## Systematic review and meta-analysis of the efficacy of tuina for cervical spondylosis.

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AIMS AND OBJECTIVES: This study performed a meta-analysis of seven parallel-group comparison studies evaluating the efficacy of tuina in treating cervical spondylosis. BACKGROUND: Tuina is a form of Chinese manipulative therapy. It has been used as a modality for the treatment of symptoms associated with such a musculoskeletal condition as cervical spondylosis. However, evidence regarding the efficacy of tuina for cervical spondylosis has yet to be determined. DESIGN: Systematic review. METHODS: Cochrane library, Pubmed, MEDLINE, EBM review, ProQuest Medical Bundle and SCOPUS databases were searched using the following medical subject headings or key words: tuina, tuinaology, manual medicine, massotherapy, cervical spondylopathy, cervical spondylosis and cervical vertebrae. Chinese research papers were searched through the Chinese electronic periodical services and Wangfane database. The publication date was limited from 1996-2007. Studies were selected if they were written in English or Chinese, used tuina as a stand-alone modality, used a parallel-group comparison design and explicated raw data regarding symptoms relief. Two independent reviewers reviewed the selected studies based on the evidence rating system of the US Preventive Services Task Force. Studies with an evidence rating of II-2 fair or above were included in this review. RESULTS: The direction of the effect size for the improvement of blood flow velocity of vertebral artery and basilar artery was not consistent across studies. Moreover, the pooled effect size was negligible. No evidence supported that tuina could improve headache and vertigo. A small effect of tuina on the viscosity of blood and plasma was found. CONCLUSION: Based on the results of this systematic review, a definitive conclusion regarding the effects of tuina on cervical spondylosis remains to be determined. RELEVANCE TO CLINICAL PRACTICE: The efficacy of tuina is not supported by parallel-group comparison studies.