

# The Effectiveness of an Integrated Intervention of Yoga Exercises and Reality Therapy on Psychological Reactance and Somatic Symptoms in Patients with Multiple Sclerosis (MS)

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| E d i t o r                                                                                                                                                            | R e v i e w e r s                                                                                                                                                                                                                                                                                                                                    |
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| Seyed Hamid Atashpour<br>Associate Professor, Department of Psychology, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran<br>hamidatashpour@gmail.com | <b>Reviewer 1:</b> Hajar Torkan<br>Assistant Professor, Department of Psychology, Islamic Azad University, Isfahan Branch (Khorasgan), Isfahan, Iran. h.torkan@khuif.ac.ir<br><b>Reviewer 2:</b> Farhad Namjoo<br>Department of Psychology and Counseling, KMAN Research Institute, Richmond Hill, Ontario, Canada. Email: farhadnamjoo@kmanresce.ca |

## 1. Round 1

### 1.1. Reviewer 1

Reviewer:

In the introduction, the discussion of yoga is well developed, but the paragraph beginning “Yoga has increasingly been considered a useful complementary intervention” should clarify which elements of yoga were used in the present protocol. The intervention included relaxation, awareness rotation, warm-up movements, dynamic movements, breathing exercises, pranayama, meditation, and final relaxation; therefore, the theoretical rationale should align more directly with these exact components. This would help readers understand why the selected yoga exercises are expected to affect both somatic symptoms and psychological reactance.

In the introduction, the paragraph discussing reality therapy states that “Reality therapy can help patients distinguish between controllable and uncontrollable aspects of illness,” which is relevant, but the manuscript should explain more clearly how this process is expected to reduce somatic symptoms, not only psychological reactance. Since one dependent variable is somatic symptoms, the argument should include a psychophysiological pathway, such as reduced emotional arousal, reduced stress-related bodily tension, improved self-regulation, and more adaptive symptom interpretation.

In the introduction, the paragraph beginning “The integration of yoga exercises and reality therapy may offer a more comprehensive intervention than either approach alone” is one of the strongest sections, but it would benefit from a clearer statement of the study gap. The manuscript should explicitly state that previous studies have examined yoga and reality therapy separately in MS or other chronic conditions, whereas fewer studies have tested an integrated protocol targeting both psychological reactance and somatic symptoms. This will make the novelty of the study more visible.

In the methods section, the paragraph “The present study was a quasi-experimental study with a pretest–posttest design and a control group” should specify whether allocation to the experimental and control groups was truly random after purposive recruitment. The Persian methods indicate that participants were selected purposively and then randomly assigned to groups, but the English text should make this distinction explicit. Without this clarification, readers may misinterpret the study as either fully randomized or purely non-randomized.

In the intervention protocol paragraph, the statement “its content validity was confirmed by experts in this field” needs more detail. Please specify how many experts evaluated the protocol, what their professional backgrounds were, what criteria they used, and whether any quantitative content validity index or qualitative review process was applied. This is particularly important because the protocol is integrated and appears to have been developed specifically for the study; therefore, evidence of its validity and feasibility should be reported more transparently.

In the methods section, the control condition needs more detail. The manuscript states that “the control group received no intervention during this period and remained on the waiting list,” but it is not clear whether participants in both groups continued routine medical care, physiotherapy, medication, or other supportive services. Because MS symptom severity can be affected by medication, fatigue management, relapse prevention, and rehabilitation services, the authors should report whether usual care was monitored or kept comparable across groups.

Response: Revised and uploaded the manuscript.

## 1.2. Reviewer 2

Reviewer:

In the participants paragraph, the sentence “30 participants were selected through purposive sampling, in accordance with Delavar’s recommendation for experimental research” requires stronger justification. The sample size should not rely only on precedent or a methodological textbook; the authors should consider adding a power analysis or at least a clear rationale based on expected effect size, alpha level, statistical power, and the number of groups. This is especially important because the reported ANCOVA effects are very large, and small samples can inflate effect estimates.

In the participants paragraph, the inclusion criterion “absence of psychiatric disorders and other chronic diseases based on self-report” needs revision. Self-report alone may not be sufficient for excluding psychiatric disorders, particularly when the study examines psychological reactance and symptom complaints. The authors should clarify whether any structured screening interview, clinical record review, physician confirmation, or psychological screening tool was used. If only self-report was used, this should be acknowledged as a methodological limitation.

In the participants paragraph, the criterion “the ability to walk at least 100 meters” is clinically meaningful, but the manuscript should explain why this threshold was selected. Since yoga exercises may require a minimum level of mobility, the rationale is understandable; however, the authors should clarify whether this criterion was based on safety considerations, intervention feasibility, or MS disability level. Reporting participants’ disability status, such as EDSS range if available, would substantially strengthen the clinical interpretability of the sample.

In the data collection tools section, the paragraph on the Psychological Reactance Scale should specify whether higher scores indicate higher psychological reactance and whether any items require reverse scoring. The paragraph currently reports the number of items, Likert scale, score range, and reliability, but it does not explain score interpretation. This clarification is necessary because the findings report a reduction in mean score from pretest to posttest, and readers need to know that this reduction reflects improvement.

In the data collection tools section, the SCL-90 paragraph states that “A high mean score in each symptom dimension, generally 3 or above, indicates a serious problem in that domain.” This interpretation should be handled cautiously because clinical cutoff points for SCL-90 subscales may vary by population, version, and validation context. The authors should either cite the basis for this threshold or avoid presenting it as a universal clinical cutoff. It would also be useful to clarify whether the somatic complaints score was interpreted dimensionally rather than diagnostically.

In the intervention protocol paragraph, the session descriptions are comprehensive, but they are too dense for a methods section and may be difficult for readers to follow. For example, the fifth session includes “total behavior,” “action, thinking, feeling, and somatic symptoms,” and several explanatory examples within a single long sentence. The authors should revise this paragraph into a clearer narrative that summarizes the core components across sessions while preserving essential details. If journal format permits, the full session-by-session protocol could be placed in a table or appendix.

Response: Revised and uploaded the manuscript.

## 2. Revised

Editor’s decision after revisions: Accepted.

Editor in Chief’s decision: Accepted.