in Iran to concentrate on the relationship between social support and diabetes control (10, 11, 12). The aim of this study is to explore relationship between the social support and diabe-

tes control.

2. METHOD

This research applied a descriptive-analytic method. It is descriptive as it explains statistics of the population and is analytic because it studies the relationship between variables. A total of 320 patients underwent to the Diabetes Clinic of Dr. Gharazy Hospital in Isfahan were chosen randomly. The data was collected during a period of four months in 2011 using questionnaire. The questionnaire was constructed by researcher according to three standard questionnaires including: Neborck Social Support Questionnaire (NSSQ) (13), The Diabetes Social Support Questionnaire-Family Version (DSSQ-family) (14) and General Social Support Questionnaire (9). It has included demographic variables, questions that measure patient's instrumental, emotional and informational social support and questions related to their past and current diabetes conditions.

The reliability of each dimensions of questionnaire was calculated according to coefficients Cronbach's alpha, emotional support was 0.81, instrumental support was 0.71 and informational support was 0.72. The whole coefficients Cronbach's alpha of social support questionnaire was 0.78. The criteria for inclusion are: previous diagnosing diabetes, having medical record in hospital and patient consent. To determine the patients' condition, blood sugar level of their two last visits and also their HbA1C were considered. For this, their medical records have been checked to ensure which cases controlled and uncontrolled their diabetes. Patients with the blood sugar level lower than 140 mg/dI were chosen as successful patients in controlling diabetes. To ensure, HbA1C was also considered and its rate was considered fewer than 7.6 as an index of controlling diabetes. Their information was recorded in their questionnaires. After this, the questionnaires of their social support were completed by the patients. If the patients were not able to answer the questionnaire, the researcher would help them to record their answers.

Collected data were analyzed by SPSS software and to reach to the ends of the research t-test and following-test were used.

3. RESULTS

Table 1 show that 60.3% cases were

Variable	Frequency	Percent	Total	
	Male	Female		
Controlled	63 (19.6)	107 (33.4)	53.1	170
Uncontrolled	64 (19.8)	86 (26.7)	46.9	150
Total	127	193	100	320
Percentage	39.7	60.3	_	100

TABLE 1. Frequency distribution based on sex

Variable	uncontrolled		controlled		Total	
	Frequency	%	Frequency	%	Frequency	%
Younger than 20	1	0.7	0	0	1	0.7
20-29	2	1.3	4	2.4	6	1.9
30-39	11	7.3	9	5.3	20	6.3
40-49	32	21.3	44	25.9	76	23.8
50-59	39	26	45	26.5	84	26.3
60-69	36	24	42	24.7	78	24.4
70 and older	29	19.3	26	15.3	55	17.2
Total	150	100	170	100	320	100

TABLE 2. Frequency distribution based on age

female and 39.7% were male. The blood sugar level of 53.1% cases was fewer than 140 mg/dI in two last visits and blood sugar of 46.9% cases was more than 140mg/d. The first group with their HbA1C under 7.6 was chosen as successful patient in controlling diabetes and the second group as patient in uncontrolled diabetes. Among %53.1 of patients who controlled their diabetes 33.4% were female and 19.6% were male and among 46.9% of patients who uncontrolled their diabetes 26.7% were female and 19.8% were male.

Table 2 shows the frequency distribution based on age, according to this table the most cases (26.3% patients) could be categorized as an age group of 50-59 and the least cases (0.07% patients) could be categoriezed as an age group of younger than 20 years old. This table also portray that the majority of patients who controlled their diabetes are in the age groups of 50-59 (26.5%), 40-49 (25.9%), 60-69 age range (24.7%) respectively.

Table 3 shows that 36.6%

of patients are illiterate and 33.4% have a certificate of a high school. MA educated people and higher have the least frequency which is about 3.5% of patients who were successful in controlling their diabetes.

Table 4 shows the frequency distribution of the instrumental, emotional and informational levels of social support. According to this table the patients who had extremely high social support (emotional, instrumental and informational) could successfully control their diabetes, in contrary, the patients who had extremely low and low social support could not control their diabetes. (i.e. 8.2%, 8.8% and 5.5% V 0.0%, 0.7% and.0.7%). Focusing on each dimension of social support it is appeared that the patients who had high emotional and informational social support were able to control their diabetes while there is no difference between patients who had high instrumental social support in controlling diabetes. For example Instrumental support for both groups in high social support is 4.7%. It may be because instrumental social supports for both groups were accessible. Because all patient admitted to this hospital used the same insurance benefits. However table 5 shows the overall results of T-test. This table shows that in regard to the differences

	uncontrolled		controlled		Total	
	Frequency	%	Frequency	%	Frequency	%
Illiterate	65	43.3	52	30.6	117	36.6
Ability to read and write	8	5.3	1	0.6	8	2.8
Certificated of secondary school	46	30.7	61	35.9	107	33.4
Diploma	20	13.3	26	15.3	46	14.4
Junior college of diploma	0	0	7	4.1	7	2.2
Bachelor of art (BA)	11	7.3	17	10	28	8.8
Master of art (MA) and higher	0	0	6	3.5	6	1.9
Total	150	100	170	100	320	100

TABLE 3. Frequency distribution based on educational level of patients

Variable		Controlled		Uncontrolled		Total	
	Frequency	%	Fre-quency	%	Fre-quen-cy	%	Fre-quen-cy
Extremely high	Emotional support	14	8.2	0	0	14	4.4
	Instrumental support	15	8.8	1	0.7	16	5
	Informational support	9	5.5	1	0.7	10	3.2
High	Emotional support	73	42.9	29	19.3	102	31.9
	Instrumental support	8	4.7	7	4.7	15	4.7
	Informational support	18	10.9	13	8.7	31	9.8
Medium	Emotional support	69	40.6	62	41.3	131	40.9
	Instrumental support	59	34.7	34	22.7	93	29.1
	Informational support	114	69.1	78	52	192	61
Low	Emotional support	12	7.1	29	19.3	41	12.8
	Instrumental support	80	4.7	30	20	38	11.9
	Informational support	22	13.3	50	33.3	72	22.9
Extremely low	Emotional support	2	1.2	30	20	32	10
	Instrumental support	8	4.7	30	20	38	11.9
	Informational support	2	1.2	8	5.3	10	3.2

TABLE 4. Frequency distribution of the instrumental, emotional and informational levels of social support

of means (0.9 in emotional support, 0.51 in instrumental support and .04 in informational support) and correlation coefficient of 0.001 which is less than 0.05. There is a significant difference between patients controlling diabetes and patients uncontrolling diabetes. It is appeared that the difference of mean in emotional support is more than in instrumental and informational social support. It means emotional support more than two other dimensions could impact on patients. According to the result of this table it could conclude that social support of patients who have controlled their diabetes is better than those who have not controlled it.

4. DISCUSSION

The purpose of this study was to find a relation between social support and diabetes control among patients who were admitted to the dia-

	Emotional support	Instrumental support	Informational support
Mean of controlled diabetes	3.5	2.65	3.0.2
Mean of uncontrolled diabetes	2.6	2.140	2.66
Difference of means	0.9	0.51	0.40
T score	8.877	5.139	5.89
SD	318	318	318
Significant level	<0.001	0.001	0.003

TABLE 5. Results of T-test

betes clinic of Dr. Gharazy hospital. The data showed that there is a significant difference between social support of diabetics who had their blood sugar level under control and those who did not. In the other word, the patients who controlled their diabetes have better emotional, instrumental and informational support in comparation to the patients' diabetes uncontrolled. The findings of this research corresponded with Iranian works that have shown social support could impact on low blood sugar (10, 15), self-care behaviours (11) and decreasing depression (12) among diabetic patients. The findings of this study also corresponded with other works (16) in the western countries that social support is significantly associated with 2 health-promotion behaviours and well-being among patient with Type diabetes. This research also corresponded with scholars that showed support from family is directly related to better diabetes management and through better management, to better diabetes health (17). This work is alongside with Ruphael's work and his colleagues. They showed that type II diabetes mellitus is more prevalent

among people who had low social support (18). However, as this work focused on the dimensions of emotional, instrumental and informational supports, it could different with other works. As a result, findings of this research could be used by practitioners to care for people who suffer from diabetes. It seems the benefits of this study go beyond the diabetes disease and it is suggested the scholars focus on the relationship between social support and other chronic disease (19,20). According to the findings, one way to diabetes control for vulnerable patients is focusing on their social supports. These social supports could be resulted from social institutions especially family and health care organizations. It is recommended these institutions pay more attention on the patients' social support. They could provide the conditions that diabetic patients make more social activities, touch with others, perceived social support from close people, family members, economic support, informant from media, books and learning from others. Moreover, perhaps diabetics concern and their anxiety of future are a factor that leads to a serious threat to diabetes, and there is a vital suggestion to insurance organizations and others to provide financial support for this group of people.

There are some limitations in this research, the patients of high age or illiterate patients could not completed questionnaire and some of them were impatient to answers the questions, in addition there were not enough patients admitted every day in the hospital, this may impact on random sampling as well as on interviewers to be bored.

Conflict of interest: none declared.

REFERENCES

1. Azizi F, Janghorbani M, Hatami H. Epidemiology and Control of Common Disorders in Iran. 2nd ed. Tehran: Eshtiagh Publication, 2000, 32- 41.
2. http://www.who.int/mediacentre/factsheets/fs312/en/. Diabetes: fact sheet [database on the Internet] 2009.
3. Gabe J, Bury M, Elston M. Key Concepts in Medical Sociology, London, 2004: SAGE, 41.
4. Berkman LF, Glass T, Brisstte I, Seeman TE. From social integration to health: Durkheim in new millennium, Social

Sciences and Medicine. 2000: 51: 843-57.

5. Taylor S, Field D. Sociology of Health and Health care, third Edition, Oxford; Blackwell Publishing, 2003.

6. Ell K. Social networks, social support and coping with serious illness. Social Sciences and Medicine. 1996: 42, 173-83.

7. Callaghan P, Morrissey J. Social support and health: a review. Journal of Advance Nursing. 1993: 18: 203-210.

8. Cobb S. Support as a moderator of life stress. Psychosomatic Medicine. 1976. 38: 300.

9. Schaffer MA. Social Support. In: Peterson SJ, Bredow TS. Middle Range Theories. Philadelphia: Lippincott, 2004: 179-202.

10. Zare A, Hajizadeh M, Ebrahimi F. Study of effectiveness social support on the Type II diabetes control in the city of Yazd, Journal of Shaheed Sadoughi University of Medical Sciences. 2010: 18(4), 277-283, [In farsi].

11. Morowati M, Rouhani N. Social support and self-care behaviours in Diabetic Patients Referring to Yazd Diabetes Research Center, Journal of Tabib Shargh. 2007: 9(4), 275-284, [in Farsi].

12. Ghaffari M, Shahbazian H, Kholghi M, Haghdoost MR. Relationship between social support and depression in diabetic Patients, Scientific Journal of Medicine. 2009: 8(4), 384-389 [in Farsi].

13. Khoshdel M. Relationship between social support and self respect in students of Tabriz University. MS Thesis. Society sciences collage. Tabriz University, 2000: 2-45 [in Farsi].

14. Greca ML. The diabetes social support questionnaire-family version DSSQ-family. Journal of Pediatric Psychology. 2002: 27(8): 665-76.

15. Heidari S, Nouri T, Hosseini F, Inanlou M, Goalgiri F, Shirazi F. Study of Relationship between Social Support and Sugar Level Control in the Elderly with II Type Diabetes, Iranian Elderly Journal. 2009: 3(8).

16. Schiotz ML, Bogelund M, Almdal T, Jensen BB. Willaing l.Social support and self-management behaviour 2 among patients with Type diabetes, Diabet Medicine. 2011, 10 (11).

17. Idalski Carcone A, Ellias DA. Naar-King S. Social support for diabetes illness management: supporting adolescents and caregivers, Journal of Deviance Behavior Pediatric. 2011, 32(8): 581-90.

18. Ruphael D, Anstice S, Rainy K. The social determinants of incidence and management of type II diabetes mellitus. Leadership in health service. 2003; 16: 183-46.

19. Heidarzadeh M, Ghahremanian A, Hagigat A. Relationship between Quality of Life and Social Support in Stroke Patients. Iran Journal of Nursing (IJN). 2009, 22(59): 23-32.

20. Kristofferzon ML, Lofmark R, Carlsson M. Copping, social support and quality of life overtime after myocardial infarction. Journal of Advance Nursing. 2004. 52(2): 113-124.