

Effect of Psychological Education based on Olson's Model on Family Cohesion of Schizophrenic Patients in Bushehr, Iran

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Abstract

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

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

Method: The research method was semi-experimental with a pretest-posttest and follow-up design. The statistical population consisted of 425 patients in all families of schizophrenic patients who were treated in the province's medical centers (both governmental and non-governmental) in Bushehr in 2019. The sample size in this study will be 30 parents of schizophrenic patients. All of them had inclusion criteria and were selected by convenience sampling method and randomly assigned to the experimental and control group. Data obtained by Faces-IV Scale and analyzed using multivariate analysis of covariance and post-test by Spss.22.

Results: The results showed that psychological training based on the Olson model effectively improved family cohesion of schizophrenic patients ($p < 0.001$).

Conclusion: Providing psychological services is necessary to promote and cohere the families of schizophrenic patients, so it can be said that psychological training based on family cohesion and flexibility can be used to promote and cohere the families of schizophrenic patients and provide the ground for their psychological care.

Keywords: Family relations, Mental health, Schizophrenia

1. Introduction

The unavoidable and severe consequences of schizophrenia are reducing the length of hospital stay and expanding social services. In this regard, the role and cohesion of the family have been given much attention in better care and services for the mentally-ill cases. Psychology has been systematically emphasized for this population (1). In recent years, more attention has been also paid to psychotherapy, especially psychosocial interventions along with medication. Studies show that family members of the mentally ill often feel helpless and experience distress, anxiety, depression, and financial problems (2). Olson deals with spouses' conflicts in intimacy in marital relationships, intimacy and flexibility-conflict, and conflict resolution methods that improve sexuality, communication skills, personality coordination, financial management, and beliefs. Moreover, religion provides the context for the empowerment of spouses

practically. Family cohesion includes four detailed, separate, related, and intertwined levels (3).

Brown et al. (4) stated 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 has significantly reduced the symptoms of schizophrenia from beginning to beginning. One of the challenges in the family of mentally-ill patients is a lack of awareness of how to communicate emotionally and intimately with the patient. In this regard, education and knowledge 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 conflicts and disintegration (4).

Although very little research is available in the field of family cohesion and flexibility, it can be noted that family inefficiency in the field of family cohesion and lack

of sustainability in the psychological care of mentally-ill patients is due to the defective performance in the interactive process among family members. Therefore, this study attempted to assess the reasons for the lack of warmth, intimate atmosphere, commitment, and time among the family members (5). Furthermore, lack of energy among the family members, suppression of emotions, dryness, as well as lack of psychological flexibility and awareness are factors that double the importance and necessity of this study.

According to the abovementioned issues, it is of critical importance to conduct a scientific review of approaches that can improve the level of flexibility, correlation, and function of the family system. This leads to the reconstruction and rehabilitation of the behaviors towards schizophrenic patients in the family. Accordingly, the interference with the level of flexibility, disruption of family functioning, and mutual disruption in these areas result in the relapse of the disorder symptoms.

In these patients, a state of a double impasse between the patient and the family system (6-8). Therefore, the practical examination of the effective family and psychological approaches can help to provide appropriate and practical patterns that ultimately lead to a suitable method for behavioral reconstruction of these patients. As a result, this study attempted to identify the psychological needs of people with a mental health condition and evaluate the psychological interventions of Olson's model on the behavioral and psychological reconstruction of

family cohesion.

Accordingly, these families, particularly parents of the patients, will encourage their children to live individually and socially as people in the community; moreover, the parents themselves become suitable care providers for schizophrenic patients. This study also aimed to investigate the effectiveness of psychological education based on Olson's model on family cohesion of schizophrenic patients in Bushehr, Iran.

Methods

This semi-experimental study was conducted using a pretest-posttest and follow-up design. The statistical population consisted of 425 schizophrenic patients who were treated in the Medical Centers (both public and private) of Bushehr province, Iran. In total, 30 parents of schizophrenic patients were selected based on the inclusion criteria using the convenience sampling method. The parents were then randomly assigned to experimental and control groups. The experimental group participated in the intervention sessions and received training. On the other hand, the control group received no training. The inclusion criteria were: 1) lack of mental disorders, 2) no use of psychiatric medications, 3) a minimum education level of third grade in secondary school, and 4) willingness to participate in the study. On the other hand, those who were absent in more than two intervention sessions were excluded from the study.

Table 1. Summary of content of the 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 and objectives of holding meetings; familiarizing with the group's regulations and the general framework of the Olson's model; signing contracts and making commitments for cooperation and regular participation in meetings.	Reviewing the meeting by members and answering questions
Second	Defining intimacy and its dimensions; studying barriers to intimacy; teaching how to establish intimacy; practicing intimacy practices	Discussing intimacy methods
Third	Discussing the importance of balance and flexibility and the couple's map and family map; balancing stability and change; avoiding extreme stability and change; improving the dynamics of couples.	Practicing the learned skills in small groups
Fourth	Discussing the conceptual definition of marital conflict; understanding the natural existence of conflict among parents; extracting common ways of dealing with conflict among participants; familiarizing with ten steps to improve and resolve conflict.	Practicing conflict resolution steps
Fifth	Discussing the importance and necessity of communication and its complexity; familiarizing with how successful parents communicate, common problems in parental communication, types of communication styles and methods, and the effect of each method on the relationship; familiarizing with how effective communication is communicated.	Practicing communication skills
Sixth	Familiarizing with how role management affects parental relationships; Familiarizing with classic power patterns in relationships, the effect of each on parental relationships, common role problems in parental relationships, and the ways to improve roles in relationships.	A Study of The Role of Traditions
Seventh	Investigating the efficiency and effectiveness of training; identifying barriers to teachings; providing general solutions and recommendations for all parents; implementing the post-test.	Getting feedback from attending meetings and running post-test

Regarding the ethical considerations, all individuals were informed of the research procedure and objectives, and a consent form was obtained from them to participate in the study. Moreover, they were assured that their information would be kept confidential and used for research matters. Moreover, the participants' first and last names were not registered to respect their privacy. It should be noted that the control group was subjected to the intervention after the study. The experimental group participated in seven 60-min training sessions based on Olson's model once a week.

Olson Family Cohesion Scale (1999):

The 40-item Family Adaptability and Cohesion Evaluation Scale-IV was developed by Olson et al. (10) and consisted of two subscales, namely cohesion ($n=20$) and conformity ($n=20$) to measure family cohesion. The questionnaire is scored based on a 5-point Likert scale from "never" to "rarely", "sometimes", "often", and "always" that are scored 1, 2, 3, 4, and 5, respectively. In a study conducted by Ghanbari Panah et al., the validity of the family appraisal and continuity by Cronbach's alpha for continuity was 0.74 and for adaptability was 0.75 (11). Regarding the reliability of the total questionnaire, the reliability values of the cohesion and adaptation were estimated at 0.77 and 0.62, respectively, which showed a relative internal consistency. Moreover, the correlation coefficients for family correlation and adaptability were calculated at 0.83 and 0.80, which indicated very good stability (11).

The obtained data were analyzed in SPSS software (version 22) using central and dispersion indices, such as mean \pm SD. Moreover, the analysis of variance with repeated measures, as well as Tukey and Bonferroni post hoc tests were employed in this study. Additionally, the Levene's test (homogeneity of variances), Kolmogorov-Smirnov test (for normal distribution of data), Mbox test, and Mauchly's sphericity test were utilized to investigate the assumptions of the inferential test. ANOVA was also used to compare the groups regarding age. A p-value less than 0.05 was

considered statistically significant.

Results

The mean \pm SD ages of the participants in the intervention and control groups were obtained at 42.11 ± 7.80 and 41.80 ± 7.81 years, respectively, which showed no significant difference between the two groups in this regard ($P=0.377$).

Before the administration of the repeated measure ANOVA, the results of Mbox, Mauchly's sphericity, and Levene's tests were evaluated to observe the assumptions. Since the Mbox test was not significant for any of the variables, the homogeneity of variance-covariance matrices was not rejected. Moreover, Levene's test showed no significant difference in any of the variables; accordingly, the assumption of parity of inter-group variances was not rejected. Finally, the results of Mauchly's 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 Geisser Greenhouse test was used to investigate the univariate test results for intra-group effects and interactions. Furthermore, the Geisser Greenhouse 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 the experimental and control groups at the significant level of 0.05.

As can be seen in Table 3, the within-subject factor (time effect) ($P<0.001$) shows a significant difference with the between-subject factor (group effect) ($P<0.001$) in terms of family cohesion.

Table 4 summarizes the separate comparison results of the Bonferroni test. According to the results, there is a significant difference between pre-test and post-test ($P=0.001$) in terms of family cohesion. Furthermore, a significant difference was found between pre-test and follow-up ($P=0.001$) regarding family cohesion. However, no significant difference was observed between post-test and follow-up ($P=1.00$) in terms of family cohesion.

Table 2. Mean \pm SD of family cohesion in experimental and control groups

Group	Pre-test		Post-test		Follow-up	
	M	SD	M	SD	M	SD
Experimental	50.60	5.56	69.60	7.27	69.27	6.94
Control	52.33	4.03	55.60	4.73	54.80	6.12

Table 3. Analysis of variance with repeated measures to compare the mean scores of pre-test, post-test, and follow-up of family cohesion in the experimental and control groups

Effects	SS	Df	MS	F	P	Partial η^2
Time	5806.28	2	2903.14	208.95	0.001	0.83
Time*group	1862.65	4	465.66	33.55	0.001	0.61
Group	2960.63	2	1480.31	16.08	0.001	0.43

Table 4. Comparison of pre-test, post-test, and follow-up stage regarding family cohesion (Bonferroni test)

Time (i)	Time (j)	Mean differences	Standard Error	P	95% confidence interval	
Pre-test	Post-test	-13.82	0.76	0.001	-15.73	-11.92
	Follow-up	-14.00	0.87	0.001	-16.63	-11.83
Post-test	Follow-up	-0.17	0.71	1.00	-1.96	1.60

Discussion

This study aimed to investigate the effectiveness of psychological education based on Olson's model on family cohesion of schizophrenic patients in Bushehr. The results of the analysis showed that the family cohesion score of schizophrenic patients Based on Olson Model that received psychological education and control group is different. In other words, psychological education based on the Olson model affected the family cohesion of schizophrenic patients. It shows that trained group (families of schizophrenia patients) is significantly higher than the control group., so the main hypothesis is confirmed. This finding is in line with research by Kumar & 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 model with different pieces of training in the field of effective communication, disease acceptance, cohesion and dynamism of family members' relationships, solving affective problems and establishing roles and removing barriers and problems in the field of disease to increase family cohesion (18). Psychological training helps them to find more rewarding ways to deal with their life's problems. Based on the cognitive-behavioral approach, many negative documents, 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. Psychological training increases positive behavioral exchanges satisfying the emotional needs of family members and creating positive feelings toward each other, and creating attitude changes in negative behaviors. Achieve internal control (19).

In explaining the obtained results, it is assumed that learning scientific and principled psychological skills increases the emotional and emotional intimacy of the family. Furthermore, it will bring about family cohesion if a family can establish closeness and flexibility in relationships with the right methods of intimacy, not only helping to resolve conflicts but also improving the relationships between them (20). On the other hand, increasing the intimacy and emotional companionship of family members increases their sensitivity to each other, thus minimizing 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, 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 how to help people in the family of schizophrenic patients to solve conflicts in different situations and help enrich life. One of the most important and fundamental needs of families was to strengthen their family cohesion. If not met, not only patients, even family members of patients, would have experienced psychological injuries, including emotional distancing.

The present study was conducted because of the self-report of the 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 has been conducted in Bushehr city, different environmental conditions and cultural-economic backgrounds have had an impact on this issue and this makes it hard to generalize the findings to other regions with other cultural and economic backgrounds. Because some areas of the disease depend on environmental conditions.

Conclusion

Providing psychological services is necessary for the promotion and cohesion of the families of schizophrenic patients, so it can be said that psychological training based Olson Model can be used to provide psychological care for these patients.

References

1. Barnes E, Simpson S, Griffiths E, Hood K, Craddock N, Smith DJ. Developing an online psychoeducation package for bipolar disorder. *Journal of Mental Health*. 2011 Feb 1;20(1):21-31.
2. Çakir S, Özerdem A. Psychotherapeutic and psychosocial approaches in bipolar disorder: a systematic literature review. *Türk Psikiyatri Dergisi*. 2010 Jul 1;21(2):1.
3. Cavus MF, Gokcen A. Psychological capital: Definition, components and effects. *Journal of Education, Society and Behavioural Science*. 2015;244-55.
4. Brown CA, Weisman de Mamani A. The mediating effect of family cohesion in reducing patient symptoms and family distress in a culturally informed family therapy for schizophrenia: A parallel-process latent-growth model. *Journal of consulting and clinical psychology*. 2018 Jan;86(1):1.
5. Robelo-Zarza O, Vargas-Huicochea I, Kelsall N, Rodríguez-Machain A. Suffering Depression: Illness Perception of Informal Primary Caregivers of Medical Students With Major Depressive Disorder. *Journal of Patient Experience*. 2020 Sep 10;2374373520958514.
6. Gama CS, Kunz M, Magalhães PV, Kapczinski F. Staging and neuroprogression in bipolar disorder: a systematic review of the literature. *Brazilian Journal of Psychiatry*. 2013 Mar;35(1):70-4.
7. Gaudiano BA, Weinstock LM, Miller IW. Improving treatment adherence in bipolar disorder: A review of current psychosocial treatment efficacy and recommendations for future treatment development. *Behavior modification*. 2008 May;32(3):267-301.
8. Hancock KM, Swain J, Hainsworth CJ, Dixon AL, Koo S, Munro K. Acceptance and commitment therapy versus cognitive behavior therapy for children with anxiety: Outcomes of a randomized controlled trial. *Journal of Clinical Child & Adolescent Psychology*. 2018 Mar 4;47(2):296-311.
9. Olson D. FACES IV and the circumplex model: Validation study. *Journal of marital and family therapy*. 2011 Jan;37(1):64-80.
10. Olson DH, Larson PJ, Olson-Sigg A. Couple checkup: Tuning

up relationships. *Journal of Couple & Relationship Therapy*. 2009 May 29;8(2):129-42.

11. Ghanbari Panah A, Sharif Mustaffa M. A Model of Family Functioning Based on Cohesion, Flexibility and Communication across Family Life Cycle in Married Women. *International Journal of Psychology*. 2019;13(2):195-228.
12. Kumar B, Singh AR. Efficacy of Social Skills Training for the Persons with Chronic Schizophrenia. *Qualitative Report*. 2015 May 1;20(5).
13. Kelly EL, Moen P, Oakes JM, Fan W, Okechukwu C, Davis KD, Hammer LB, Kossek EE, King RB, Hanson GC, Mierzwa F. Changing work and work-family conflict: Evidence from the work, family, and health network. *American sociological review*. 2014 Jun;79(3):485-516.
14. Sado M, Inagaki A, Koreki A, Knapp M, Kissane LA, Mimura M, Yoshimura K. The cost of schizophrenia in Japan. *Neuropsychiatric disease and treatment*. 2013;9:787.
15. Koutra K, Simos P, Triliva S, Lionis C, Vgontzas AN. Linking family cohesion and flexibility with expressed emotion, family burden and psychological distress in caregivers of patients with psychosis: A path analytic model. *Psychiatry research*. 2016 Jun 30;240:66-75.
16. Carvalho JC, Freitas PP, Leuschner A, Olson DH. Healthy functioning in families with a schizophrenic parent. *Journal of Family Psychotherapy*. 2014 Jan 2;25(1):1-1.
17. Jo A, Kim H, Lee JY, Kim JM, Jeong MH, Chung YC, Sohn SJ, Kim SW. The effects of patient personality traits and family cohesion on the treatment delay for patients with first- episode schizophrenia spectrum disorder. *Early Intervention in Psychiatry*. 2020 Sep 2.
18. Sadock BJ, Sadock VA. Kaplan and Sadock's synopsis of psychiatry: Behavioral sciences/clinical psychiatry. Lippincott Williams & Wilkins; 2011 Dec 26.
19. Smith EP, Prinz RJ, Dumas JE, Laughlin J. Latent models of family processes in African American families: Relationships to child competence, achievement, and problem behavior. *Journal of Marriage and Family*. 2001 Nov;63(4):967-80.
20. Steele A, Maruyama N, Galyner I. Psychiatric symptoms in caregivers of patients with bipolar disorder: a review. *Journal of affective disorders*. 2010 Feb 1;121(1-2):10-21.
21. Villarreal-Zegarra D, Paz-Jesús A. Cohesión, adaptabilidad y composición familiar en adolescentes del Callao, Perú. *Propósitos y Representaciones*. 2017 Jul;5(2):21-64.