INPLASY PROTOCOL

To cite: Liao et al. The Effect of Mind-body Exercise on Blood Pressure in Middle-aged and Elderly Patients with Hypertension: A Protocol for a Systematic Review and Meta-Analysis. Inplasy protocol 202130072. doi: 10.37766/inplasy2021.3.0072

Received: 20 March 2021

Published: 20 March 2021

Corresponding author:
Xianhui Liao

xianhui0516@126.com

Author Affiliation:
Department of Neurology, Guangxi Zhuang Autonomous Region Brain Hospital, Liuzhou, Guangxi, 545005, China.

Support: **This study was supported by Gu.**

Review Stage at time of this submission: **Data analysis.**

Conflicts of interest:
None declared.

The Effect of Mind-body Exercise on Blood Pressure in Middle-aged and Elderly Patients with Hypertension: A Protocol for a Systematic Review and Meta-Analysis

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

Review question / Objective: **The effects and safety of mind-body exercise in improving blood pressure in middle-aged and elderly patients with hypertension were explored in this meta-analysis.**
Condition being studied: **The symptoms of hypertension vary from person to person. There may be no symptoms or symptoms that are not obvious in the early stage, and there will be occasional symptoms such as fatigue and palpitation, but these conditions generally only occur after fatigue, mental tension and mood-swings and can quickly return to normal following rest. However, the chronic effects of hypertension often slowly deteriorate people's health. Studies have demonstrated that there is a certain correlation between the symptoms of hypertension and the level of blood pressure. When hypertension symptoms are serious, confusion and convulsions will occur, which is not difficult to cause irreversible pathological changes and damage to the heart, brain, kidney, and other target organs in a short time. Data from the Lancet showed that the number of patients with hypertension in the world had exceeded 1.1 billion, seriously endangering people's health. MajidEzzati of the School of Public Health at Imperial College, UK, stated: "high blood pressure was a great risk factor for stroke and heart disease, with about 7.5 million deaths worldwide each year". Therefore, how to actively treat hypertension is worthy of research and discussion in this century.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 20 March 2021 and was last updated on 04 June 2021 (registration number INPLASY202130072).

INTRODUCTION

Review question / Objective: **The effects and safety of mind-body exercise in improving blood pressure in middle-aged and elderly patients with hypertension were explored in this meta-analysis.**

Condition being studied: The symptoms of hypertension vary from person to person. There may be no symptoms or symptoms that are not obvious in the early stage, and there will be occasional symptoms such as fatigue and palpitation, but these conditions generally only occur after fatigue, mental tension and mood-swings and can quickly return to normal following rest. However, the chronic effects of hypertension often slowly deteriorate people's health. Studies have demonstrated that there is a certain correlation between the symptoms of hypertension and the level of blood pressure. When hypertension symptoms are serious, confusion and convulsions will occur, which is not difficult to cause irreversible pathological changes and damage to the heart, brain, kidney, and other target organs in a short time. Data from the Lancet showed that the number of patients with hypertension in the world had exceeded 1.1 billion, seriously endangering people's health. MajidEzzati of the School of Public Health at Imperial College, UK, stated: "high blood pressure was a great risk factor for stroke and heart disease, with about 7.5 million deaths worldwide each year". Therefore, how to actively treat hypertension is worthy of research and discussion in this century.

METHODS

Participant or population: The experimental subjects included in this study are all hypertensive patients ≥45 years old.

Intervention: Mind-body exercise or Mind-body exercise plus other aids was the main intervention.

Comparator: No intervention or No intervention plus other aids was the main Comparator.

Study designs to be included: We included randomized controlled trials (RCTs).

Eligibility criteria: In order to complete this study accurately, this article has the following exclusion criteria: (1) randomised controlled trials (RCTs) not in peer-reviewed journals; (2) compared with the control group, Mind-body exercise is not the main factor in the intervention group measures; (3) subjects are <45 years old, are not hypertensive or essential hypertension patients, or have a history of myocardial infarction or stroke; (4) publication of meetings, publication of abstracts, reviews, publication of no detailed data, repeated publications, low-level academic literature, etc.

Information sources: The following research databases were searched: China National Knowledge Infrastructure (CNKI), Web of Science (WOS), PubMed, and Cochrane.

Main outcome(s): SBP(Systolic Blood Pressure); DBP (Diastolic Blood Pressure).

Quality assessment / Risk of bias analysis: In order to evaluate the methodology of the included studies independently, the two authors (L.X.H. and G.B.H.) utilised the PEDro scale. The widely accepted methodological quality assessment tool includes 11 items: (1) description of the inclusion conditions of the subjects; (2) subjects are randomly assigned to each group; (3) the mode of distribution is hidden; (4) there is no significant difference in the baseline between the experimental group and the control group; (5) all the subjects were blind; (6) all the physiotherapists were blind; (7) all the evaluators of at least one major result were blind; (8) at least 85% of the subjects had major measurement results; (9) all the participants were treated according to a randomly assigned scheme; (10) the intragroup statistical results of at least one major result were reported; (11) the study provided point measurements and variation measurements of at least one major result. However, during the actual mind-body intervention, it is not realistic to blind the participants in item five and the therapists in item six. Therefore, these two items are not required in the quality evaluation of this study. In the end, there are nine evaluation items, each of which is 1 point.

Strategy of data synthesis: Stata 14.0 software was used to analyse the heterogeneity, sensitivity, and publication bias of all the outcome indicators included in the literature, and forest and funnel maps were drawn. Literature outcome indicators included in this paper belong to continuous variables, and the test units of each index are the same; therefore, the mean ± standard deviation (SD) is selected for statistics, and 95% confidence interval (CI) is determined by the same time. The heterogeneity test was performed by P-value and I^2. If P>0.10, there was no heterogeneity among the studies. If P<0.10, there was heterogeneity among the studies. If I250%, then the studies were considered to be noticeably heterogeneous. Subgroup analysis was utilised to explore the potential influencing factors of the outcome index of essential hypertension in the middle-aged and elderly.

Subgroup analysis: In order to explore the possible causes of heterogeneity, systolic blood pressure and diastolic blood pressure were analysed by subgroup analysis.

Sensitivity analysis: In order to explore the source of heterogeneity, both systolic and diastolic blood pressure will be subjected to sensitivity analysis.

Country(ies) involved: China.

Keywords: mind-body exercise; middle-aged and elderly patients; hypertension, meta-analysis.

Contributions of each author:
Author 1 - Xianhui Liao.
Author 2 - Hao Chen.
Author 3 - Beihai Ge.