

Is any more research needed comparing spinal manipulation to other interventions for chronic lower back pain needed?

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Background: Chronic lower back pain is a leading cause of disability and will affect over 800 million people by 2050. Therefore, there is need for good, evidence-based back pain care. Spinal manipulation therapy (SMT) is a recommended treatment for chronic lower back pain in multiple guidelines. However, meta-analysis results have shown SMT to not provide clinically significant improvements in pain and function in chronic lower back pain. We aim to explore if further research is needed or if this conclusion is definitive, and if there is evidence of research waste in this field.

Methods: We re-analysed data from a 2019 meta-analysis by Rubenstein and a 2021 Cochrane review into exercise therapies for lower back pain using trial sequential analysis. The Trial sequential analysis tool developed by Copenhagen Clinical Trials Unit, determines required sample size, and establishes if further trials are needed. Pain and function outcomes at one-, six- and twelve-month follow-up times were investigated. Cumulative meta-analysis was employed (using RevMan5.4 software) to explore the impact of trial size on conclusions.

Results: The results of our Trial Sequential Analysis reflected the results from the review outcomes; there was no clinically significant mean difference between SMT and recommended or exercise therapies. However, we showed that at time-frames, with both pain and function outcomes, that the futility of SMT was concluded after only a few trials. We also demonstrated, with cumulative meta-analyses, small trials may be providing spurious results that misrepresent outcomes.

Conclusion: Conclusions regarding the effectiveness of spinal manipulative therapy for chronic lower back pain have been reached and a substantial number of trials have not added to the field of research; this constitutes as research waste.

