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Comparison of the Effectiveness of Psychological Education Based on Olson Model and McMaster Model on Family Cohesion of Schizophrenic Patients in Bushehr, Iran

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Abstract

Background: Family cohesion affects the health, mental and physical well-being, academic achievement, and emotional health of the family through the disturbing family environment and creating feelings of depression, aggressive behaviors, and delinquency, and disrupting family members' self-concept.

Objectives: This study aimed to compare the effectiveness of psychological education based on Olson's model and McMaster's model on family cohesion of schizophrenic patients in Bushehr, Iran.

Method: This study was conducted based on a semi-experimental pretest-posttest design and follow-up. The statistical population consisted of 425 patients in all families of schizophrenic patients who underwent treatment in the medical centers in Bushehr (both governmental and non-governmental) in 2019. The eligible samples (n=45) were selected by convenience sampling method from the parents of schizophrenic patients and randomly assigned to the experimental and control groups. The required data were collected using a questionnaire, namely the Family Adaptability and Cohesion Scale (Olson, 1999) and analyzed in SPSS software (version 22) using multivariate analysis of covariance and post-test.

Results: The results showed that psychological training based on the Olson and McMaster models effectively improved the family cohesion of schizophrenic patients (P<0.001); however, the McMaster model was more effective than the Olson model (P<0.001).

Conclusion: According to the findings, the provision of psychological services was necessary to promote and cohere the families of schizophrenic patients; Therefore, the Olson and McMaster models can be used to promote and cohere the families of schizophrenic patients and provide the ground for their psychological care.

Keywords: Family relations, Psychological, Cohesion, Mental health, Schizophrenia, Olson model, McMaster model

Introduction

The unavoidable and severe consequences of schizophrenia reduce the length of hospital stay and expand social services. In this regard, much attention has been given to the role and cohesion of the family in better care and service for mentally ill patients. Psychology has been systematically emphasized for them (1). In recent years, more attention has been paid to psychotherapy, especially psychosocial interventions, along with medication. The results of studies show that family members of mentally ill patients often feel helpless and experience distress, anxiety, depression, and financial problems (2). Olson deals with spouses' conflicts in intimacy in marital relationships, such as intimacy, flexibility, and conflict resolution methods improving sexuality, communication and communication skills, personality coordination, financial management, and beliefs. Religion provides the underlying circumstances for the empowerment of spouses practically. Family cohesion includes four levels, namely detailed, separated, related, and intertwined (3).

Brown et al. (4) reported the mediating effect of family cohesion on reducing patient symptoms and family distress in informed family therapy for schizophrenia. The results showed that conscious family therapy for schizophrenia significantly reduced the symptoms of schizophrenia from the beginning. One of the problems with the family of mentally ill patients is the lack of awareness of how to communicate emotionally and intimately with the

patient; therefore educating and acknowledging them can contribute greatly to family cohesion. When family cohesion is increased through psychological training and learning happens, family values and norms are transferred away from conflict and disintegration (4).

To the best of our knowledge, few studies have been conducted to investigate family cohesion and flexibility. It can be noted that family inefficiency in the field of family cohesion and sustainability in the psychological care of mentally ill patients is due to defective performance in the interactive process between family members. In this respect, this research seeks to respond to this issue, investigate the lack of a warm and intimate atmosphere, lack of commitment among family members, and lack of time (5). Energy for family members, suppression of emotions, stiffness, lack of psychological flexibility, and lack of awareness are factors that double the importance and necessity of this research.

According to the above, a scientific review of approaches that can improve the level of flexibility, correlation, and function of the family system in schizophrenic patients is important and necessary for behavioral reconstruction and rehabilitation. The reason for this is that the existence of a schizophrenic patient in the family system often leads to interference in the level of flexibility and disruption of family functioning. Consequently, mutual disruption in these areas leads to a relapse of symptoms of the disorder in these patients and a state of a double impasse between the patient and the family system (6).

The McMaster Model does not cover all aspects of family functioning, rather identifies several dimensions which the researchers of this study found important in dealing with clinically presenting families. A family can be evaluated to determine the effectiveness of its functioning concerning each dimension. To understand the family structures and organization, as well as transactional patterns associated with family difficulties, this research focused on assessing and formulating six dimensions of family life, namely problem-solving, communication, roles, affective responsiveness, affective involvement, and behavior control (7). The McMaster Model does not focus on any of these dimensions as the foundation for conceptualizing family behavior. The researchers of this study argued that many dimensions need to be assessed for a fuller understanding of such a complex entity as the family. However, the dimensions are not an exhaustive listing of all aspects of family functioning, rather, they only involve those that are expected to be useful in a clinical context. Moreover, the researchers wanted the dimensions to be conceptualized and operationalized in a manner that allowed them to be easily taught and applied in research. Although the dimensions were clearly defined and delineated in this study, the researchers recognized that overlap and/or possible interaction may occur between them. Further clarification may result from our continuing research (8).

The necessity of this study and the reason for comparing McMaster and Elson's models is that these models have been among the effective patterns in the family field so far. However, to the best of our knowledge, few pieces of research have been conducted investigating these two approaches in Iran. Therefore, the present study aimed to study the effectiveness of psychological education based on the Elson and McMaster models on increasing family cohesion of schizophrenic patients.

Objectives

This study aimed to compare the effectiveness of psychological education based on Olson's model and McMaster's model on family cohesion of schizophrenic patients in Bushehr Province, Iran.

Methods

This semi-experimental study was conducted based on a pretest-posttest design and follow-up. The statistical population consisted of 425 patients in all families of schizophrenic patients who underwent treatment in the medical centers of Bushehr Province (both governmental and non-governmental). The samples (n=45) consisted of parents of schizophrenic patients selected by convenience sampling method from 87 eligible individuals (based on inclusion and exclusion criteria) among the families of schizophrenic patients referred to health centers in Bushehr. The samples were then randomly selected and placed in three groups, namely two experimental groups and one control group. The required sample size was calculated at 45 cases in total based on effect size=0.60, α=0.95, 1-β = 0.80 test power, and 10% drop-out rate for each group (7).

The experimental groups participated in the sessions and received training, while the control group did not receive any training. The inclusion criteria were lacking mental disorders, lacking psychiatric medications, having at least middle school education, and having cooperation. On the other hand, the patients who were absent for more than two sessions in the training course, abused each type of psychoactive substance, did not fill out the questionnaires completely, and participated in other treatment programs concurrently with the course in the present study were excluded from the research.

The required data were collected using a questionnaire, namely the Family Adaptability and Cohesion Scale (Olson, 1999). Regarding the ethical considerations, the research objectives and procedures were explained to all individuals in written form, and they were informed of the right to leave the study at any time. Moreover, all participants were assured of anonymity and confidentiality in this

study. Moreover, after the end of the study, more effective treatment was performed for the subjects in the control group. This research was approved by the Ethical Committee of the Islamic Azad University, Ahvaz Branch, Iran (IR.IAU.AHVAZ.REC.1397.027).

Family Adaptability and Cohesion Scale

This 40-item scale, developed by Olson et al. (1999) (10), consists of 2 subscales of cohesion (20 items) and conformity (20 items) and measures family cohesion. The items are rated on a 5-point Likert scale of 1=never, 2=rarely, 3=sometimes, 4=often, and 5=always. In a study conducted by Ghanbari Panah et al., the validity of family appraisal and continuity was evaluated by Cronbach's alpha coefficient method and estimated at 0.74 and 0.75 for continuity and adaptability, respectively (11). For the whole instrument, cohesion and adaptation had a relative internal consistency of 0.77 and 0.62, respectively. The correlation coefficient in the test for family correlation was obtained at 0.83, and for family, adaptability was 0.80, which indicated very good stability (11).

The first experimental group received Olson model training during eight 90-minute sessions once a week for 2 months (Table 1). The second experimental group received McMaster model training for eight 90-minute sessions once a week in one session (Table 2).

Table 1. Summary of topics of training sessions based on Olson's model (9)

Sessions	Content	Task
First	Familiarizing members with each other; establishing a good relationship and creating an atmosphere with trust and security, cooperation, and intimacy; specifying the importance of the subject for the members, the objectives of holding meetings, and familiarity with the group's regulations, becoming familiar with the general framework of the work of the Olson model; signing contracts and making commitments for cooperation and regular participation in meetings	Reviewing the meeting by members and answering questions
Second	Familiarizing families with the causes and symptoms of schizophrenia, treatment, and prevention of recurrence of the disease	Discussing members' experiences of symptoms, treatment, and recurrence of the disease
Third	Defining intimacy and its dimensions: studying barriers to intimacy, teaching how to establish intimacy, and practicing intimacy practices	Discussing intimacy methods
Fourth	Introducing the importance of balance and flexibility and the couple's map and family map; balancing stability and change and avoiding extreme stability and change; improving the dynamics of couples	Practicing learned skills in small groups
Fifth	Providing the conceptual definition of marital conflict and understanding the natural existence of conflict among parents; extracting common ways of dealing with conflict among participants; becoming familiar with ten steps to improve and resolve conflict	Practicing Conflict Resolution Steps
Sixth	Introducing the importance and necessity of communication and its complexity; becoming familiar with how successful parents communicate and common problems in parental communication, types of communication styles, and methods and how each affects relationship; becoming familiar with how effective communication is communicated	Practicing communication skills
Seventh	Becoming familiar with how role management affects parental relationships; becoming familiar with classic power patterns in relationships and the effect of each on parental relationships, common role problems in parental relationships, and ways to improve roles in relationships	Studying the role of traditions
Eighth	Investigating the efficiency and effectiveness of training; identifying barriers to teachings; providing general solutions and recommendations for all parents; implementing post-test	Getting feedback from attending meetings and running post-test

Table 2. Summary of McMaster Pattern-Based Training Sessions

Sessions	Content	Task
First	Explaining the objectives of the workshop and the importance of studying and reviewing the rules of the McMaster family functioning group, expressing the rules of the group and signing the contract, and creating commitment	Studying and reviewing group rules
Second	Identifying problem-solving process, training skill factors of problem-solving inhibitor, finding alternative solutions, and considering the consequences and outcomes of work	Asking members to practice and apply problem-solving skills to agree on how to enjoy either of the two recreational successes
Third	Explaining the role of effective communication in listening skills training, male and female relationships, and various communication problems in the field, as well as paying attention to psychological differences between men and women and the effect of verbal, ocular, and tactile communication on family functioning and cohesion	Asking members to sit opposite each other and practicing their listening and make good eye contact
Fourth	Asking to study listening as a component of problem-solving and understanding and intimacy and practicing problems with a word of dialogue styles (e.g., specific style and away from blaming passive, aggressive, and explicit practice)	Asking members to present examples of their problems with specific amendments and words, away from blame.
Fifth	Asking members about what the main families think and ignore to increase home management and solve the problems created by each other, and in doing what each other's families and describing the importance of roles toward their spouses and personality problems, such as self-differentiation or dependence of men and women on their own families	Asking members about what they think of increasing home management and solving problems and what roles they have difficulty in to practice with their spouse
Sixth	Describing how women think, asking members to pay attention to men about marital relationships and familiarity with the types of relationships their expectations of this relationship, training of considering sexual differences between men and women, paying attention to scientific techniques of expressing the emotional needs of the other party of love, the form that is given to them in (spouse), teaching scientific techniques, and filling out and expressing the kindness	Asking members to fill out the form they are provided with regard to the familiarity of what they have learned about the scientific techniques of the instrument of love and check the impact of destructive and positive criticism
Seventh	Becoming familiar with the main reasons of anger in the family, asking members to write learning positions about anger and then the emergence of anger, providing solutions for the main reason of anger to treat an aggressive spouse and how to think about themselves	Asking members to write anger-provoking situations and then think about the goal (the main reason for their anger)
Eighth	Final reviewing and evaluating work efficiency, asking participants to answer the questionnaires effectively, identify barriers, perform the teachings, and summing up (post-test)	Asking participants to answer the questionnaires (post-test)

In descriptive statistics, mean and standard deviation indices were used, and analysis of variance with repeated measures and Tukey and Bonferroni post hoc tests were used. To investigate the assumptions of the inferential test, Levene's test (to investigate the homogeneity of variances), Kolmogorov-Smirnov test (for normal distribution of data), Mbox test, Mauchly sphericity test, and ANOVA (to compare ages) were used. The above statistical analysis was performed in SPSS software(version 22). The significance level of the tests was 0.05.

Results

The mean age scores were obtained at 42.11±7.80, 44.09±7.96, and 41.80±7.81 in the Olson model, McMaster model, and in the control groups, respectively. There was no significant difference between the three groups in terms of age (P=0.462).

Table 3. Mean and standard deviation of family cohesion in experimental and control groups

Group	Pre-test		Post-test		Follow-up	
	M	SD	M	SD	M	SD
Olson model	50.60	5.56	69.60	7.27	69.27	6.94
McMaster model	51.60	4.78	73.80	8.05	72.47	7.99
Control	52.33	4.03	55.60	4.73	54.80	6.12

Before repeated measure ANOVA, the results of Mbox, Mauchly sphericity, and Levene's tests were evaluated for observing the assumptions. Since the Mbox test was not significant for any of the variables, the homogeneity of variance-covariance matrices was not rejected. Furthermore, no significant difference of any of the variables in Levene's test showed that the assumption of parity of inter-group variances was not rejected. Finally, the results of the Mauchly sphericity test showed that this test was also significant for the research variables. Therefore, the assumption of variance parity within the subjects (assuming sphericity) was not observed (P>0.05). As a result, the Greenhouse-Geiser test was used to investigate the univariate test results for intra-group effects and interactions. Additionally, the Greenhouse-Geiser test with a value of 0.21 (P<0.001) showed a significant difference in the effectiveness of the Olson model intervention program on family cohesion in experimental and control groups at the significant level of 0.05.

Table 4. Analysis of variance with repeated measures to compare the mean scores of pre-test, post-test, and follow-up of family cohesion in experimental and control groups

Effects	SS	Df	MS	F	P	Partial η2
Time	112.14	2	56.07	379.08	0.0001	0.92
Time*group	64.31	2	32.15	217.39	0.0001	0.87
Group	128.34	1	128.34	5.49	0.026	0.15

The results of Table 4 showed that the difference in family cohesion was significant in the within-subject factor (time effect) (P<0.001) and between-subject factor (group effect) (P<0.001).

Table 5. Comparison in terms of family cohesion (Bonferroni test) in the pre-test, post-test, and follow-up stages

Group	Group	Mean difference	Std. Error	P	95% confidence interval	
					Low	High
Olson	McMaster	-6.80	2.02	0.001	-6.84	3.24
	Control	8.91	2.02	0.001	3.78	13.95
McMaster	Control	10.71	2.02	0.001	5.67	15.75

Table 5 results showed separate comparisons of the Bonferroni test, and the results indicated that there is a significant difference between the Olson group and McMaster groups in terms of family cohesion. There was a significant difference between the Olson group and control groups in terms of family cohesion (P=0.001). It was also found that there was a significant difference between the McMaster group and control groups in terms of family cohesion (P=0.001). Moreover, the McMaster model was more effective than the Olson model in improving family cohesion of schizophrenic patients in Bushehr (P<0.001).

Discussion

This study aimed to compare the effectiveness of psychological education based on Olson's model and McMaster's model on the family cohesion of schizophrenic patients in Bushehr. The results of the analysis showed that the family cohesion score of schizophrenic patients based on the cohesion and flexibility model and family evaluation model that received psychological education and control group was different. In other words, psychological education based on the Olson model affected the family cohesion of schizophrenic patients. It showed that both trained groups (families of

schizophrenia patients) were significantly higher than the control group. There was no significant difference between the two experimental groups in increasing family cohesion; therefore, the main hypothesis was confirmed. This finding was in line with those of studies conducted by Kumar and Singh (12), Kelly et al. (13), Sado et al. (14), Koutra et al. (15), Carvalho et al. (16), and Jo et al. (17).

In explaining this finding, it can be said that the psychotherapist uses Olson's and McMaster models with different pieces of training in the field of effective communication, disease acceptance, and cohesion and dynamism of family members' relationships, as well as solving effective problems, establishing roles, and removing barriers and problems in the field of disease to increase family cohesion (18). Psychological training helps them find more rewarding ways to deal with their life problems. Based on the cognitive-behavioral approach, many negative documentation, expectations, and beliefs prevent effective communication. Psychological training helps these families identify the underlying reasons for their destructive conflict and use more constructive methods to deal with it. This type of training increases positive behavioral exchanges satisfying the emotional needs of family members and creating positive feelings toward each other, and generating attitude changes in negative behaviors to achieve internal control (19).

To elaborate on the obtained results, it is assumed that learning scientific and principled psychological skills increases the emotional intimacy in the family. Furthermore, it will bring about family cohesion if a family can establish closeness and flexibility in relationship with the right methods of intimacy, which will not only help to resolve conflicts but also improve the relationships among them (20). On the other hand, an increase in the intimacy and emotional companionship of family members increase their sensitivity to each other, and consequently, minimizes marital conflicts in different dimensions. Olson et al. (10) is one of the most important determinants of healthy functioning in the family, the satisfaction of family members' relationships as the most important calming variable in the family domain, has an effective role in maintaining the balance of life and emotional climate, establishing mental health of family members, reducing depression and loneliness, coping with life pressures, and having proper functioning in life and interaction with children (21).

In this study, psychological training about strengthening the family foundation and family cohesion were taught to help the family members of schizophrenic patients solve conflicts in different situations and help them enrich their life. One of the most important and fundamental needs of families was to strengthen their family cohesion, which not being met, not only patients but also family members of patients would experience psychological injuries, including emotional distancing.

The present study was conducted using a self-report measurement tool, and since in this study only a questionnaire was used for data collection and due to executive limitations, interviews were not used for collecting research data. Considering that the present study was conducted in Bushehr city, different environmental conditions and cultural-economic backgrounds had an impact on this issue and this makes it hard to generalize the findings to other regions with other cultural and economic backgrounds since some areas of the disease depend on environmental conditions.

Conclusion

The provision of psychological services is necessary to promote and cohere the families of schizophrenic patients. Therefore, it can be said that the Olson model and McMaster model can be used to promote and cohere the families of schizophrenic patients and provide the ground for their psychological care.

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