Critical Evaluation of the Methodology and Applicability of Digital ACT for Fibromyalgia Management

Dan Shan*
Lancaster University, Lancaster, United Kingdom

*Corresponding author
Address: Sir John Fisher Drive, Bailrigg, Lancaster, United Kingdom, LA1 4YT.
Email: d.shan@lancaster.ac.uk

Dear Editor,

Gendreau et al. present significant findings on the efficacy of digital acceptance and commitment therapy for managing fibromyalgia(1). However, several aspects warrant further discussion.

Firstly, the reliance on the Patient Global Impression of Change as the primary endpoint, while validated, is subjective and highly susceptible to placebo effects. Given the psychological nature of ACT, participants' expectations and their relationship with the treatment modality could significantly impact their self-reported outcomes. This subjectivity could be mitigated by incorporating more objective measures of improvement, such as biomarkers of stress or pain, alongside self-reported questionnaires(2). Integrating a combination of qualitative and quantitative data could offer deeper insights into patient experiences and outcomes.

Secondly, the authors report a significant improvement in the digital ACT group compared to the active control group, with a 71% improvement rate on PGIC at 12 weeks. However, the presentation of effect sizes, specifically Cohen's d, could benefit from more context. For instance, reporting the confidence intervals for these effect sizes would provide a clearer picture of the variability and reliability of the observed effects. Moreover, the mixed model for repeated measures approach used for continuous outcomes is appropriate, but assumptions of this model, such as normality of residuals and homoscedasticity, should be explicitly addressed and validated.

The authors assert that digital ACT showed superiority in managing fibromyalgia symptoms, including pain, fatigue, and depression. However, these conclusions might overstate the findings due to the inherent limitations of the study design. For example, the active control group received symptom tracking and educational materials, which, while beneficial, do not equate to the therapeutic intensity of a structured ACT program. This disparity in treatment modalities might contribute to the observed differences in outcomes, rather than the efficacy of digital ACT alone(3). Furthermore, the potential influence of participants' expectations should be considered, as those in the ACT group might have had higher expectations of

improvement due to the perceived novelty and structured nature of the intervention compared to the control group's more passive approach.

Additionally, the discussion section briefly mentions the potential for increased accessibility of digital ACT. However, the study does not thoroughly address the feasibility and acceptance of such a digital intervention across diverse patient populations, especially those less tech-savvy or with limited access to digital tools. Future studies should focus on the implementation challenges and real-world applicability of digital ACT to ensure it is a viable option for all patients with fibromyalgia(4). Addressing these issues is crucial for translating clinical trial results into practice. Studies should explore factors such as user engagement, digital literacy, and socioeconomic barriers to understand better how these interventions can be effectively disseminated and implemented in broader, more diverse populations.

I declare no competing interests.

References

1. Gendreau RM, McCracken LM, Williams DA, Luciano JV, Dai Y, Vega N, Ghalib Z, et al. *Self-guided digital behavioural therapy versus active control for fibromyalgia (PROSPER-FM): a phase 3, multicentre, randomised controlled trial.* Lancet 2024;404:364-374.
2. Hróbjartsson A, Gøtzsche PC. *Placebo interventions for all clinical conditions.* Cochrane Database Syst Rev 2010;2010:Cd003974.
3. Boutron I, Moher D, Altman DG, Schulz KF, Ravaud P. *Extending the CONSORT statement to randomized trials of nonpharmacologic treatment: explanation and elaboration.* Ann Intern Med 2008;148:295-309.
4. Baumel A, Muench F, Edan S, Kane JM. *Objective User Engagement With Mental Health Apps: Systematic Search and Panel-Based Usage Analysis.* J Med Internet Res 2019;21:e14567.