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Liu , C<sup>1</sup>; Soh, KG<sup>2</sup>; Zhao, Y<sup>3</sup>; Deng, NN<sup>4</sup>; Ma, HC<sup>5</sup>.**ADMINISTRATIVE INFORMATION****Support** - Universiti Putra Malaysia.**Review Stage at time of this submission** - Preliminary searches.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY2023110094**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 24 November 2023 and was last updated on 24 November 2023.**INTRODUCTION**

**Review question / Objective** There have been various studies on the intervention of different Health Qigong routines for different symptoms of cervical spondylosis, but there are few systematic and retrospective studies on them, and there are also few review studies on how Health Qigong exercise plays a role in the intervention process of cervical spondylosis. Therefore, this review aims to systematically review the various effects of Health Qigong exercise with cervical spondylosis by summarizing and evaluating previous literature, providing further support for its scientific and effective nature.

**Condition being studied** The 2017 Epidemiological Survey Report on Cervical Spondylosis in China released by the China Health Commission and the China Association for the Prevention and Control of Chronic Diseases shows that the incidence rate of cervical spondylosis in China has ranked the third in the world in the past 10 years, reaching more than 10%, with about 120 million patients. The neck pain caused by cervical

spondylosis continues to affect the health and lifespan of Chinese people. Among all types of diseases, the losses it causes have risen from 21st place in 1990 to 9th place in 2017. In 2002, the American Academy of Orthopaedic Surgeons clearly classified cervical spondylosis into axial neck pain, cervical radiopathy, and cervical myopathy, with neck pain being the most common clinical symptom of cervical spondylosis, and neck pain being the fourth leading cause of disability. Cervical spondylosis is a clinical disease based on degenerative pathological changes, also known as cervical degenerative disease. Previous studies have shown that CS interacts and affects diseases such as anxiety, depression, sleep disorders, neuromuscular and skeletal diseases, thereby increasing patients' mental stress and economic burden. It has had a significant impact on people's quality of life and psychological problems.

**METHODS**

**Participant or population** Population with cervical spondylosis (Male and female, without age or occupational restrictions).

**Intervention** Include only Health Qigong exercise interventions.

**Comparator** Active or passive control group.

**Study designs to be included** Randomized control trial.

**Eligibility criteria** The inclusion criteria for this review used PICOS, which include population, intervention, comparison, outcome and study design . In addition to the screening criteria in the table, if (i) a complete journal article, (ii) patients who have been diagnosed with CS (excluding those in the undiagnosed stage of neck pain), (iii) and studies on HQ exercise intervention in cervical spondylosis (excluding studies on two or more different exercise intervention methods) are included, these studies are also included. CS is classified into several categories in the Chinese medical community. In addition to the three classifications of cervical spondylosis by the American Association of Orthopedic Physicians, "neck pain" is also classified as CS internationally . Therefore, neck pain is also included in the scope of literature search. In addition, in the research process, there is only one kind of exercise intervention method, namely Health Qigong, and the intervention method of Health Qigong combined with medical intervention (drugs, acupuncture and moxibustion, etc.), excluding the intervention method of HQ and other sports (resistance training, Taijiquan, etc.). Firstly, under the guidance of the librarian, a search strategy is established, and the retrieved research was imported into the Endnote literature management software to delete duplicate articles through inclusion criteria. Secondly, two independent reviewers, Liu and Zhao will screen the titles and abstracts. Then sort according to the relevance of the search results, and select the full text articles that meet the criteria for reading. When there is a disagreement between the opinions of the two reviewers, the decision is made by the third reviewer Deng. The extracted data includes: (i) the author; (ii) The age and gender of the participants; (iii) Intervention methods, intervention indicators, intervention frequency, and duration; (iv) Results of indicator changes and main research conclusions.

**Information sources** CNKI, Scopus, PubMed, Web of Science, EBSCOhost (SPORT Discus).

**Main outcome(s)** At least one index of cervical function index (VAS, NDI, PPI, CROM, CC et al.) should be reflected before and after the intervention of HQ exercise. Neck Disability Index (NDI), Visual Analogue Scale (VAS), Present Pain

Intensity (PPI) related to neck pain, and issues related to cervical mobility disorders such as Cervical Range of Motion (CROM) and Cervical Curvature (CC).

**Quality assessment / Risk of bias analysis** The quality evaluation of the selected papers in this study was conducted using the quality evaluation tool of the PEDro randomized controlled trial. Evaluate the retrieved papers using specific methodological criteria such as research design, sample size, randomization, outcome data, statistical analysis, and report quality in the PEDro scale. The evaluator is composed of two experienced evaluators, and when there is a disagreement, a third evaluator is needed to resolve it. Due to the PEDro scale adopting a 0-10 scoring standard, with the highest score being 10 points and the first item (qualification criteria) not included in the total score, the higher the quality of the method, the higher the score of the PEDro scale. Conversely, the lower the score, indicating a lower quality.

**Strategy of data synthesis** This review is a meta aggregation of qualitative data. Review and analyze data through the best evidence synthesis (BES) rating system, including quantity, method, research results, quality and consistency at five levels.

**Subgroup analysis** None.

**Sensitivity analysis** None.

**Country(ies) involved** China & Malaysia.

**Keywords** ("health qigong" OR "qigong" OR "qigong" AND "cervical spondylopathy" OR "cervical spondylosis" OR "cervical syndrome" OR "cervical spine" OR.

#### **Contributions of each author**

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