KMAN PUBLISHING INSTITUTE
Journal Website

Article history:
Received 02 February 2025
Revised 15 June 2025
Accepted 21 June 2025
Published online 01 October 2025

Psychology of Woman Journal

Volume 6, Issue 4, pp 1-8

PWJ
Psychology of Woman Journal
Publisher: KMANPub

E-ISSN: 3041-8615

Effectiveness of Acceptance and Commitment-Based Schema Therapy on Depression and Treatment Adherence in Women with Multiple Sclerosis: A Quasi-Experimental Study

Somayeh. Hadad Ranjbar[1*], Fahimeh. Zare[2]

[1] Assistant Professor, Department of Psychology, Vali-E-Asr University of Rafsanjan, Rafsanjan, Iran.
[2] Department of Psychology, Rafsanjan Branch, Islamic Azad University, Rafsanjan, Iran.

*** Corresponding author email address**: s.hadad@vru.ac.ir

A r t i c l e I n f o

Article type:
Original Research

How to cite this article:
Hadad Ranjbar, S., & Zare, F. (2025). Effectiveness of Acceptance and Commitment-Based Schema Therapy on Depression and Treatment Adherence in Women with Multiple Sclerosis: A Quasi-Experimental Study. *Psychology of Woman Journal*, 1-8.
http://dx.doi.org/10.61838/kman.pwj.6.4.2

A B S T R A C T

Objective: The aim of the present study was to examine the effectiveness of acceptance and commitment-based schema therapy on treatment adherence and depression in women with Multiple Sclerosis (M.S).

Materials and Methods: This research was a quasi-experimental study using a pre-test–post-test control group design. The statistical population included all women aged 20 to 50 with Multiple Sclerosis who had referred to the MS Association of Rafsanjan in 2024. After obtaining ethical approval, 30 participants were randomly selected and assigned to experimental and control groups. The experimental group received an intervention consisting of eight 45-minute therapeutic sessions, whereas the control group received no intervention. The instruments used in the study included the Beck Depression Inventory-II (BDI-II) and the Treatment Commitment Questionnaire (TCQ).

Findings: The results indicated that the interaction effect for the post-test scores of treatment adherence (Group * Treatment Adherence) was 337.137 with an estimated error of 0.001, suggesting a statistically significant difference in the post-test scores of the experimental group in the variable of treatment adherence among women with MS. Similarly, the F-statistic for the interaction effect on depression (Group * Depression) was 934.55 with an estimated error of 0.001, also indicating a statistically significant difference in the post-test scores of the experimental group in the variable of depression among women with MS.

Conclusion: The findings of the present study demonstrated that acceptance and commitment-based schema therapy is effective in improving treatment adherence and reducing depression in women with Multiple Sclerosis. Therefore, the use of this approach is recommended to enhance treatment commitment and alleviate depression in this population.

Keywords: *Schema Therapy, Acceptance and Commitment, Treatment Adherence, Multiple Sclerosis, Women*

1. Introduction

Multiple sclerosis (MS) is a chronic, progressive autoimmune disease that attacks the central nervous system, leading to a wide array of physical and psychological complications. Among these complications, depression is particularly prevalent and profoundly impacts quality of life, functional ability, and disease management in affected individuals. The presence of depression in MS patients has been linked to reduced treatment adherence, lower self-care, and increased disease burden (Farhadi et al., 2022; Shahab et al., 2020). Consequently, exploring evidence-based psychological interventions that can simultaneously reduce depressive symptoms and improve adherence to treatment is of utmost importance.

Schema therapy, as an integrative model rooted in cognitive-behavioral, attachment, and experiential theories, provides a comprehensive framework for treating chronic emotional difficulties. At the core of schema therapy lies the concept of Early Maladaptive Schemas (EMS)—pervasive cognitive-emotional patterns formed in childhood that influence an individual's view of themselves and the world (Abbasian Hadadan, 2024; Batihan & Kaya, 2024). When activated under stress, such as a debilitating illness like MS, these schemas can intensify emotional distress and undermine treatment motivation and adherence (Ghasempour et al., 2022).

The activation of schemas related to defectiveness, vulnerability, dependence, and failure is particularly common among individuals coping with chronic illness, further contributing to feelings of helplessness and hopelessness (Malekzadeh et al., 2024). Schema therapy seeks to modify these maladaptive schemas through cognitive restructuring, experiential techniques, and the strengthening of adaptive schema modes. Recent studies indicate that schema therapy is highly effective in reducing depression, anxiety, and emotion dysregulation in various populations (Abbasian Hadadan, 2024; Chengizian, 2023; Ebrahimi et al., 2023).

In the context of MS, schema therapy offers unique advantages due to its focus on deep-rooted emotional patterns that often resist conventional cognitive behavioral approaches. For example, Farhadi et al. (2022) demonstrated that schema therapy significantly reduced stress, anxiety, and depressive symptoms while enhancing self-efficacy in MS patients (Farhadi et al., 2022). Similarly, Shahab et al. (2020) reported meaningful improvements in subjective well-being and fatigue among individuals with MS following group emotional schema therapy (Shahab et al., 2020).

To enhance the effectiveness of schema therapy, researchers have proposed integrating it with third-wave cognitive approaches, particularly Acceptance and Commitment Therapy (ACT). ACT emphasizes psychological flexibility, mindfulness, acceptance of internal experiences, and commitment to value-based actions—all of which are critical in managing chronic conditions like MS (Nazari et al., 2022, 2023). The fusion of schema therapy with ACT creates a powerful therapeutic synergy: schema therapy targets maladaptive core beliefs, while ACT provides skills to accept difficult thoughts and emotions without avoidance.

This combined schema-ACT approach is especially relevant for individuals with chronic illness who must confront ongoing physical limitations and psychological distress. In patients with MS, avoidance and experiential inflexibility often exacerbate symptoms and hinder engagement in self-care routines. ACT's principles of acceptance and cognitive defusion can help counteract this process, facilitating more adaptive coping and greater treatment adherence (Egli et al., 2024).

Indeed, empirical support for the integration of schema therapy and ACT is growing. In a randomized clinical trial, Kopf-Beck et al. (2024) demonstrated that schema therapy outperformed both CBT and supportive therapy in treating depression in clinical settings (Kopf-Beck et al., 2024). Furthermore, Egli et al. (2024) identified emotion regulation and attachment as key mechanisms of change in both schema therapy and CBT, suggesting schema therapy's robustness in addressing emotional dysfunction in depression (Egli et al., 2024).

Research on ACT and schema therapy in MS populations further underscores their promise. Dīnparast et al. (2023) found that schema therapy and mindfulness techniques both improved sleep quality in individuals with MS, emphasizing the potential of integrative approaches (Dīnparast et al., 2023). Similarly, Nazari et al. (2022) compared schema therapy with ACT and found both were effective in increasing emotional distress tolerance and psychological capital in MS patients, though schema therapy showed greater influence on core belief change (Nazari et al., 2022).

Moreover, Heidari et al. (2023) investigated the effects of combining schema therapy with CBT on self-efficacy and quality of life in women with MS and found significant improvements across both dimensions (Heidari et al., 2023). These findings are consistent with those of Fereydooni and

PWJ
Psychology of Woman Journal
E-ISSN: 3041-8615

Sheykhan (2024), who demonstrated that schema therapy increased self-esteem and distress tolerance while reducing depression in vulnerable adolescents (Fereydooni & Sheykhan, 2024).

The issue of treatment adherence is also a crucial area of focus. In chronic diseases such as MS, poor adherence can result from emotional dysregulation, dysfunctional beliefs about illness, or avoidance behaviors—factors that schema therapy directly addresses. Ghasempour et al. (2022) showed that early maladaptive schemas significantly impacted treatment adherence in patients with coronary heart disease and that emotional regulation and resilience mediated this relationship (Ghasempour et al., 2022). These insights are transferable to MS populations, where similar emotional-cognitive dynamics are at play.

Additionally, experiential processes in schema therapy—such as imagery rescripting—have been shown to be particularly effective in treating chronic depressive conditions. Nitta (2023) conducted a task analysis on imagery rescripting in schema therapy for chronic depression and found it enabled clients to process and revise traumatic memories, leading to profound emotional transformation (Nitta, 2023).

Comparative studies also highlight the broader clinical value of schema therapy. Rezaei et al. (2023) compared the effectiveness of schema therapy and intensive short-term dynamic psychotherapy in mothers of children with autism and found schema therapy led to greater reductions in depression and anxiety (Rezaei et al., 2023). Similarly, Ritter et al. (2023) found that schema-informed cognitive therapy improved symptoms in patients with body dysmorphic disorder, suggesting that schema-based interventions are effective even in complex psychopathologies (Ritter et al., 2023).

Taken together, these findings indicate that schema therapy—particularly when combined with ACT principles—holds significant potential for addressing the dual challenges of depression and poor treatment adherence in women with MS. This population faces not only the physical burden of illness but also unique psychosocial stressors such as role strain, emotional suppression, and stigmatization, all of which can activate maladaptive schemas and hinder treatment success. Thus, the present study aims to evaluate the effectiveness of acceptance and commitment-based schema therapy on reducing depression and increasing treatment adherence among women diagnosed with MS.

2. Methods and Materials

2.1. Study design and Participant

This study was quasi-experimental in nature, using a pretest-posttest design with a control group. The statistical population included all women aged 20 to 50 years diagnosed with Multiple Sclerosis (M.S) who were listed as clients of the MS Association of Rafsanjan in 2024. Subsequently, participants were selected through convenience and voluntary sampling and entered the study in a two-stage process.

In the first stage, the SCL-90-R (Symptom Checklist-90-Revised) mental health questionnaire was completed by all individuals diagnosed with MS to rule out any acute psychological disorders such as obsessive-compulsive disorder, anxiety, and depression. In the second stage, from among those who volunteered and were cleared in the first step, 30 individuals were randomly selected and assigned into experimental and control groups (15 participants in each group). Both groups completed the Depression and Treatment Commitment questionnaires under identical conditions before the intervention. The experimental group received a therapeutic intervention consisting of eight 45-minute sessions conducted twice a week. In contrast, the control group received no intervention. After the completion of the training sessions, the Depression and Treatment Commitment scales were administered again as posttests and followed up one month later.

Inclusion criteria consisted of being a woman aged 20 to 50 years diagnosed with Multiple Sclerosis, willingness to participate in the study, signing informed consent, absence of acute psychological disorders (OCD, anxiety, depression) based on the SCL-90-R results, and no similar therapeutic intervention in the past six months. Exclusion criteria included non-cooperation during therapy sessions (more than two absences), development of new acute psychological disorders during the research period, withdrawal from the study at any stage, and failure to complete the posttest questionnaires.

2.2. Measures

2.2.1. Depression

The final version of the BDI-II was developed by Beck, Epstein, Brown, and Steer in 1996 and is recognized as a valid tool for assessing depressive symptoms in adults. This inventory includes 21 items, each addressing a specific

PWJ
Psychology of Woman Journal
E-ISSN: 3041-8615

symptom of depression. Participants respond to each item using a four-point Likert scale ranging from 0 to 3. The minimum score is 0 and the maximum is 63. The total score is obtained by summing the scores across all items. Scores are interpreted as follows: 0–13 (minimal or no depression), 14–19 (mild depression), 20–28 (moderate depression), and 29–63 (severe depression). In a study conducted by Beck et al. (1996), the concurrent validity of this questionnaire was reported as 0.79, and its test-retest reliability was 0.67.

2.2.2. Treatment Commitment

This questionnaire was developed by Morisky, Ang, Kroswell-Wood, and Ward (2008) and is considered a valid tool for assessing treatment adherence in patients. It contains 8 items, where only item 8 is rated on a four-point Likert scale (scores ranging from 0 to 3), while the remaining items are answered with "yes" (1) or "no" (0). It is noteworthy that items 5 and 8 are reverse-scored. The total score is calculated by summing all item scores. The total score ranges from 0 to 10, with higher scores indicating lower medication adherence, and lower scores indicating higher adherence. A study conducted by Koushyar, Shorouzi, Dalir, and colleagues (2023) assessed the face and content validity of the instrument using expert opinion and reported a content validity index of 0.86 and a Cronbach's alpha reliability coefficient of 0.88.

2.3. Intervention

To implement the acceptance and commitment-based schema therapy, treatment sessions were conducted based on the protocol developed by Young and colleagues (2023). The experimental group underwent eight 45-minute sessions, delivered twice weekly over five consecutive weeks. In the first session, participants were introduced to the group, therapeutic goals, schema therapy framework, and emotional awareness, and completed pre-assessment questionnaires. The second session included a review of initial content, assessment of coping styles, problem conceptualization based on schema therapy, and introduction to ACT principles, along with assigned homework. In the third session, cognitive techniques were used to challenge dominant schemas, while metaphors were employed to highlight the inefficacy of controlling negative events and to teach openness to unpleasant experiences. Relaxation techniques and new homework were also introduced. The fourth session focused on practicing cognitive defusion and nonjudgmental observation of thoughts. The fifth session emphasized mindfulness and self-as-context through metaphors (e.g., chessboard metaphor). The sixth session explored the developmental roots of maladaptive schemas and clarified emotional needs, followed by values identification and ranking. The seventh session addressed practical strategies for overcoming barriers to valued living, using metaphors and action planning. Finally, in the eighth session, participants were encouraged to abandon maladaptive coping strategies, practice adaptive behaviors, summarize learned skills, share personal outcomes, plan for relapse prevention, and complete post-intervention assessments.

2.4. Data Analysis

Data analysis was conducted using both descriptive and inferential statistical methods. Descriptive statistics, including mean and standard deviation, were calculated to summarize participants' demographic characteristics and pretest-posttest scores on the Beck Depression Inventory-II (BDI-II) and the Treatment Commitment Questionnaire (TCQ). To assess the effectiveness of the intervention, a univariate analysis of covariance (ANCOVA) was employed, controlling for pretest scores to determine post-intervention differences between the experimental and control groups. Prior to conducting ANCOVA, assumptions of normality, homogeneity of variances, and homogeneity of regression slopes were tested using the Shapiro-Wilk test, Levene's test, and the interaction term between the covariate and independent variable, respectively. Additionally, Box's M test was used to assess the homogeneity of variance-covariance matrices for multivariate analysis. All statistical analyses were performed at a significance level of $p < .05$.

3. Findings and Results

In this study, demographic data were collected from 30 women aged 20 to 50 years with Multiple Sclerosis (MS). The age distribution of participants was as follows: 5 participants (16.7%) were in the 20–30 age group, 10 participants (33.3%) in the 31–40 age group, and 15 participants (50%) in the 41–50 age group. Regarding educational level, 3 participants (10%) had primary education, 7 participants (23.3%) had secondary education, and 20 participants (66.7%) had higher education (bachelor's degree or above). In terms of marital status, 10 participants (33.3%) were single, 15 (50%) were married, and 5 (16.7%) were widowed. Concerning employment status, 12 participants (40%) were employed and 18 (60%) were

PWJ
Psychology of Woman Journal
E-ISSN: 3041-8615

unemployed. Disease duration was distributed as follows: 5 participants (16.7%) had been diagnosed for less than 5 years, 15 (50%) for 5 to 10 years, and 10 (33.3%) for more than 10 years. In relation to family history of illness, 10 participants (33.3%) reported a family history of autoimmune or other neurological disorders, while 20 (66.7%) did not report any such history. The mean and standard deviation (SD) values for the variables in the pretest and posttest phases for both experimental and control groups are presented below.

Table 1

Descriptive Statistics for Both Groups

Components	Test Phase	Control (M ± SD)	Experimental (M ± SD)
Depression	Pretest	25.80 ± 6.95	25.40 ± 6.86
	Posttest	23.13 ± 2.56	15.27 ± 2.99
Treatment Commitment	Pretest	5.87 ± 0.52	5.67 ± 0.49
	Posttest	5.53 ± 0.64	2.80 ± 0.77

As shown in Table 1, the mean and standard deviation indices of the variables are presented separately for the experimental and control groups in the pretest and posttest stages. Lower scores in the treatment commitment variable indicate higher commitment to treatment, which is explained by the scoring structure of the questionnaire. To examine the effectiveness of acceptance and commitment-based schema therapy on depression and treatment commitment in women with MS, a univariate analysis of covariance (ANCOVA) was performed, controlling for baseline differences and adhering to parametric assumptions.

To test the assumption of normality, the homogeneity of regression slopes assumption was used. The results of this test indicated that the F statistic was not significant ($P \geq 0.05$), confirming the assumption. Therefore, the assumption of homogeneity of variance was met, and the analysis could proceed. Additionally, the Shapiro-Wilk test was applied to confirm normality, and the test statistic fell within the acceptable range of ±1.96 at the 95% confidence level. The p-value was greater than 0.05, indicating that the data were normally distributed.

For multivariate analysis of covariance (MANCOVA), the homogeneity of the variance-covariance matrix was tested using Box's M test. Based on the results of this test (Box = 3.063, F = 0.451, P = 0.845), the Box's M statistic was not significant, confirming the assumption of equality of covariance matrices for the variables of depression and treatment commitment in women with MS.

The Levene's test confirmed the homogeneity of variances for dispositional mindfulness, illness acceptance, and their components ($p > .05$). Table 2 presents the results of within-subjects and between-subjects effects in the repeated measures ANOVA for illness acceptance and dispositional mindfulness and their components.

Table 2

Multivariate Analysis of Covariance (MANCOVA) for Depression and Treatment Commitment

Source	Variable	SS	df	MS	F	p	Eta²
Intercept	Treatment Commitment	4.509	1	4.509	11.278	0.003	0.311
	Depression	3.218	1	3.218	0.462	0.503	0.018
Group	Treatment Commitment	54.911	1	54.911	137.337	0.000	0.846
	Depression	389.616	1	389.616	55.934	0.000	0.691
Error	Treatment Commitment	9.996	25	0.400			
	Depression	174.140	25	6.966			

As reported in Table 2, the F value for the interaction effect in the posttest phase for treatment commitment (Group * Treatment Commitment) was 137.337, with an estimated error probability of 0.001, which is below the acceptable threshold of 0.05. These results indicate a significant difference in posttest scores for treatment commitment in the experimental group of women with MS. The Eta squared value of 0.846 suggests that 84.6% of the variance in posttest differences in treatment commitment between groups is attributable to the experimental condition (acceptance and commitment-based schema therapy).

Likewise, the F value for the interaction effect in the posttest for depression (Group * Depression) was 55.934, with an error probability of 0.001, also below the threshold

PWJ
Psychology of Woman Journal
E-ISSN: 3041-8615

of 0.05. This indicates a significant difference in posttest depression scores in the experimental group of women with MS. The Eta squared value for this variable was 0.691, meaning that 69.1% of the variance in posttest differences in depression scores between the two groups can be explained by the experimental condition (acceptance and commitment-based schema therapy).

4. Discussion and Conclusion

The purpose of the present study was to investigate the effectiveness of acceptance and commitment-based schema therapy in reducing depressive symptoms and enhancing treatment adherence in women diagnosed with Multiple Sclerosis (MS). The findings demonstrated that participants in the experimental group, who underwent eight sessions of schema-based intervention, experienced a statistically significant decrease in depression scores and a marked improvement in treatment adherence compared to the control group. These results provide compelling empirical support for the therapeutic efficacy of schema therapy integrated with acceptance and commitment therapy (ACT) principles in managing both emotional and behavioral challenges in MS patients.

In terms of depression reduction, the analysis of covariance revealed a significant post-intervention difference in depression scores between the two groups, with the experimental group showing a sharp decline. This aligns with existing evidence that highlights the utility of schema therapy in treating depression, particularly in chronic conditions where emotional schemas are entrenched and resistant to conventional cognitive behavioral interventions (Abbasian Hadadan, 2024; Batihan & Kaya, 2024). For instance, the randomized clinical trial conducted by (Kopf-Beck et al., 2024) confirmed that schema therapy outperformed both CBT and supportive therapy in alleviating depressive symptoms in both inpatient and day clinic populations. Additionally, the results of the present study are consistent with (Ebrahimi et al., 2023), who found schema therapy effective in reducing symptoms of depression and anxiety in women with emotional trauma.

The results further indicated that treatment adherence significantly improved in the experimental group following the intervention. This finding supports the theoretical framework of schema therapy, which posits that by targeting early maladaptive schemas—such as defectiveness, vulnerability to harm, and emotional inhibition—patients can develop healthier self-beliefs and behaviors that support long-term goal-oriented actions, including medication adherence (Ghasempour et al., 2022). The strong Eta-squared value (0.846) for treatment adherence in the current study underlines the impact of modifying underlying schemas in fostering adaptive behavioral commitment, especially in chronic illness contexts. This finding is mirrored in (Heidari et al., 2023), who reported improved treatment-related self-efficacy and quality of life in MS patients undergoing schema therapy combined with CBT.

Integrating ACT into schema therapy likely enhanced the outcomes in this study. ACT helps individuals accept difficult emotions and thoughts without judgment while committing to actions aligned with their values. In chronic illnesses such as MS, psychological flexibility—the central process targeted by ACT—is critical to coping with disease-related uncertainty and distress (Egli et al., 2024). The current results support the observations of (Nazari et al., 2023), who found that ACT and schema therapy were both effective in reducing chronic fatigue in MS patients, with schema therapy providing more enduring changes through the restructuring of core beliefs.

The present study also aligns with the findings of (Dīnparast et al., 2023), who demonstrated that schema therapy and mindfulness techniques reduced sleep disturbances in MS patients—another domain closely tied to emotional and physiological regulation. Improvements in sleep, emotional well-being, and adherence behaviors suggest that schema therapy has systemic benefits that extend beyond targeted symptoms. These cascading effects can be attributed to the modification of rigid schemas and maladaptive coping strategies, which are especially detrimental in populations managing long-term, incurable diseases.

Schema therapy's efficacy in the current study may also reflect its success in targeting experiential avoidance and cognitive fusion—processes that maintain depressive symptoms and disengagement from health-promoting behaviors. The integration of ACT principles such as defusion and acceptance likely enabled patients to observe their distressing thoughts without becoming entangled in them, allowing for greater agency and value-driven decision-making. These mechanisms have been elaborated in (Nitta, 2023), who used video-based task analysis to show how imagery rescripting in schema therapy alters patients' emotional responses and improves mood regulation.

Notably, schema therapy's impact on emotionally vulnerable populations has been supported by other findings. For example, (Fereydooni & Sheykhan, 2024) showed that

PWJ
Psychology of Woman Journal
E-ISSN: 3041-8615

schema therapy improved self-esteem and distress tolerance in fatherless adolescents with depression. Although the population differs, both groups share similar vulnerability factors, including emotional deprivation, social stress, and internalized maladaptive beliefs. Thus, the application of schema therapy in women with MS—many of whom face stigma, dependency, and role disruption—addresses an urgent clinical need.

The present findings are also in line with (Nazari et al., 2022), who compared schema therapy and ACT in MS patients and found both approaches improved distress tolerance and reduced psychological dysfunction, with schema therapy more effectively transforming internal schema structures. This reinforces the argument that schema therapy's strength lies in its capacity to access and restructure long-standing cognitive-emotional patterns rather than solely focusing on symptom reduction.

Moreover, schema therapy's structured and experiential methods, such as limited reparenting, chair dialogues, and schema mode work, may have played a critical role in achieving these results. The use of these techniques can establish corrective emotional experiences that empower patients to revise schema-driven interpretations of themselves and their illness (Chengizian, 2023; Rezaei et al., 2023). As such, the intervention's success in this study may stem not only from its theoretical components but also from the delivery of a supportive and validating therapeutic relationship.

Collectively, the current study contributes to a growing body of research advocating for integrative approaches in chronic illness treatment. While traditional therapies often emphasize symptom suppression, schema therapy combined with ACT addresses the roots of maladaptive functioning, offering sustainable change. The significant reductions in depression and improvements in treatment adherence found here support a shift in clinical focus from merely alleviating distress to fostering psychological growth and long-term health behavior change.

5. Limitations and Suggestions

Despite the promising findings, this study had several limitations. The sample size was relatively small (n=30), which limits the generalizability of the results. Additionally, participants were recruited from a single MS association in Rafsanjan, which may not represent the broader population of women with MS in other regions or cultural contexts. The study also relied on self-report questionnaires, which are subject to response biases such as social desirability and recall inaccuracies. Moreover, the short duration of the intervention and one-month follow-up period do not capture the long-term sustainability of the observed effects. The absence of a placebo or active comparison group limits the ability to attribute effects exclusively to the treatment rather than general therapeutic engagement.

Future research should aim to replicate this study with a larger and more diverse sample to increase external validity. Studies involving multi-site recruitment across different cultural settings would help assess the cross-cultural applicability of acceptance and commitment-based schema therapy. Longitudinal research is needed to determine whether the benefits in depression and adherence persist over time and whether they impact disease progression or neurological outcomes in MS. Future studies might also include qualitative components to explore participants' lived experiences of therapy and identify process variables contributing to change. Additionally, comparing the combined schema-ACT approach with other third-wave therapies such as Dialectical Behavior Therapy or Compassion-Focused Therapy may reveal differential effectiveness across symptom domains.

Based on the findings of this study, mental health professionals working with MS patients should consider incorporating schema therapy with ACT components into their clinical practice. This integrative approach appears particularly beneficial for addressing complex emotional needs and enhancing motivation for long-term self-care. Training therapists in experiential techniques, schema mode work, and mindfulness-based interventions may improve outcomes in emotionally vulnerable populations. Medical teams treating MS should collaborate with psychologists to ensure that psychological support is a standard part of comprehensive care, with a focus on adherence, resilience, and quality of life. Finally, health systems should invest in developing culturally adapted schema therapy protocols to better serve women with chronic illness in diverse clinical settings.

Authors' Contributions

Authors contributed equally to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

PWJ
Psychology of Woman Journal
E-ISSN: 3041-8615

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

Acknowledgments

We would like to express our gratitude to all individuals helped us to do the project.

Declaration of Interest

The authors report no conflict of interest.

Funding

According to the authors, this article has no financial support.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. To conduct the study, an ethics code (IR.IAU.KERMAN.REC.1403.317) was obtained from the Research Ethics Committee of Islamic Azad University, Kerman Branch.

References

Abbasian Hadadan, M. (2024). The Effectiveness of Schema Therapy on Psychological Distress and Emotional Regulation in Individuals with Borderline Personality Disorder. *Journal of Psychological Dynamics in Mood Disorders (PDMD)*, *3*(1), 160-174. https://doi.org/10.22034/pdmd.2024.454880.1088

Batihan, G., & Kaya, M. C. (2024). Schema Therapy and Depression. 119-138. https://doi.org/10.69860/nobel.9786053359456.7

Chengizian, P. (2023). Investigating the effectiveness of schema therapy on anxiety, depression, and impulsivity in individuals with borderline personality disorder. Fifth National Conference on Professional Research in Psychology and Counseling from the Teacher's Perspective,

Dīnparast, A., Rasouli, N., & Qotb, A. (2023). Comparison of the Effects of Schema Therapy and Mindfulness Techniques on Sleep Disorders in Individuals with Multiple Sclerosis. *Journal of Islamic Lifestyle with a Focus on Health*, *7*(2), 257-267. https://www.sid.ir/paper/1135816/fa

Ebrahimi, F., Amini, N., & Keykhosrovani, M. (2023). Effectiveness of Schema Therapy on Symptoms of Love Trauma, Depression, and Anxiety in Young Women With Experience of Emotional Failure. *PWJ*, *4*(4), 156-163. https://doi.org/10.61838/kman.pwj.4.4.19

Egli, S., Badenbach, T., Emmerik, A. v., Stefan, A. M., & Kopf-Beck, J. (2024). Emotion Regulation and Attachment as Mechanisms of Change in Schema Therapy and Cognitive Behaviour Therapy for Depression. https://doi.org/10.31219/osf.io/67vhn

Farhadi, M., Pasandideh, M. M., & Vaziri, S. (2022). Evaluation of the effectiveness of schema therapy on reducing stress, anxiety, depression and increasing self-efficacy in patients with multiple sclerosis. *Clinical Psychology and Personality*, *19*(2), 57-69. https://doi.org/10.22070/cpap.2021.14285.1082

Fereydooni, F., & Sheykhan, R. (2024). The Effectiveness of Schema Therapy on Depression, Self-Esteem, and Distress Tolerance in Fatherless Depressed Adolescents. *Jayps*, *5*(8), 87-96. https://doi.org/10.61838/kman.jayps.5.8.10

Ghasempour, H., Darzi Azadbani, M., Mirzaian, B., Sangani, A., & Shakarian, S. (2022). Modeling the effect of early maladaptive schemas on treatment adherence with the mediating role of emotional regulation and resilience in coronary heart disease patients. *Nursing Education*, *11*(4), 13-24. https://jne.ir/article-1-1360-en.html

Heidari, M., Mami, S., Ahmadi, V., & Khamoushian, K. (2023). The effectiveness of schema therapy combined with cognitive-behavioral therapy on self-efficacy and quality of life in women with multiple sclerosis. *Applied Family Therapy*, *4*(1), 554-570. https://doi.org/10.61838/kman.aftj.4.1.27

Kopf-Beck, J., Müller, C. L., Tamm, J., Fietz, J., Rek, N., Just, L., & Egli, S. (2024). Effectiveness of Schema Therapy versus Cognitive Behavioral Therapy versus Supportive Therapy for Depression in Inpatient and Day Clinic Settings: A Randomized Clinical Trial. *Psychotherapy and psychosomatics*, 1-12. https://doi.org/10.1159/000535492

Malekzadeh, l., Emadi, S. Z., & naghsh, z. (2024). The Effectiveness of Group Schema Therapy on Cognitive Emotion Regulation and Emotional Behavior Regulation in Mothers with Children with Learning Disabilities. *Psychology of Exceptional Individuals*, *14*(53), 201-227. https://doi.org/10.22054/jpe.2023.71499.2524

Nazari, A., Saedi, S., & Abdi, M. (2022). Comparing the effectiveness of schema therapy and acceptance and commitment therapy on the tolerance of emotional distress, sexual dysfunction and psychological capital of patients with multiple sclerosis. *Journal of Applied Family Therapy*, *3*(1), 461-485. https://doi.org/10.22034/aftj.2022.313070.1240

Nazari, A., Saedi, S., & Abdi, M. (2023). Comparing the effectiveness of schema therapy and acceptance and commitment therapy on chronic fatigue syndrome in patients with multiple sclerosis. *Journal of Personality and Psychosomatic Research (JPPR)*, *1*(1), 25-28. https://doi.org/10.61838/kman.jppr.1.1.6

Nitta, Y. (2023). The Patient's Experiential Process During Imagery Rescripting: Task Analysis of Videos of Schema Therapy for Chronic Depression. https://doi.org/10.31234/osf.io/mf42a

Rezaei, S., Mojtabaei, M., & Shomali Oskoei, A. (2023). Comparison of the Effectiveness of Intensive Short-Term Dynamic Psychotherapy and Schema Therapy on Depression, Anxiety in Mothers with Autistic Children. *Journal of Applied Psychology*, *17*(4), 143-168. https://www.magiran.com/paper/2658910

Ritter, V., Schüller, J., Berkmann, E. M., von Soosten-Höllings-Lilge, L., & Stangier, U. (2023). Efficacy of Cognitive Therapy for Body Dysmorphic Disorder: A Randomized Controlled Pilot Trial. *Behavior therapy*, *54*(1), 65-76. https://www.sciencedirect.com/science/article/pii/S0005789422000910

Shahab, A., Ahadi, H., Jomehri, F., & Kraskian-Mujembari, A. (2020). The effectiveness of group emotional schema therapy on subjective, well-being, fatigue of patients with multiple sclerosis in Shiraz. *Psychological Models and Methods*, *10*(38), 77-96. https://jpmm.marvdasht.iau.ir/article_4236.html

https://jpmm.marvdasht.iau.ir/article_4236_b763ec6d98a9a0cc05d9bbd842303d43.pdf