INPLASY PROTOCOL

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Corresponding author:
Jingwen Zhang

zhangjingwen828@163.com

Author Affiliation:
Jiangxi University of Chinese Medicine.

Support: **Jiangxi Province, China.**

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None declared.

The comparison of therapeutic effects of different traditional Chinese Medicine Exercise Therapies on essential hypertension: a systematic review and network meta-analysis of randomized controlled trials

Zhang, Q[1]; Wu, Q[2]; Huang, S[3]; Huang, S[4]; Jiang, H[5]; Tian, M[6]; Xiao, Y[7]; Zhang, J[8].

Review question / Objective: **In this study, the efficacy of different traditional Chinese exercising therapies in the treatment of essential hypertension will be evaluated, subsequently, systematic evaluation and network meta-analysis will be carried out, and its anti-hypertensive effect will be ranked, which help further guide the future clinical application with scientific methods, and provide some reference for the clinical application in the future.**
Information sources: **We used manual and computer aided search methods, the search scope includes CNKI, WANFANG, VIP, SinoMed, PubMed, Cochrane Library, Embase, and the search content is the clinical randomized control Trials of different traditional Chinese medicine exercise therapies in the treatment of essential hypertension , the search period is the establishment of the database-February 4, 2022.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 12 February 2022 and was last updated on 12 February 2022 (registration number INPLASY202220036).

INTRODUCTION

Review question / Objective: **In this study, the efficacy of different traditional Chinese exercising therapies in the treatment of essential hypertension will be evaluated, subsequently, systematic evaluation and network meta-analysis will be carried out, and its anti-hypertensive effect will be ranked, which help further guide the future clinical application with scientific methods,**

and provide some reference for the clinical application in the future.

Condition being studied: Hypertension is a clinical syndrome characterized by increased systemic arterial pressure and peripheral arteriole resistance, and accompanied by functional or organic damage to the heart, brain, kidney and other organs. It is the major risk factor for the development of cardiovascular diseases (CVD) . Studies showed that the number of adults suffering from hypertension in the world reached 31.1% (95% CI, 30.0% to 32.2%) in 2010 . The number of deaths of Chinese patients with cardiovascular disease (CVD) has reached 750,000 per year because of the failure control of hypertension in time. A survey conducted by the China Cardiovascular Disease Center in 2018 showed that the number of Chinese patients with cardiovascular disease was 290 million, of which 245 million suffered from hypertension. The number of patients worldwide with hypertension in 2025 was expected to reach 1.56 billion (1.54-1.58 billion). At present, the western medicine is still the main treatment for hypertension. However, due to possible side effects, the compliance of patients with medication has been affected to a certain extent. Therefore, new treatment options need to be further studied.

METHODS

Search strategy: We used manual and computer aided search methods, the search scope includes CNKI, WANFANG, VIP, SinoMed, PubMed, Cochrane Library, Embase, and the search content is the clinical randomized control Trials of different traditional Chinese medicine exercise therapies in the treatment of essential hypertension , the search period is the establishment of the database-February 4, 2022. The search strategy take the pubmed as example:

#1: (hypertension[MeSH Terms])

#2: ((((((((((tai chi[MeSH Terms]) OR (tai ji[MeSH Terms])) OR (baduanjin[Title/Abstract])) OR (qigong[MeSH Terms])) OR (yijinjing[Title/Abstract])) OR (wuqinxi[Title/Abstract])) OR (liuzijue[Title/Abstract])) OR (six-character formula[Title/Abstract])) OR (eight-section brocade[Title/Abstract])) OR (twelve-section brocade[Title/Abstract])) OR (Tao yin[Title/Abstract])

#3: #1 and #2.

Participant or population: Patients diagnosed with essential hypertension in clinic and meet the diagnosis and treatment standards of hypertension during the treatment period.

Intervention: Traditional Chinese exercising therapy, such as Taijiquan, Baduanjin, Wuqinxi, etc, and can be combined with routine treatment or (and) routine care of Western medicine.

Comparator: The treatment measures of the control group were routine nursing or routine western medicine treatment or other exercising therapies, which can all be combined with each other.

Study designs to be included: Randomized controlled trials1. Patients diagnosed with essential hypertension in clinic, and they met the diagnosis and treatment standards of hypertension during the treatment period. 2.The type of the research must be a randomized controlled trials.

Eligibility criteria: Inclusion standard: 1. Patients diagnosed with essential hypertension in clinic, and they met the diagnosis and treatment standards of hypertension during the treatment period. 2.The type of the research must be a randomized controlled trials.Exclusion standard: 1. Research subjects confirmed to be patients with hypertension, but it was clearly stated in the clinical literature that they had other diseases. 2. Repeatedly published literature. 3. The intervention measures are combined with other anti-hypertensive therapies other than conventional western medicine, such as traditional Chinese medicine, acupuncture, moxibustion, etc. 4. Literature published in informal medical journals. 5. Only effective clinical researches were reported.

Information sources: We used manual and computer aided search methods, the search scope includes CNKI, WANFANG, VIP, SinoMed, PubMed, Cochrane Library, Embase, and the search content is the clinical randomized control Trials of different traditional Chinese medicine exercise therapies in the treatment of essential hypertension , the search period is the establishment of the database-February 4, 2022.

Main outcome(s): Outcome: outcome indicators include Systolic pressure and diastolic blood pressure.

Quality assessment / Risk of bias analysis: Two review authors will assess the risk of bias of each individual included study based on methods endorsed by The Cochrane Collaboration. The following domains will be considered: randomization, allocation concealment, blinding, selective reporting, publication bias, as well as any other detected sources of bias that may arise. The risk of bias will be assessed at study level.However, the risk of bias of each study will be considered when we conduct the summary of findings table.

Strategy of data synthesis: Frequentist NMA was conducted using the network suite and other network-related commands in STATA 17.0. Continuous variables were expressed as mean difference (MD) or standard mean difference (SMD) and the binomial distribution as the risk ratio (RR), and their respective 95% confidence intervals (95% CI) were calculated. STATA was also used in the drawing of Network Plots of Network Meta. Local inconsistency was explored by a node-splitting method. Visual inspection of the funnel plots was conducted separately for outcomes and used to assess publication bias. In addition, to rank the antihypertensive effects of different Traditional Chinese Medicine Exercise Therapies, the surface under the cumulative ranking (SUCRA) was used to summarize the probability values. The SUCRA value was 100% for optimal treatment and 0% for worst treatment.

Subgroup analysis: N/A.

Sensitivity analysis: N/A.

Country(ies) involved: China.

Keywords: traditional Chinese exercising therapies; essential hypertension; network meta-analysis; systematic review.

Contributions of each author:
Author 1 - Qingyuan Zhang.
Author 2 - Qianyan Wu.
Author 3 - Shenghe Huang.
Author 4 - Shuailiang Huang.
Author 5 - Hongliang Jiang.
Author 6 - Minping Tian.
Author 7 - Yao Xiao.
Author 8 - Jingwen Zhang.