INPLASY PROTOCOL

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None declared.

The Effect of Mind-body Exercise on the Cervical Spine Mobility of People with Neck Discomfort: A Protocol for a Systemic Review and Meta-analysis

Liao, X[1]; Ge, B[2]; Chen, Q[3].

Review question / Objective: **This study aims to explore the effect of mind-body exercise intervention on the cervical spine mobility of people with neck discomfort through meta-analysis.**
Condition being studied: **Mind-body exercise is a multi-modal exercise. Its typical characteristics are slow body movement, whole body stretching and relaxation, breathing control and mental concentration, and other structured forms of movement. Of course, exercises include many types, mind-body exercise is just one form of it. There are also many cases of intervention that use other exercise methods. When compared to other aerobic or resistance exercises, the advantages of mind-body exercise include its slow rhythm and stable intensity, which are conducive to long-term health development. Moreover, many research results have proven that mind-body exercise is beneficial to the treatment of chronic diseases. The primary forms of mind-body exercise include Tai Chi, Qigong, Baduanjin, Wuqinxi, and Yijinjing. It is also significant that mind-body exercise does not require the assistance of sports equipment, that its learning cost is low, and that its safety intensity is high, enabling it to be promoted on a large scale.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 25 April 2021 and was last updated on 25 April 2021 (registration number INPLASY202140126).

INTRODUCTION

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movement, whole body stretching and relaxation, breathing control and mental concentration, and other structured forms of movement. Of course, exercises include many types, mind-body exercise is just one form of it. There are also many cases of intervention that use other exercise methods. When compared to other aerobic or resistance exercises, the advantages of mind-body exercise include its slow rhythm and stable intensity, which are conducive to long-term health development. Moreover, many research results have proven that mind-body exercise is beneficial to the treatment of chronic diseases. The primary forms of mind-body exercise include Tai Chi, Qigong, Baduanjin, Wuqinxi, and Yijinjing. It is also significant that mind-body exercise does not require the assistance of sports equipment, that its learning cost is low, and that its safety intensity is high, enabling it to be promoted on a large scale.

METHODS

Participant or population: This study included patients with cervical spine discomfort.

Intervention: Subjects were generally divided according to two types of intervention methods: (1) the intervention group used a single method of mind-body exercise, or Taijiquan, Baduanjin, Qigong, Wuqinxi, or Yijinjing, and the control group used no other measures or acupuncture, traction, or massage; or(2) the intervention group used mind-body exercise, or Taijiquan, Baduanjin, Qigong, Wuqinxi, or Yijinjing, with no other measures or acupuncture, traction, or massage.

Comparator: The control group used no other measures or acupuncture, traction, or massage.

Study designs to be included: Randomized controlled trials (RCTs) in peer-reviewed journals.

Eligibility criteria: Inclusion criteria Types of study This study included select randomized controlled trials (RCTs) in peer-reviewed journals. Types of participants This study included patients with cervical spine discomfort. The age of the population was ≥18 years. In addition, the population showed neck pain, soreness, stiffness, discomfort, restricted mobility, fatigue, shoulder and back pain, dizziness, and other symptoms that did not involve the neck. Other than head discomfort, there were no neck symptoms caused by other diseases. Types of intervention The intervention period needed to be greater than or equal to four weeks. Subjects were generally divided according to two types of intervention methods: (1) the intervention group used a single method of mind-body exercise, or Taijiquan, Baduanjin, Qigong, Wuqinxi, or Yijinjing, and the control group used no other measures or acupuncture, traction, or massage; or(2) the intervention group used mind-body exercise, or Taijiquan, Baduanjin, Qigong, Wuqinxi, or Yijinjing, with no other measures or acupuncture, traction, or massage, and the control group used no other measures or acupuncture, traction, or massage. Types of outcome measures This study aimed to evaluate the effect of mind-body exercise on the cervical spine mobility of patients with cervical spine discomfort. After a preliminary search of data, we determined that cervical spine mobility is the most effective and direct indicator of cervical spine motor function. It has gradually become the primary measure for evaluating cervical spine function and cervical spine injury. It is also an important reference index for assessing degrees of damage, diagnosing and identifying neck diseases, curative effect evaluations, and prognostic analyses. There are many kinds of measurements of cervical spine mobility, including visual inspection, tape measures, inclinometer measurement, electromagnetic motion analysis, and other techniques using electronic measuring instruments. In order to consider the convenience and accuracy of actual measurement tools, this study used the following tools: Multi-Cervical Unit (MCU) and CROM for a measure of cervical spine mobility. Exclusion criteria This study's exclusion criteria included (1) research with incomplete data; (2) the use of cervical

spine mobility measurement tools that were not MCU or CROM; (3) the presence of medical contraindications, such as fractures and local tumors; and (4) patients who were participating in other clinical trials.

Information sources: Five research databases were used for retrieval in this study: China National Knowledge Infrastructure (from 1979), Web of Science (from 1950), PubMed (from 1965), Cochrane (from 1991), and EBSCO (from 1949) (Date of retrieval: March 10, 2021).

Main outcome(s): In order to consider the convenience and accuracy of actual measurement tools, this study used the following tools: Multi-Cervical Unit (MCU) and CROM for a measure of cervical spine mobility.

Quality assessment / Risk of bias analysis: In order to independently evaluate the methodology of the included studies, two authors (LXH, GBH) used a modified Physiotherapy Evidence Database (PEDro) Scale to evaluate the included literature. The two authors independently evaluated the literature. If they encountered differences, they discussed and resolved their analyses. If they could not reach an agreement on these differences, the third evaluator (CQ) was asked to evaluate the issue so they could finally reach an agreement.

Strategy of data synthesis: Subgroup and sensitivity analyses were used to explore the sources of heterogeneity in outcome indicators, combined effect size and publication bias tests were used to calculate the effect size and risk of bias in the publications, and forest and funnel diagrams were drawn.

Subgroup analysis: Subgroup analyses were used to explore the sources of heterogeneity in outcome indicators.

Sensitivity analysis: Sensitivity analyses were used to explore the sources of heterogeneity in outcome indicators.

Country(ies) involved: China.

Keywords: Mind-body Exercise; Cervical Spine Mobility; Neck Discomfort; Protocol; Meta-analysis.

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