INPLASY PROTOCOL

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Conflicts of interest:
None declared.

Effectiveness and Safety of Tai Chi for Chronic Pain of Knee Osteoarthritis: a Protocol for Systematic Review and Meta-analysis

Guo, G[1]; Wu, B[2]; Xie, S[3]; Xu, J[4]; Zhou, X[5]; Wu, G[6]; Lu, P[7].

Review question / Objective: **The aim of this protocol for systematic review and meta-analysis of randomized controlled trials is to evaluate the efficacy and safety of Tai Chi for knee osteoarthritis (KOA) patients with chronic pain (CP).**
Condition being studied: **Knee Osteoarthritis. Chronic Pain. Tai Chi.**
Information sources: **A systematic search will be performed in the following electronic databases for randomized controlled trials (RCTs) to evaluate the effectiveness and safety of Tai Chi in treating CPKOA: the Cochrane Library, PubMed, EMBASE, OVID-MEDLINE, and four Chinese databases (Wan Fang, CNKI, CBMdisc and VIP) for articles published before Dec. 2021.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 03 December 2021 and was last updated on 03 December 2021 (registration number INPLASY2021120020).

INTRODUCTION

Review question / Objective: **The aim of this protocol for systematic review and meta-analysis of randomized controlled trials is to evaluate the efficacy and safety of Tai Chi for knee osteoarthritis (KOA) patients with chronic pain (CP).**

Condition being studied: **Knee Osteoarthritis. Chronic Pain. Tai Chi.**

METHODS

Participant or population: **Inclusion criteria: Adults with KOA (as diagnosed by a clinician, or using any recognized**

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diagnostic criteria) will be included. CPKOA patients have pain that lasts longer than 3 months. Exclusion criteria: Severe primary disease such as cardiovascular, lung, kidney, and hematopoietic disease, pregnant woman, patients with mental illness.

Intervention: Tai Chi was the main intervention (e.g., Chen style, Sun style, Yang stylee.g. Yang's taijiquan, Chen taijiquan).

Comparator: The interventions of control group will involve any therapy other than Tai Chi (e.g., medication, placebo, routine care, etc.).

Study designs to be included: We will include randomized trials to assess the beneficial effects of the treatments, and will supplement these with observational studies for the assessment of harms.

Eligibility criteria: Only RCTs about Tai Chi for CPKOA will be included, with language restrictions in English or Chinese. Case report, experience report, and laboratory studies will not be included

Information sources: A systematic search will be performed in the following electronic databases for randomized controlled trials (RCTs) to evaluate the effectiveness and safety of Tai Chi in treating CPKOA: the Cochrane Library, PubMed, EMBASE, OVID-MEDLINE, and four Chinese databases (Wan Fang, CNKI, CBMdisc and VIP) for articles published before Dec. 2021.

Main outcome(s): Primary outcomes include pain, such as Visual analogue scale (VAS), The Western Ontario and McMaster Universities Arthritis Index (WOMAC) pain etc.

Quality assessment / Risk of bias analysis: The risk of bias for each of the following domains will be assessed for each study: (1) random sequence generation, (2) allocation concealment, (3) blinding of participants and personnel, (4) blinding of outcome assessments, (5) incomplete outcome data, (6) selective reporting, and (7) other bias. Each study included will be rated as having a high, low, or unclear risk of bias. Two reviewers (SX and BW) will evaluate the consistency of all the extracted data and quality ratings. Disagreements will be resolved by discussion with a third reviewer (GG).

Strategy of data synthesis: For discontinuous variables, the risk ratio (RR) with 95% confidence interval (CI) will be selected. For continuous variables, the weighted mean difference (WMD) with 95% CI will be selected when the measuring instruments are the same, and the standardized mean difference (SMD) with 95% CI will be selected when the measuring instruments are different. We will use the fixed-effect model if there is no significant heterogeneity (P>.1 or I2.1 or I2< 50%), we will conduct subgroup analysis or sensitivity analysis to identify possible causes of heterogeneity among populations.

Subgroup analysis: If the necessary data are available, subgroup analysis will be conducted according to the following criteria[14]: (1)The treatment period. (2)Different styles of Tai Chi (e.g., Chen style, Sun style, Yang style).

Sensitivity analysis: Sensitivity analysis: To identify the robustness of the meta-analysis, low-quality trials, with high risks of bias or outcomes that are seriously distant from the rest of the data, will be excluded.

Country(ies) involved: China.

Keywords: Knee Osteoarthritis, Chronic Pain, Tai Chi, Protocol, Meta-analysis

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