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The Effectiveness of Family Therapy on Psychological Capital of Adolescents with Major Depressive Disorder

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Quantitative Study

Abstract

Background: Major depressive disorder (MDD) is a common mood disorder. It has been shown that adolescents are more likely to experience depression during this term, with high recurrence rates and poor functional outcomes. The central purpose of this study was to investigate the effectiveness of family therapy on the psychological capital dimensions of adolescents with MDD.

Methods: The study was quasi-experimental, with a pre-test, post-test, and control group. The statistical population of this study was all adolescents with MDD who were referred to psychological clinics in Tehran, Iran, from October to December 2022. In this study, 30 eligible patients were selected and invited to take part purposefully. Researchers randomly divided the participants into two groups: a family therapy counseling group (n = 15) and a control group (n = 15). The interventions were held in eight 90-minute sessions, one session per week, and were designed and implemented to enable adolescents with MDD to promote their psychological capital dimensions based on the family therapy protocol. Beck Depression Inventory-II (BDI-II) and Psychological Capital Questionnaire (PCQ) were administered. Data were analyzed with SPSS software using multivariate analysis of covariance (MANCOVA).

Results: Family therapy intervention had a positive and significant effect on resilience ($P < 0.001$, $F = 22.08$), self-efficacy ($P < 0.001$, $F = 18.54$), hope ($P < 0.001$, $F = 29.37$), and optimism ($P < 0.001$, $F = 21.50$) in adolescents with major depression.

Conclusion: Family therapy increased resilience, self-efficacy, hope, and optimism in patients with MDD. Therefore, family therapy for adolescents with MDD is recommended to increase the psychological capital dimensions and improve their quality of life (QOL).

Keywords: Family therapy; Psychological capital; Major depressive disorder; Adolescents

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Introduction

Major depressive disorder (MDD) is a common mood disorder that has a lifetime prevalence of 13.2% (Fan et al., 2019). 350 million people worldwide suffer from the MDD, which contributes to the most significant number of disability years and is the top cause of disability in adolescents. During adolescence, the incidence of depressive symptoms and MDD increases sharply. It has been shown that adolescents are more likely to experience depression during this term, with high recurrence rates and poor functional outcomes (Rice et al., 2019). Psychological capital is a conceptual structure of positive psychology characterized by a set of beliefs: self-efficacy, hope, optimism, and resilience (Shariat Panahi, Razaghpour, Mirtabar, & Hoseinzadeh, 2022). This set of beliefs plays a moderating role in the occurrence of depression, acting as a protective component or enhancing symptoms (Tenenbaum, Capelos, Lorimer, & Stocks, 2018; Kwok & Gu, 2019; Bibi, Hayat, Hayat, Zulfiqar, Shafique, & Khalid, 2022).

In Beck's cognitive theory (1979), depression is caused by the activation of schemas that track and encode the individual's negative experiences, resulting from a negative perspective about the individual, reflected in four dimensions: negative self-perceptions, a negative view of the world, a negative interpretation of interpersonal relationships, and a sense of hopelessness (Beck, Rush, Shaw, Emery, 1979; Nunes & Faro, 2021). Existing research broadly supports the negative link between hope and psychological health challenges. Higher hope is related to lower stress and depressive symptoms, a better quality of life (QOL), positive cardiovascular outcomes, and improvements in daily functioning (Arslan & Yıldırım, 2021). Several pieces of evidence point to the relationship between self-efficacy and depression in adolescents, and their role in promoting adaptive outcomes in the face of adversity inherent in this stage of development, such as transitioning from a family-enjoy setting to an impersonal location and the complexity of middle school (Guerra, Farkas, & Moncada, 2018). Optimism versus pessimism is operationalized as a dispositional tendency to expect positive versus negative outcomes in one's life (Arslan & Yıldırım, 2021). Optimism is positively related to greater subjective well-being, self-esteem, hope, self-efficacy, social support, mental health, and flourishing (Dupuis & Foster, 2020; Reyes et al., 2020). Pessimism is positively related to depression and anxiety (Giardini et al., 2017) and stress (Jones et al., 2020). Studies show that dispositional optimism moderated the relationship between psychological stress and depression, perceived stress and psychological well-being, and depressive symptoms (Romswinkel, Konig, & Hajek, 2018).

Resilience is the ability to cope positively with unpleasant and bitter experiences in life, which includes not only resistance to damages or threatening conditions, but also the active and constructive involvement of the person in the environment (Asadollahi, Karimpoor, Kaveh, & Ghahremani, 2022). A resilient person is less likely to feel lonely and frustrated, shows better tolerance to problems, and has excellent capabilities for dealing with difficulties and incompatibilities if they are supported (Azizi & Ghasemi, 2017). According to a study conducted by Dawson and Golijani-Moghaddam (2020), resilience is significantly associated with greater well-being and negatively associated with depression, anxiety, and coronavirus disease 2019 (COVID-19) distress (Dawson & Golijani-Moghaddam, 2020). Teymourpour (2018) showed that the benefits of behavioral activation treatment as an effective intervention were used to increase the cognitive flexibility and emotional flexibility of women with MDD (Teymoorpur et al., 2019). Zhao et al. found that psychological capital could relieve depression degree, while insecure attachment had a positive predicting effect on adolescent depression (Zhao, Li, & Wang, 2021).

Family therapy is: "any psychotherapeutic approach that explicitly focuses on altering interactions between or among family members and seeks to improve the functioning of the family as a unit, and/or the functioning of the individual members of the family" (Waraan et al., 2023). Although many studies have investigated the effectiveness of family therapy on positive and negative psychological characteristics (Amirfakhrayi, Karimi Afshar, & Manzari Tavakoli, 2019; Rezaei Sharif, Sadeghi, & Amini, 2020; Katsuki, Watanabe, Yamada, & Hasegawa, 2022), there is no study on the effect of family therapy on the psychological capital dimensions of adolescents, especially in our country, Iran. Hence, further studies seem necessary. The main purpose of this study was to investigate the effectiveness of family therapy on the psychological capital of adolescents with MDD.

Methods

The study was quasi-experimental, with a pre-test, post-test, and control group. The statistical population of this study was all adolescents with MDD who were referred to psychological clinics in Tehran, Iran, from October to December 2022. In this study, 30 eligible patients were selected and invited to participate purposefully. The assignment of individuals to experimental and control groups was done randomly. Each participant received an envelope containing a number, and a randomly selected identifier to determine whether they were in the experimental (n = 15) or control (n = 15) group (Moloudi, Arian, Mahdavi, Madah, & Roghaeeh Taghipour, 2022).

Inclusion criteria were: age between 12 and 16 years, being a girl, a diagnosis of MDD, either single-episode or recurrent depression according to the International Classification of Diseases, 10th Revision (ICD-10), established by a certified psychiatrist and verified by the Mini International Neuropsychiatric Interview (MINI) (Timmerby, Austin, Ussing, Bech, & Csillag, 2016), and living with parents. Exclusion criteria included severe suicidal or psychotic symptoms, suicide attempt or serious non-suicidal self-injury requiring hospitalization within 3 months of admission, substance dependence, and intelligence quotient (IQ) estimated to be at least 80, according to the referral letter or diagnostic evaluation.

Then, they were asked to fill out the Beck Depression Inventory-II (BDI-II) and Psychological Capital Questionnaire (PCQ). To protect patient data privacy, researchers assured them that their data would be kept confidential. The interventions were held in eight 90-minute sessions, one session per week, and were designed and implemented to enable adolescents with MDD to promote their psychological capital dimensions based on the family therapy protocol (Table 1) (Solati Dehkordi & Nikfarjam 2013). Both groups received post-test evaluations following these sessions. This study met all the standards of ethical behavior in research. The Ethics Committee of the Islamic Azad University of Tehran (IR.IAU.KHUISF.REC.1400.098) approved the study.

PCQ: Luthans has designed PCQ. This questionnaire includes 24 questions and four sub-scales (self-efficacy: items 1 to 6, hope: items 7 to 12, resiliency: items 13 to 18, optimism: items 19 to 24). Each sub-scale includes six items and the subject answers to each item with a 6-point Likert scale (strongly agree to strongly disagree). Moreover, Asadollahi et al. (2022) indicated the reliability of this instrument with Cronbach's alpha of 0.82, [intraclass correlation coefficient (ICC) ≥ 0.80] (Asadollahi et al., 2022). Cronbach's alpha of this scale was 0.74 in this study.

BDI-II: Depressive disorders are assessed using the BDI-II, a self-reporting instrument. The inventory consists of 21 statements describing different types of depression (Beck, Steer, & Brown, 1996).

Table 1. Family therapy protocol

Session	Intervention
1	Familiarizing students with the course and other members of the group and distributing information brochures; at the beginning of each meeting, summaries of the previous meeting were presented, and after the discussion, the group members reviewed and evaluated the homework.
2	Establishing a therapeutic relationship, talking about treatment and its goals
3	Awareness about the initial symptoms of major depressive disorder
4	Introducing control as a problem, teaching about predisposing and revealing factors, and the family's responsibility in dealing with symptoms
5	Therapeutic solutions to prevent a recurrence, reducing stress in the family environment by clarifying the role of the family in creating or reducing stress
6	The role of stress in increasing the recurrence of disease, identifying the sources of stress in the family and how to deal with these stresses
7	Communication and recognition in the family, self-worth and communication in the family, and conflict resolution in interpersonal relationships
8	Summary of treatment sessions

The items are scaled from zero to 3 which makes an overall range of 0-63. As far as no depression is concerned, the inventory does not predict a cut-off point. The cut-off points suggested for this inventory are scores of 0-13 indicating minor depression, 14-19 suggesting mild depression, 20-28 showing moderate depression, and the score range of 29 to 63 which demonstrates severe depression (Asgharipoor, Asgharnejad, Arshadi, & Sahebi, 2012). Cronbach's alpha was 0.86 in this study.

In this study, to determine the significance of the difference between the scores of test and control groups in the dependent variables, a multivariate analysis of covariance (MANCOVA) method was used. Before analyzing the data, to ensure that the data of this research met the underlying assumptions of the covariance analysis, they were examined.

Results

The mean ± standard deviation (SD) of age of adolescents was 14.20 ± 1.77 and 14.91 ± 1.95 in the experimental and control groups, respectively. The age difference between the two groups was not significant according to an independent t-test (P = 0.064). Table 2 shows the pre-test and post-test results for variables scores in the experimental and control groups.

Table 2. Mean ± standard deviation (SD) of variables in experimental and control groups

Variable	Groups	Statistical index	Mean ± SD
Resilience	Pre-test	Control	15.31 ± 3.24
		Family therapy approach	14.82 ± 4.12
	Post-test	Control	15.98 ± 3.29
		Family therapy approach	21.43 ± 4.67
Self-efficacy	Pre-test	Control	15.26 ± 4.69
		Family therapy approach	16.63 ± 4.75
	Post-test	Control	16.91 ± 3.17
		Family therapy approach	20.46 ± 4.43
Hope	Pre-test	Control	16.51 ± 4.81
		Family therapy approach	17.26 ± 4.29
	Post-test	Control	17.86 ± 4.54
		Family therapy approach	25.39 ± 4.38
Optimism	Pre-test	Control	15.78 ± 3.97
		Family therapy approach	14.26 ± 3.16
	Post-test	Control	15.66 ± 3.65
		Family therapy approach	22.45 ± 4.36

SD: Standard deviation

Table 3. Results of multivariate analysis of covariance (MANCOVA) on variables

Test statistics	Value	F	df	df error	P-value	Effect size	Eta
Pillai's trace	0.784	51.43	2	28	0.001	0.71	1
Wilks' lambda	0.165	51.43	2	28	0.001	0.71	1
Hotelling's trace	6.450	51.43	2	28	0.001	0.71	1
Roy's largest root	5.710	51.43	2	28	0.001	0.71	1

df: Degree of freedom

The linear significance level of the relationship between the pre-test and the post-test of resilience (r = 0.73), self-efficacy (r = 0.67), hope (r = 0.77), and optimism (r = 0.62) was obtained (all correlation coefficients are significant at the P < 0.05 level). According to the Kolmogorov-Smirnov test, the assumption of normality of the distribution of the variables was greater than 0.05; therefore, this assumption has been met.

Considering dependent variables, table 3 shows a significant difference between the test group and the control group at a level of P ≤ 0.001. In MANCOVA's text, two covariance analyses were conducted to determine this difference. In the experimental and control groups, 71% of the variances were explained by the independent variable, based on the calculated effect size.

Based on the results of table 4, the results of family therapy intervention had a positive and significant effect on resilience (P < 0.001, F = 22.08), self-efficacy (P < 0.001, F = 18.54), hope (P < 0.001, F = 29.37), and optimism (P < 0.001, F = 21.50) in adolescents with major depression. In addition, it can be seen that the largest effect size was related to the hope variable (0.745), which shows that 74% of the total variances of the experimental and control groups in the hope variable were caused by the effect of the independent variable.

Discussion

The purpose of the present study was to determine the effectiveness of family therapy-based training on psychological capital of adolescents with MDD. Based on the results, resilience, self-efficacy, hope, and optimism differ significantly between the experimental and control groups. The results of many studies (Stark, Banneyer, Wang, & Arora, 2012; Amirfakhrayi et al., 2019; Rezaei Sharif et al., 2020) are in line with findings of this study. Stark et al. (2012) reviewed twenty-five trials of family-based treatment programs for child and adolescent depression. The researchers used several formats in these studies, including conjoint family sessions, interpersonal therapy (Pu et al., 2017) sessions combined with some family or parent sessions, and concurrent group-based parent and child training sessions (Rhode, 2017). The key features of effective family interventions include psycho-education about depression, relational reframing of depression, maintaining family interaction patterns, facilitating clear communication between parents and children, promoting systematic family problem-solving, disrupting negative critical interactions between parents and children, promoting secure parent-child attachments, and teaching children how to deal with negative mood states and change pessimistic beliefs (Carr, 2019).

Table 4. Results of analysis of covariance (ANCOVA) in the multivariate ANCOVA (MANCOVA) context

Dependent variable	Source	SS	df	MS	F	P-value	Eta
Resilience	Group	1768.41	1	1768.41	22.08	0.001	0.667
Self-efficacy	Group	2178.27	1	2178.27	18.54	0.001	0.583
Hope	Group	6549.39	1	6549.39	29.37	0.001	0.745
Optimism	Group	3278.65	1	3278.65	21.50	0.001	0.691

SS: Sum of squares; df: Degree of freedom; MS: Mean squares

Amirfakhrayi et al. (2019) found that the inadequate performance of family and parents could lead to the teenager's participation in high-risk behaviors, mental health problems, and increased psychiatric disorders. Emotional issues also have a direct relationship with resilience. Adolescents throughout their lives face chronic and acute needs that can unpleasantly influence their physical and psychological health. Therefore, equipping adolescents with resilience instead of doing only disturbing things to avoid thoughts, feelings, memories, or desires is more suitable than different options (Amirfakhrayi et al., 2019). The family therapy intervention may assist families in gaining knowledge about MDD, developing coping strategies for problems in daily life, and enhancing communication between family members and patients. Appropriate coping strategies among family members, such as positive thinking, may reduce stress for both the patients and family members. This may also reduce caregivers' expressed emotion (EE) and may have a positive effect on the patient's prognosis. As a result, both family members and patients are believed to experience less stress, as well as a reduction in depression symptoms (Katsuki et al., 2022). Belief in their ability to take action to achieve results is a crucial factor in teenagers' emotional well-being.

There is evidence pointing to the relevance of self-efficacy in explaining depression in adolescents (Guerra et al., 2018; Tak, Brunwasser, Lichtwarck-Aschoff, & Engels, 2017). Bandura et al. (1999) explain that lowered levels of self-efficacy can produce depressive symptoms in three manners. The first would be the discrepancies between personal aspirations and perceived abilities. From this perspective, adolescents establish patterns that are incompatible with their abilities, reducing the probability of success and achievement of their goals and, consequently, producing feelings of guilt and incapacity. A second path would be through a low sense of social effectiveness to develop satisfactory interpersonal relationships that help to control chronic stressors. Finally, a third way would be through the low sense of exercising control over one's depressive thoughts (Nunes & Faro, 2021).

The primary source of self-efficacy for children early in life is the family. Families provide opportunities for children to develop, explore, experience new things, master challenges, and develop confidence in themselves. Parents who engage children in active learning experiences enable them to achieve some level of self-control at an early age (Matteson, 2020). Indeed, family environments impact general levels of self-efficacy in children (Anvari, Kajbaf, Montazeri, & Sajjadian, 2014). As children grow, Bandura (1994) posited they develop self-efficacy through peer influences in addition to family influences. Finally, upon entering adolescence, individuals continue to develop self-efficacy through various transitional experiences. As adolescents gain more independence, their sense of efficacy is expanded as they navigate novel life events (Bandura, 1994; Matteson, 2020). In this study, adolescents in the experimental group reported greater hope. These findings are consistent with the findings of Scheel et al. (2012) and Rezaei Sharif et al. (2020). In family therapy, positive qualities can be strengthened to increase hope. When a person recognizes those positive features, it creates internal reinforcement. Therefore, external reinforcement and hope by the therapist are enhanced by internal reinforcement. The therapist uses solution-focused questions to cause increased hope (Rezaeisharif et al., 2020).

According to studies by Zhao et al. (2021) and Tyndall et al. (2020), each dimension (self-efficacy, positive thinking, psychological flexibility, and hope) of psychological capital showed a negative effect on depression, namely, the adolescents with high psychological capital levels were less probable to feel the depressive

symptoms, which is in accordance with the results of this study. Psychological capital is a positive mental state gradually formed in the individual growth process. To figure out why, those with a high psychological capital level believe they can solve problems and are more inclined to adopt positive and effective coping strategies, so that the problems can be effectively solved. As a result, mental pressure due to various difficulties and setbacks can be reduced, while negative emotions such as depression and anxiety are also repressed (Jones et al., 2020). Besides, those with high psychological capital can use active attribution to realize goals, hold optimistic expectations of future events, and are capable of undertaking very difficult tasks. Moreover, they will spare no effort to overcome difficulties and achieve their goals. Those with this personality trait can learn more efficiently, live more optimistically, and, on top of that, are free from frustration, not to mention a sense of anxiousness and depression (Liese, Kim, & Hodgins, 2020).

Among the study's strengths is that the intervention demonstrates comparable efficacy to more expensive, longer, and more intensive treatments, and the delivery of treatments in a community mental health setting with patients recruited from a defined catchment area strengthens the external validity of the findings. The present study had some limitations. First, researchers collected data using self-reported questionnaires. Second, the sample size of patients in the intervention and control groups was small, and there was no attention control group in this study. Because of a few similar studies in this sample group, further large-scale, rigorously-designed studies are recommended for the generalization of the results.

Conclusion

The results showed that family therapy counseling increased resilience, self-efficacy, hope, and optimism in patients with MDD. Therefore, family therapy for adolescents with MDD is recommended for increasing the psychological capital dimensions and improving their QOL. All healthcare providers must be trained to identify the needs of patients, help them cope with and adapt to their problems, and encourage psychological capital dimensions in them.

Conflict of Interests

Authors have no conflict of interests.

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