



The effectiveness of psychodrama therapy on quality of life, social adjustment, and hopefulness in patients with diabetes mellitus

Nahid Naghibzadeh¹, Reza Johari-Fard², Leila Moradi³

¹ Student, Department of Psychology, School of Humanities, Ahvaz Science and Research Branch AND Ahvaz Branch, Islamic Azad University, Ahvaz, Iran

² Assistant Professor, Department of Psychology, School of Humanities, Ahvaz Branch, Islamic Azad University, Ahvaz, Iran

³ Endocrinologist, Diabetes Research Center, Health Research Institute, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran

Quantitative Study

Abstract

Background: The purpose of this study was to investigate the effectiveness of psychodrama on quality of life (QOL), hopefulness, and social adjustment in patients with diabetes mellitus (DM). The study population consisted of patients with DM referred to clinics and medical center in Ahvaz, Iran.

Methods: DM can result in many psychological and physical dilemmas. Diabetic patients may suffer heart disorders, weakness, chronic kidney damage, myocardial infarction, loss of appetite, muscle spasm, excessive fatigue, depression, and cognitive impairment with delirium and occasional illusions.

Results: The subjects were 24 individuals from the mentioned community selected through convenience sampling method (12 people in the experimental group and 12 people in the control group). This semi-experimental research was conducted with pretest, posttest, and follow-up and a control group. For data gathering, the 40-item Miller Hope Scale (MHS) (1991), Social Adjustment Scale-Self-Report (SAS-SR) (1989), and Quality of Life Inventory (QOLI) were used. The experimental group received psychodrama intervention in 8 sessions (120 minutes). Data analysis was performed using multivariate and univariate analysis of covariance in SPSS software.

Conclusion: The results of data analysis showed that psychodrama enhanced QOL and social adjustment in patients with DM.

Keywords: Psychodrama, Quality of life, Hopefulness, Social adjustment, Diabetes mellitus

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Introduction

Diabetes mellitus (DM) is a metabolic disease

and abnormal carbohydrate oxidation state that increases the blood and urine sugar levels. DM is a disease associated with serious failure to produce insulin, which, in turn, has adverse effect on sugar metabolism. DM can result in many psychological and

Corresponding Author:

Reza Johari-Fard

Email: rjoharifard@gmail.com

physical dilemmas; diabetic patients may suffer heart disorders, weakness, chronic kidney damage, myocardial infarction, loss of appetite, muscle spasm, excessive fatigue, depression, and cognitive impairment with delirium and occasional illusions. The early symptoms of DM include increased levels of blood glucose and the presence of sugar in the urine (Johari Fard, 2011).

Treatment for DM requires personal discipline and the success of treatment depends on good and responsible patient-doctor cooperation. However, in addition to stress, DM can lead to poor cooperation in patients. Obtaining complex skills needed to control the disease is not easy and many diabetic patients are easily disappointed. Their moods change quickly and they blame all family members due to their depression and anger and create unbearable tension, and thus, all caring people avoid helping them (Johari Fard, 2011).

Quality of life (QOL) is a broad concept covering all dimensions of life, including health. These terms are also used in different political, social, and economic fields. It is often applied in medical studies, and according to most specialists, it includes different physical, physiological, social, physical, and spiritual aspects (Afzali, 2011).

Previous studies have shown that stress accelerates the progression of DM (Zare Bahramabadi, Ghaderi, Taghvaei, & vafaei Baneh, 2012), while patients with DM have stress in different dimensions such as concern about the quality of treatment, lack of understanding of difficult diabetes management tasks, the feeling of inability to manage diabetes well, and therapeutic regimens. This type of stress is called diabetic stress. Therefore, it can be said that diabetic patients face many problems in terms of QOL dimensions (physical, psychological, and social) (SaadatJoo, Rezvani, Tabiei and Ayoudi, 2012).

Social adjustment, as the most important symptom of mental health, is one of the discussions that have attracted much

attention in recent decades. The dimensions of adjustment include social, emotional, physical, and ethical adjustment. Social adjustment is the most important dimension and considered as a prelude to achieving emotional and ethical adjustment. Adjusting to the surrounding environment is necessary and essential for each person and without this adjustment, many human needs will not be met; in addition, an individual who has not adjusted to his/her surrounding environment is strongly rejected by the community and his/her social interactions reach their lowest level. Social adjustment is a process by which the relations between individuals, groups, and cultural elements achieve a satisfactory status. The basis of social adjustment is a balance between personal demands and expectations of the community that can affect all dimensions of the individual's life (Keshmiri, 2018).

In the last few decades, the concept of psychological-social adjustment to disease has received much attention, not only in psychiatry, but also in other medical areas. The diagnosis of chronic diseases, such as diabetes, is the initiation of a continuous evaluation process through which the patient adjusts to the needs and constraints imposed by the disease. Good adjustment allows the patient to apply the changes that ensure his health. Non-adjustment is presented as anxiety, depression, helplessness, and behavioral problems. Adjustment to disease is considered as a process to maintain a positive view on the self and the world in dealing with health problems. Psychological-social adjustment is considered as one of the most important variables in diabetes because there is a direct relationship between it and self-care behaviors. In diabetic patients, good and high adjustment to disease is associated with better control of blood glucose (Sharp & Curran, 2006).

Life expectancy is defined as an inner force that can enrich life and enable patients to see a vision beyond their current, unorganized status, which is full of suffering. Lack of life expectancy and a goal-directed

life leads to a reduction in QOL and creation of hopeless beliefs (Curtis, 2017).

Snyder (2000) has noted that when individuals are faced with barriers, agency thinking or the power of will becomes particularly important in the construct of expectancy. In facing such barriers, the power of will provides the individual with the motive required to find the best alternative. Therefore, both agency thinking and pathway are necessary and complementary to hope. According to Benzein and Berg, 2005, life expectancy physiologically and emotionally helps the patients to endure the disease crisis. Promotion of hope has been taken into account as an important factor in predicting the course of disease (Sadegh, 2011).

One of the therapeutic approaches that can be effective for diabetic patients is psychodrama therapy. Psychodrama therapy is a therapeutic approach that uses practical methods such as sociometry, role-playing, role training, and group dynamics in order to facilitate constructive changes in the lives of users. This approach is based on Mourinho's theories and methodology (1988-1794) (Askian, Bagher Sanaei, & Navaei Nezhad, 2008).

Psychodrama is like a tree with a wide variety of gestalt therapies, family therapy, exchange analysis, and etcetera. Psychodrama, group psychotherapy, and sociometry form a triangle that can be defined as a science seeking the truth through dramatic methods (Askian et al., 2008). Considering the abovementioned regarding the factors affecting mental illness, the aim of the present study was to determine whether psychodrama has positive effects on QOL, life expectancy, and social adjustment of patients with DM.

Methods

The present study was a field experiment with pretest and posttest, and control group. The experimental and control groups were randomly selected and pretest was performed on both groups before implementing experimental interventions. In both groups, the difference between the

results of pretest and posttest was examined in terms of being significant. Accordingly, the effectiveness of psychodrama therapy was considered as an independent variable and QOL, life expectancy and social adjustment were considered as dependent variables. The study population included all patients with DM admitted to clinics and healthcare centers in Ahvaz, Iran, in 2016. Of the population, 30 individuals were selected using convenience sampling method and randomly assigned to the control and experimental groups ($n = 15$ in each group). During the intervention, 3 participants from each group withdrew from participation in the present research due to specific reasons. Thus, 24 participants remained in the two control and experimental groups ($n = 12$ in each group). The inclusion criteria included being diabetic according to the diagnosis of a physician, having the ability to write and read, and being 20-55 years old.

Research tools: The 40-item Miller Hope Scale: The 40-item Miller Hope Scale (MHS) is a personality test designed by Miller (1991). The MHS was first used to assess hopefulness in cardiac patients in the United States. The MHS includes 41 aspects of hopefulness and hopelessness, and its items have not been selected based on apparent or hidden behavioral manifestations in hopeful or hopeless individuals. Each item represents a behavioral symptom and its score on a 5-point scale (options: strongly disagreed, disagreed, indifferent, agreed, and strongly agreed). An individual selects that option that is true about him/her and the sum of the scores shows his/her hopefulness. In this test, the score range is 41-205, with the scores of 41 and 205 representing a completely hopeless individual and maximum hopefulness, respectively. Hosein (2009) has correlated this test with the standard question to assess its reliability and has estimated its reliability coefficient at the significance level and the results showed a positive correlation. Hosein (2009), in his research, has used Cronbach's' alpha and the

split-half method to estimate the reliability of this test and they were estimated as 0.90 and 0.89, respectively, which show a good reliability. In the present study, Cronbach's alpha was used to estimate the reliability of the MHS and it was estimated as 0.88 for the whole scale, which shows the desirable reliability of this test. Quality of life Inventory: The Quality of Life Inventory (QOLI) was simultaneously developed in more than 15 countries in 1998 by the World Health Organization (WHO) and translated into various languages. Therefore, the concepts of questions are the same in different cultures. On the other hand, each question was designed based on the statements of patients with various disease severities, healthy people, and health professionals; therefore, the answers of these groups can be compared using this inventory in different cultures. The QOLI assesses the 4 fields of physical health (7 questions), mental health (6 questions), social relations (3 questions), and environmental health (8 questions) using 24 questions. In addition, this inventory has two other questions that are not placed under any of the mentioned fields and assess health status and QOL in general. The questions are scored based on a 5-point Likert scale. Khodayari Fard, Hejazi, & Hoseininezhad, (2015) has used Cronbach's alpha ($\alpha = 0.88$) and split-half method (coefficient = 0.88) to estimate the reliability of this inventory. They showed that its reliability is acceptable. In order to investigate its validity, Hoseini Nejad (2009) used standard questions (general quality of life and health status) and showed that the coefficients of the correlations between these scales and the standard questions were significant and this illustrated the structural validity of this scale. In the present study, Cronbach's alpha was used to estimate the reliability of this inventory, and it was estimated as 0.90 for the whole inventory, which indicates the desirable reliability of this inventory. Social Adjustment Scale: The Social Adjustment Scale-Self-Report (SAS-

SR) was developed by Peen, Pecal, and Prosof. This scale is a revised version of an organized interview test used for adjustment assessment in which its main questions were modified and its scale was changed. The SAS has 54 questions that assess social function during a two-week period. It is used to more accurately differentiate the effects of treatment on patients' daily lives, in particular the effect of psychotherapy, its interaction with drugs, and patients' social and family adjustment. The SAS consists of an interview form (qualitative) and a scored form (quantitative). The duration of the test is 15 to 20 minutes. All the questions are scored on a scale ranging from 1 to 5, except for some questions that are scored on a scale ranging from 1 to 7. Higher scores show poor adjustment and lower scores illustrate greater adjustment.

The validity of the SAS has been examined through the ability scale method (used for differentiating damaged and healthy groups) and the sensitivity of the scale to change.

In a study by Khodayari Fard, Hejazi, & Hoseininezhad, (2015), its reliability was estimated as 81% and 79% using the Cronbach's alpha and split-half method, respectively. In the present study, Cronbach's alpha of the whole inventory was estimated as 0.75, which indicates its desirable reliability.

The intervention program included 8 two-hour sessions of psychodrama therapy. Each session included the 3 stages of psychodrama including warm-up, action, and sharing. The main objective of the warm-up stage is to create a spontaneous and improvised atmosphere, which is one of the most important elements of psychodrama (Johari Fard, 2013). In the action stage, one of the participants (protagonist) raises a problem and presents it in the presence of the director (therapist) with the help of other participants. In this way, he/she faces his/her thoughts, excitements, and reactions on time and the problem. The actors of the play are tested by acting out difficult life scenes and experiencing the feelings related to those scenes.

Table 1. Summary of the program of the sessions and the techniques used in each stage of psychodrama therapy based on Bloner's model

Session	Warm-up techniques	Action techniques	Introspection techniques: behavioral practice, participation and ending
1	Introduction, empty seats (helper)	Monologue technique, behavioral practice, elimination of sensitivity	<ul style="list-style-type: none"> • Providing feedback information with the protection of self-disclosure by the group members with the guidance of the therapist • Conclusion of adjustment of items learned through daily life <ul style="list-style-type: none"> • Providing a summary • Planning for the next session <ul style="list-style-type: none"> • Support
2	Positional test	Monologue technique, role reversal	Repeating the first session
3	Guided imagination	Looking ahead	Repeating the first and second sessions
4	Magic shop	Dark room	Repeating the previous sessions
5	Guided imaginations	Monologue technique, role reversal	Repeating the previous sessions
6	Dreamy	Monologue technique	Repeating the previous sessions
7	Positional tests	Monologue technique, mirror technique, role reversal	Repeating the previous sessions
8	Practical sociometry	Looking ahead with relaxation technique	Repeating the previous sessions

At this stage, the therapist uses different psychodramatic methods such as mirror technique, self-talking technique, empty seats, role reversal, psychodrama, and etcetera to find solutions, and then, plays the solution in the presence of the participants. In the stage of sharing, the audience (all participants) talks about their experiences and feelings with the protagonist (Table 1).

Results

The mean and standard deviations of QOL, life expectancy, and social adjustment scores of patients with DM in the experimental and control groups in the pretest, posttest, and follow-up stages are presented in table 2.

As shown in table 3, with the pretest control, the significance levels of all tests show that there is a significant difference between the diabetic patients of the control and experimental groups at least in terms of

one of the dependent variables (QOL, life expectancy, and social adjustment) ($P < 0.0001$ and $F = 23.920$). Therefore, the main hypothesis is confirmed.

As shown in table 4, with pretest control, there is a significant difference between the control and experimental groups in terms of QOL ($P < 0.0001$; $F = 41.22$). In other words, after implementing the intervention, psychodrama increased the QOL of the experimental group participants compared to control group participants. Moreover, with pretest control, there is a significant difference between the control and experimental groups in terms of life expectancy ($P < 0.0001$; $F = 27.92$). expectancy of the experimental group compared to that of the control group. With pretest control, there was a significant difference between the control and experimental groups in terms of social adjustment ($P < 0.0001$; $F = 22.46$).

Table 2. Mean and standard deviation of quality of life, life expectancy, and social adjustment scores of patients with diabetes mellitus in the experimental and control groups in the pretest, posttest, and follow-up stages

Test	Statistical power	Eta-squared	P-value	F	df Error	df	N
Pillai's trace	1.00	0.48	0.0001	23.920	21	3	0.765
Wilks' lambda	1.00	0.48	0.0001	23.920	21	3	0.235
Hotelling's trace	1.00	0.48	0.0001	23.920	21	3	3.262
Roy's largest root	1.00	0.48	0.0001	23.920	21	3	3.262

df: Degree of freedom

Table 3. Results of multivariate analysis of covariance on the mean posttest scores of quality of life, life expectancy, and social adjustment of patients with diabetes mellitus in the experimental and control groups with pretest control

Test	Value	Hypothesis df	Error df	F	P-value	Eta-squared	Statistical power
Pillai's trace	0.765	3	21	23.920	0.0001	0.48	1.00
Wilks' lambda	0.235	3	21	23.920	0.0001	0.48	1.00
Hotelling's trace	3.262	3	21	23.920	0.0001	0.48	1.00
Roy's largest root	3.262	3	21	23.920	0.0001	0.48	1.00

df: Degree of freedom

In other words, after implementing the intervention, psychodrama increased the life In other words, after implementing the intervention, psychodrama increased the social adjustment of the experimental group compared to that of the control group.

As shown in table 5, with the pretest control, the significance levels of all tests show that there is a significant difference between the diabetic patients of the control and experimental groups at least in terms of one of the dependent variables (quality of life, life expectancy, and social adjustment) ($P < 0.0001$; $F = 16.88$).

As shown in table 6, with post-test control, there is a significant difference between the control and experimental groups in terms of QOL ($P < 0.005$; $F = 9.43$). Therefore, question 1-1 was confirmed at the follow-up stage. In other words, after implementing intervention, the QOL score of the experimental group increased compared to the control group. Furthermore, with posttest control, a significant difference was observed between the control and experimental groups

in terms of life expectancy ($P < 0.019$; $F = 6.38$). Therefore, question 1-2 was confirmed at the follow-up stage. In other words, after implementing the psychodrama intervention, an increase was observed in the life expectancy of the experimental group compared to the control group. With posttest control, there was a significant difference between the control and experimental groups in terms of social adjustment ($P < 0.023$; $F = 5.95$). Therefore, question 1-3 was confirmed at the follow-up stage.

Discussion

The results showed that, with pretest control, the significance levels of all tests show that there is a significant difference between the diabetic patients of the control and experimental groups at least in terms of one of the dependent variables (QOL, life expectancy, and social adjustment). This difference is equal to 0.48. In other words, 48% of the individual differences in the posttest scores of QOL, life expectancy, and social adjustment are related to the effects of psychodrama.

Table 4. Results of one-way analysis of covariance in the multivariate analysis of covariance text on the mean posttest scores of quality of life, life expectancy, and social adjustment of patients with diabetes mellitus in the experimental and control groups with pretest control

Variable	Source of changes	Sum of squares	df	Mean of squares	F	P-value	Eta-squared	Statistical power
Quality of life	Pretest	133.68	1	133.68	57.63	0.0001	0.57	1.00
	Group	276.212	1	276.212	41.22	0.0001	0.46	0.992
	Error	115.555	23	12.48				
Life expectancy	Pretest	38.34	1	38.34	23.63	0.0001	0.51	0.992
	Group	107.355	1	107.355	27.92	0.0001	0.45	0.999
	Error	382.730	23	166.11				
Social adjustment	Pretest	75.44	1	75.44	16.52	0.0001	0.49	1.00
	Group	328.33	1	328.33	32.46	0.0001	0.43	1.00
	Error	100.329	23	43.88				

df: Degree of freedom

Table 5. Results of multivariate analysis of covariance on the mean posttest scores of quality of life, life expectancy, and social adjustment of patients with diabetes mellitus in the experimental and control groups with posttest control

Test	Value	Hypothesis df	Error df	F	P-value	Eta-squared	Statistical power
Pillai's trace	0.786	3	21	16.88	0.0001	0.31	1.00
Wilks' lambda	0.214	3	21	16.88	0.0001	0.31	1.00
Hotelling's trace	3.666	3	21	16.88	0.0001	0.31	1.00
Roy's largest root	3.666	3	21	16.88	0.0001	0.31	1.00

df: Degree of freedom

In the explanation of this result, it can be said that psychodrama therapy is a method that helps patients to discover the psychological dimensions of their problem; thus, an individual can review his/her problem by representing it and not just through dialogue. Psychopathology and health pathology is based on the 3 elements of emotion, thought, and behavior, and psychodrama therapy is used in any area where it is needed to reveal the psychological dimensions of a problem. In other words, psychodrama can focus on one or all areas of behavior, emotion, thoughts, and interpersonal relations, depending on what the patients need to experience.

Moreover, the results showed that, with pretest control, there is a significant difference between the control and experimental groups in terms of QOL. In other words, after implementing the psychodrama intervention, the QOL of the experimental group increased compared to the control group. This result is consistent with the results of the studies by Gram and Dehghan (2015), Zare, Shafiabadi, Pasha Sharifi, and Navabinejad (2007), and Michael (1996).

As an explanation of this result, it can be said that low QOL affects the physical symptoms of patients with DM. Low QOL can lead to the use of ineffective coping and adjustment mechanisms, and thereby, increase tension in them. There is a direct relationship between increased tension and physical symptoms and it can increase the severity of the disease in patients. Many researchers have studied the relationship between QOL and individual traits and have identified the factors effective on QOL. These factors include self-awareness, imposed tension, achievement of life goals, coping strategies, and level of adjustment. The factors affecting QOL have been studied in terms of importance and the inclusive scope of QOL. Furthermore, the role of patients with DM seems essential in the progress of QOL.

According to the results of the present study, it can be said that education based on psychodrama improves QOL in terms of physical function, physical role-playing, physical pain, general health, vitality, social function, emotional role-playing, and emotional well-being.

Table 6. Results of one-way covariance analysis in the multivariate analysis of covariance text on the mean posttest scores of quality of life, life expectancy, and social adjustment of patients with diabetes mellitus in the experimental and control groups with posttest control

Variable	Source of changes	Sum of squares	df	Mean of squares	F	P-value	Eta-squared	Statistical power
Quality of life	Posttest	1.42	1	1.42	0.04	0.84	0.002	0.054
	Group	336.12	1	336.12	9.43	0.005	0.29	0.837
	Error	819.03	23	35.61				
Life expectancy	Posttest	4.11	1	4.11	0.05	0.820	0.002	0.056
	Group	497.02	1	497.02	6.38	0.019	0.21	0.678
	Error	1789.11	23	77.78				
Social adjustment	Posttest	85.19	1	85.19	4.71	0.041	0.17	0.54
	Group	107.75	1	107.75	5.95	0.023	0.20	0.64
	Error	416.03	23	18.08				

df: Degree of freedom

The results showed that, with pretest control, there was a significant difference between the control and experimental groups in terms of life expectancy. In other words, after implementing the psychodrama intervention, life expectancy increased in the experimental group compared to the control group. This result is consistent with the results of the study by Sardaripour (2008).

As an explanation of this result, it can be said that life expectancy is one of the most important indicators of health and well-being in humans.

Today, in addition to practices mostly applied in the field of health, one of the methods that have received much attention is psychodrama. Psychodrama uses mental imagery, imagination, physical actions, and group dynamics. It is a combination of art, play, emotional sensitivity, and explicit thinking that helps individuals learn new and more effective behaviors, open up unnamed pathways, solve conflicts, and understand themselves by facilitating the release of unexpressed emotions (Blatner, 1996).

The results showed that with pretest control, there was a significant difference between the control and experimental groups in terms of social adjustment. In other words, after the intervention, social adjustment increased in the experimental group compared to the control group. This result is consistent with the results of the studies by Dadsetan (2007), Molavi, Mikaeili, Rahimi, and Mehri (2014), and Shokoohi-Yekta, Akbari Zardkhaneh, Alawinezhad, and Sajjadi Anari (2016).

As an explanation of this result, it can be said that social adjustment is the ability to communicate with others in a specific social context through a particular way that is acceptable and valuable in the community. In addition, it is a process that enables individuals to understand and predict the behaviors of others, control their behavior, and set their social interactions (Keshmiri, 2018). In the last few decades, much attention

has been paid to the concept of psychosocial adjustment to disease, not only in psychiatry, but also in other medical areas. The diagnosis of chronic diseases such as diabetes is the initiation of the continuous evaluation process through which the patient adjusts to the needs and constraints imposed by the disease. Good adjustment allows the patient to apply the changes that ensure his/her health (Michael, 1996).

Using the psychodrama technique can greatly influence the adjustment of patients with DM. The psychodrama technique is performed with the 2 elements of action and active observation. Action means to capture the minds through dramatic movements, and this is done through special psychodrama techniques (duplication, mirror, displacement, hot seat, dark room, empty seat, dreamy fairy, and etcetera) and active observation means that, in every situation, we know exactly what we are experiencing. In the psychodrama technique, the time is always the present, even if one wants to depict parts of his past or future, he must depict them as occurring in the present. According to Mourinho, paying attention to time or philosophy of the moment increases the person's creativity and spontaneity. In the philosophy of the moment, the person is forced to act and observe. He must react to what is happening and do something to force others to act. People reduce their excitement through role-playing and their attention increases.

Conflict of Interests

Authors have no conflict of interests.

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