INPLASY PROTOCOL

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Conflicts of interest: None declared.

Effects of yoga on people with Cognitive Dysfunction: a systematic review and Meta-analysis

Zhou, CH[1]; Chang, XL[2]; Zhu, D[3].

Review question / Objective: The population in this study is of patients with mild cognitive impairment; Intervention on yoga; Comparison of types of exercise, physical activity or health preaching, waiting list, etc; The outcome is an efficacy study that includes cognitive function, mental status, living ability, and so on; The study design is a randomized controlled trial.

The aim of this study is to examine the status of differences in the efficacy of Yoga interventions in patients with mild cognitive impairment compared to non-Yoga interventions in patients with mild cognitive impairment and to clarify the effects of different yoga exercise regimens in patients with mild cognitive impairment through subgroup analyses. The study methods chosen were randomized controlled trials.

Eligibility criteria: Patients with Cognitive Dysfunction who meet screening results on the mini-mental state examination (MMSE) or Montreal Cognitive Assessment (MoCA) scales, or (diagnosed by clinicians and using any accepted diagnostic criteria) will be included.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 26 April 2023 and was last updated on 26 April 2023 (registration number INPLASY202340091).

INTRODUCTION

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Condition being studied: As the degree of aging continues to deepen, the number of patients with mild cognitive impairment has increased, as early as 2012, when (World Health Organization, WHO) pointed out that "dementia in old age has become a prominent public health problem ". The problem is even more acute with the increasing number of people with dementia. In addition, the dementia onset process is unidirectional and irreversible, while there is currently no radical cure for both sides of dementia, so effective identification of dementia risk at or earlier stages of cognitive impairment before progression to dementia, intervention in advance, can prevent or delay the course of the disease. In addition, there are currently no effective medications for mild cognitive impairment. As a promising nonpharmacological intervention, yoga, in turn, is both mind-body exercise, and motion stretching soothing, regulates the body and mind simultaneously, and applies to the elderly population. However, for interventions on patients with cognitive impairment, which yoga style, exercise duration, exercise frequency, and exercise intensity are effective remains unclear and needs to be answered urgently by meta-analysis.

METHODS

Participant or population: Patients with Cognitive Dysfunction.

Intervention: The intervention was yoga with no restrictions on exercise intensity, duration of exercise, environment, or supervision.

Comparator: The control group consisted of no intervention, usual care, knowledge education, or other forms of exercise.

Study designs to be included: Randomized controlled trial.

Eligibility criteria: Patients with Cognitive Dysfunction who meet screening results on the mini-mental state examination (MMSE) or Montreal Cognitive Assessment (MoCA) scales, or (diagnosed by clinicians and using any accepted diagnostic criteria) will be included.

Information sources: We will systematically search electronic databases such as PubMed, Web of Science, Medline. 2023 Apr. So far, there have been no language restrictions for the construction of databases. To avoid missing literature that met the criteria, a manual search was conducted using a 'snowballing' approach to supplement relevant studies. This search strategy was initially applied to the PubMed database and later to other sources and invited expert review in Cognitive Dysfunction and psychomotor aspects to ensure its comprehensiveness and accuracy.

Main outcome(s): We will perform data extraction for eligible RCTs according to the standardized data extraction form in Cochrane, which mainly includes: 1) basic information of included literature (title, first author, publication year and journal); 2) Subject characteristics (sample size, age, gender, race, etc.); 3) Interventions (Yoga type, intensity, duration, frequency, length of intervention); 4) Control group interventions; 5) Literature quality evaluation relevant information; 6) Outcome measures and main study findings.
Primary outcome: assessment of cognitive function.
The Montreal Cognitive Assessment reinforces the assessment of executive function and attention in subjects and has high sensitivity and rapid screening in the Cognitive Dysfunction population. Mainly, 11 examination items covering 8 cognitive domains including attention and concentration, executive function, memory, language, visuoconstructional skills, abstract thinking, calculation, and orientation force were included.

Quality assessment / Risk of bias analysis:
Quality / risk of bias will be assessed using the criteria from the Cochrane Handbook and will be performed by two independent reviewers who are different from the data abstractors. Any disagreements will be resolved by discussion or by a third reviewer.

Strategy of data synthesis: Data analysis was performed using Review Manager or Stata software, (I2) > 50% and P < 0.1 considered heterogeneity, the existence of heterogeneity selected random effect pooled effect size, and the absence of heterogeneity selected fixed effect pooled effect size.

Subgroup analysis: Subgroup analyses subgroup analyses were conducted by intervention cycle, 1-4 weeks, 5-8 weeks, 9-12 weeks and above, with different styles of yoga intervention types when necessary.

Sensitivity analysis: Sensitivity analyses were performed with the review manager or Stata software, reacting to the sensitive situation of the article by removing the case where the effect size changed after one of them.

Country(ies) involved: China.

Keywords: yoga; Cognitive Dysfunction; Efficacy studies; Meta analysis.

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