Effects of Tai Chi Exercises on Adults with Metabolic Syndrome: A Systematic Review Protocol

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Background: Metabolic syndrome is a cluster of metabolic disturbances that increases the likelihood of developing cardiovascular diseases, type 2 diabetes mellitus, and mortality. The economic burden of metabolic syndrome in individuals with hypertension is projected to rise by 179% by 2020 (Wille et al., 2011). Although pharmacological and non-pharmacological management options including herbal medicine and lifestyle and dietary modifications appear to be effective, the numerous potential adverse effects may deter its use (Mallappa et al., 2012).

Aim: This systematic review aims to present the best available research evidence related to the effectiveness of Tai Chi Exercises on community-dwelling adults with metabolic syndrome. The specific review questions to be addressed include the effectiveness of Tai Chi exercises on physiological and psychosocial outcomes among community-dwelling adults with metabolic syndrome; and the effectiveness of different types, duration, and frequency of Tai Chi exercises on client outcomes.

Methods: All published and unpublished studies in both English and Chinese will be searched using a three-stage approach. The English databases to be searched include MEDLINE, CINAHL, Allied and Complementary Medicine, British Nursing Index, EBSCOhost, EMBASE, Health and Medical Complete, Health Sciences, ProQuest, PsycINFO, PsycArticles, Science Citation Index, Science Direct, Scopus, and SPORTDiscus. The Chinese databases to be searched include China Journal Net, Chinese Biomedical Literature Database, MyRead, Taiwan Electronic Periodical Services, and WanFang Data. Two reviewers will independently review the articles and chose those to be included based on the inclusion and exclusion criteria. The methodological quality of included studies will be assessed and details of all included studies will be extracted by two reviewers. If appropriate, quantitative results of comparable studies will be pooled in statistical meta-analysis. Narrative summary will be provided when statistical pooling is not possible.

Conclusion: This systematic review protocol describes the methods and steps necessary to conduct a systematic review on the effectiveness of Tai Chi Exercises on client outcomes. The review will provide useful guidance for
healthcare providers to choose the most suitable and effective alternative intervention for the community-dwelling adults with metabolic syndrome.

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