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Effectiveness of Cognitive-Behavioral Therapy on Perceived Pain and Sleep Quality in Patients with Fibromyalgia

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1. Round 1

1.1. Reviewer 1

Reviewer:

In “Fibromyalgia syndrome (FMS) is a complex chronic disorder characterized by widespread musculoskeletal pain, sleep disturbance, fatigue, cognitive impairment, and emotional distress…,” consider adding a concise statement quantifying the psychological comorbidity burden (e.g., percentage of patients experiencing depression/anxiety) to contextualize the relevance of CBT.

In “Experimental Group 1 = Cognitive-Behavioral Therapy; Experimental Group 2 = Acceptance and Commitment Therapy,” it is unclear whether both interventions were analyzed or only CBT was reported. Clarify whether ACT results are omitted or part of a parallel publication. The omission raises interpretive ambiguity.

The paragraph stating “Using purposive sampling, 45 participants were selected and randomly assigned…” contradicts an earlier note indicating 60 participants selected and reduced to 45 after attrition. Standardize and explain the attrition process clearly, including reasons for dropout and whether intention-to-treat analysis was considered.

The inclusion criterion “absence of any other physical or psychological disorder…” overlaps with exclusion criterion “development of any chronic physical or psychiatric condition.” Merge or rephrase these to avoid redundancy and ensure consistency between criteria.

When reporting reliability, the text says “Cronbach’s alpha for the overall instrument was 0.74.” This is modest. The authors should justify its adequacy (e.g., via content validity support or referencing field standards for clinical scales).

The scoring description is overly detailed and distracts from the psychometric summary. Consider moving computation details (e.g., “calculated by dividing total hours slept...”) to supplementary materials and summarizing key psychometric values in-text for readability.

In the section “Session 1 focused on rapport building, motivation, and introducing the structure…,” consider specifying the therapist-to-patient ratio and training credentials of facilitators. Were fidelity checks or session adherence protocols implemented?

The paragraph beginning “The significant decrease in perceived pain following CBT suggests that cognitive processes…” overextends by claiming neural deactivation (“dampen hyperactivity in the anterior cingulate cortex”). Without imaging data, this should be presented as a theoretical linkage, not an observed finding.

In “CBT to be as effective as Acceptance and Commitment Therapy (ACT) or Emotional Awareness and Expression Therapy (EAET)...,” provide the specific comparative study sample sizes and outcome measures referenced to justify equivalence. Otherwise, readers might overgeneralize the claim.

Authors revised the manuscript and uploaded the document.

1.2. Reviewer 2

Reviewer:

The sentence “Recent neuroimaging studies and molecular research have identified neuroinflammatory processes and dysregulated hypothalamic-pituitary-adrenal (HPA) axis activity…” is informative but dense. Consider reorganizing it into two shorter sentences distinguishing neuroimaging versus endocrine evidence for clarity and readability.

The passage “Psychological interventions, especially cognitive-behavioral therapy (CBT), have emerged as highly effective…” would benefit from explicitly citing meta-analytic evidence quantifying CBT’s average effect size on pain or sleep improvement in fibromyalgia (e.g., Cohen’s d or Hedges g).

In “Cognitive reframing helps patients reinterpret their pain experiences in less threatening ways…,” this mechanistic claim should ideally be supported by neurocognitive evidence (e.g., fMRI studies linking prefrontal activation with reduced pain perception). Cite an appropriate source or temper the claim.

The phrase “Tailored CBT programs combining psychoeducation, cognitive restructuring, and exercise therapy have demonstrated superior outcomes…” should specify the patient subgroup (e.g., high catastrophizing, high anxiety) to illustrate what “tailored” means in this context.

The statement “Mauchly’s test of sphericity yielded significant results for all dependent variables…” should include a brief justification for choosing Greenhouse–Geisser over Huynh–Feldt correction. The choice should align with the epsilon value and convention ($\varepsilon < 0.75 \rightarrow$ GG; $\varepsilon > 0.75 \rightarrow$ HF).

Table 2 presents F, η^2, and power but omits degrees of freedom. Reviewers cannot assess effect magnitude reliability without df values. Include them for each test (e.g., F(2, 42) = …). Also, confirm that partial η^2 was used, not η^2_total.

In “These findings suggest that Cognitive-Behavioral Therapy produced significant improvements… remained stable and durable during the follow-up period,” consider supporting the durability claim with a quantitative measure of retention rate (e.g., percentage of improvement maintained at follow-up).

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2. Revised

Editor's decision: Accepted.
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