

INPLASY PROTOCOL

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Review Stage at time of this submission: Formal screening of search results against eligibility criteria.

Conflicts of interest:
None declared.

The Effect of Tai Chi on the Elderly with Sarcopenia and Frailty: A Systematic Review and Meta-analysis of Randomized Controlled Trials

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Review question / Objective: What are the effect of Tai Chi on the elderly with sarcopenia and frailty?

Condition being studied: The condition being studies are sarcopenia and frailty.

Information sources: The PubMed, Cochrane Library, PEDro, EMBASE, and Web of Science will be searched between 1989 and 2022 for randomized controlled trials presented by English.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 06 June 2022 and was last updated on 06 June 2022 (registration number INPLASY202260020).

INTRODUCTION

Review question / Objective: What are the effect of Tai Chi on the elderly with sarcopenia and frailty?

Condition being studied: The condition being studies are sarcopenia and frailty.

METHODS

Participant or population: The elderly (age \geq 60-year-old) in studies to investigate the effect from Tai Chi on sarcopenia or frailty will be included.

Intervention: Tai Chi for sarcopenia and frailty will be reviewed.

Comparator: The designs of control group could be observational cohort, other exercises, or other medical prescriptions.

Study designs to be included: Only randomized controlled trials will be included.

Eligibility criteria: The studies included participants with age < 60-year-old would be excluded.

Information sources: The PubMed, Cochrane Library, PEDro, EMBASE, and Web of Science will be searched between 1989 and 2022 for randomized controlled trials presented by English.

Main outcome(s): The primary outcomes will be improvement in (1) muscle mass, (2) muscle strength and (3) physical performance by Tai Chi and other interventions in sarcopenia and frail elderly.

Additional outcome(s): The others outcomes related to geriatric syndromes would be analyzed: fall, depression, blood pressure, cognitive status, and quality of life, etc.

Data management: Two investigators will independently screen the studies, extract relevant data from the articles, and assess the risk of bias from the included studies. When the discrepancy noted, a third person was involved. If lacking of available data from the manuscripts, we will contact the corresponding authors or co-authors to obtain the original data.

Quality assessment / Risk of bias analysis: The risk of bias described in the Cochrane risk of bias tool: namely, random sequence generation (selection bias), allocation concealment (selection bias), blinding of participants and personnel (performance bias), blinding of outcome assessment (detection bias), incomplete outcome data (attrition bias), selective reporting (reporting bias), and other bias will be assessed for included studies as well as for all studies as the overall risk of bias.

Strategy of data synthesis: Pooling mean and standard deviation (pre-post-interventions) of variables for the elderly with sarcopenia and frailty.

Subgroup analysis: For evaluating the effects from potential confounding factors, we will select studies to perform subgroup analysis. For evaluating the outcomes objectively, we would divide the control groups to non-exercise and exercise cohorts.

Sensitivity analysis: The sensitivity analysis would be performed when the pooling outcome with high risk of heterogeneity.

Language: English.

Country(ies) involved: Taiwan.

Keywords: Tai Chi; sarcopenia; frailty.

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