ORIGINAL ARTICLE

Comparison of the Life Expectancy and General Health in Type 2 Diabetic Patients with Non-Patients

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Abstract

Objective: Diabetes is now known as one of the chronic diseases that besides body have negative effects on the psychological status of patients. The present study aimed to assess the physical and mental attributes of patients to evaluate and compare life expectancy and mental health among diabetic patients with normal ones.

Materials and Methods: This was an analytic cross-sectional study, that was done on 91 adults about 30 to 60 years old in Kermanshah that 51 had type 2 diabetic patients and 40 was normal. The Sampling method of this research was convenience. Life Expectancy Inventory (LEI-33) and General Health Questionnaire (GHQ-28) were used to collect information. SPSS-16, descriptive statistics, Pearson correlation and T-test were used for analyzing data.

Results: Analyzing data showed a negative significant correlation between life expectancy and general health among adults ($P<0.01$). T-test results showed that life expectancy and general health status in non-patients was better than type 2 diabetic patients that this difference was statistically significant ($P<0.05$).

Conclusion: The results of this study showed that type 2 diabetic patients have too much psychological pressure exposure, which reduces their hope to live. Hence of psychotherapy and pharmacological interventions is needed to improve the psychological care as well.

Keywords: Life expectancy, General health, Diabetes

Introduction

Health is the perfect ability for performing physical, mental and social roles based on World Health Organization definition. In this definition, mental health is well placed within the overall occupational health concept and health is not only the lack of illness or retardation (1). Some psychologists believe that general health means having target in life, wise efforts in solving problems and social adjustment based on scientific-ethical principles (2). This general health influences physical and mental

health So that people, who have appropriate level of mental health, will adapt easily to the environment while gaining their health (1).

In this sense, diabetes is one of the common chronic diseases that influence people's psychological condition as well as their physical dimension (3). The recent research that has been done on the causes, prevention, control and treatment of diabetes, shows the effectiveness of psychological factors (4). Among these causes, stress has the critical role in type 1 and 2 diabetic patient's life (5). Diabetes stress impairs blood control process in most of diabetic patients (6). In fact, diabetics experience a lot of problems to do their activities. Their daily care includes insulin shot, blood Glucose record, being on a diet and other responsibilities (7). Physical and mental stress that is obtained in this way can increase blood Glucose (8).

Main emotional problems are depressive disorder, anxiety, suicide and aggressive behavior according to diabetic patients' reports (9). Depressive disorder in type 2 diabetic patients is the most common mood disorder, and it has been estimated that one of every five diabetics is engaged with depressive disorder (10). Mazloomy et al. (2008) in his study showed that the depressive disorder rate of type 2 diabetic patients in Yazd were %64 that %70.4 was females and %48 was males (11).

Anxiety that has a close relation with depressive disorder is common in these patients (12). From other psychological effects that are found in diabetics, can note to: changing in thoughts, discomfort, low social relationships, frustration, pessimism, delusion, trouble in sleeping and insomnia, loss of appetite, fatigue, coldness, lethargy, difficulty in concentrating and low energy (13).

Pathology approach which has defined health as "lacking disease" has criticized in the recent years. New approaches prefer "wellness" instead of "illness or badness" (14). However lacking mental illness is not an indicator of health, but the rate of adaptability, self-confidence, happiness and positive attributes are considered as the health criteria, and the

main goal of each person is developing self talent (15).

Hope is one of the positive motivation states that determine clear goals of life. Having hope in life, in one hand, sets the move towards targets, and on the other hand, is assessed the appropriate ways to obtain the goals. So having hope is considered as a reinforcing mechanism that leads to growth and improvement in the quality of life (16).

According to the presented information, no detailed research on mental-physical health status of diabetic patients has been done in Kermanshah and generally physical and mental healing rate of diabetic patients is unknowninIraninn2014. The aim of present study is evaluating psychological status of diabetic patients by following the recognition of general health and life expectancy among type 2 diabetic patients and comparing its rate with normal ones.

Materials and Methods

This was an analytic cross-sectional study that the population was made up of all adults in Kermanshah. For doing this research and gathering a sample of 50type 2 diabetic patients with at least 6 months record, researchers referred to Diabetes Center in Kermanshah in 2014. Patients were about 30-60 years old. Also 41 normal and healthy adults about 30-60 years old were selected by convenience sampling method as a control group.

The used materials in this study were three questionnaires as below:

1- Demographic Questionnaire:
It was a questionnaire for gathering some personal information of participants such as age, sex, level of education, duration of illness and etc.

2- Life Expectancy Inventory (LEI-33):
The questionnaire was made for the first time by Halajian in Iran in 2009. This questionnaire includes 33 items, that the participants respond it according to Likert scale (Quite, about, never). The maximum score is 99 in this test; the person gets higher score indicates the

greater life expectancy. The reliability coefficient has been reported %80 in the test-retest method (11).

3- General Health Questionnaire (GHQ-28):

For the first time this questionnaire was made by Goldberg and Hiller in 1979 and such an appropriate and considerable global tool assays mood disorders. This test is determined an overall score as an indicator of mental health as well as illness diagnosis. It includes 28 items and 4 scales (Somatic symptoms, Anxiety and Sleep disorder, Social Dysfunction and Depression Symptoms). This test was normalized by Yaghobi in 1996 in Iran and its Criterion validity and Cronbach's alpha has reported with 0.82 and 0.86 (1).

A written consent had been taken from authorities of Medical Center for doing this research. At the end, besides explaining the purpose of the study to each of the participants, written informed consent was taken from them and wanted them to read the questionnaire carefully then complete it. SPSS-16, descriptive statistic, Pearson correlation coefficient and T-test were used for analyzing data.

Results

From 91 participants (59.3% female and 40.7% male) of this research, 54.9% were diabetics and 45.1% were normal that the mean of age and standard deviation was 46.68±8.99. Also 44% were under Diploma, 34% Bachelor of Science and over and 22%were Diploma. Chi-square showed that there was no significant correlation between two groups so it can be concluded that the two groups are similar to each other. (Table 1)

The results of Pearson correlation coefficient showed that there is a negative significant correlation between life expectancy and general health among adults (patients and non-patients, r=-0.673) and also between life expectancy and subscales of somatic symptoms, anxiety and sleep disorder, social dysfunction and depression symptoms (*P*<0.01). (Table 2)

The results of table 3 shows that non-patients had less somatic symptoms, better life expectancy and mental health (99%) and also less anxiety and depressive disorder (95%) than type2 diabetic patients, while there was no significant correlation of social dysfunction between two groups (*P*<0.05).

Discussion

This study was performed to assess the psychological mood of diabetic patients that aimed to recognize the rate of life expectancy and mental- physical health among type2 diabetic patients in compare with normal ones. The results showed that there is a negative significant correlation between life expectancy with general health and subscales of somatic

Table 1. Demographic information of participants (N=91)

Variables	Categories	Number	Present
Health status	Diabetics	50	54.9
	Normal	41	45.1
Gender	Males	37	40.7
	Females	54	59.3
Level of Education	Under diploma	40	44
	High school	20	22
	Bachelor of Science and over	31	34

Table 2. The relationship between subscales of General health with life expectancy (N=91)

Variables	Life expectancy	
	r	*P*-value
Somatic symptoms	-0.532[*]	0.001
Anxiety and sleep disorder	-0.486[*]	0.001
Social dysfunction	-0.460[*]	0.001
Depression symptoms	-0.623[*]	0.001
General Health	-0.673[*]	0.001

[*] Correlation is significant in the 0.01 level

Table 3. Comparison of basic variables in diabetics and non-patients with using T-test

Variable	Group	Mean	Std. deviation	t	P-value
Life expectancy	non-patients	80.21	9.06	-3.589	0.001*
	Diabetics	73.52	8.68		
Somatic symptoms	non-patients	8.19	4.53	3.392	0.001*
	Diabetics	11.42	4.5		
Anxiety and sleep disorder	non-patients	8.6	4.8	2.021	0.046**
	Diabetics	10.8	5.4		
Social dysfunction	non-patients	7.07	2.2	0.603	0.546
	Diabetics	7.42	3.25		
Depression symptoms	non-patients	3.12	4	2.157	0.034**
	Diabetics	5.36	5.56		
General health	non-patients	27	11.85	2.784	0.007*
	Diabetics	35	14.93		

* Significant at the 0.01 level
** Significant at the 0.05 level

symptoms, anxiety and sleep disorder, social dysfunction and depressive disorder symptoms. This means that the more hope toward life and future the less psychological disorder that is the sign of having better physical-mental health.

The results are in line with the study of George (18), Bahadori (19), Reefand Seeger (20). Bahadori (2007) in his study showed that the more hope rate the more general well-being (19). In this respect, George (2010) showed that there is a positive significant correlation between hope and life satisfaction so that life satisfaction will rise in life expectancy during the last years of life (19). In similar results also Wales (2005) showed that hope training can decrease the symptoms of depressive disorder and increase the sense of quality of life in individuals (21).

The results of T-test showed that the rate of life expectancy and mental health of non-patients is better than type 2 diabetic patients that it reduces the pressure and mood disorder among normal ones. These results are in line with the studies of Mehrabizadeh Honarmand (22), Jedari (23) and Sardar (24).For example the results of Mehrabizadeh Honarmand's study showed that quality of life and mental health in type 2 diabetic patients is lower than

normal ones while there is no significant correlation of mental health between type1 diabetic patients and non-patients (22).

Regarding obtained results, it can be said that there is a direct correlation between hope and psychological mood. So the more people become hopeful the general health will be better. Nevertheless the rate of hope and mental health in type2 diabetic patients is less than non-patients which needs Psychological and psychiatric services in order to enhance the psychological status of diabetic patients. Although data were gathered from standard questionnaires without bias, the samples was small that is one of its limitation. Hence, it can be suggested that it is better to use variables such as quality of life, resilience, general well-being for assessing diabetic patient's mental status and in compare with normal ones in future researches.

Acknowledgments

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