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The Effectiveness of Mindfulness Training on Cognitive Flexibility and Psychosomatic Symptoms in Women with Generalized Anxiety Disorder

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1. Round 1

1.1. Reviewer 1

Reviewer:

The inclusion and exclusion criteria described in the Methods are presently too general. The manuscript indicates that participants were required to demonstrate symptoms of GAD and be willing to participate, but clinically important criteria are missing. The authors should specify allowable age range, minimum GAD-7 score, duration of anxiety symptoms, concurrent psychiatric disorders, use of psychotropic medication, simultaneous psychotherapy, substance use, major medical conditions capable of producing somatic symptoms, pregnancy if relevant, and previous experience with mindfulness-based interventions. These variables are especially important because the principal dependent variables include psychosomatic symptoms, which may be strongly affected by medical conditions and medication.

The manuscript should provide a formal justification for the sample size of 30 participants. Given that the study uses ANCOVA and evaluates two outcomes, a priori statistical power analysis should be reported, including the expected effect size, α level, desired statistical power, number of groups, and number of covariates. A sample of 15 participants per group is relatively small, and without power justification it is unclear whether the study was adequately designed to detect plausible

intervention effects. The authors should also distinguish between the recruited sample and the final analyzed sample and explain whether any attrition occurred.

Intervention fidelity should be addressed explicitly. Since the principal conclusion attributes changes to mindfulness training, readers need evidence that the intervention was delivered consistently across all eight sessions. The authors should report whether a treatment manual or session checklist was used, whether sessions were supervised or recorded, whether adherence was independently evaluated, and whether participants' attendance and home-practice completion were monitored. Reporting the mean number of sessions attended and defining the minimum attendance necessary to remain in the analysis would substantially improve methodological rigor.

Response: Revised and uploaded the manuscript.

1.2. Reviewer 2

Reviewer:

There is a major baseline comparability concern in Table 1 that requires careful investigation. For psychosomatic symptoms, the experimental group reportedly had a pretest mean of 89.39, whereas the control group had a mean of only 40.25. This difference is exceptionally large relative to the reported standard deviations of 4.78 and 5.25 and strongly suggests that randomization did not produce comparable groups, or alternatively that a transcription/data-entry error may have occurred. The authors should verify the raw data and reported means. If these values are correct, the magnitude of baseline imbalance must be explicitly reported, statistically evaluated, and discussed because it materially complicates causal interpretation even when ANCOVA is used.

A similar, although smaller, baseline imbalance is evident for cognitive flexibility, where the experimental group had a pretest mean of 38.42 and the control group had a mean of 44.47. Since the sample contains only 15 participants per group, randomization cannot automatically be assumed to have achieved baseline equivalence. The manuscript should present baseline group comparisons for the principal outcomes and relevant demographic/clinical characteristics. More importantly, the authors should avoid relying solely on nonsignificant baseline tests as evidence of equivalence and should report standardized differences or another appropriate index of baseline imbalance.

The descriptive results in Table 1 raise an additional interpretive problem because the control group shows substantial change despite reportedly receiving "no specific psychological intervention." Cognitive flexibility increased from 44.47 to 57.74 in the control group, and psychosomatic symptoms decreased from 40.25 to 32.12. These are sizeable changes rather than stability. The authors should investigate whether participants in the control condition received any treatment-as-usual, counseling, medication changes, psychoeducation, or other services during the study. The Discussion should acknowledge these changes and consider regression to the mean, repeated-testing effects, spontaneous improvement, or contamination between groups.

The description of the mindfulness intervention should identify the theoretical/manualized basis of the protocol. The manuscript currently states that participants received "eight weekly 90-minute mindfulness-training sessions," followed by a session-by-session description, but it does not indicate whether the intervention was adapted from Mindfulness-Based Stress Reduction, Mindfulness-Based Cognitive Therapy, or another established protocol. The authors should cite the intervention source, explain any adaptations made for women with GAD, identify the therapist's qualifications and mindfulness training experience, report group size and treatment setting, and clarify whether participants received formal home-practice assignments.

The "Data Collection Tools" section should report the reliability coefficients obtained from the present sample rather than relying exclusively on coefficients reported in previous studies. For the Cognitive Flexibility Inventory and PSQ-39 in particular, Cronbach's alpha or preferably omega coefficients should be calculated from the current baseline data. Reliability is sample-dependent; therefore, evidence from prior Iranian validation studies does not establish that the instruments

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demonstrated adequate internal consistency in this specific sample. If subscale analyses are reported, reliability should also be provided for each relevant subscale.

Response: Revised and uploaded the manuscript.

2. Revised

Editor's decision after revisions: Accepted.
Editor in Chief's decision: Accepted.

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