

INPLASY PROTOCOL

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None declared.

Traditional Chinese exercises on pain and disability in middle-aged and elderly patients with neck pain: a protocol for systematic review and meta-analysis of randomized controlled trials

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Review question / Objective: To evaluate the effects of traditional Chinese exercises on pain and disability of middle-aged and elderly patients with neck pain.

Condition being studied: Pain and disability of middle-aged and elderly patients with neck pain.

Eligibility criteria: In this review, the inclusion criteria are: (1) types of study: randomized control trials (RCTs). (2) types of participants: participants with a clinical diagnosis of neck pain, and the average age more than 40 years at least one group. There were no limitations on gender or nationality. (3) types of interventions: traditional Chinese exercises were Tai Chi, Baduanjin, Yijinjing, Qigong, Liuzijue, and Five-animal exercises. The control interventions included waiting-list, education, routine rehabilitation therapy, acupuncture, medicine, other modern exercise therapy, and any treatments without traditional Chinese exercises. (4) types of outcomes: pain was measured by the visual analogue scale (VAS), functional mobility of the neck was assessed using the neck disability index (NDI), quality of life was assessed using 36-Item Short Form Survey (SF-36), and cervical range of motion including flexion, extension, lateral-flexion, and rotation.

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on pain and disability of middle-aged and elderly patients with neck pain.

Rationale: Neck pain is a common musculoskeletal condition with a high

INTRODUCTION

Review question / Objective: To evaluate the effects of traditional Chinese exercises

incidence rate, and it is the fourth leading cause of years lived with a disability around the world. Health professionals and patients still face tremendous challenges on the management of neck pain due to a variety of treatment strategies and conflicting reports of these treatments. Considering drug dependence and poor stability of the spine and poor quality of life after neck surgery, more and more patients turn to choose complementary and alternative therapies for neck pain to relieve pain and improve quality of life. Exercises have been recommended to prevent and treat neck pain by the clinical guidelines. Common exercise therapies for neck pain include range-of-motion exercise, aerobic exercise, supervised exercise, strengthening exercise, and yoga, which can possibly alleviate neck pain because of their ability to improve muscle strength, flexibility, and endurance as well as restore injured tissues. In China, traditional Chinese exercises are widely used in the treatment of neck pain and associated conditions, which include Tai Chi, Qigong, Yijinjing, Baduanjin, Liuzijue, and Five-animal exercises. Traditional Chinese exercises takes both body and mind into account, emphasizing the coordination and unification of breathing and body movements under the guidance of consciousness, and emphasizing the treatment of the whole body, so as to exercise the muscles and joints of the whole body, and promote the stability of internal and external sources of cervical vertebrae and the balance of dynamic and static mechanics. These traditional mind-body exercises are suitable for middle-aged and elderly patients with neck pain and mental health conditions. Some studies reported the positive effects of Tai Chi or Yijinjing in the management of neck pain. However, the previous review showed that there was insufficient evidence to support the effects of traditional Chinese exercises in improving pain intensity and enhancing functional mobility in individuals with neck pain. The evidence of traditional Chinese exercises for neck pain maintains controversial. Therefore, the current systematic review evaluated the effects of traditional Chinese exercises on pain and

disability in middle-aged and elderly patients with neck pain. It provided evidence-based information for the clinical application of traditional Chinese exercises for neck pain.

Condition being studied: Pain and disability of middle-aged and elderly patients with neck pain.

METHODS

Search strategy: A computerized literature search was conducted to identify potential eligible studies in the following electronic databases from their inceptions to January 2022: PubMed, EMBASE, Web of Science, China Knowledge Resource Integrated Database, Wanfang Data Information, and Weipu Database for Chinese Technical Periodicals. The key searching terms were (“traditional Chinese exercises” OR “Tai Chi” OR “tai ji” OR “Baduanjin” OR “Yijinjing” OR “Qigong” OR “Liuzijue” OR “Five-animal exercises” OR “Wuqinxi”) and (“neck pain” OR “cervical spondylopathy” OR “cervical pain”). Additional studies were identified by scanning the reference list of relevant reviews. The World Health Organization International Clinical Trials Registry Platform (ICTRP) and the Chinese Clinical Trial Registry (ChiCTR) were searched to identify ongoing or unpublished studies. When necessary, the reviewers contacted the study authors. There were no restrictions on publication language or status.

Participant or population: Participants with a clinical diagnosis of neck pain, and the average age more than 40 years at least one group. There were no limitations on gender or nationality.

Intervention: Traditional Chinese exercises were Tai Chi, Baduanjin, Yijinjing, Qigong, Liuzijue, and Five-animal exercises.

Comparator: The control interventions included waiting-list, education, routine rehabilitation therapy, acupuncture, medicine, other modern exercise therapy, and any treatments without traditional Chinese exercises.

Study designs to be included: Randomized control trials (RCTs).

Eligibility criteria: In this review, the inclusion criteria are: (1) types of study: randomized control trials (RCTs). (2) types of participants: participants with a clinical diagnosis of neck pain, and the average age more than 40 years at least one group. There were no limitations on gender or nationality. (3) types of interventions: traditional Chinese exercises were Tai Chi, Baduanjin, Yijinjing, Qigong, Liuzijue, and Five-animal exercises. The control interventions included waiting-list, education, routine rehabilitation therapy, acupuncture, medicine, other modern exercise therapy, and any treatments without traditional Chinese exercises. (4) types of outcomes: pain was measured by the visual analogue scale (VAS), functional mobility of the neck was assessed using the neck disability index (NDI), quality of life was assessed using 36-Item Short Form Survey (SF-36), and cervical range of motion including flexion, extension, lateral-flexion, and rotation.

Information sources: A computerized literature search was conducted to identify potential eligible studies in the following electronic databases from their inceptions to January 2022: PubMed, EMBASE, Web of Science, China Knowledge Resource Integrated Database, Wanfang Data Information, and Weipu Database for Chinese Technical Periodicals.

Main outcome(s): Pain was measured by the visual analogue scale (VAS), functional mobility of the neck was assessed using the neck disability index (NDI), quality of life was assessed using 36-Item Short Form Survey (SF-36), and cervical range of motion including flexion, extension, lateral-flexion, and rotation.

Quality assessment / Risk of bias analysis: Two reviewers independently assessed the methodological quality of the included trials with the Physiotherapy Evidence Database (PEDro) scale. The PEDro score of 0 to10 is obtained by summation (item 1

is not scored), and a cut point of 6 indicates high-quality studies.

Strategy of data synthesis: The meta-analysis was conducted using the RevMan version 5.3 (The Cochrane Collaboration, Software Update, Oxford, United Kingdom). For the continuous outcomes, the between-groups mean differences of the studies were converted to the standardized mean difference (SMD) with 95% confidence intervals (CI) in the meta-analysis. A random effects model was used for better dealing with the clinical heterogeneity. The heterogeneity was evaluated using the statistic: >30% suggests moderate heterogeneity, >50% represents substantial heterogeneity, and > 75% considerable heterogeneity.

Subgroup analysis: The subgroup analysis was conducted based on different traditional Chinese exercises and control interventions.

Sensitivity analysis: Sensitivity analysis will be used to assess the reliability of the combined results of meta-analysis for each outcome index.

Language: English and Chinese.

Country(ies) involved: China.

Keywords: Traditional Chinese exercises, Neck pain, Disability, Pain, Meta-analysis.

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