

# INPLASY PROTOCOL

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**Conflicts of interest:**  
None declared.

## Evidence Quality Assessment of Tai Chi Exercise Intervention in Cognitive Impairment: An Overview of Systematic Review and Meta-Analysis

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**Review question / Objective:** In recent years, systematic reviews/meta-analyses (SRs/MAs) of the effects of Tai Chi (TC) on cognitive impairment have continued to emerge. However, their methods and the quality of evidence have yet to be evaluated, and whether their conclusions can be the basis for guiding clinicians is still controversial. The purpose of this overview is to summarize the relevant TC treatment of cognitive impairment evidence and assess its quality.

**Information sources:** Searched seven electronic databases from their respective establishment time to December 15, 2021, including PubMed, Cochrane Library, EMBASE, China Biomedicine (CBM), CNKI, Wanfang Database, and Chongqing VIP.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 09 April 2022 and was last updated on 09 April 2022 (registration number INPLASY202240055).

### INTRODUCTION

**Review question / Objective:** In recent years, systematic reviews/meta-analyses (SRs/MAs) of the effects of Tai Chi (TC) on cognitive impairment have continued to emerge. However, their methods and the quality of evidence have yet to be evaluated, and whether their conclusions can be the basis for guiding clinicians is still controversial. The purpose of this

overview is to summarize the relevant TC treatment of cognitive impairment evidence and assess its quality.

**Condition being studied:** Systematic reviews (SRs)/meta-analyses (MAs) are important tools to guide evidence-based clinical practice and have been widely used in various fields of medicine in recent years. A growing number of SRs/MAs based on TC intervention for cognitive

impairment suggest that TC can improve patients' cognitive function and delay the development of cognitive impairment, and improve the quality of life. However, their methodology and quality of evidence have not been assessed, and whether these conclusions provide clinicians with credible evidence remains controversial. Searched seven electronic databases from their respective establishment time to December 15, 2021, including PubMed, Cochrane Library, EMBASE, China Biomedicine (CBM), CNKI, Wanfang Database, and Chongqing VIP. The language of the publication is not restricted. Document retrieval uses a combination of MeSH terms and free words, such as "Tai Chi", "Cognitive Impairment", "Systematic Review" and "Meta-Analysis", and adjusted according to different databases.

## METHODS

**Participant or population:** Subjects were patients diagnosed with MCI or dementia by any international or national standard.

**Intervention:** The intervention of control group was conventional treatment (CT) or Daily life and activities, and the intervention of experimental group was TC exercise or TC combined with control group. CT includes health education, routine care, attention control, or medication.

**Comparator:** The intervention of control group was conventional treatment (CT) or Daily life and activities, and the intervention of experimental group was TC exercise or TC combined with control group. CT includes health education, routine care, attention control, or medication.

**Study designs to be included:** Study Design: This overview only includes SRs/MAs from randomized controlled trials (RCTs) of CLE/C in the treatment of OA.

**Eligibility criteria:** Repeated publications, other overviews, Mesh meta-analysis, narrative reviews, and conference abstracts were excluded.

**Information sources:** Searched seven electronic databases from their respective establishment time to December 15, 2021, including PubMed, Cochrane Library, EMBASE, China Biomedicine (CBM), CNKI, Wanfang Database, and Chongqing VIP.

**Main outcome(s):** At least one measure of cognitive domains is reported, and we counted the reports on cognitive function in each SR/MA. This also includes the types of scales included in these relevant outcome indicators.

**Quality assessment / Risk of bias analysis:** Two reviewers independently evaluated the methodological quality, risk of bias, report quality, and evidence quality of the included SRs/MAs on randomized controlled trials (RCTs). The tools used are Assessment System for Evaluating Methodological Quality 2 (AMSTAR-2), the Risk of Bias In Systematic (ROBIS) scale, the list of preferred reporting items for systematic reviews and meta-analysis (PRISMA), and the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) system.

**Strategy of data synthesis:** NA.

**Subgroup analysis:** NA.

**Sensitivity analysis:** NA.

**Country(ies) involved:** China.

**Keywords:** Tai Chi, Cognitive Impairment, Overview, Systematic Reviews; Meta-Analyses.

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