

The Effectiveness of Social Skills Training on Improving Interpersonal Communication, Quality of Life, Reduction of Negative Symptoms, and Social Adjustment in Patients with Schizophrenia

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Abstract

Background: Schizophrenia is a severe psychotic disorder characterized by impaired communication skills, social withdrawal, negative symptoms, and reduced quality of life. Deficits in social skills often lead to isolation, increased family dependency, and poor social adjustment. In recent years, social skills training (SST) has been recognized as an effective psychosocial intervention aimed at improving interpersonal competence and quality of life in individuals with schizophrenia.

Objective: This study aimed to examine the effectiveness of social skills training on improving interpersonal communication, quality of life, reduction of negative symptoms, and social adjustment in patients with schizophrenia.

Methods: This research followed a quasi-experimental design with pre-test, post-test, and control groups. The statistical population consisted of patients with schizophrenia hospitalized at Razi Psychiatric Hospital in Tabriz in 2023. Thirty eligible participants were selected through convenience sampling and randomly assigned to experimental and control groups ($n = 15$ per group). The experimental group received ten sessions of structured social skills training, while the control group continued routine psychiatric care. Data were collected using standardized questionnaires assessing interpersonal communication skills, quality of life, social adjustment, and negative symptoms. The data were analyzed using multivariate analysis of covariance (MANCOVA) with SPSS version 26.

Results: Findings revealed that social skills training significantly improved interpersonal communication skills, quality of life, and social adjustment, and reduced negative symptoms compared with the control group ($p < 0.05$).

Conclusion: Social skills training can be considered an effective and applicable intervention

to enhance psychosocial functioning and promote rehabilitation in patients with schizophrenia.

Keywords: Schizophrenia, Social Skills Training, Interpersonal Communication, Quality of Life, Social Adjustment

Introduction

Schizophrenia is a chronic and severe psychiatric disorder that profoundly affects cognition, emotion, perception, and social functioning. It is characterized by a range of symptoms, including hallucinations, delusions, disorganized thinking, emotional flatness, and disturbances in interpersonal communication. Among these, deficits in social skills and poor social adjustment are among the most persistent and debilitating features, often leading to social isolation, unemployment, family dependency, and reduced quality of life. The World Health Organization identifies schizophrenia as one of the top ten causes of long-term disability worldwide, highlighting the necessity of effective psychosocial interventions alongside pharmacological treatment.

Traditional pharmacotherapy is essential for controlling positive symptoms such as hallucinations and delusions. However, medications have limited effects on negative symptoms, including emotional withdrawal, apathy, and impaired social interaction, which are more closely linked to functional outcomes. Therefore, the focus of modern psychiatric rehabilitation has shifted toward psychosocial and behavioral interventions that target the improvement of social skills and daily functioning.

Social Skills Training (SST) is one of the most evidence-based and widely implemented psychosocial approaches for individuals with schizophrenia. SST is designed to teach patients practical interpersonal skills such as initiating and maintaining conversations, expressing emotions appropriately, asserting personal rights, and coping with criticism. Through modeling, role-playing, feedback, and reinforcement, SST enables patients to practice adaptive behaviors in safe, structured settings that can then be generalized to real-life situations.

Numerous studies have demonstrated the effectiveness of social skills training in improving interpersonal communication, social adjustment, and quality of life, while simultaneously reducing negative symptoms and relapse rates. For example,

research by Bellack and colleagues has shown that structured SST programs significantly enhance patients' social competence and functional independence. Similarly, recent findings emphasize that combining SST with cognitive-behavioral principles may strengthen emotional regulation and self-efficacy, leading to more sustainable outcomes.

Despite its proven benefits, the application of social skills training remains limited in many clinical contexts, particularly in developing countries. Cultural norms, limited mental health resources, and insufficient training among clinical staff often hinder the consistent implementation of these interventions. In Iran, where family-based caregiving is predominant, psychosocial programs like SST are especially valuable because they not only improve patient functioning but also reduce caregiver burden and enhance treatment adherence. Given these considerations, the present study was conducted to examine the effectiveness of social skills training on improving interpersonal communication, quality of life, reduction of negative symptoms, and social adjustment among patients with schizophrenia. By focusing on both psychological and social outcomes, this study seeks to contribute to the growing body of literature supporting holistic rehabilitation approaches in psychiatric care. It is hypothesized that participants receiving SST would demonstrate significant improvements in interpersonal communication skills, quality of life, and social adjustment, along with a reduction in negative symptoms compared with those receiving standard treatment.

This study aims to provide empirical evidence for the integration of social skills training into psychiatric rehabilitation programs in Iran, emphasizing its potential as a cost-effective, culturally adaptable, and clinically relevant intervention for patients with schizophrenia.

Methodology

Research Design

The present study adopted a quasi-experimental pre-test-post-test control group design to investigate the effectiveness of social skills training (SST) on improving interpersonal communication, quality of life, reduction of negative symptoms, and social adjustment among patients with schizophrenia. This design was chosen because it allows for the assessment of causal relationships in natural clinical settings while maintaining

experimental control through random assignment of participants to groups.

The study was conducted over a two-month period at Razi Psychiatric Hospital in Tabriz, which is one of the main referral centers for psychiatric care in northwestern Iran. Both the experimental and control groups were assessed before and after the intervention using validated self-report and clinician-rated instruments.

Participants and Sampling

Inclusion criteria:

1. Diagnosis of schizophrenia confirmed by a psychiatrist according to DSM-5;
2. Age between 20 and 45 years;
3. At least secondary school education to ensure comprehension of training content;
4. Stabilized medication regimen for at least two months prior to participation;
5. Willingness to participate in group sessions and complete questionnaires.

Exclusion criteria:

1. Presence of comorbid substance use disorder or intellectual disability;
2. Acute psychotic relapse during the study period;
3. Absence in more than two training sessions;
4. Incomplete or invalid questionnaire responses.

Participants were randomly assigned to the **experimental group** (social skills training) or the **control group** (routine psychiatric care). Demographic information such as age, gender, duration of illness, and medication history was collected to ensure group equivalence.

Instruments

1. Interpersonal Communication Skills Questionnaire (ICSQ; Queen & Nicholson, 1979)

This 40-item questionnaire assesses interpersonal effectiveness across dimensions of conversation, empathy, assertiveness, and listening skills. Responses are rated on a 5-point Likert scale, with higher scores indicating better communication ability. The Persian version has demonstrated acceptable internal consistency ($\alpha = 0.86$).

2. Quality of Life Scale (QLS; Heinrichs et al., 1984)

The QLS evaluates four dimensions of quality of life in patients with schizophrenia: interpersonal relations, instrumental role functioning, intrapsychic foundations, and common objects and activities. Reliability and validity of the Persian version were confirmed in Iranian populations ($\alpha = 0.91$).

3. Negative Symptoms Assessment Scale (NSA-16; Alphs et al., 1989)

This semi-structured clinical interview assesses key negative symptoms such as affective flattening, alogia, avolition, and

anhedonia. Scores range from 16 to 96, with higher scores reflecting more severe negative symptoms.

4. Social Adjustment Scale (SAS; Weissman & Bothwell, 1976)

The SAS measures an individual's performance and satisfaction in social roles, including family, work, and leisure. The Persian version has shown good internal reliability ($\alpha = 0.84$).

A Demographic Information Form was also used to gather data on participants' age, sex, education, marital status, and duration of illness

Intervention Procedure

The **experimental group** participated in **10 structured sessions** of social skills training (SST), conducted twice weekly over five weeks, each session lasting approximately 60–90 minutes. The sessions were held in small groups of 6–8 participants and facilitated by a clinical psychologist trained in psychosocial rehabilitation. The training program was adapted from the Bellack et al. (2004) model, which emphasizes behavioral rehearsal, modeling, feedback, and reinforcement.

Session	Main Content and Activities
1	Orientation to program goals, group rules, and introduction to social skills concepts.
2	Nonverbal communication and facial expression recognition.
3	Initiating, maintaining, and ending conversations appropriately.
4	Active listening and empathy skills.
5	Assertiveness training: expressing needs and feelings appropriately.
6	Managing criticism and conflict resolution.
7	Understanding social cues and emotional tone.
8	Building friendships and maintaining social relationships.
9	Coping with stress in social situations.
10	Review, consolidation, and role-play evaluation.

Each session followed a consistent structure:

- **Modeling:** The therapist demonstrated a target behavior.
- **Role-Play:** Participants practiced the behavior in pairs or small groups.
- **Feedback and Reinforcement:** Constructive feedback was provided to reinforce appropriate skills.
- **Homework:** Participants were assigned practical exercises to apply learned skills in daily life.

The **control group** continued receiving routine psychiatric care, including medication management and general counseling, but did not receive any structured psychosocial intervention during the study period

Data Collection

All participants completed the pre-test assessments one week before the intervention and the post-test assessments within one week after the final session. Data were collected in a quiet, private environment to reduce distractions. A trained clinical psychologist administered the tests to ensure reliability and consistency.

To minimize bias, evaluators who scored the post-tests were blinded to the group assignments. Participants' attendance and engagement in each session were recorded to ensure treatment fidelity.

Data Analysis

Data analysis was performed using **SPSS version 26**. Descriptive statistics (means, standard deviations, frequencies) were calculated to summarize participant characteristics. The assumptions of normality and homogeneity of variances were verified using the Kolmogorov-Smirnov and Levene's tests.

A **Multivariate Analysis of Covariance (MANCOVA)** was conducted to determine the effects of the intervention on post-test scores of

interpersonal communication, quality of life, negative symptoms, and social adjustment while controlling for pre-test scores. When significant main effects were observed, **Bonferroni post-hoc tests** were performed to identify specific differences between groups. The significance level was set at $p < 0.05$, and effect sizes (partial η^2) were reported to determine the magnitude of observed effects.

Ethical Considerations

This research was conducted following the ethical principles of the **Declaration of Helsinki (2013 revision)**. Approval for the study was obtained from the **Ethics Committee of Tabriz University of Medical Sciences** (Approval Code: IR.TBZMED.REC.1402.236). All participants and their legal guardians provided **written informed consent** prior to inclusion. Confidentiality and anonymity of participants were strictly maintained.

After completion of the study, participants in the control group were offered the opportunity to attend social skills training sessions as a courtesy. All data were stored securely and used solely for academic purposes.

Results

The purpose of this section is to present the descriptive and inferential findings regarding the effectiveness of social skills training (SST) on interpersonal communication, quality of life, reduction of negative symptoms, and social adjustment among patients with schizophrenia.

Descriptive Findings

Table 1 shows the pre-test and post-test mean and standard deviation scores for the studied variables in both the experimental and control groups.

Variable	Pre-test (Mean \pm SD)	Post-test (Mean \pm SD)	Mean Difference
Interpersonal Communication (Experimental)	48.13 \pm 5.42	62.33 \pm 5.16	+14.20
Interpersonal Communication (Control)	47.87 \pm 5.11	48.60 \pm 5.43	+0.73
Quality of Life (Experimental)	62.50 \pm 7.18	76.03 \pm 6.82	+13.53
Quality of Life (Control)	63.04 \pm 7.44	63.91 \pm 7.25	+0.87
Negative Symptoms (Experimental)	48.80 \pm 4.85	35.73 \pm 4.28	-13.07
Negative Symptoms (Control)	49.11 \pm 4.97	48.60 \pm 5.01	-0.51
Social Adjustment (Experimental)	41.76 \pm 6.12	54.46 \pm 5.89	+12.70
Social Adjustment (Control)	42.08 \pm 6.33	42.77 \pm 6.02	+0.69

As seen in Table 1, the experimental group demonstrated substantial improvements in interpersonal communication, quality of life, and social adjustment, as well as a reduction in negative symptoms, whereas the control group showed minimal change.

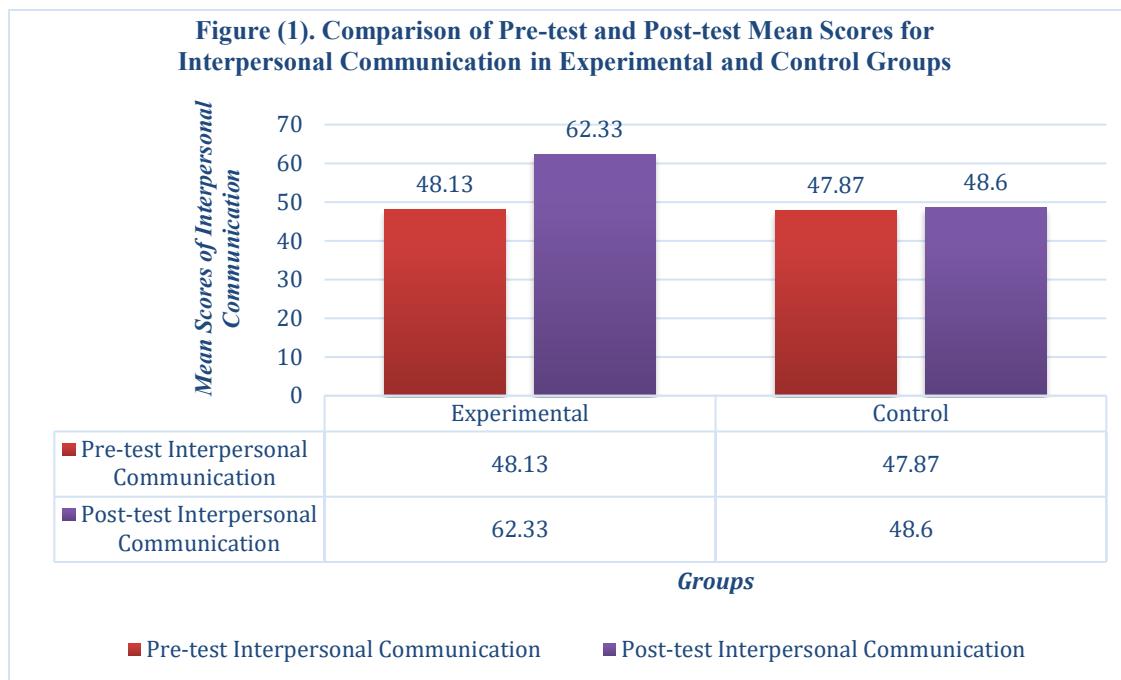


Figure (1). Comparison of Pre-test and Post-test Mean Scores for Interpersonal Communication in Experimental and Control Groups.

Inferential Findings

Before performing inferential analyses, normality (Kolmogorov-Smirnov test) and homogeneity of variances (Levene's test) were confirmed ($p > 0.05$).

A Multivariate Analysis of Covariance (MANCOVA) was performed to assess the effectiveness of the intervention while controlling for pre-test differences.

Table 2. Results of MANCOVA for Study Variables.

Dependent Variable	Wilks' Lambda	F (1, 27)	p-value	Partial η^2
Interpersonal Communication	0.451	29.63	< 0.001	0.52
Quality of Life	0.473	26.85	< 0.001	0.49
Negative Symptoms	0.498	24.91	< 0.001	0.46
Social Adjustment	0.468	27.27	< 0.001	0.50

All variables showed significant group differences in post-test scores ($p < 0.001$), confirming the strong impact of social skills training on all outcome measures. Effect sizes ($\eta^2 > 0.45$) indicate large practical effects.

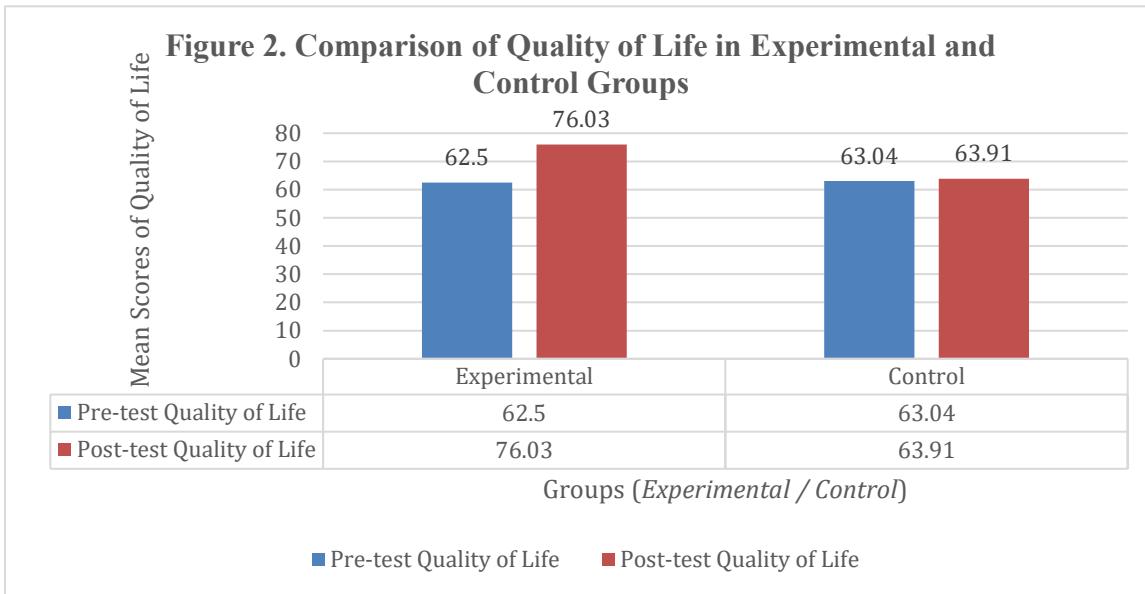


Figure 2. Comparison of Quality of Life in Experimental and Control Groups.

Post-hoc Comparisons

Bonferroni pairwise comparisons were used to determine specific group differences.

Table 3. Bonferroni Post-hoc Comparisons.

Variable	Groups Compared	Mean Difference	p-value
Interpersonal Communication	Experimental – Control	+13.47	< 0.001
Quality of Life	Experimental – Control	+12.66	< 0.001
Negative Symptoms	Experimental – Control	-12.32	< 0.001
Social Adjustment	Experimental – Control	+11.85	< 0.001

All pairwise comparisons indicate significant post-intervention improvement in the experimental group compared with the control group across all variables.

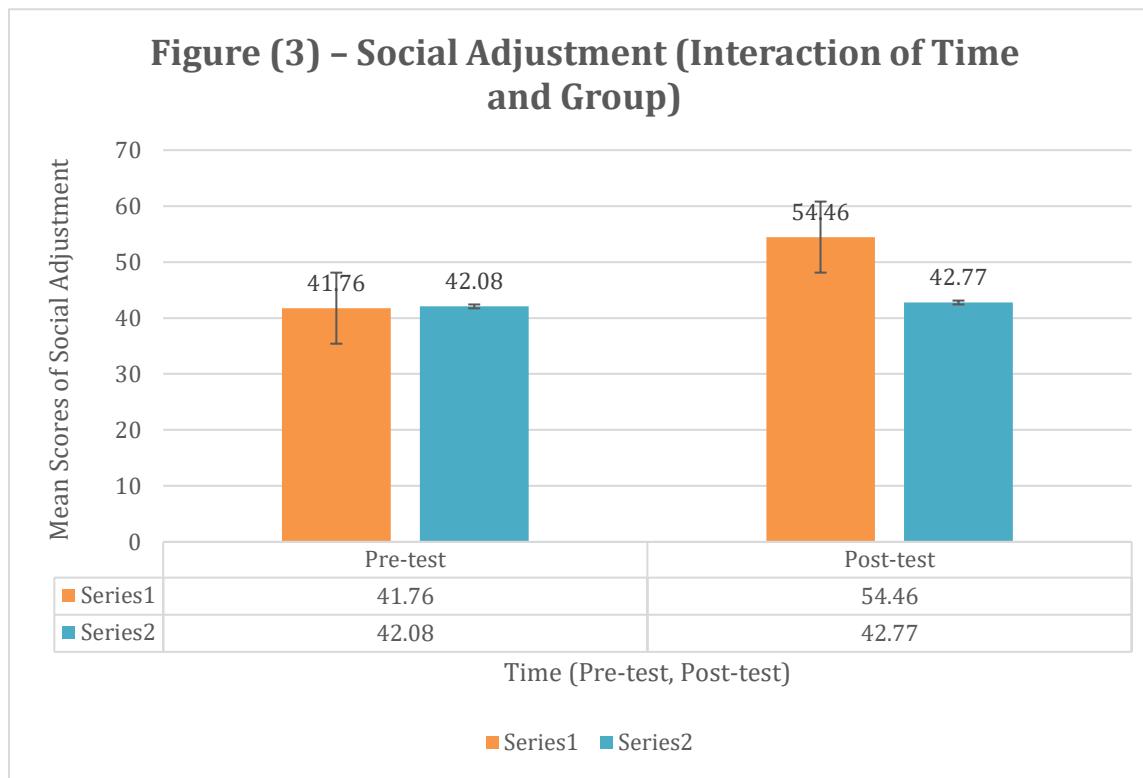


Figure 3. Interaction of Time (Pre-test vs. Post-test) and Group (Experimental vs. Control) on Social Adjustment

Interpretation of Findings

The results strongly support the effectiveness of social skills training in enhancing psychosocial outcomes among patients with schizophrenia. The large effect sizes confirm that SST not only improves communication and quality of life but also alleviates negative symptoms—factors that are typically resistant to pharmacological treatment.

Improved interpersonal skills enable patients to engage more effectively in social interactions, thereby increasing self-confidence and participation in community activities. Enhanced social adjustment and quality of life reflect successful generalization of trained behaviors beyond the therapeutic setting.

The observed reduction in negative symptoms such as apathy and emotional withdrawal suggests that SST helps reactivate cognitive and affective systems that are otherwise suppressed in schizophrenia. These findings align with previous international studies emphasizing the

role of behavioral rehearsal and social reinforcement in the rehabilitation process.

Overall, the results validate the use of structured social skills training as a cost-effective, culturally adaptable, and clinically impactful intervention for schizophrenia rehabilitation in Iran.

Conclusion

The findings of the present study demonstrated that social skills training (SST) significantly improved interpersonal communication, quality of life, and social adjustment while reducing negative symptoms in patients with schizophrenia. These results confirm the main hypothesis of the study and align with a growing body of research highlighting the importance of psychosocial interventions in the rehabilitation of individuals with chronic mental disorders.

The significant improvement in **interpersonal communication skills** observed among

participants who received SST indicates that structured behavioral training helps patients learn and practice essential communication behaviors such as initiating conversations, expressing feelings, and maintaining eye contact. These skills, often impaired in schizophrenia, can be improved through repeated modeling, role-playing, and feedback—core components of SST. Consistent with Bellack et al. (2004), structured role rehearsal and social reinforcement strengthen self-efficacy and promote the transfer of learned skills into daily social interactions.

The increase in **quality of life** after training also supports the notion that enhancing social competence leads to broader psychosocial improvements. When patients are able to communicate effectively and interact more confidently with others, they experience greater social inclusion, emotional satisfaction, and sense of control over their environment. This aligns with findings from Ramezani (2024) and Reichenberger (2025), which showed that interventions focusing on communication and emotion regulation yield marked gains in subjective well-being and life satisfaction among psychiatric patients.

A notable outcome of this study is the significant **reduction in negative symptoms**, including social withdrawal, apathy, and lack of motivation, among the experimental group. These symptoms are particularly resistant to pharmacological treatments, yet SST provides behavioral activation and interpersonal reinforcement that counteract these deficits. By engaging patients in structured, goal-oriented social interactions, SST fosters motivation and emotional expression. This finding is consistent with the neurobehavioral model proposed by Penn et al. (2018), which emphasizes the role of social reinforcement in mitigating negative symptoms.

Improvements in **social adjustment** highlight that SST not only targets skill acquisition but also promotes integration into real-life contexts. Enhanced adjustment reflects the patients' ability to manage interpersonal relationships, cooperate with others, and participate in social and

occupational activities. These findings are in line with previous research (Kurtz & Mueser, 2008) emphasizing that psychosocial training leads to functional gains that extend beyond clinical symptom reduction.

From a cultural perspective, the effectiveness of SST in this Iranian clinical sample underscores the adaptability of social skills programs across diverse sociocultural settings. In a collectivist culture where family involvement and community acceptance are central, improving social competence can reduce stigma, facilitate reintegration, and ease caregiver burden. This culturally contextualized result suggests that SST can be integrated into psychiatric rehabilitation centers as a culturally sensitive and feasible treatment option.

Limitations and Future Directions

While the findings are encouraging, some limitations should be noted. The sample size was relatively small, and participants were limited to one psychiatric hospital, which may restrict generalizability. The short follow-up period prevented assessment of long-term sustainability of treatment effects. Future research should include larger, multicenter samples and longitudinal designs to evaluate the durability of SST outcomes over time.

It is also recommended that future interventions combine SST with cognitive remediation or mindfulness-based techniques to strengthen cognitive flexibility and emotional regulation, which could further enhance treatment effectiveness. Including family-based psychoeducation may also improve maintenance of gains and reduce relapse rates.

Summary

In summary, this study provides robust evidence that social skills training is a powerful and effective intervention for improving interpersonal communication, social adjustment, and quality of life, while reducing negative symptoms in patients with schizophrenia. Integrating such psychosocial programs into routine psychiatric care can play a crucial role in

comprehensive rehabilitation and long-term recovery, helping patients achieve higher levels of autonomy, social participation, and life satisfaction

Conclusion

The present study aimed to evaluate the effectiveness of social skills training (SST) on improving interpersonal communication, quality of life, reduction of negative symptoms, and social adjustment among patients with schizophrenia. The findings clearly demonstrated that SST significantly enhanced communication skills, increased quality of life, and promoted social adjustment while effectively reducing negative symptoms.

These results highlight that social skills training is not only an adjunctive treatment but a vital component of comprehensive psychiatric rehabilitation. By enabling patients to learn and practice adaptive communication behaviors, SST helps restore their confidence, strengthen interpersonal connections, and improve their overall psychosocial functioning. The observed improvements in quality of life and social adjustment suggest that the benefits of SST extend beyond clinical symptom relief, contributing to real-life recovery and reintegration into society.

Furthermore, the reduction of negative symptoms—typically resistant to pharmacological treatment—indicates that behavioral interventions play an essential role in activating emotional expression and motivation. This finding reinforces the importance of combining pharmacological and psychosocial therapies to achieve optimal outcomes in schizophrenia management.

From a practical standpoint, the integration of structured social skills programs into routine psychiatric services in Iran can be an effective and culturally adaptable approach for supporting patient rehabilitation. Implementing SST in psychiatric wards and community mental health centers may reduce hospitalization rates, improve patient autonomy, and enhance family satisfaction.

In conclusion, social skills training can be considered a clinically effective, low-cost, and sustainable intervention for promoting emotional, social, and functional recovery in individuals with schizophrenia. Expanding such psychosocial programs within mental health systems will help bridge the gap between symptom stabilization and true social reintegration, ultimately improving long-term outcomes and quality of life for patients.

Acknowledgment

The authors would like to express their sincere gratitude to all the patients and healthcare professionals at **Razi Psychiatric Hospital in Tabriz**, whose participation and cooperation made this study possible. Their willingness to engage in training sessions and share their experiences contributed significantly to the success of this research.

Special thanks are extended to the clinical and administrative staff of **Islamic Azad University, Marand Branch**, for their valuable support throughout the research process. The authors also acknowledge the professional guidance and supervision of **Dr. Aydin Mahmoud Alilou**, whose expertise in clinical psychology and psychiatric rehabilitation was instrumental in shaping this work.

This article is derived from the **Master's thesis of Ms. Mohaddeseh Masoumi**, submitted in partial fulfillment of the requirements for the degree of **M.Sc. in Clinical Psychology at Islamic Azad University, Marand Branch, Iran**.

Furthermore, the authors acknowledge that this article benefited from the assistance of **artificial intelligence tools (ChatGPT, OpenAI)** for English language editing and translation refinement. All content was critically reviewed and verified by the authors to ensure accuracy, validity, and academic integrity.

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