

# INPLASY PROTOCOL

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**Support:** None.

**Review Stage at time of this submission:** Data extraction.

**Conflicts of interest:**  
None.

## The Effect of Exercise on Preventing Falls in the Elderly with Mild to Moderate Cognitive Impairment: a meta-analysis

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**Review question / Objective:** Question 1: Whether the old with mild or moderate cognitive impairment have higher odds to fall? Question 2: Why the old with mild or moderate cognitive impairment have higher odds to fall? Question 3: What the effect on the risk of falls in the old with mild or moderate cognitive impairment by exercise? Question 3: What the effect on the risk of falls in the old with mild or moderate cognitive impairment by exercise?

**Condition being studied:** At present, most of the studies mainly focus on the study of fall prevention in normal elderly people, and few literatures have studied the fall problem in cognitively impaired elderly people. Therefore, this study aims to clarify the effect of physical exercise to prevent the falls with mild to moderate cognitive impairment.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 27 April 2020 and was last updated on 27 April 2020 (registration number INPLASY202040189).

### INTRODUCTION

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few literatures have studied the fall problem in cognitively impaired elderly people. Therefore, this study aims to clarify the effect of physical exercise to prevent the falls with mild to moderate cognitive impairment.

## METHODS

**Participant or population:** In this study, we selected the older adults with mild-to-moderate cognitive impairment.

**Intervention:** In the study, we select the articles with the intervention by exercise, physical activity, aerobic, resistance training, and so on.

**Comparator:** The control group received placebo intervention, health education, daily activities, or routine care, etc.

**Study designs to be included:** RCT.

**Eligibility criteria:** Meet the diagnostic criteria: The people's life over the aged of 60; Meeting the Mini-Mental State Examination (MMSE) score of 10-27 points, or the Mo.

**Information sources:** A computer search conducted on CNKI database, PubMed, The Cochrane Library, Embase and the Web of Science database to find the random controlled trial on preventing the elderly from falls through the intervene of physical exercise.

**Main outcome(s):** The outcomes about the falls, including fall risk, balance function, lower limb muscle strength, gait parameters and the related indicators about these outcomes.

**Quality assessment / Risk of bias analysis:** Two reviewers will independently critically appraise each included study using the Cochrane Risk of Bias tool for randomised controlled trials (RCTs) and the Downs and Black checklist for non-RCTs. Disagreements in scoring between the reviewers will be resolved through discussion.

**Strategy of data synthesis:** Data extraction tables will be reviewed for study heterogeneity by two reviewers. Through this, between-study variability in participant characteristics, interventions and study design will be assessed. Where heterogeneous, a narrative analysis of the results will be presented. For continuous outcomes, where trials used the same outcome instrument to assess an outcome domain, mean difference (MD) and 95% confidence intervals (CI) will be presented. Where trials used different outcome instruments for an outcome domain, standardised mean difference (SMD) and 95% CIs will be reported. For each meta-analysis, statistical heterogeneity will be assessed using the  $I^2$  statistic. Where  $I^2$  is greater or equal to 50%, data will be reported using random-effect models. When less than 50%, data will be reported using fixed-effect models.

**Subgroup analysis:** Planned subgroup analyses will be: (A) Type of exercise intervention. (B) Type of exercise frequency. (C) Type of exercise intensity. (D) Type of exercise duration.

**Sensibility analysis:** The review manger was used for sensitivity analysis of results with high heterogeneity.

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

**Keywords:** Mild or moderate cognitive impairment; fall; physical exercise; meta-analysis.

### Contributions of each author:

Author 1 - Xinhu Zheng.

Author 2 - Zuhong Liu.

Author 3 - Jing Wang.

Author 4 - Zhidong Cai.

Author 5 - Wanting Jiang.

Author 6 - Xing Wang.