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Effectiveness of Combined Healthy Lifestyle Education and Yoga Therapy on Self-Reflection and Personal Insight in Overweight Adults at Risk of Type 2 Diabetes

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1. Round 1

1.1 Reviewer 1

Reviewer:

In the paragraph beginning "Although lifestyle education can improve knowledge and provide practical behavioral targets...", the statement that information alone does not guarantee behavioral change is appropriate; however, the discussion remains conceptual. Please expand this section by incorporating established behavioral theories (e.g., Self-Regulation Theory, Social Cognitive Theory, or the Health Action Process Approach) to provide a stronger theoretical framework supporting the intervention.

The Discussion begins with "The present study found that a 10-session program combining healthy lifestyle education with yoga therapy produced substantial improvements..." However, the discussion primarily restates the findings before interpreting them. The first paragraph should move beyond simple summary and immediately place the results within the broader context of previous intervention studies and theoretical mechanisms.

Several paragraphs of the Discussion propose mechanisms involving interoception, emotion regulation, attentional control, and self-awareness. While these explanations are plausible, none of these constructs were measured in the present study. The authors should clearly distinguish between evidence-based interpretation and speculation, emphasizing that these mechanisms remain hypothetical unless directly assessed.

Authors revised the manuscript and uploaded the updated document.

1.2 Reviewer 2

Reviewer:

The paragraph beginning "Self-reflection and personal insight are related but distinct metacognitive capacities..." relies almost exclusively on the original work of Grant et al. (2002). Considering the rapid development of metacognitive and mindfulness literature, the authors should include more recent empirical evidence supporting the relevance of these constructs in health behavior modification, obesity management, or chronic disease prevention.

In the Methods section, the sentence "Purposive sampling was used to identify eligible volunteers, who were then randomly allocated to the experimental and control groups." requires clarification. Please explain precisely how randomization was performed (computer-generated sequence, random number table, sealed envelopes, etc.), who generated the allocation sequence, and whether allocation concealment was implemented. Without these details, the internal validity of the study cannot be adequately evaluated.

The paragraph describing participant eligibility states that participants had "physician-confirmed symptoms or risk factors compatible with prediabetes." This criterion is insufficiently precise. Please specify the exact diagnostic criteria used (fasting plasma glucose, HbA1c, oral glucose tolerance test, BMI thresholds, waist circumference, family history, or ADA criteria). The absence of standardized diagnostic criteria limits reproducibility.

The manuscript does not include a sample size justification or statistical power analysis. Because only 40 participants were included, the authors should report whether an a priori power analysis was conducted, identify the expected effect size used in the calculation, and explain how the required sample size was determined.

The intervention section states that participants completed "10 weekly sessions of approximately 60 minutes." While Table 1 summarizes session topics, the intervention lacks sufficient detail for replication. Please specify the duration allocated to educational content versus yoga practice, instructor qualifications, yoga style employed (e.g., Hatha, Iyengar, therapeutic yoga), participant adherence monitoring, and home-practice compliance rates.

The sentence "The control group received no intervention during the study period." raises concerns regarding attention bias and placebo effects. The authors should justify the use of a passive control group rather than an active comparator and discuss how nonspecific therapeutic factors such as group interaction, expectancy, and therapist attention may have contributed to the observed effects.

In the Statistical Analysis section, the authors indicate that Shapiro–Wilk, Levene's, and Mauchly's tests were performed, but the actual test statistics and p-values are not reported. These assumption-testing results should either be presented in a supplementary table or incorporated into the Results section to allow readers to verify the appropriateness of the selected statistical analyses.

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Table 2 presents only descriptive statistics. Since the study focuses on longitudinal intervention effects, the table would be considerably strengthened by including 95% confidence intervals and standardized effect sizes (e.g., Cohen's d or Hedges' g) for changes between assessment points. This would facilitate interpretation of the practical significance of the intervention.

In the Results section, the sentence "The groups began with similar mean scores..." should not rely solely on descriptive observations. Please provide formal baseline comparisons (independent t-tests or equivalent analyses) for demographic characteristics and outcome variables to demonstrate initial group equivalence statistically.

Table 3 reports statistically significant group effects alongside significant interaction effects. Because the interaction is the primary outcome in repeated-measures ANOVA, the interpretation of significant main effects should be approached cautiously. The manuscript should explicitly explain why the interaction effect is the principal finding and avoid overinterpreting main effects in the presence of significant interactions.

Throughout the Results section, statistical significance is emphasized, whereas clinical significance receives limited attention. For example, the increase in self-reflection from 39.65 to 53.40 represents a substantial numerical improvement, but readers would benefit from discussion regarding whether this magnitude exceeds established minimal clinically important differences or normative score ranges for the Self-Reflection and Insight Scale.

Authors revised the manuscript and uploaded the updated document.

2. Revised

Editor’s decision after revisions: Accepted.

Editor in Chief’s decision: Accepted.

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