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Comparing the Effectiveness of Compassion-Focused Therapy and Logotherapy in Reducing Feelings of Emptiness Among Patients with Multiple Sclerosis

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A B S T R A C T

Objective: This study aimed to compare the effectiveness of compassion-focused therapy and logotherapy in reducing feelings of emptiness among women diagnosed with multiple sclerosis.

Methods and Materials: This quasi-experimental study employed a pretest–posttest control-group design with a six-month follow-up. The statistical population comprised all female patients with multiple sclerosis who attended hospitals affiliated with Islamic Azad University in Tehran between September 2025 and March 2026. Using purposive sampling, 45 eligible patients were selected and randomly assigned to compassion-focused therapy, logotherapy, and control groups, with 15 participants in each group. Data were collected using Reker's Life Attitude Profile (1992). The intervention groups received compassion-focused therapy based on Gilbert's protocol and logotherapy based on Frankl's approach and the protocol developed by Bahaeloo Horeh and Khosh Akhlagh, whereas the control group received no psychological intervention during the study period. Assessments were conducted at the pretest, posttest, and six-month follow-up stages. The data were analyzed using the chi-square test and mixed-design analysis of variance in SPSS version 26.

Findings: Mixed-design analysis of variance indicated significant effects of time, group, and the time-by-group interaction on feelings of emptiness ($p < .05$). Both compassion-focused therapy and logotherapy produced significant reductions in feelings of emptiness from pretest to posttest compared with the control group. Pairwise comparisons further demonstrated that logotherapy resulted in a significantly greater reduction in feelings of emptiness than compassion-focused therapy ($p < .05$).

Conclusion: Both compassion-focused therapy and logotherapy are effective psychological interventions for reducing feelings of emptiness among women with multiple sclerosis, although logotherapy appears to produce stronger and more persistent therapeutic effects. Logotherapy may therefore be prioritized in psychological rehabilitation programs designed to improve existential well-being in this clinical population.

Keywords: *Compassion-Focused Therapy; Feelings of Emptiness; Logotherapy; Multiple Sclerosis; Psychological Intervention*

1. Introduction

Multiple sclerosis (MS) is a chronic, inflammatory, and demyelinating disease of the central nervous system that commonly emerges during early or middle adulthood and may progressively affect motor, sensory, cognitive, emotional, and social functioning. Although advances in disease-modifying treatments have improved the clinical management of MS, affected individuals continue to experience considerable uncertainty regarding the course of the disease, the possibility of relapse, the accumulation of disability, and the loss of independence. Contemporary treatment guidelines emphasize early diagnosis, individualized pharmacological management, monitoring of disease activity, and sustained adherence to disease-modifying therapies; nevertheless, medical treatment alone may not adequately address the psychological and existential consequences of living with an unpredictable chronic illness (Jacob et al., 2024). Long-term treatment satisfaction and adherence are also influenced by patients' experiences, preferences, perceived treatment burden, and expectations, indicating that successful MS care requires attention to both biomedical and psychological dimensions (Hoffmann et al., 2024). Accordingly, psychological interventions that help patients cope with illness-related distress, reconstruct meaning, and establish a compassionate relationship with themselves may be essential components of comprehensive rehabilitation.

The physical consequences of MS can substantially interfere with daily activities and diminish perceived quality of life. Disability progression, fatigue, pain, balance difficulties, fear of falling, urinary dysfunction, and restrictions in social participation may reduce patients' sense of autonomy and negatively affect their emotional adjustment. Disability and depression have been identified as important determinants of quality of life among individuals with MS, suggesting that functional limitations are closely intertwined with psychological well-being (Asadollahzadeh et al., 2025). In addition, urinary symptoms may create embarrassment, social avoidance, sleep disruption, and activity limitations that further undermine quality of life (Ziadeh et al., 2022). Fear of falling may similarly limit physical engagement and reinforce inactivity, whereas structured exercise combined with self-awareness may improve both physical confidence and perceived quality of life among women with MS (Ghasemi et al., 2025). These findings indicate that the burden of MS extends beyond neurological symptoms and can reshape individuals' perceptions of their bodies, capabilities, relationships, future, and personal worth.

Even when neurological disease activity is controlled, psychological symptoms and quality-of-life difficulties may persist. Long-term follow-up evidence among patients receiving effective pharmacological treatment has shown that clinical stability does not necessarily eliminate psychological distress or restore all dimensions of quality of life (Sandi et al., 2024). Similarly, improvements in fatigue, quality of life, and patient-reported outcomes following disease-modifying treatment demonstrate the value of medical intervention, yet they also underscore the importance of evaluating subjective experiences alongside conventional clinical indicators (Frederiksen et al., 2025). Life expectancy in MS is also associated with disability severity, making the possibility of disease progression and functional decline a psychologically significant concern for many patients (Walz et al., 2022). Persistent confrontation with uncertainty, bodily changes, reduced control, and concerns about the future may therefore generate feelings of hopelessness, meaninglessness, and existential emptiness, even when patients remain medically stable.

Feelings of emptiness refer to a subjective experience of internal absence, meaninglessness, emotional disconnection, diminished vitality, and lack of direction. Although emptiness has frequently been examined in relation to personality pathology, it may also appear in individuals facing prolonged stress, chronic illness, bereavement, depression, disrupted identity, and existential crisis. Longitudinal research has demonstrated that emptiness can remain a severe and clinically significant experience over extended periods and may be associated with poorer psychological outcomes (Hein et al., 2025). In the context of MS, feelings of emptiness may arise when previously valued roles, occupational plans, interpersonal expectations, physical abilities, or assumptions about the future are disrupted by illness. A patient may continue to perform everyday tasks while simultaneously experiencing a profound absence of purpose or personal significance. This condition is particularly important because emptiness may weaken motivation for treatment, reduce social engagement, intensify depressive cognition, and prevent patients from identifying meaningful possibilities within the limitations imposed by the disease.

The psychological burden of MS is also influenced by patients' attitudes toward life, their psychological resources, and their capacity to maintain hope under difficult conditions. Dysfunctional attitudes and reduced

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psychological hardiness may undermine hope and increase vulnerability to emotional distress among patients with MS (Shojaei, 2024). Conversely, psychological capital and health-promoting lifestyle patterns may contribute to improved quality of life by strengthening hope, resilience, self-efficacy, and optimism (Rostamnejad et al., 2021). These findings suggest that psychological adaptation is not determined solely by the severity of physical symptoms. Instead, the meanings assigned to illness, the individual's relationship with the self, and the perceived availability of future-oriented goals can influence how the disease is experienced. Therefore, interventions that target existential meaning and self-directed compassion may provide distinct but complementary pathways for reducing feelings of emptiness in women with MS.

Compassion-focused therapy is an integrative therapeutic approach developed to address shame, self-criticism, emotional threat, and difficulties in self-soothing. It is grounded in evolutionary psychology, attachment theory, affective neuroscience, and cognitive-behavioral principles. The approach proposes that human emotional regulation is influenced by interactions among threat-protection, drive-resource seeking, and soothing-affiliation systems. Individuals exposed to persistent threat, loss, illness, or self-judgment may experience an overactive threat system and an underdeveloped capacity for reassurance and emotional soothing. Compassion-focused therapy helps individuals develop sensitivity to suffering, tolerance of distress, empathy, warmth, nonjudgmental understanding, and motivation to alleviate suffering in themselves and others (Gilbert, 2023). For patients with MS, this approach may be particularly relevant because illness-related limitations can activate self-criticism, shame regarding dependency, negative body evaluations, and beliefs about being inadequate or burdensome.

Self-compassion involves responding to personal suffering with kindness, recognizing distress as part of the shared human condition, and maintaining balanced awareness rather than becoming overwhelmed by painful thoughts and emotions. This orientation may protect patients from interpreting illness-related limitations as evidence of personal failure. Compassion-focused exercises such as soothing-rhythm breathing, compassionate imagery, compassionate letter writing, and the development of a supportive inner voice may reduce harsh self-evaluation and increase emotional safety. Meta-analytic evidence indicates that compassion-focused therapy can significantly reduce self-criticism and strengthen self-soothing capacities, both of which are central to psychological adjustment (Vidal & Soldevilla, 2023). Brief compassion-focused interventions have also been shown to influence everyday experiences of compassion and related psychophysiological processes, suggesting that even relatively concise interventions may alter how individuals respond to emotional and interpersonal stress (Sherwell et al., 2025).

The potential benefits of compassion-based approaches extend to populations facing body-related concerns, caregiving stress, chronic pain, and psychological adjustment difficulties. A self-compassion microintervention administered before appearance-focused social media use was found to have implications for body image, indicating that compassionate self-relating may buffer the effects of appearance-based comparison and evaluation (Gobin et al., 2021). Psychological flexibility and self-compassion have also been associated with lower depression and anxiety and better adjustment among parents facing the stress of premature childbirth (O'Boyle-Finnegan et al., 2022). In patients with MS, a compassion-focused acceptance and commitment intervention improved pain self-efficacy and reduced pain catastrophizing, supporting the applicability of compassion-based methods to chronic neurological illness (Ebrahimpour Azizi et al., 2024). Through reducing self-criticism, increasing tolerance of vulnerability, and enabling patients to relate to physical and emotional suffering with care rather than hostility, compassion-focused therapy may indirectly reduce feelings of emptiness and strengthen a sense of inner connectedness.

Despite these advantages, compassion-focused therapy may not directly address all dimensions of existential emptiness. A patient may learn to treat herself with kindness and still struggle to identify a compelling reason to continue, a meaningful direction for the future, or a coherent interpretation of suffering. Logotherapy, developed by Viktor Frankl, specifically focuses on the human need for meaning and the capacity to discover significance even in conditions that cannot be changed. According to logotherapy, the primary motivational force in human life is the will to meaning. When individuals are unable to identify meaning, they may experience an existential vacuum characterized by boredom, apathy, purposelessness, and emptiness. Frankl argued that meaning may be discovered through creative values, experiential values, and attitudinal values: by creating or contributing something, experiencing love or connection, and adopting a meaningful stance toward unavoidable suffering (Frankl, 2023).

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Logotherapy does not deny pain, disability, or loss, nor does it suggest that suffering is inherently desirable. Rather, it emphasizes that individuals retain a degree of freedom in how they respond to circumstances, even when those circumstances cannot be fully controlled. This principle may be especially relevant for patients with MS, whose lives are often shaped by unpredictable symptoms and limitations that cannot be eliminated through personal effort. By distinguishing between what can and cannot be changed, logotherapy encourages patients to assume responsibility for their remaining choices, clarify personal values, identify meaningful goals, and transform their attitude toward unavoidable suffering. Meaning can be found in relationships, creativity, caregiving, spirituality, learning, contribution, courage, and the way one confronts illness. Consequently, logotherapy may directly target the cognitive and existential foundations of emptiness by helping patients reconstruct purpose and recognize possibilities that remain available despite disease-related limitations.

Empirical evidence supports the effectiveness of logotherapy for improving meaning, hope, and emotional well-being across clinical and vulnerable populations. Group logotherapy has been found to reduce depressive symptoms and strengthen meaningful engagement among community-dwelling older adults (Kim & Choi, 2021). Logotherapy has also improved meaning in life while reducing depression, hopelessness, and suicidal ideation among patients with depression, demonstrating its relevance to severe forms of existential and emotional distress (Sun et al., 2022). Among patients with colorectal cancer, group logotherapy training increased hope for life, suggesting that meaning-oriented interventions can be beneficial for individuals confronting serious medical conditions and mortality-related concerns (Peyman, 2024). These results are particularly pertinent to MS because patients frequently face prolonged uncertainty rather than a single, time-limited crisis, making sustained meaning reconstruction an important therapeutic task.

Group delivery may strengthen the effects of both compassion-focused therapy and logotherapy. Group psychotherapy provides opportunities for universality, interpersonal learning, mutual support, emotional expression, corrective relational experiences, and the recognition that one's suffering is shared by others (Yalom & Leszcz, 2023). For women with MS, participation in a supportive group may reduce isolation and normalize fears, losses, and frustrations that are difficult to communicate outside the therapeutic context. Group compassion-focused therapy may help participants experience warmth and acceptance from others while internalizing a less critical relationship with themselves. Group logotherapy may allow patients to hear diverse accounts of meaning, responsibility, suffering, and hope, thereby broadening their understanding of possible responses to illness. In both interventions, the group can function as a social context in which new attitudes are practiced and reinforced.

Although compassion-focused therapy and logotherapy share an emphasis on reducing suffering and promoting psychological growth, their mechanisms differ. Compassion-focused therapy primarily modifies the individual's emotional relationship with distress by reducing shame and self-criticism and strengthening soothing, acceptance, and self-kindness. Logotherapy primarily addresses existential orientation by helping individuals identify meaning, responsibility, values, and purpose. Compassion may reduce emptiness by restoring emotional connectedness with the self, whereas logotherapy may reduce it by directly challenging meaninglessness and the existential vacuum. A comparative study involving families bereaved by COVID-19 found that both compassion-focused therapy and logotherapy improved hope and time perspective, although differences between the interventions suggested that each approach may influence psychological outcomes through distinct pathways (Bahaalou Houreh & Khosh Akhlagh, 2023). Such comparative findings support the need to determine whether one intervention is more effective when the central outcome is feelings of emptiness.

The comparison of these approaches is also clinically important because psychological services for patients with MS must often be delivered under constraints involving fatigue, mobility limitations, treatment burden, and limited access to specialized care. Selecting an intervention with a strong and durable effect can help clinicians allocate therapeutic resources more effectively. Compassion-focused therapy may be particularly appropriate for patients dominated by self-criticism, shame, and emotional threat, whereas logotherapy may be especially suitable for those whose primary difficulties involve hopelessness, purposelessness, and loss of meaning. However, without direct comparison, it remains unclear which approach produces a greater reduction in feelings of emptiness among women with MS. Comparative evidence may also guide the development of integrative interventions that combine compassionate emotional regulation with explicit meaning reconstruction.

The need for such research is further reinforced by the relative scarcity of studies examining existential emptiness

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as a distinct psychological outcome in MS. Existing research has more commonly focused on depression, anxiety, quality of life, fatigue, pain, adherence, disability, hope, and physical functioning. Although these variables are important, they do not fully capture the subjective experience of living without purpose, vitality, or inner direction. Feelings of emptiness may exist alongside depression but are not identical to it; they may involve disconnection from values and identity even when overt depressive symptoms are limited. By evaluating emptiness directly, researchers can develop a more nuanced understanding of psychological adaptation to MS and identify interventions that address dimensions of suffering overlooked by symptom-focused treatments.

Women with MS may be particularly vulnerable to illness-related disruptions in family roles, occupational identity, body image, social participation, and expectations regarding the future. These disruptions can intensify self-judgment and existential uncertainty, thereby creating a clinical context in which both compassion-focused and meaning-oriented interventions are theoretically relevant. Compassion-focused therapy may help patients replace punitive self-evaluations with warmth and understanding, while logotherapy may help them reinterpret suffering and reconnect with personally meaningful aims. Evaluating the immediate and six-month effects of these interventions can clarify not only whether they are effective but also whether their benefits persist after treatment termination. Long-term persistence is crucial because MS is a continuing condition that repeatedly confronts patients with new symptoms, treatment decisions, and changes in functioning.

Accordingly, the present study aimed to compare the effectiveness of compassion-focused therapy and logotherapy in reducing feelings of emptiness among women with multiple sclerosis.

2. Methods and Materials

2.1. Study design and Participant

This study employed a quasi-experimental design with pretest, posttest, and six-month follow-up assessments and included two experimental groups and one control group. The statistical population consisted of all female patients diagnosed with multiple sclerosis who attended Farhikhtegan Hospital, Bou-Ali Hospital, and Amir al-Momenin Hospital, affiliated with Islamic Azad University in Tehran, during the second half of the 2025–2026 academic year. A total of 45 eligible patients were selected through purposive sampling and subsequently assigned randomly to three groups: compassion-focused therapy, logotherapy, and control, with 15 participants in each group. The inclusion criteria were a confirmed diagnosis of multiple sclerosis at least six months before enrollment, an age range of 23 to 43 years, medication stability when pharmacological treatment was being received, a minimum educational qualification of a high-school diploma, and no reported use of narcotic drugs or psychotropic substances. Medication stability and substance use were assessed on the basis of participants' self-reports. The exclusion criteria included failure to adhere to the therapeutic protocol or research instructions, repeated absence from treatment sessions, initiation of substance use during the study, major changes in medication status over the intervention period, diagnosis of another severe physical illness that could interfere with multiple sclerosis or participation in the study, inability to complete the research instruments, and simultaneous participation in another specialized psychological intervention beyond routine medical care. After eligible participants had received a full explanation of the study objectives, procedures, confidentiality safeguards, voluntary nature of participation, and right to withdraw without adverse consequences, written informed consent was obtained. At the beginning of the study, all three groups completed the pretest assessment. The two experimental groups then received their respective therapeutic interventions, whereas the control group received no specialized psychological intervention during the study period and continued to receive routine medical care. Immediately after completion of the interventions, all participants completed the posttest assessment. A further assessment was conducted six months later to determine the stability and persistence of the therapeutic effects.

2.2. Measures

Feelings of emptiness were assessed using the Life Attitude Profile developed by Reker in 1992. The questionnaire consists of 47 items and evaluates five dimensions of attitudes toward life, including personal meaning, choice and responsibility, death acceptance, existential emptiness, and goal seeking. In the present study, the existential emptiness subscale was used as the principal outcome measure. The items are rated on a five-point Likert scale ranging from strongly disagree to strongly agree, with higher scores on the relevant subscale indicating a greater level of experienced emptiness according to the scoring

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procedure of the instrument. The questionnaire was administered at the pretest, posttest, and six-month follow-up stages under similar conditions for all groups. To establish the appropriateness of the instrument for the target population, its content was reviewed by university professors and specialists in clinical psychology and health psychology, who confirmed the relevance, clarity, and adequacy of the items. Before the main implementation of the study, the reliability of the Life Attitude Profile was examined in a pilot sample of 15 female patients with multiple sclerosis who were comparable to the main study participants. The Cronbach's alpha coefficient was calculated as .79, indicating satisfactory internal consistency and supporting the use of the instrument for measuring attitudes toward life and feelings of emptiness in the study population.

2.3. Interventions

The compassion-focused therapy intervention was developed on the basis of Gilbert's therapeutic framework and was delivered in eight weekly group sessions, each lasting approximately 90 minutes. The intervention was designed to reduce self-criticism, shame, emotional distress, and feelings of inadequacy by strengthening participants' capacity for self-compassion, emotional soothing, acceptance, and supportive self-relating. The initial session focused on establishing therapeutic rapport, introducing group members, explaining the objectives and rules of the intervention, and familiarizing participants with the concept of compassion and its relevance to adaptation to chronic illness. Subsequent sessions introduced the principal components of compassion, including sensitivity to suffering, emotional tolerance, empathy, nonjudgmental understanding, care for well-being, and commitment to alleviating distress. Participants were helped to recognize the operation of threat, drive, and soothing emotional-regulation systems and to understand how chronic illness, fear of disease progression, and perceived loss of personal functioning could activate threat-based responses and intensify feelings of emptiness. The intervention also emphasized identifying self-critical thoughts, recognizing the origins and functions of harsh internal dialogue, and replacing punitive self-evaluations with balanced, supportive, and compassionate responses. Practical techniques included soothing-rhythm breathing, compassionate imagery, mindfulness of emotional experiences, compassionate letter writing, development of a compassionate inner voice, and exercises aimed at responding constructively to pain, limitations, and difficult life circumstances. Participants were encouraged to develop greater awareness of their emotional and physical needs, accept personal vulnerability without self-condemnation, and apply compassionate coping strategies when confronted with symptoms of multiple sclerosis. Each session began with a review of the previous meeting and an experiential exercise, followed by discussion, skills training, and guided practice. At the end of each session, the main content was summarized, and relevant homework assignments were provided to facilitate the application of compassionate attitudes and techniques in everyday life.

The logotherapy intervention was based on the fundamental principles of Frankl's existential approach and was implemented in eight weekly group sessions of approximately 90 minutes each. At the beginning of the intervention, the therapist explained the rules, objectives, confidentiality principles, and collaborative nature of the group and introduced the basic assumptions of logotherapy. The sessions focused on freedom of will, the will to meaning, personal responsibility, existential frustration, the existential vacuum, and the human capacity to discover meaning despite suffering, illness, and unavoidable limitations. Participants were assisted in examining how multiple sclerosis had affected their sense of identity, autonomy, purpose, and future orientation and how these changes might contribute to feelings of emptiness. Through guided discussions and reflective exercises, they explored meaningful past experiences, personal values, important relationships, unrealized goals, sources of hope, and possibilities for purposeful action within the constraints imposed by the disease. Particular attention was given to Frankl's three pathways to meaning: creating or accomplishing something valuable, experiencing love and meaningful relationships, and adopting a constructive attitude toward unavoidable suffering. The intervention also addressed the meaning of love, suffering, and mortality and encouraged participants to reconsider illness not merely as a source of loss but also as an experience through which personal values, responsibility, courage, and existential growth could be clarified. Techniques such as Socratic dialogue, dereflection, attitude modification, value clarification, meaning-oriented questioning, and future-oriented reflection were used to challenge passive resignation and strengthen personal agency. Participants were encouraged to identify areas of life in which they retained freedom of choice, even when their physical

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circumstances could not be changed, and to formulate personally meaningful goals that were realistic and consistent with their values. At the end of each session, the principal insights were reviewed, participants reflected on their personal learning, and meaning-focused assignments were provided for completion between sessions.

2.4. Data Analysis

The collected data were analyzed using descriptive and inferential statistical procedures in SPSS version 26. Descriptive statistics, including the mean and standard deviation, were calculated to summarize feelings-of-emptiness scores in the compassion-focused therapy, logotherapy, and control groups across the pretest, posttest, and six-month follow-up stages. Frequency and percentage distributions were also used to describe categorical demographic characteristics. The chi-square test was applied to examine the comparability of the three groups with respect to categorical demographic variables, while baseline differences in continuous variables and pretest scores were evaluated using appropriate analysis-of-variance procedures. The effectiveness of the two interventions and the stability of their effects over time were examined through mixed-design analysis of variance, in which measurement time represented the within-subject factor and treatment group represented the between-subject factor. This analysis was used to assess the main effect of time, the main effect of group, and the interaction between time and group. When significant overall effects were identified, post hoc pairwise comparisons were conducted to determine differences between the compassion-focused therapy, logotherapy, and control groups and to compare changes across the assessment stages. Before conducting the main inferential analyses, the relevant statistical assumptions were evaluated. The normality of score distributions was examined using the Kolmogorov–Smirnov test, homogeneity of variances was assessed through Levene's test, and equality of covariance matrices was evaluated using Box's M test. Where required, the sphericity assumption was also assessed, and an appropriate statistical correction was considered if the assumption was violated. The level of statistical significance was set at $p < .05$ for all analyses.

3. Findings and Results

The study sample consisted of 45 women with multiple sclerosis who were randomly assigned to the compassion-focused therapy, logotherapy, and control groups, with 15 participants in each group. In terms of age, 22 participants (48.88%) were between 30 and 36 years old, representing the largest age category; 16 participants (35.56%) were between 37 and 43 years old, and seven participants (15.56%) were between 23 and 29 years old. Regarding educational attainment, 15 participants (33.33%) held a high-school diploma or associate degree, 20 participants (44.44%) held a bachelor's degree, and 10 participants (22.22%) held a master's degree or higher. The bachelor's degree category had the highest frequency, whereas the master's degree or higher category had the lowest frequency. The chi-square analyses indicated no statistically significant differences among the three groups in age or educational level, suggesting that the groups were demographically comparable at baseline.

Table 1

Means and Standard Deviations of Feelings-of-Emptiness Scores by Group and Measurement Stage

Variable	Group	Pretest, M ± SD	Posttest, M ± SD	Six-Month Follow-Up, M ± SD
Feelings of emptiness	Compassion-focused therapy	25.93 ± 2.31	23.33 ± 2.72	20.27 ± 1.87
	Logotherapy	26.47 ± 1.41	19.27 ± 2.25	16.40 ± 1.35
	Control	26.40 ± 1.68	27.07 ± 2.05	26.33 ± 1.84

As shown in Table 1, the three groups had relatively similar mean feelings-of-emptiness scores at the pretest stage. In the compassion-focused therapy group, the mean score decreased from 25.93 at pretest to 23.33 at posttest and further decreased to 20.27 at the six-month follow-up. A larger reduction was observed in the logotherapy group, in which the mean score declined from 26.47 at pretest to 19.27 at posttest and then to 16.40 at follow-up. In contrast, the control group demonstrated no meaningful reduction across the three measurement stages, with mean scores of 26.40, 27.07, and 26.33 at pretest, posttest, and follow-up, respectively. These descriptive findings indicate that both psychological interventions were associated with reductions in feelings of emptiness, while logotherapy produced a more pronounced improvement than compassion-focused therapy. The continued decline in mean scores at follow-up also suggests that the therapeutic effects were maintained and further consolidated over time.

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Before conducting the mixed-design analysis of variance, the relevant statistical assumptions were examined. The Kolmogorov–Smirnov test indicated that the distribution of feelings-of-emptiness scores did not significantly deviate from normality in any of the three groups at the pretest, posttest, or follow-up stages, as all significance values were greater than .05. Levene's test also confirmed the homogeneity of error variances across the groups at pretest, F significance = .080, posttest, F significance = .739, and follow-up, F significance = .750. Mauchly's test indicated that the assumption of sphericity was satisfied for the repeated measurements of feelings of emptiness, $p > .05$. Furthermore, Box's M test was nonsignificant, $p = .422$, confirming the homogeneity of the variance–covariance matrices across the three groups. Therefore, the assumptions required for conducting the mixed-design analysis of variance were adequately met.

Table 2

Between-Subjects Effects of Group on Feelings-of-Emptiness Scores

Source	Sum of Squares	df	Mean Square	F	p	Partial η^2
Intercept	74,530.252	1	74,530.252	8,664.176	< .001	.995
Group	787.126	2	393.563	45.752	< .001	.685
Error	361.289	42	8.602	—	—	—

The mixed-design analysis of variance revealed a statistically significant multivariate effect of time on feelings of emptiness, Pillai's trace = .910, $F(2, 41) = 206.563$, $p < .001$, partial $\eta^2 = .910$. This result indicates that feelings-of-emptiness scores changed significantly across the pretest, posttest, and six-month follow-up assessments. The time-by-group interaction was also statistically significant, Pillai's trace = .967, $F(4, 84) = 19.662$, $p < .001$, partial $\eta^2 = .484$, demonstrating that the pattern of change over time differed significantly among the compassion-focused therapy, logotherapy, and control groups. As presented in Table 2, the between-subjects effect of group was significant, $F(2, 42) = 45.752$, $p < .001$, partial $\eta^2 = .685$. Accordingly, 68.5% of the variance in feelings-of-emptiness scores was attributable to differences among the three study groups, indicating a large intervention effect. The planned within-subject contrasts further showed a significant reduction in feelings of emptiness from pretest to posttest, $F = 139.769$, $p < .001$, and from posttest to follow-up, $F = 60.764$, $p < .001$. The interaction between time and group was significant for both the pretest-to-posttest comparison, $F = 78.512$, $p < .001$, and the posttest-to-follow-up comparison, $F = 6.860$, $p = .003$. These results confirm that the reductions in feelings of emptiness were dependent on the type of intervention received and that the trajectories of change differed significantly across the groups.

Table 3

Bonferroni Post Hoc Comparisons of Feelings-of-Emptiness Scores Across Groups

Variable	Group Comparison	Mean Difference	Standard Error	p
Feelings of emptiness	Compassion-focused therapy − Logotherapy	2.467	0.618	< .001
	Compassion-focused therapy − Control	−3.422	0.618	< .001
	Logotherapy − Control	−5.889	0.618	< .001

The Bonferroni-adjusted post hoc comparisons presented in Table 3 indicated that all pairwise group differences were statistically significant. The adjusted mean feelings-of-emptiness score in the compassion-focused therapy group was 2.467 points higher than that in the logotherapy group, $p < .001$, indicating that logotherapy was significantly more effective in reducing feelings of emptiness. The compassion-focused therapy group had a mean score 3.422 points lower than the control group, $p < .001$, while the logotherapy group had a mean score 5.889 points lower than the control group, $p < .001$. Thus, both interventions produced significantly greater reductions in feelings of emptiness than the control condition, although the magnitude of improvement was greater in the logotherapy group. Bonferroni-adjusted comparisons across the measurement stages also revealed significant differences between pretest and posttest, with a mean difference of 3.044, $p < .001$; between pretest and follow-up, with a mean difference of 5.267, $p < .001$; and between posttest and follow-up, with a mean difference of 2.222, $p < .001$. These findings indicate that the treatment

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effects not only persisted during the six-month follow-up period but continued to strengthen after completion of the interventions.

4. Discussion

The present study compared the effectiveness of compassion-focused therapy and logotherapy in reducing feelings of emptiness among women with multiple sclerosis. The findings demonstrated that both interventions significantly reduced feelings of emptiness compared with the control condition and that these improvements were maintained during the six-month follow-up period. The significant main effects of time and group, together with the significant time-by-group interaction, indicated that changes in feelings of emptiness were not attributable merely to the passage of time but varied according to the type of psychological intervention received. The large effect sizes further suggested that the interventions produced clinically meaningful changes in participants' existential and emotional experiences. In addition, the post hoc comparisons showed that logotherapy was significantly more effective than compassion-focused therapy. Thus, although both treatments were beneficial, the meaning-oriented intervention generated a greater and more persistent reduction in feelings of emptiness.

The effectiveness of compassion-focused therapy in reducing feelings of emptiness is consistent with the theoretical foundations of this approach. Compassion-focused therapy is designed to reduce excessive self-criticism, shame, threat sensitivity, and emotional avoidance while strengthening self-soothing, emotional warmth, and supportive self-relating (Gilbert, 2023). Women with multiple sclerosis may experience recurrent self-critical thoughts because of physical limitations, dependence on others, reduced occupational or familial functioning, changes in appearance, and uncertainty regarding disease progression. These experiences may gradually weaken the individual's sense of personal worth and emotional connection with the self, thereby contributing to feelings of inner emptiness. Compassion-focused therapy may interrupt this process by helping patients recognize that the difficulties associated with chronic illness are not personal failures and that vulnerability, fear, and dependence are understandable human experiences.

The present finding also aligns with meta-analytic evidence showing that compassion-focused therapy reduces self-criticism and increases self-soothing (Vidal & Soldevilla, 2023). Self-criticism can sustain feelings of emptiness by creating a hostile internal environment in which the individual feels inadequate, defective, or undeserving of care. In contrast, the development of a compassionate inner voice can promote emotional security and strengthen the person's capacity to remain engaged with difficult experiences without becoming overwhelmed by them. Through practices such as soothing-rhythm breathing, compassionate imagery, mindfulness, and compassionate letter writing, participants may have learned to regulate illness-related distress more effectively. The reduction in emotional threat and self-condemnation may consequently have increased their sense of internal coherence and diminished the subjective experience of emptiness.

The results are further supported by evidence that relatively brief compassion-focused interventions can improve everyday experiences of compassion and modify psychophysiological responses associated with stress and emotional regulation (Sherwell et al., 2025). Although that evidence was obtained in a different population, it suggests that compassion can be cultivated through structured intervention and translated into daily emotional experiences. Similarly, a self-compassion microintervention was shown to have beneficial implications for body image in the context of appearance-related social comparison (Gobin et al., 2021). This finding is relevant to women with multiple sclerosis because bodily changes, movement difficulties, fatigue, and altered physical functioning may negatively affect body-related self-perceptions. By reducing rigid appearance-based and performance-based self-evaluations, compassion-focused therapy may help patients maintain a more stable sense of identity that is not entirely dependent on physical health or functional capacity.

The effectiveness of compassion-focused therapy also corresponds with research indicating that self-compassion and psychological flexibility contribute to lower depression and anxiety and better adjustment among individuals exposed to significant life stress (O'Boyle-Finnegan et al., 2022). In MS, psychological adjustment requires the ability to tolerate uncertainty, respond flexibly to symptom changes, and revise plans without interpreting such revisions as personal defeat. Compassion-focused therapy may facilitate this process by allowing patients to acknowledge pain and limitation while remaining emotionally engaged with life. Previous research among patients with MS has also demonstrated that a compassion-focused acceptance and commitment intervention improved pain self-efficacy and reduced pain catastrophizing (Ebrahimpour Azizi et al.,

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2024). These improvements may reduce feelings of emptiness because patients who perceive themselves as more capable of coping with pain and illness are more likely to preserve agency, participation, and purpose.

The effectiveness of logotherapy in reducing feelings of emptiness can be explained more directly through its emphasis on meaning, responsibility, and the existential vacuum. Frankl described the existential vacuum as a condition marked by purposelessness, boredom, apathy, and a perceived absence of meaning (Frankl, 2023). Feelings of emptiness are therefore central rather than peripheral to the conceptual framework of logotherapy. Multiple sclerosis may disrupt previously meaningful life projects, occupational identities, interpersonal roles, and expectations about the future. When individuals interpret these disruptions as evidence that life has lost its value or direction, feelings of emptiness may become more severe. Logotherapy helps patients identify sources of meaning that remain accessible despite illness and encourages them to recognize freedom of attitude and responsibility even when external circumstances cannot be changed.

During the intervention, participants were encouraged to discover meaning through creative, experiential, and attitudinal values. Creative values may have enabled them to identify meaningful activities, contributions, or achievable goals despite physical limitations. Experiential values may have strengthened their awareness of love, relationships, nature, spirituality, and emotionally significant experiences. Attitudinal values may have helped them adopt a more constructive stance toward unavoidable suffering. In this way, logotherapy does not attempt to deny the seriousness of MS but assists patients in reframing illness as one element of life rather than the total definition of the self. This reconstruction of meaning may explain the substantial reduction in feelings of emptiness observed in the logotherapy group.

The present results are consistent with intervention research demonstrating that logotherapy can increase meaning in life and reduce depression, hopelessness, and suicidal ideation (Sun et al., 2022). Hopelessness and emptiness are closely related because both involve a weakened connection with future possibilities. By encouraging patients to identify personally meaningful reasons for living and to assume responsibility for their remaining choices, logotherapy can restore a sense of direction. The findings also align with evidence that group logotherapy reduces depressive symptoms and promotes meaningful engagement among older adults (Kim & Choi, 2021). Although older adults and patients with MS differ clinically, both populations may confront loss, reduced physical capacity, changing social roles, and concerns regarding mortality. Meaning reconstruction may therefore represent a broadly applicable mechanism for reducing distress associated with life disruption.

The results are also compatible with research showing that group logotherapy increases hope for life in patients with colorectal cancer (Peyman, 2024). Chronic and life-threatening illnesses can challenge assumptions about control, permanence, and future planning. Meaning-oriented interventions may counter these challenges by shifting attention from what has been lost to what remains possible and valuable. Hope in this context does not necessarily depend on complete recovery but can emerge from meaningful goals, relationships, responsibilities, and attitudes. Similarly, a comparative study of compassion-focused therapy and logotherapy among families bereaved by COVID-19 found that both interventions improved hope and time perspective (Bahaalou Houreh & Khosh Akhlagh, 2023). This supports the present finding that both therapies can be effective while also suggesting that they may operate through different mechanisms.

The greater effectiveness of logotherapy compared with compassion-focused therapy may be explained by the close conceptual correspondence between logotherapy and the outcome variable. Compassion-focused therapy primarily addresses the emotional regulation systems underlying self-criticism, shame, fear, and difficulties in self-soothing. It may reduce emptiness indirectly by promoting emotional warmth and a supportive relationship with the self. Logotherapy, however, directly targets meaninglessness, existential frustration, purposelessness, and the existential vacuum. Because feelings of emptiness were the primary outcome of the present study, an intervention explicitly structured around meaning may have produced a more immediate and comprehensive effect. Participants in the logotherapy group were encouraged not only to tolerate suffering but also to determine what their suffering, choices, relationships, and future possibilities meant within the broader context of their lives.

The superiority of logotherapy may also be related to the chronic and unpredictable nature of MS. Medical treatment can reduce disease activity and improve patient-reported outcomes, but it cannot always remove uncertainty or reverse accumulated disability (Frederiksen et al., 2025; Jacob et al., 2024). Individuals with MS may therefore need a framework for living meaningfully in the presence of

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unresolved uncertainty. Logotherapy offers such a framework by emphasizing that meaning can be discovered even when circumstances remain difficult. Compassion-focused therapy may make suffering more emotionally tolerable, whereas logotherapy may help patients incorporate suffering into a coherent narrative of identity, values, and responsibility. This distinction may account for the stronger reduction in emptiness in the logotherapy group.

The findings should also be interpreted in light of the broader psychological burden of MS. Disability and depression are strongly associated with reduced quality of life among patients with this disease (Asadollahzadeh et al., 2025). Urinary symptoms, fatigue, fear of falling, pain, and functional limitations can restrict participation and undermine autonomy (Ghasemi et al., 2025; Ziadeh et al., 2022). Moreover, psychological symptoms may remain stable over long periods even in patients receiving effective disease-modifying treatments (Sandi et al., 2024). The long-term association between disability severity and life expectancy may also intensify awareness of vulnerability and mortality (Walz et al., 2022). These conditions can create an existential context in which patients question the continuity, value, and direction of their lives. Both compassion-focused therapy and logotherapy may be beneficial because they address dimensions of suffering that pharmacological treatment alone cannot adequately resolve.

The absence of meaningful change in the control group further supports the interpretation that the observed improvements were produced by the psychological interventions rather than spontaneous recovery. The control group's scores remained relatively stable across the pretest, posttest, and follow-up stages, whereas both intervention groups demonstrated progressive reductions. This pattern is especially important in a chronic neurological condition because feelings of emptiness may persist or worsen when patients do not receive targeted psychological support. Attitudes toward hope among patients with MS are related to dysfunctional beliefs and psychological hardiness, suggesting that emotional adaptation depends partly on modifiable psychological factors (Shojaei, 2024). Likewise, lifestyle and psychological capital contribute to quality of life through resources such as hope, optimism, resilience, and self-efficacy (Rostamnejad et al., 2021). The current findings extend this literature by showing that structured group interventions can modify an explicitly existential outcome.

The maintenance and continued strengthening of treatment effects at the six-month follow-up may reflect the internalization and ongoing use of therapeutic skills. Participants in the compassion-focused therapy group may have continued practicing supportive self-talk, soothing breathing, mindfulness, and compassionate responses to setbacks. Repeated application of these techniques could gradually weaken habitual self-criticism and strengthen emotional regulation. Participants in the logotherapy group may have continued evaluating choices in relation to values, identifying meaningful goals, and adopting more constructive attitudes toward unavoidable limitations. Because meaning is enacted through continuing decisions and relationships, the benefits of logotherapy may deepen as patients repeatedly apply its principles in everyday life.

The group format may also have contributed to the persistence of the effects. Group psychotherapy enables participants to experience universality, cohesion, interpersonal learning, mutual support, and corrective emotional experiences (Yalom & Leszcz, 2023). Women with MS may feel isolated when family members or healthy peers cannot fully understand the uncertainty and limitations associated with the disease. Hearing similar experiences from other group members may reduce alienation and help participants recognize that their emotional responses are understandable. In compassion-focused therapy, the group environment may model warmth and nonjudgmental acceptance. In logotherapy, group discussion may expose participants to multiple sources of meaning and diverse ways of responding to illness. These interpersonal processes may reinforce therapeutic learning beyond the formal treatment sessions.

5. Conclusion

The present findings have important theoretical implications. They suggest that feelings of emptiness among patients with MS are responsive to psychological intervention and should not be regarded as an inevitable consequence of chronic illness. They also support the distinction between emotional and existential pathways to improvement. Compassion-focused therapy appears to reduce emptiness by strengthening self-acceptance, emotional safety, and self-soothing, whereas logotherapy appears to operate by restoring meaning, purpose, responsibility, and future orientation. The stronger effect of logotherapy does not diminish the clinical value of compassion-focused therapy; instead, it indicates that treatment selection should consider the dominant psychological needs of the patient. Patients characterized by

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intense shame and self-criticism may benefit especially from compassion-focused methods, while those reporting purposelessness and existential disconnection may respond more strongly to logotherapy.

6. Limitations and Suggestions

Several limitations should be considered when interpreting the findings. The participants were 45 women with multiple sclerosis recruited through purposive sampling from three hospitals affiliated with Islamic Azad University in Tehran, which limits the generalizability of the results to male patients, individuals from other regions, and patients receiving care in different clinical settings. The relatively small sample size may also have restricted the statistical power to identify more subtle differences between participants with different clinical and demographic characteristics. Feelings of emptiness were measured using a self-report questionnaire, and participants' responses may have been influenced by social desirability, current mood, expectations about treatment, or difficulties in accurately reporting existential experiences. Medication stability and substance use were assessed primarily through self-report, and objective verification was not available. The study also did not systematically control for MS subtype, degree of neurological disability, disease duration, relapse history, fatigue severity, pain, psychiatric comorbidity, or the quality of routine medical care. Furthermore, therapist allegiance and nonspecific group factors may have influenced treatment outcomes, and the control group did not receive an active comparison intervention. Although the six-month follow-up provided evidence regarding durability, longer-term maintenance could not be determined.

Future studies should replicate the present research with larger and more diverse samples that include men, patients from different geographical and socioeconomic backgrounds, and individuals with different MS subtypes and levels of disability. Multicenter randomized controlled trials could improve external validity and provide more rigorous evidence concerning comparative effectiveness. Researchers should examine whether variables such as disease duration, disability severity, fatigue, pain, depression, self-criticism, hope, psychological flexibility, and baseline meaning in life moderate responsiveness to the interventions. Future investigations could also test the mechanisms through which each treatment reduces emptiness by evaluating self-soothing, shame, self-compassion, existential meaning, purpose, responsibility, and hope as mediators. Active control conditions, blinded outcome assessment, therapist competence ratings, and objective clinical indicators should be incorporated where feasible. Qualitative interviews could provide a deeper understanding of how patients experience emptiness and how they interpret changes resulting from treatment. Longer follow-up periods would clarify whether improvements persist beyond six months. It would also be valuable to compare individual, group, online, and blended delivery formats and to evaluate an integrated intervention combining compassion-focused techniques with logotherapeutic meaning reconstruction.

Psychologists, counselors, rehabilitation specialists, and multidisciplinary MS teams should consider incorporating structured psychological interventions into routine care for patients who report purposelessness, emotional disconnection, self-criticism, or feelings of emptiness. Screening for existential distress should be conducted alongside assessments of depression, anxiety, fatigue, pain, and quality of life. Logotherapy may be prioritized when patients primarily struggle with loss of meaning, hopelessness, disrupted identity, or uncertainty regarding future direction, while compassion-focused therapy may be particularly helpful when shame, harsh self-judgment, fear, or difficulty with emotional soothing is prominent. Group-based delivery may offer an efficient and supportive format, particularly when resources are limited. Clinicians should adapt therapeutic activities to patients' fatigue, mobility, cognitive functioning, and medical schedules and should coordinate interventions with neurological and pharmacological treatment. Booster sessions, home practice, family education, and follow-up support may help maintain gains over time. An integrated care model that addresses both the emotional relationship with suffering and the reconstruction of meaning may provide the most comprehensive response to the psychological needs of women living with multiple sclerosis.

Authors' Contributions

Authors equally contributed to this article.

Declaration

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

Transparency Statement

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Ethical Considerations

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