

A systematic review of the effectiveness of non-pharmacological interventions for young people aged 13-25 presenting with long COVID

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Introduction

Management of persistent symptoms following a COVID-19 infection often termed long COVID, are not widely studied in adolescents and young adults (AYA). This systematic review aimed to synthesise and review evidence on the effectiveness of non-pharmacological interventions for AYA aged 13-25 years presenting with long COVID symptoms.

Methods

This review adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines¹ (PROSPERO: CRD42024516016). A systematic literature search was conducted in four databases (PubMed, EMBASE, PsycInfo, and ProQuest) in addition to manual searches on Google Scholar for studies published in English from January 2020 to May 2024. A final manual search was conducted in September 2024. The studies were screened for eligibility using pre-determined criteria and methodological quality was assessed using the Joanne Briggs Institute (JBI) critical appraisal tool^{2,3}. A narrative synthesis approach was applied to synthesise the evidence.

Results

This review included seven studies on non-pharmacological interventions for AYA experiencing long COVID symptoms. Of the six studies, three studies discussed rehabilitation (n=3)^{4,5,6}, followed by alternative medicine practices (n=3)^{7,8,9} and mechanical therapy (n=1)¹⁰. There was considerable heterogeneity across intervention approaches, duration, outcomes, measurement tools and timing of outcome assessments. Interventions ranged in duration from seven to 42 days and four to 35 sessions. Findings suggested that interventions, although varied, were effective in improving fatigue, mental health (MH), quality of life (QoL), and cognitive function

Table 1. Summary of included studies' intervention and outcomes

Author	Intervention	Outcomes
Braga et al. ⁴	Neuropsychological rehabilitation program	MH; QoL; cognitive function
Muller et al. ⁵	Multidisciplinary team post-COVID rehabilitation program	MH; fatigue; cognitive function
Kvale et al. ⁶	Micro-choice based concentrated group rehabilitation	MH; QoL
Chokpaisarn et al. ⁷	Traditional Thai Medicine practices	MH; fatigue; QoL
McEwan et al. ⁹	Online forest bathing	MH; fatigue
Torner et al. ¹⁰	Forest bathing	MH; fatigue; cognitive function
Sathymoorthy et al. ⁸	Enhanced external counterpulsation	Fatigue; QoL; cognitive function

Conclusion

Evidence highlights the effectiveness of non-pharmacological interventions in treating neuropsychiatric symptoms of long COVID-19 in AYA. Nevertheless, further research must be conducted with longer-term follow-up to allow for a more tailored approach that integrates several interventions.

Further information

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