

Comparison of the Effectiveness of Acceptance and Commitment Therapy and Metacognitive Therapy on Disease Self-Management and Illness Perception in Individuals with Multiple Sclerosis

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E d i t o r

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R e v i e w e r s

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1. Round 1

1.1. Reviewer 1

Reviewer:

In the paragraph introducing Metacognitive Therapy, the statement that MCT “focuses on maladaptive metacognitive beliefs and repetitive patterns of thinking” is accurate but insufficiently connected to the study outcomes. The authors should specify how positive and negative metacognitive beliefs, worry, rumination, threat monitoring, and attentional inflexibility may interfere with disease self-management and shape illness representations in MS. In particular, it would be useful to explain why MCT is expected to alter illness perception rather than merely reduce anxiety or repetitive negative thinking. Without this clarification, the theoretical justification for selecting MCT as a comparator remains somewhat underdeveloped.

The final paragraphs of the Introduction correctly identify a gap in direct comparative research, but the manuscript should sharpen the novelty claim. The sentence “direct comparative evidence remains limited” is too general. The authors should explicitly state whether previous studies have compared ACT and MCT in patients with MS, whether either intervention has previously been tested specifically on both disease self-management and illness perception, and whether the present

investigation is intended to address a population-specific or culturally specific gap. A precise statement of novelty would substantially strengthen the justification for the study.

The manuscript does not provide information about therapist qualifications, treatment fidelity, or therapist effects. For both intervention conditions, the authors should report the therapist's professional background, level of training in ACT and MCT, clinical experience, whether the same or different therapists delivered the interventions, and whether supervision was provided. It is also important to explain how adherence to the protocol was monitored—for example, through session checklists, audio recordings, independent ratings, or supervision. Without fidelity assessment, it is difficult to determine whether differences between ACT and MCT reflect treatment mechanisms or differences in delivery quality.

In the Data Analysis section, the authors state that “multivariate analysis of covariance (MANCOVA) was used as the principal inferential procedure,” yet the multivariate results reported in the Findings appear statistically inconsistent with the design. Specifically, the reported Wilks' Λ result of $F(2, 40) = 42.68$ for a three-group independent variable and two dependent variables requires verification because the multivariate hypothesis degrees of freedom would generally reflect both the number of group contrasts and the number of dependent variables. The authors should recheck the software output and report the exact multivariate degrees of freedom, test statistic, and transformation used. This issue is substantive and should be corrected before publication.

Authors revised the manuscript and uploaded the document.

1.2. Reviewer 2

Reviewer:

In the Study Design and Participants section, the manuscript reports that “A total of 45 eligible individuals were included in the final sample and randomly assigned to three equal groups of 15 participants.” The authors should clarify the randomization procedure in detail, including the method used to generate the allocation sequence, whether allocation concealment was implemented, who performed randomization, and whether the person enrolling participants was aware of upcoming assignments. Because the study is described as quasi-experimental but includes random assignment, the methodological terminology also requires clarification. If genuine random allocation was performed, the authors should justify why the design is classified as quasi-experimental rather than a randomized controlled trial.

The Study Design and Participants section lacks an a priori sample-size justification. Given that the study compares three groups with two dependent variables and uses MANCOVA followed by ANCOVA and pairwise comparisons, the authors should report how the target sample of 45 participants was determined. Ideally, a power analysis should be provided specifying the assumed effect size, alpha level, desired statistical power, number of groups, and covariates. If the sample size was determined pragmatically, this should be transparently acknowledged because 15 participants per group may provide limited precision and may increase sensitivity to assumption violations and influential observations.

The eligibility criteria include “absence of a severe psychiatric disorder,” but the manuscript does not state how this criterion was assessed. The authors should specify whether psychiatric status was determined by clinical interview, medical record review, neurologist referral, a standardized diagnostic interview, or a screening questionnaire. Similar clarification is needed for cognitive capacity and the ability to participate in group psychotherapy. Because MS can involve cognitive impairment, fatigue, and depression, eligibility assessment procedures could materially influence sample composition and treatment responsiveness.

In the description of the Multiple Sclerosis Self-Management Scale–Revised, the authors state that the validated Persian version contains 22 items after the removal of Items 21 and 22. However, the scoring description is potentially confusing because it discusses the original reverse-scored items while noting that one of these items was removed. The manuscript should provide the exact scoring procedure applied in the present study, including the theoretical score range of the 22-item Persian version, the reverse-scored items retained in that form, whether a total score or subscale scores were analyzed, and how missing responses were handled. These details are necessary for reproducibility.

The description of the Revised Illness Perception Questionnaire requires greater precision regarding the dependent variable analyzed in the study. The manuscript describes a 74-item multidimensional instrument with seven principal dimensions and a separate causal attribution component, yet the Findings report a single “illness perception” score with means around 31–43. The authors must explain exactly how this global score was calculated. If a total composite score was created, its derivation, directionality, theoretical range, and psychometric justification should be presented. This is particularly important because different IPQ-R dimensions do not necessarily have the same adaptive direction, and combining them without a validated scoring rationale may compromise construct validity.

The intervention protocols describe both ACT and MCT as eight weekly 90-minute group sessions, but the manuscript does not identify the treatment manuals or primary protocol sources used to construct the sessions. The authors should cite the specific ACT and MCT manuals or validated protocols on which the interventions were based and clarify whether any adaptations were made for individuals with MS. Disease-specific adaptation is especially relevant because fatigue, cognitive limitations, physical disability, and fluctuating symptoms may require modification of session duration, homework, or experiential exercises.

Authors revised the manuscript and uploaded the document.

2. Revised

Editor’s decision: Accepted.

Editor in Chief’s decision: Accepted.