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Promoting Social Relationship and Interpersonal Problems among Women with Major Depressive Disorder: A Social-Communication Skills Training

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Quantitative Study

Abstract

Background: The difficulties with social interaction are observed in major depressive disorder (MDD). This study aimed to examine the effect of social-communication skills training on social relationships and interpersonal problems among women with MDD.
Methods: In this semi-experimental study with a pre-test and post-test design and control group, the statistical population of the study was composed of patients suffering from major depression referred to Tehran Psychiatric Institute, School of Behavioral Sciences and Mental Health, Tehran City, Iran, from September 2022 to March 2023. The sample was selected purposefully and randomly divided into the social skills training (SST) group (n = 28) and the control group (n = 29) by tossing. The training protocol was held weekly in 8 1-hour sessions for two months. The tools completed in the pre-test and post-test were Relationship Scales Questionnaire (RSQ) and Barkham et al.'s Inventory of Interpersonal Problems (IIP). The data were analyzed using the multivariate analysis of covariance (MANCOVA) method via SPSS software.
Results: There were significant differences between the groups in terms of social relationships ($F = 26.43$, $P = 0.001$, $\eta = 0.68$) and interpersonal problems ($F = 24.19$, $P = 0.001$, $\eta = 0.63$).
Conclusion: These features seem to persist even in remission, although some may respond to intervention. Further research is required in this area to better understand the functional impact of these findings and how targeted therapy could aid depressed individuals with social interactions.

Keywords: Social relationships; Social problems; Depressive disorder; Social communication

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Introduction

In addition to being commonly seen in inpatient and outpatient mental health treatment settings, major depressive disorder (MDD) also ranks among the leading causes of the global burden of disease (Owusu, Reininghaus, Koppe, Dankwa-Mullan, & Barnighausen, 2021). There is an annual prevalence rate of approximately 10.0% to 12.5% for MDD in primary care populations (Wright et al., 2022). The incidence and prevalence rate of MDD has also grown significantly in Iran (Keshavarz et al., 2022). Based on a systematic review of 56 articles, depressive disorders were found to be prevalent in the Iranian population at a rate of 5.69%-73%, and MDD was indicated to be the most prevalent psychiatric disorder at 12.7% (Radfar, Yavari, Haghighi, & Gharaaghaji Asl, 2022). People with depressive symptoms experiencing self-focused thoughts and feelings are more likely to be perceived as annoying and abrasive by their friends, leading to difficulties in interpersonal relationships (Abraham et al., 2022). In adults, communication with others and social participation require establishing a balance between the cognitive representations of self and others and activate the brain areas involved in the representation of social cognition, including the medial prefrontal cortex and the cingulate cortex (Schwartz-Mette & Rose, 2016). Functional impairment contributes to significant disability and economic burden in MDD (Hutcherson, Seppala, & Gross, 2015). Psychosocial defects include dysfunction in job performance, interpersonal relationships, autonomy, and self-perceived quality of life (QOL) (Dunn, German, Khazanov, Xu, Hollon, & DeRubeis, 2020).

Struck et al. (2021) showed that patients with depression might not show deficits in decoding the affective states of others and in feeling with others. However, depressed individuals – in particular, patients with depression – may feel easily overwhelmed by emotionally tense situations, resulting in empathic distress and avoidant/submissive interpersonal behavior (Knight et al., 2021). This could lead to patients with depression being isolated and bereaved of potential resources of their social environment, such as social support which has been associated with being more likely to achieve complete satisfactory mental health after suffering from depression (Struck, Gartner, Kircher, & Brakemeier, 2021). This can result in a vicious cycle, with low self-worth leading to further social avoidance, in turn reinforcing negative self-perceptions and perpetuating depressive illness (Strand, Hagen, Hjemdal, Kennair, & Solem, 2018). Improving and strengthening ties with the social environment can aid in breaking this cycle, contributing to improvements in depression. Indeed, social support and a sense of belonging are widely recognized protective factors against depression (Filia, Eastwood, Herniman, & Badcock, 2021).

A smaller number of experimental studies have also found that interventions that aim to improve social connectedness have benefits for mental health. For example, people with mental illness who joined recreational and therapy groups that targeted social isolation experienced clinically significant reductions in depression and anxiety symptoms (Rueger, Malecki, Pyun, Aycock, & Coyle, 2016). Therefore, social communication skills can have a beneficial effect to treat depressive symptoms and improve social relationships. Over the years, efforts to treat depression have focused on improving depressive symptoms. However, there is now increasing attention to improving social relationships and interpersonal problems (Saeri, Cruwys, Barlow, Stronge, & Sibley, 2018). The development of non-pharmacological treatments for the treatment of depression and other non-psychotic disorders has been highly studied by researchers. Various therapeutic strategies to improve social relationships and

social functioning in people with depressive disorders include educational and behavioral interventions that target main features of the disease. Well-designed interventions, such as the social-communication skills training program, are manual evidence-based social skills programs developed from autism spectrum disorder (ASD) intervention programs (Filia et al., 2021).

Researchers previously suggested that social withdrawal should be targeted as a treatment for childhood depression. Treatments aimed at improving social skills and cognitive functioning in patients with MDD may also be beneficial (Ota et al., 2020). Thus, interventions that improve social function and optimize coping with late-life psychiatric and medical comorbidities can promote a better QOL and reduce the societal economic burden of depression in life (Rajji, Mamo, Holden, Granholm, & Mulsant, 2022). Both social skills and negative symptoms appear to influence real-world functioning (Lim, Rapisarda, Keefe, & Lee, 2022). The social skills training (SST) was effective in different age ranges, for example, the effectiveness of using this caregiver-assisted, manualized intervention was observed for young adults with ASD (Yang, Zhao, Wu, & Zhang, 2021), adults with ASD (Gantman, Kapp, Orenski, & Laugeson, 2012), and for severe mental illness (Catalan et al., 2022). Despite the psychosocial difficulties common among this sample, little to no evidence-based social skills interventions exist for this population. Based on what was presented before, it is important to help this sample group to have an everyday life. Therefore, the researchers aimed to examine the effect of social-communication skills training on social relationships and interpersonal problems among people with depressive disorder.

Methods

The method of the current research was semi-experimental with a pre-test and post-test design with a control group. The statistical population of the study was composed of patients suffering from major depression referred to medical centers affiliated to Tehran Psychiatric Institute, Tehran Psychiatric Institute, School of Behavioral Sciences and Mental Health, Tehran City, Iran, from September 2022 to March 2023 at. The sample was selected purposefully and randomly divided into the SST group (n = 28) and the control group (n = 29) by tossing. A total of 57 people were obtained by considering a confidence interval (CI) of 0.95 and a power of 80%, taking into account. The criteria for patients entering the research included confirmation of the disease by the center's psychologist and psychiatrist, age ranging between 20 and 40 years, having minimum literacy, lack of brain diseases such as delirium, dementia, and learning disorders, not having speech, hearing disorders, not using medications affecting behavioral and mental status, not having a history of participating in similar research in the last six months, not having secondary problems such as mental illness, blood pressure greater than 160/100, chronic kidney disease, severe heart disease, or any other serious disease, and willingness to participate. Being absent for more than two sessions, administration of electroconvulsive therapy, and substance abuse during the intervention were the exclusion criteria.

Sampling was conducted on morning shifts (from 8 a.m. to 2 p.m.) on working days, so that it lasted for 32 days. 134 patients with MDD were evaluated by the researchers, out of which 98 met the inclusion criteria. Out of 98 eligible patients, 24 were reluctant to attend the SST sessions due to residency problems and 17 withdrew from the study before the beginning of the intervention. Ultimately, a total of 57 patients entered the study and were assigned to two groups of SST and treatment-as-

usual (TAU) using random allocation. Those willing to participate in the research, in one day, were invited to the psychological center (Armaghane Salamiti located in district 3) and the implementation of the study approach was carried out by the clinical specialist of the center. In the pre-test stage in the experimental and control groups, the questionnaires [Relationship Scales Questionnaire (RSQ), Inventory of Interpersonal Problems (IIP)] were completed by women with MDD. It should be noted that the interpersonal sensitivity scale was used in this study to investigate interpersonal problems**.** Moreover, only the avoidance scale was used in the RSQ. The training protocol was held weekly in 8 1-hour sessions for two months. The titles and topics of the educational program presented are described in table 1 (Zargar, Besaknezhad, Akhlaghi Jami, & Zemestani, 2014).

After the training sessions, the post-test was done in the experimental and control groups (Figure 1).

RSQ: It was designed by Griffin and Bartholomew (1994), and includes 30 items for measuring feelings about close relationships. The answer to each item is scored based on a Likert-type scale from 1 (not at all) to 5 (very much). By calculating the means of the items of each style, the score of that style is obtained. By evaluating 2 dimensions of anxiety and avoidance, RSQ examines attachment styles of secure (questions 3, 9, 10, 15, 28), preoccupied (6, 8, 16, 25), dismissing avoidance (2, 6, 19, 22, 28), and fearful avoidance (1, 5, 12, 24). Meanwhile, questions 9, 28, and 6 have reversed grading. Concerning the dimensional perspective of Bartholomew, for determining individuals' attachment styles, the highest score should be considered if necessary. The retest reliability of the questionnaire ranged from 0.54 to 0.78 and the correlation coefficients of the RSQ and Relationships Questionnaire (RQ) ranged from 0.41 to 0.61, respectively (Griffin & Bartholomew, 1994). The exploratory factor analysis (EFA) of RSQ showed 2 different patterns. The Collins and Read 3-factor model showed 40.16% of the total variance, and the Simpson 2-factor model determined 35.36% of the total variance. The Cronbach's alpha coefficients were 0.67 for the 2-factor model and 0.57 for the 3-factor model (Iranian Pehrabad, Mashhadi, Tabibi, & Modares Gharavi, 2016).

IPP: The 32-item IPP is a self-report tool whose items are related to the problems that people normally experience in interpersonal relationships (Barkham, Hardy, & Startup, 1996). As a version of this form by Barkham et al., a short version of the original 127-item form was designed to use this tool in clinical services.

Table 1. Program and implementation steps of social-communication skills training

Sessions	Brief description of the content of the meeting
First	Initial acquaintance and introduction, stating points about communication methods in society, stating goals
Second	Preparation and termination of useful communication, barriers to effective communication, description of the communication model, non-verbal language and its interpretation, physical characteristics, and environmental factors in non-verbal communication
Third	Types of listening, barriers to listening, and mastery of listening skills during relationships
Fourth	Reflecting feelings and meanings, vocal empathy, and giving a firm but flexible answer
Fifth	Types of self-expression, its benefits, and functions, the way to communicate in society, the six stages of self-expression, cultivating the power to say no, teaching correct criticism, and teaching to accept others' criticism
Sixth	Conflict and its types, methods of preventing and restraining personal and group conflicts
Seventh	Participatory problem-solving method and its application, the pitfalls of the problem-solving process
Eighth	Honesty, empathy, and love, design and implementation of a letter of commitment to use social-communication skills

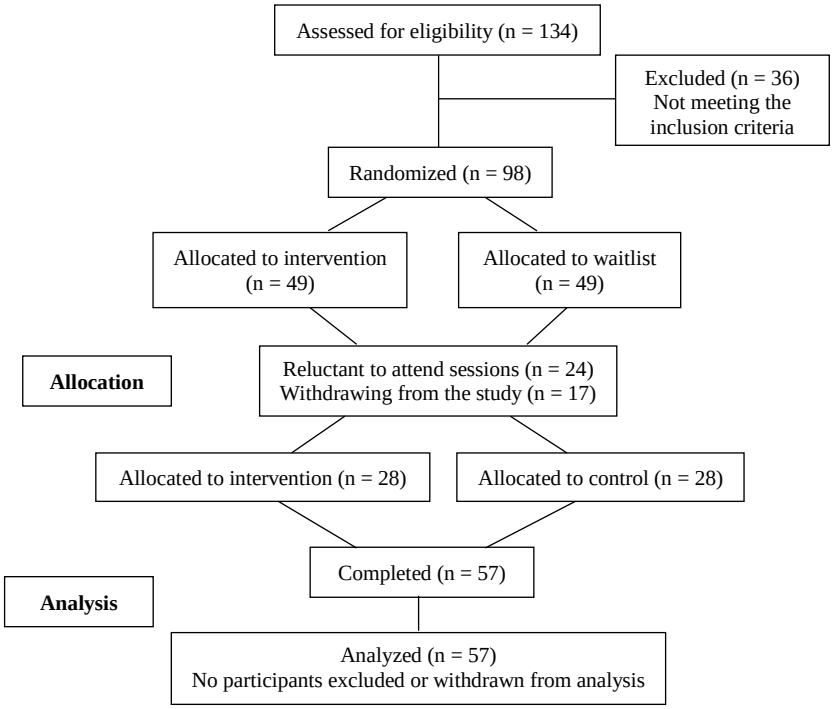

Figure 1. Consolidated Standards of Reporting Trials **(**CONSORT) diagram

This form was obtained based on EFA of the 127-item form and considering the four items that had the highest factor load in each subscale. This scale has eight subscales: people-oriented, boldness, participation with others, support of others, aggressiveness, openness, consideration of others, and dependence on others. These items are scored on a five-point Likert scale from zero (not at all) to five (extremely). The form prepared by Barkham et al. (1996) has high validity and reliability (Barkham et al., 1996). All items of this scale are divided into two general categories. This scale has been validated in Iran by Fath et al. (2013) and the Cronbach's alpha coefficients for the factors of frankness and humanism, openness, consideration of others, aggressiveness, boldness, support, participation, and dependence on others were equal to 0.00, 083, 0.63, 0.60, 0.83, 0.71, 0.63, and 0.82, respectively, for the total scale score (Fath, Azad Fallah, Rasool-zadeh Tabatabaei, & Rahimi, 2013).

The data were analyzed using the multivariate analysis of covariance (MANCOVA) method via SPSS software (version 24, IBM Corporation, Armonk, NY, USA). The linearity of the relationship between each dependent variable and its covariate was tested. Moreover, the significance level of the Kolmogorov-Smirnov test was greater than 0.05; therefore, the assumption of normal distribution of the variables has been met.

Results

Demographic variables were presented in table 2. Moreover, table 3 shows that the mean and standard deviation (SD) of social relationship and interpersonal problems, respectively, modified significantly compared to their post-test scores. The mean age of the women in the experimental and control groups was 35.91 ± 5.25 and 36.26 ± 5.33 years, respectively.

Table 2. Demographic variables

Groups	Age (year) (mean ± SD)	Education [n (%)]		Marital status [n (%)]	
		High school education	College education	Married	Single
Experimental	35.91 ± 5.25	7 (23.33)	8 (26.66)	8 (26.66)	7 (23.33)
Control	36.26 ± 5.33	6 (20.00)	9 (30.00)	9 (30.00)	6 (20.00)
P-value	0.131	0.547		0.541	

SD: Standard deviation

After evaluating MANCOVA, the test results showed a significant difference between variables in experimental and control groups (Wilks' lambda = 0.165, F = 53.29, P ≤ 0.001). In MANCOVA context, two covariance analyses were conducted to determine this difference. In the experimental and control groups, 64% of the variances were explained by the independent variable, based on the calculated effect size.

As indicated by the multivariate results in table 4, there was a significant difference between the groups in terms of social relationship (F = 26.43, P = 0.001, η = 0.68) and interpersonal problems (F = 24.19, P = 0.001, η = 0.63). Moreover, according to the social relationship's largest effect size (0.68), SST intervention had more effect on social relationships.

Discussion

This study aimed to investigate the effect of communication skills training on social relationships and interpersonal problems among people with depressive disorders. The results showed that the communication skills training significantly affected the depressive women's social relationships and interpersonal difficulties. Evidence from numerous studies shows that people with depression suffer from a social impairment which in severe cases, influences their normal work life (Dunn et al., 2020). It is vital to improve the current situation of impaired interpersonal barriers in people with depression and to develop their social skills and abilities. Several of the currently available interventions for social functioning are in line with this finding. Gantman et al. (2012) revealed that treated young adults reported significantly less loneliness and improved social skills knowledge, while caregivers reported significant improvements in young adults' overall social skills, social responsiveness, empathy, and frequency of get-togethers. The results support the effectiveness of using this intervention for young adults with ASD (Gantman et al., 2012). Group-based SST improved social responsiveness in adults with ASD according to a meta-analysis. This narrative review included 18 studies, and the meta-analysis included five randomized controlled trials. SST had large positive effects on social responsiveness (Dubreucq, Haesebaert, Plasse, Dubreucq, & Franck, 2022).

In a study conducted by Triscoli et al. (2019), individuals who were highly depressed also reported having more interpersonal problems.

Table 3. Mean and standard deviation (SD) of the variables in experimental and control groups

Variables	Phases	Experimental (mean ± SD)	Control (mean ± SD)	P-value (between-group)
Social relationship	Pretest	20.43 ± 4.25	17.26 ± 3.16	0.268
	Posttest	21.29 ± 4.31	20.47 ± 4.21	0.001
P-value (within the group)		0.001	0.223	-
Interpersonal problems	Pretest	26.41 ± 5.28	20.33 ± 4.35	0.304
	Posttest	28.42 ± 6.54	33.81 ± 6.27	0.001
P-value (within the group)		0.001	0.243	-

SD: Standard deviation

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

Dependent variable	Source	SS	df	MS	F	P-value	Eta
Social relationship	Group	1708.31	1	1708.31	26.43	0.001	0.68
Interpersonal problems	Group	4528.43	1	4528.43	24.19	0.001	0.63

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

The severity of depression correlated with the degree of interpersonal problems (Triscoli, Croy, & Sailer, 2019). Cusi et al. (2012) also evaluated the association between symptom severity, social functioning, and social cognitive ability in patients with bipolar disorder (BD). Relative to controls, patients with BD were impaired at discriminating mental states from pictures of eyes and in making complex social judgments. Impaired responding was also associated with reduced psychosocial functioning. These results provide evidence of impaired performance in complex tests of social cognition in patients with BD. Impairments in social cognition may be associated with well-documented declines in the frequency of social interactions and the development of interpersonal relationships found in this patient population (Cusi, MacQueen, & McKinnon, 2012). Unless managed effectively, impaired social communication skills can have a significant negative impact on academic, adaptive, and psychological functioning (Wolstencroft, Kerry, Denyer, Watkins, Mandy, & Skuse, 2021). SST programs must take into account the need to improve both social knowledge (such as social rules and etiquette) and social performance (the behavioral performance of social skills). Whilst there is good evidence that many such interventions are effective in teaching social knowledge (Gates, Kang, & Lerner, 2017), improvements in social performance are not as well documented, and have not been demonstrated convincingly (Wolstencroft et al., 2021).

Psychosocial deficits include impairment in occupational functioning, interpersonal relationships, autonomy, and self-perceived QOL (Knight et al., 2018). It is possible that targeting psychological factors that underlay psychosocial function in MDD may be crucial to promoting more holistic and long-term psychosocial recovery (Knight & Baune, 2017). Recent reviews and empirical studies support the notion that cognitive, emotional, and social-cognitive domains are associated with psychosocial dysfunction, and likely contribute to the onset and maintenance of psychosocial deficits (Cambridge, Knight, Mills, & Baune, 2018; Weightman, Knight, & Baune, 2019). A smaller number of experimental studies have also found that interventions that aim to improve social connectedness have benefits for mental health. For example, people with mental illness who joined recreational and therapy groups that target social isolation experienced clinically significant reductions in depression and anxiety symptoms (Saeri et al., 2018). The research of La Greca et al. (2016) found that the intervention aiming at increasing adolescent communication strategies and interpersonal problem-solving skills was effective in reducing adolescent depression. SST may also benefit children with special needs to alleviate depression (La Greca, Ehrenreich-May, Mufson, & Chan, 2016).

In addition to the strong empirical case for the causal link between social connectedness to mental health, several theoretical frameworks also argue for this relationship. These include models which posit that social relationships fulfill a fundamental psychological need for belonging and, more recently, the social identity approach to health (Saeri et al., 2018). This model states that our social relationships (and in particular, our social group relationships) act as psychological resources that

protect one's health, particularly in times of adversity (Praharso, Tear, & Cruwys, 2017; Seymour-Smith, Cruwys, Haslam, & Brodribb, 2017). Hence, patients should experience psychosocial remediation across many aspects of their lives as cognitive, emotional, and social-cognitive function is improved. It may be helpful to integrate treatment across these domains to foster positive interactions between cognitive, emotional, and social-cognitive functioning, which may not be possible if the deficiencies are addressed in isolation.

Despite the current study's contributions, its limitations warrant attention in future research. First, social economic statuses, such as maternal education and family income, may also influence women's social skills and depression. Therefore, future research should include covariates such as economic status to improve understanding of the relationship between social skills and depression. A second limitation is a self-reported measurement. Study follow-up should be considered in future studies due to a lack of follow-ups.

Conclusion

Our results indicate that communication skills training may have a positive impact on social functioning in severe mental disorders. If replicated, this could have important clinical implications, as effective interventions can be targeted at the treatment of persons with MDD.

Conflict of Interests

Authors have no conflict of interests.

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