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Research Paper

The effectiveness of psycho-educational family-oriented interventions based on the integration of systemic approaches on the dimensions of family functioning



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ABSTRACT

Objective: The current study investigated the impact of family-oriented psycho-educational interventions based on integrating systemic approaches on the dimensions of family functioning.

Methods: The research design is a pre-test and post-test experiment using two experimental and control groups. The statistical population included all the families referred to family and marriage counseling centers in Tabriz City under the supervision of the General Department of Sports and Youth of East Azerbaijan Province. In response to advertisements published in these centers, the families volunteered to participate in a psycho-educational course to enhance their family functioning. The volunteers were examined using the family assessment device (FAD), and 20 couples whose scores were average to low were selected as sample members and randomly replaced in the experimental (10 couples) and control (10 couples) groups. The experimental intervention was implemented in 10 sessions, each lasting 120 minutes on the experimental group, and the control group did not receive any intervention. At the end of the intervention, the members of both groups were re-evaluated with the family assessment device. The data was analyzed using univariate covariance analysis.

Results: The results indicated a significant difference in family performance between the groups, showing that the intervention has successfully improved the performance of the families.

Conclusion: The use of systemic family therapy, especially in an integrated form, is effective in improving various family-related components.

1. Introduction

The cornerstone of an ideal community is a strong and healthy family. Family health is also the presence of healthy relationships and proper functioning of this institution. The family institution is a dynamic and active system in which the elements impact each other. Family members jointly strive to create and maintain balance and form family functions (Sanaei et al., 2018). Family functioning is one of the important issues that can cause the continuation or reduction of

disorders in individuals (Malehmir et al., 2023) and directly impacts needs, goals, emotional relationships, and life satisfaction (Miller et al., 2000). Various classifications and models have been developed to measure family functioning, each examining specific aspects of the family. One of these models is McMaster's conceptualization, which emphasizes six dimensions of family functioning (Nilfroshan et al., 2021).

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These dimensions are: 1) Problem-solving: It refers to the family's ability to solve problems and helps maintain the effective functioning of the family. 2) Communication: refers to the verbal exchange of information between family members. 3) Roles: refer to repetitive behavior patterns through which family members perform their functions. 4) Emotional responsiveness: It examines the quantity, quality, and appropriateness of family members' responses to emotional stimuli. 5) Emotional involvement: It means how much family members value and show interest in the specific activities of other members. 6) Behavior control: This includes the family's patterns to manage and control behavior (Nilforoshan et al., 2021).

According to the mentioned dimensions, healthy family functioning includes having problem-solving skills, resolving conflicts appropriately, maintaining direct communication between family members, achieving harmony between verbal and non-verbal communication, and meeting the basic needs of all family members (Pérez et al., 2018). On the other hand, in families that do not have optimal functioning, there are emotional problems, the way members communicate with each other is inconsistent, there are inappropriate emotional reactions, and members do not invest emotionally in each other (Berutti et al., 2016). Since family functioning is considered a key factor in establishing interpersonal and intra-family communications, and families with low functioning are somehow suffering from family disorders (Langton and Boy, 2017, cited by Souri et al., 2021), several theoretical perspectives with different approaches have developed and examined various marital and family interventions. In numerous studies, researchers have investigated the impact of various educational and therapeutic interventions on family functioning. For example, Nameni et al. (2014), Chavoshi et al. (2019), Souri et al. (2021), and Ashoori et al. (2022) reported the effectiveness of different therapeutic approaches in improving family functioning. In the 20th century, systemic psychotherapy emerged as a significant development in family therapy. Systemic family therapists consider families as interconnected systems in which the behaviors and feelings of each member are influenced by those of other family members. Instead of just focusing on an individual's problems or symptoms, systemic thinking looks at how the relationships between family members, their patterns of communication, and information exchange contribute to these issues (Goldenberg & Goldenberg, 2000). There are two main models of systemic family therapy: Minuchin's structural family therapy model and Jay Haley's strategic family therapy model. Both models

are based on circular causality, indicating that relationship issues result from a complex cycle of interactions, and both sides are involved. The interaction patterns are formed by feedback loops, where each person affects others and is affected by them (Goldenberg & Goldenberg, 2000). Since different systemic approaches, despite their differences, can consolidate and integrate topics and techniques, they have operated in an integrated manner in the current research. Paying close attention to the fact that focusing only on intervention and treatment from the angle of a specific approach sometimes leads to the deprivation of the ability of counselors and psychotherapists to respond to the multiple needs of clients, experts have integrated approaches in two ways of theoretical integration or eclecticism in recent years (Karr et al., 2022), which allows the selection of diverse concepts and interventions for a wide range of clients. So, family therapists can adjust their approach to address different family issues. This can involve using a genogram, examining family interactions and structures, understanding circular causality, recognizing triangles within the family, and considering family hierarchy and boundaries. By doing so, the therapist can provide more effective training and intervention tailored to the specific needs of the families. Research has shown the positive effect of these methods in improving various functions of the family. For example, Ashoori & Manshai (2012), Jahanbakhshian et al. (2019), Mirshkari et al. (2019), Darbani et al. (2019), Jiménez et al. (2019) have confirmed the effectiveness of these approaches in their studies. Considering the concerns about the increasing divorce rate and the importance of the family as a sacred institution in all cultures, experts have emphasized the need to preserve and promote the growth of this institution (Khojasteh Mehr et al., 2012). Therefore, efforts to enhance family functioning by using a comprehensive and effective approach can serve a preventive function to uphold the family and can aid in addressing communication problems faced by couples and families. Therefore, according to the similarity of goals and the same general principles of systemic approaches, it seems that the use of integrated psycho-educational systemic interventions based on its different approaches has a significant power to improve and promote various dimensions of family functioning. Based on this, the current research aims to investigate the effectiveness of the integrated system approaches on the dimensions of family functioning and answer whether the mentioned program will improve the dimensions of family functioning.

2. Materials and Methods

The current research is a quasi-experimental type of pre-test and post-test with a control group. The statistical population included all the families referred to the family and marriage counseling centers of Tabriz City under the supervision of the General Department of Sports and Youth of East Azerbaijan Province. In response to advertisements published in these centers, the families volunteered to participate in a psycho-educational course to enhance their family functioning. The volunteers were assessed using the family assessment device (FAD). 20 couples with average to low scores were selected as sample members and randomly assigned to the experimental (10 couples) and control (10 couples) groups. Apart from the test score, other criteria for entering the research were: the participants not suffering from chronic mental and personality disorders, passing at least two years of marriage, having at least a diploma, and the presence of both husband and wife in the study until the end of interventions. The experimental intervention was implemented in 10 sessions, each lasting 120 minutes on the experimental group, and the control group did not receive any intervention. In these sessions, the interpersonal and family problems of the participants were analyzed and investigated using the main systemic approaches. The interventions utilized the topics and techniques of the structural and strategic family therapy models. After each session, assignments based on these topics were given. At the end of the intervention, the members of both groups

were re-evaluated with the family assessment device. It is important to note that to adhere to ethical standards, psycho-educational interventions will be implemented for the families of the control group at the appropriate time after the completion of the research. Multiple-variable analysis of variance (MANCOVA) was used to analyze the data.

Family Assessment Device (FAD): This questionnaire was prepared by Epstein, Baldwin, and Bishop in 1983, based on the McMaster model. It consists of 60 items and assesses six aspects of family functioning: problem-solving, communication, roles, emotional companionship, emotional expression, and behavior control. The scoring is a 4-point Likert scale, ranging from 1 (completely agree) to 4 (completely disagree). The scoring for items that describe unhealthy performance is inverted. Generally, high scores indicate poorer family functioning, while lower scores indicate healthier family functioning. In the research of [Kajbaf et al. \(2024\)](#), the overall Cronbach's alpha coefficient was 0.94. In the present study, the overall Cronbach's alpha for the Family Assessment Device questionnaire was calculated to be 0.74.

Family-centered psycho-educational intervention protocol based on the integration of systemic approaches: This protocol was designed and implemented based on the theoretical foundations of Minuchin's structural family therapy model and Jay Haley's strategic family therapy model. The summary of the intervention sessions is explained in Table 1

Table 1. Family-centered psycho-educational sessions based on structural family therapy model and strategic family therapy model

session	objectives
1	establishing a therapeutic relationship, discussing the goals and expectations of group members, setting group rules, creating a family map for members, explaining family structure and hierarchy, and presenting assignments
2	reviewing the assignment and providing feedback, examining the tasks of marital, parenting, and children subsystems, examining the necessity of strengthening the marital subsystem and increasing the intimacy of couples, presenting the assignment
3	reviewing the assignment and providing feedback, explaining the concept of boundaries, exploring how to establish intra-family boundaries, examining how to establish extra-family boundaries, identifying defective boundaries and boundary problems, understanding the need for flexibility of boundaries, presenting assignment
4	reviewing the assignment and providing feedback, focusing on the exchange patterns in the family structure and creating a systemic language focusing on the mutual behavior of family members and establishing circular and mutual causality between them, understanding the need for complementary changes (at the binary level), examining the concept of coalition and triangle, presenting the assignment
5	reviewing the assignment and providing feedback, examining the rules governing the existing exchange patterns in family structure, including obvious and hidden rules, extracting ineffective rules, creating flexibility in the rules based on the developmental stages of family members, presenting the assignment
6	reviewing the assignment and providing feedback, exploring the existing roles in building a family, the rights and duties of each role, how to assign roles and the need to take responsibility, examining the complementarity of roles and the need to perform roles more efficiently, presenting the assignment
7	reviewing the assignment and providing feedback, focusing on the way messages are communicated in family interactions, levels of messaging and the contradictions in different levels of messages, extracting obstacles in communication and messaging, teaching direct communication skills, presenting the assignment

8	reviewing the assignment and providing feedback, examining how the family faces the problems ahead, emphasizing the multiplicity of solutions and examining ineffective solutions, emphasizing the previous solutions as part of the existing problems due to the formation of pathological sequences, emphasizing the necessity of changing pathological sequences in facing problems and finding new and efficient solutions, providing homework
9	reviewing and summarizing previous meeting topics to strengthen group understanding.
10	Reviewing the group process from beginning to end, measuring the extent to which members have achieved the desired goals, appreciating the members' participation in the group, closing the group

3. Results

Table 2. Demographic information of research participants in experimental and control groups

Variable Group	Age		Education			Job	Duration of marriage		
	Mean	SD	Diploma and below	Bachelor	Masters and above	Housewife and unemployed	Formal and informal workers	5 years and below	Above 5 years
Experimental group	39.45	5.44	8	8	4	9	11	8	12
Control group	39.80	5.69	6	9	5	8	12	7	13

The number of participants in each group is 20. The mean and standard deviation of the age of male and female participants in the experimental group were 42.15 and 4.82, and in the control group, 37.10 and 5.03, respectively. In the experimental group, there were 12 participants with a bachelor's degree or higher and 8 with a diploma or lower degree. In the control

group, 14 participants had a bachelor's degree or higher, and 6 had a diploma or lower degree. Additional information is provided in Table 2. Table 3 shows the mean and standard deviation of the family functioning and its components in the pre-test and post-test for each group.

Table 3. Mean and standard deviation of family functioning and its components in pre-test and post-test by group separation

variable	Time	Experimental group		Control group	
		Mean	SD	Mean	SD
Problem-solving	pre-test	19.75	2.46	20.30	1.94
	post-test	14.55	1.23	20.01	1.71
Communication	pre-test	19.50	1.82	19.85	2.32
	post-test	15.30	1.53	19.75	1.55
Roles	pre-test	25.15	3.77	25.40	2.96
	post-test	19.60	2.52	25	2.90
Emotional responsiveness	pre-test	20.20	2.70	20.95	2.16
	post-test	16.25	1.83	22.40	2.13
Emotional involvement	pre-test	22.45	2.79	22/50	2/28
	post-test	16/40	1/39	21/60	2/11
Behavior control	pre-test	26/40	3/25	25/65	3/74
	post-test	20/60	2/13	25/80	3/22
Total Function	pre-test	41/65	2/62	42/15	2/51
	post-test	33/15	3/36	42/35	2/68
Total Score	pre-test	179.10	11.85	182.90	14.36
	post-test	119.45	5.50	174.90	5.75

Table 3 shows that in the experimental group, the average of all components of family functioning decreased in the post-test compared to the pre-test. In the pre-test of the experimental group, the mean and standard deviation of the total family functioning score are 179.10 and 11.85, respectively. In the post-test of the experimental group, the mean and standard deviation of the total family functioning score are 119.45 and 5.50, respectively. For the control group, the mean and standard deviation of the family functioning score in the pre-test are 182.90 and 14.36, while in the post-test, they are 174.90 and 5.75, respectively.

Before conducting the scale, some statistical assumptions were checked. One of these assumptions is the homogeneity of the covariance matrix. The Mbox test was used to check it. The results indicated that this assumption is valid. The obtained values are $P > 0.01$, $F = 3.854$, and $M = 12.533$. Levine's test was also used to check the homogeneity of the variance of the dependent variable among the groups. The test results were insignificant for all research variables, so the homogeneity of variances was confirmed. The Kolmogorov-Smirnov test was also used to check the normality of the distribution of scores. Based on the results obtained for all variables, the significance level

of the calculated statistic was greater than 0.05, and the assumption of normal distribution of scores was accepted.

The results of the multivariate covariance analysis for the research variables showed that according to the significance level of all four relevant multivariate statistics, there is a significant difference between the

two experimental and control groups in the research variables in the post-test stage ($P < 0.01$, $F = 67.506$). To check the difference between the two groups in each variable and calculate the eta square, the between-subject effects test was used, and the results were presented in Table 4

Table 4. Results of multivariate tests for testing the general model of repeated measurement analysis of variance

Test	Value	F	Hypothesis df	Error df	P
Pillai's Trace	9.985	165.014	9	22	0.001
Wilks Lambda	0.015	165.014	9	22	0.001
Hotelling's Trace	67.506	165.014	9	22	0.001
Roy's Largest Root	67.506	165.014	9	22	0.001

Table 5. Test of inter-subject effects to compare variables between two groups in the post-test

variable	Time	source	Sum Of Squares	df	Mean Square	F	p	eta square
Problem-solving	post-test	pre-test	286.754	1	286.764	207.421	.001	.874
		group	41.476	30	1.383	-	-	-
		error	12561.000	40	-	-	-	-
Communication	post-test	pre-test	177.813	1	177.813	100.681	.001	.770
		group	52.983	30	1.766	-	-	-
		error	12573.000	40	-	-	-	-
Roles	post-test	pre-test	250.163	1	250.163	109.710	.001	.785
		group	68.407	30	2.280	-	-	-
		error	20464.000	40	-	-	-	-
Emotional responsiveness	post-test	pre-test	357.444	1	357.444	92.378	.001	.755
		group	116.081	30	3.869	-	-	-
		error	15467.000	40	-	-	-	-
Emotional involvement	post-test	pre-test	293.331	1	293.331	231.221	.001	.885
		group	38.059	30	1.269	-	-	-
		error	15139.000	40	-	-	-	-
Behavior control	post-test	pre-test	305.123	1	305.123	109.725	.001	.785
		group	83.424	30	2.781	-	-	-
		error	22084.000	40	-	-	-	-
Total Function	post-test	post-test	562.564	1	562.564	218.418	.001	.879
		group	77.269	30	2.576	-	-	-
		error	59902.000	40	-	-	-	-
Total Score	post-test	post-test	28038.888	1	28038.888	1395.297	.001	.869
		group	602.859	30	20.095	-	-	-
		error	898371.000	40	-	-	-	-

The results of Table 4 show that family-oriented psycho-educational intervention based on the integration of systemic approaches has improved the components of family functioning in couples at the level of 0.001. In other words, family-oriented psycho-educational intervention based on the integration of systemic approaches was effective at 87.4% in the problem-solving component, 77% in the communication component, 78.5% in the Roles component, 77.5% in the emotional companionship component, 88.5% in the emotional conflict component, 78.5% in the behavior control component, 87.9% in the overall functioning component, and 86.9% in the overall family functioning score.

4. Discussion and Conclusion

The current study examined the effectiveness of family-centered psycho-educational interventions based on integrating systemic approaches on the dimensions of family functioning. McMaster's family assessment scale was used to evaluate family functioning, and the integration of topics and techniques of systemic family therapy approaches was used for therapeutic intervention. The results showed a significant improvement in the scores of different subscales of family functioning in the experimental group compared to the control group. This finding is in agreement with the results of studies by other researchers, including Raeis Gharedarvishloo et al. (2019), Mirshekari et al. (2020), Darbani et al. (2019), Bagheri et al. (2024).

In most of these researches, only one of the systemic family therapy models was used in the intervention protocol. However, in the current study, due to the ability to consolidate and integrate different topics and techniques in systemic approaches, structural and strategic models are used to address the various needs of the participants and enhance the ability to intervene. Considering the importance of the family shaping the way of thinking, habits, customs, and views of its members towards the world, it seems necessary to pay attention to quantitative and qualitative changes in its functioning. Among existing psychotherapy theories, family therapy is a type of psychotherapy that focuses on the family system instead of the individual and considers it as an interactive unit. Considering that systemic family therapy is established on the belief that an individual's problems cannot be evaluated and treated independently of their context, it is clear that involving the entire family system is necessary to achieve the best possible results. In this study, due to existing limitations, only the sub-system of spouses, as the main core and the most important sub-system of the family, was included in the research to receive training and group therapy intervention.

Systemic family therapy in this study refers to Minuchin's structural family therapy and J. Haley's strategic family therapy model. The fundamental belief of the methods above is based on the principle that the signs of problems in family members may be a sign of how the family system works and the interactive patterns of its members, not just a sign of the personal difficulties and disorders of that particular member. Therefore, these approaches focus on the relationships between individuals or the so-called "whole" family rather than their psychological states. In the meantime, the structural approach in focusing on the interpersonal relationship of family members deals with things such as the structure and current exchange patterns, the reconstruction of the family structure, subsystems and boundaries between them, and the establishment of flexible and appropriate laws; And the focus of the strategic model is on family hierarchy, repeated patterns of family interactions, defective and morbid triangles.

In explaining how the structural approach and the strategic family therapy model played their role and contribution to improving the functioning of families, it can be stated that by changing the focus of the participants from the mental state of their family members to the interpersonal relationships in the family and the role that they play in each other's creation, family interaction patterns were identified

that these repeated patterns have led to the emergence of defective family structure and its performance decline. The defective structure is defined as ineffective rules, inappropriate roles, problems in boundaries, and the emergence of dysfunctional alliances and triangles among members and subsystems of the family, which prevents the proper functioning of the family. Implementing family interaction patterns in the therapy sessions made family members deeply aware of their role in forming existing complementary relationships. Due to the challenges in the meetings, the participants made adaptive changes in their families, correcting disturbed behavior and communication patterns. Determining the subsystems and rebuilding the boundaries was done so that besides providing the possibility of exchanging information and feelings between the family subsystems, each member's identity was preserved in the position of spouses, parents, and children. As a result, the conflict between each subsystem was prevented from being transferred to other family units. On the other hand, helping to formulate rules appropriate to the current realities of the family's life cycle and replacing them with previously ineffective old rules gave a favorable family order and cohesion. In the meantime, helping families focus on the process of problems instead of their content and, as a result, formulating and implementing effective and desirable strategies led to breaking the vicious cycle of unhealthy interactions when facing difficulties. Finally, using instructions and assignments to repeat and practice educational and therapeutic content was effective in consolidating the insights and skills acquired. As a result, reorganizing the structure and changing the context of family exchanges reduced the probability of defective interactional patterns and improved family functioning in various aspects, including problem-solving, communication, roles, emotional companionship, emotional engagement, and behavior control.

The current study, like other similar studies, has limitations such as the availability of sampling, sample size, the use of self-assessment tools, the lack of complete control of intervening variables, the derivation of results, its generalizability to other groups in society, entering the parents/spouses subsystem instead of the whole family and not having a follow-up stage. Based on the findings, it is recommended to utilize systemic family therapy, especially by integrating various models and approaches to enhance intervention effectiveness and meet the diverse needs of families.

5. Ethical Considerations

Compliance with ethical guidelines

All ethical principles are considered in this article. The participants were informed about the purpose of the research and its implementation stages. They were also assured about the confidentiality of their information and were free to leave the study whenever they wished, and if desired, the research results would be available to them.

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Conflicts of interest

The author declared no conflict of interest.

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