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Compare the quality of life in patients with diabetes type 1 and non-diabetic individuals

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ABSTRACT

Diabetes is a chronic disease that has widespread effects on individual performance and social. The purpose of this study was to compare the quality of life in patients with diabetes type 1 and non-diabetic individuals. The design of this research was ex-post facto. The sample consisted of all patients with diabetes type 1, who were members of Diabetic Association in the city of Ahvaz in 1390. The sample was selected by convenience sampling method. Among the patients who referred to the Diabetic Association, 50 type 1 diabetic patients and 50 non-diabetic relatives of clients who were matched for sex and education were selected. Then the Quality of life Questionnaire were distributed among these three groups. The data resulted from the research were analyzed using Analysis of Variance (ANOVA) and Multivariate Variance Analysis Method (MANOVA). Results indicated that there were significant difference in quality of life between two groups ($p<0.001$). Also there is significant difference between groups in all areas quality of life. Diabetes is a chronic disease that affects patients' quality of life.

Introduction

Diabetes is one of common disease of human communities that unfortunately despite of developments of medical sciences; distribution of the disease not only is decreased, but is increasing continually (1). Diabetes type 1 is a metabolic disorder which its main trait is non production of insulin. The causing of it is an autovaimion disorder in beta cells of langerhans islands of punkers (2). The most common age of diabetes type 1 starting is teenage periods (3). The disease disturb usual activities of teenager and needs concentrated behaviors on disease on behalf of teenager and family and affects on the whole life of person potentially (4). Afflicting to chronic consequences of diabetes, life expectancy reduction, reduction of life expectancy and deaths result from it incurs many economic burden on the person, family and society and influence on the quality of person and family life (5). Life quality is regarded as that group of characteristics that are valuable for sick and is the result of comfortable sense and appreciating "being good" and is in the direction of development and rational maintaining of physical, emotional and intellectual performance so that the person could maintain his capabilities in life valuable activities (6). In the all evaluation devices of life quality, determining observable aspects and internal aspects of disease is inserted in different degrees. In the physical performance area, observable aspects of life quality are concentrated on the person capability for motivating and executing everyday activities that are observable. Internal aspects are concentrated on sick senses and appreciations about healthy. Physical dimensions of life quality may have quantitative relation with mental dimensions. Attention to the issue can be the correlation of sick with his physical limitations by applying different cognitive and sensitive processes which is created over time. Other important not is that temper, character and sick correlative patterns have considerable effects and his judgment about his life quality (7). There is a mutual relation between disease and life quality and physical disorders and presence of physical signs has direct effect on all aspects of life quality (8). The results of the previous studies have indicated that almost all life aspects of sick people can be influenced by diabetes and could cause to satisfaction level decrease and life quality of sick people (9). Al-Akour and colleagues have indicated in a research that life quality of teenagers afflicted to diabetes type 1 in jordan is lower than usual population (10). Laffel and colleagues (2003) considered in a research life quality of type 1 diabetes teenager sacks and it's relation with disease management and special differentiations of diabetic's family. In the research, which 100 type 1 diabetes afflicted teenager and 100 parents of the teenagers participated. The results of the research indicated that there is no significant difference between life quality of patients with type 1 diabetes and observer group who were parents of the Childs. There is no significant difference and their life quality was reported undesirable (11). Today in medical care, improvement is impossible in chronic diseases, but death is not also possible, so controlling chronic sick is of special importance, and one of therapic care goals is making life quality desirable (12). Considering to life quality of patients with chronic sick seem necessary as a framework for offering appropriate services and

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identifying disease effects on aspects of life quality based on their individuals needs and is one of sick needs (13). In one hands, the category of life quality is important because in the case of non attending can cause to depression, absence of motivation, economic, social and hygienic activities decrease and influence on social – economic development of a country in deeper dimensions (14). So, the goal of present research is comparing life quality of patients type 1 diabetes and non – diabetes individuals.

Materials and Methods

The present research is of the comparative – causative type statistical society of the present research includes all diabetics' type of Ahvaz city who were the member of Ahvaz diabetes association in 1390. The sample of research was selected with available method. The sample of present research includes 50 patients with diabetes type 1 and 50 non-diabetic individuals among the sick's accompany that had been similar from the sex variants and education view.

Measures and Procedure

With presence in association place, among people who would refers to association, questionnaires distributed that populationology traits like age, duration of affliction to the disease, sex and education had noted in it. Then among the people, 50 Patients with diabetes type 1 and 50 non-diabetic relatives of clients who were matched for sex and education were selected. Then the Quality of Life Questionnaires were distributed among these two groups. The condition to take part in the research was not being afflicted with chronic disease when every of the people were afflicted to another chronic disease, were excluded from the research.

Quality of life Questionnaire: The questionnaire include 26 state which consider person life quality from different aspects in a 1 to 5 likert scale which two question of it is about person total sentiment from his life quality and the remaining is person behavior and sentiment questions in the last two weeks about: 1- body healthy and hygiene, 2. Psychology, 3. Social relation, 4. Social environment (15). The viability of life quality questionnaire retest of global hygiene organization was achieved 70% (16). In iran, for scale equivalency was used from 3 re-test method [with B-week interval], composition and alpha keronbakh, which were 67%, 89%, respectively (17). Concurrent allowance for physical health subscale was achieved 86%, mental healthy %91, Social communication 89% and environment 74% (16). In the present research, for the purpose of determine the questionnaire equivalence, using alpha keronbakh method, equivalency coefficient of %88 was achieved. Also allowance coefficient of the questionnaire become significant based on material analyze method between %376-%697 and in the level of P=%1.

Results

In each group, there were 28 men and 22 women which in each group. There were 19 person had under diploma, 22 diploma and 9 persons were higher that diploma also avenged age of patients with diabetes type 1, 34.40 and non-diabetic is 36.24. Which it's results is inserted in the table 1.

The insertions of table 2 indicate that the man and standard deviation of life quality in patients with diabetes type 1, 68.66 and 14.20 and in non-diabetic is 83.84 and 11.86. Also, the mean of life quality areas include physical healthy, psychological healthy, social relationship and social environment in patients with diabetes type is respectively 19.90, 17.43, 8.32 and 22.99. In the group of non– diabetic peoples, the mean of the area score is respectively 24.44, 22.08, 11.23 and 26.08.

Table 1. Crowd logy related to the sample

	Age		Sex		Equation		
	Mean	Std	Male	Female	Under Diploma	Diploma	Higher diploma
Diabetes type 1	34.40	12.89	28	22	19	22	9
Non-diabetic individuals	36.24	13.44	28	22	19	22	9

Table 2. The man and standard deviation of life quality scores and it's areas in two groups of patients with diabetes type 1 and non-diabetic peoples

	Diabetes type 1		Non-diabetic individuals	
	Mean	Std	Male	Female
Physical health	19.90	4.48	24.44	4.45
Psychological health	17.43	4.17	22.08	3.62
Social relationship	8.32	2.49	11.23	2.21
Environment	22.99	5.39	26.08	4.63
Total WHO	68.66	14.20	83.84	11.86

Table 3. The results of one-way variance analyze for comparing quality oflife in patients with diabetes type 1 and non – diabetic

	Sum of Squares	df	Mean Square	F	Sig
Between Groups	576.334	1	5760.334	33.634	P<0.001
Within Groups	16783.853	98	171.264		
Total		99			

As can be observed in table 3, there is a significant difference between total scores of quality of life patients with diabetes type 1 and non-diabetic individuals (P<0.001).

Table 4. The results of multivariate variance analyses on scores mean of quality of life dimensions in two groups

Effect	Value	F	Hypothesis	Error df	Sig
Pillai's trace	0.346	12.572	4	95	P<0.001
Wilks Lambda	0.654	12.572	4	95	P<0.001
Hotel ling's trace	0.529	12.572	4	95	P<0.001
Roy's Largest Root	0.529	12.572	4	95	P<0.001

As can be observed in table 4, all Manova test s are significant in the p<0.001 level, in the basis, we can state that there is a significant difference at least in one of life quality dimensions between two groups. For understanding the difference, four one– way variance analyze in Manova text were done which it's results is inserted in table 5.

The contents of table 5 indicates there is significant difference between two groups in physical health dimensions (F= 13.197, P<0. 001), Psychological health (F= 11.372, P<0. 001), social relationship (F= 19.34, P<0. 001), and social environment (F= 9.344, P=0. 003).

Discussion

The goal of doing the research was comparing life quality of patients with diabetes type 1 and non- diabetic individuals of Ahvaz. The results from comparing two groups' life quality

indicated that there is a significant difference between two groups from the sight of life quality.

The results are consistent with the results of Al-Akour and colleagues' research (10). in explaining the findings, it should be pointed that diabetes like other chronic diseases, in addition to high death, would accompany personal, familial and social and financial problems. The disease because of involving most body members include: heart, eye, … , has significant and reverse effects on all dimensions of sick' life quality (18), Also continuous observing of pharmatical and nutrient diet create the sense of independence and non– qualified in sick which influence sick quality of life (19). In addition, chronic nature, retiring therapies and diabetes threatening and disabling consequences, physical, mental and social dimensions and in other words the quality of life patient (20). The results are not consistent with laffel and colleagues research (11). That the discrepancy may be the result of difference in the sample of two research. Also the results of the present research indicated that there is a difference between all areas quality of life of patients with diabetes type 1 and non- diabetic individuals. In explaining the finding, it can be noted that in all devices quality of life evaluation, determining observable aspects and internal aspect of disease is regarded in different degrees. In the area of physical performance, observable aspects of life quality are concentrated on the person ability for motivate and execute of everyday activities that are observable (7). consequences along with diabetes like environmental vessels and kroner vessels disease, apoplexy, diabetic nephropathy, member cut, renal defection and blinding (21). Cause the person encounter difficulties in physical performance area and mobility ability and life every day activities and the problems affect on self – esteem and efficiency of the peoples. Based on solid model of life quality that include both objective and subjective dimensions of person life, physical problems and limitations that are incurred on person as a result of diseased.

Table 5. The results from Anova in manova text on the mean of two groups quality of life dimensions

Dependent Variable	Sum of Squares	df	Mean Square	F	Sig
Physical health	514.768	1	514.768	25.775	P<0.001
Psychological health	540.541	1	540.541	35.339	P<0.001
Social relationship	210.829	1	210.829	37.988	P<0.001
Environment	238.358	1	238.358	9.344	P<0. 001

Involve all dimensions of person life and cause to decrease of life quality in the dimension (body healthy). On an hand, disease chronic consequences over time include diets, food limitations and respective use of medicines (injection or food), needing repeat references to the physician for the purpose of pursuing and controlling disease, repeat blood examinations and other necessary examinations during disease and the created disabilities result from diabetes chronic consequences, cause to increase of affliction risk of the sick to psychological diseases include low self - esteem, depression, anxiety and eating disorders (22).

On the other hand, social dimension include conditions that define persons relationship (in family and organizations that work in it) and in society (in relation to government). The most important variants include: com for table and non- diabetic familial life, non-diabetic organizational life, friends and relatives, political, economical and social security. problems result from diabetes create problems a boat person occupancy and efficiency in society and in one hand, repeat confining to bed, needing medical cares, indirect expenses result from early death of the sick and familial interaction decreasing are among cases that affects familial, social and economic situation of the sick (23). And because the man is in nature a social existence and his life to become significant in relation with others who are communicating him in different levels, the presence of disease cause to disorder appearance in the people social relations. Among limitations of the present research, was using available sampling and self– reporting question air for collecting data, Regarding to the conditions of some sick include high age, non–understanding questions because of low education with special ethnicity was necessary to be read, Regarding to the results of present research, about that the peoples with diabetes type 1 have more undesirable situation from the view of life quality in comparison to the non- diabetic individuals, it is suggested that for improving the level of mental hygiene and life quality of the patients, comprehensive and preventive programs would be done through therapic– hygienic centre s and also informing by national medical.

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