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Mind-Body Therapies for Hypertension Management: A Scoping Review Protocol of clinical trials

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ADMINISTRATIVE INFORMATION

Support - BUCM-2025-JS-FW-020.

Review Stage at time of this submission - The review has not yet started.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 21 April 2025 and was last updated on 21 April 2025.

INTRODUCTION

Review question / Objective To systematically map the clinical research landscape on mind-body therapies for hypertension management, focusing on intervention characteristics, study populations, clinical outcomes, and geographical and methodological trends.
Review Questions (Based on PCC Framework)
(1) What is the geographical distribution of research output on MBTs for hypertension?
(2) What types of clinical study designs are used in this field?
(3) What types of MBTs are commonly used to manage hypertension?
(4) What definition of hypertension and relevant comorbidities are included in these studies?
(5) What are the typical intervention characteristics (e.g., duration, frequency, combination with other therapies)?
(6) What outcomes are measured (e.g., blood pressure, emotional state, QoL, medication adherence)?
(7) What are the main research gaps and future directions identified in this field?

Background Hypertension is one of the most prevalent chronic diseases globally and a major risk factor for cardiovascular morbidity and mortality. Despite advances in pharmacological interventions, issues such as poor adherence, side effects, economic burden, and psychological resistance to long-term medication remain prevalent. In recent years, mind-body therapies (MBTs) have been increasingly explored as adjunct or alternative strategies for hypertension management, focusing on emotional regulation, stress reduction, and self-efficacy improvement.

Rationale Although there is increasing evidence that mind-body therapies (MBTs) such as meditation, mindfulness, yoga, tai chi, and biofeedback may help reduce blood pressure and improve psychological well-being, the existing evidence remains inconsistent. The variations in intervention types, durations, and frequencies, along with the lack of standardized outcome

measures, make it difficult to assess the overall effectiveness of these therapies. Moreover, there is a gap in understanding how MBTs are applied to different stages of hypertension, comorbidities, and patient populations. This scoping review aims to synthesize the current clinical research, identify research gaps, and inform future intervention strategies for hypertension management.MBTs such as meditation, mindfulness, yoga, tai chi, and biofeedback have demonstrated potential in reducing blood pressure and improving psychological well-being. However, the current evidence landscape remains fragmented. Interventions vary widely in type, duration, and frequency, and outcome measures lack standardization. There is also a gap in summarizing how MBTs are applied to different hypertension stages, comorbidities, and patient populations. Therefore, a comprehensive scoping review is needed to synthesize existing clinical research, identify research gaps, and inform future interventions.

METHODS

Strategy of data synthesis Data synthesis will be carried out through a combination of descriptive statistics and qualitative thematic analysis. The review will integrate data on study regions, research design types, and intervention methods, using percentages to describe the distribution and frequency of these variables across the included studies. Various visual representations, such as graphs and charts, will be utilized to illustrate the findings, depending on the data type. For outcomes related to research subjects, disease characteristics, and intervention effects, thematic analysis will be employed to identify and synthesize the key themes emerging from the studies. This approach ensures a comprehensive overview and allows for meaningful integration of both quantitative and qualitative data.

Eligibility criteria Population: Patients primarily diagnosed with essential hypertension, including pre-hypertension cases as defined by international/national guidelines.
Concept: Interventions involving any form of mind-body therapy (e.g., meditation, mindfulness, tai chi, qigong, yoga, CBT, biofeedback, music therapy, progressive muscle relaxation, guided imagery, etc.).
Context: Clinical studies (eg., randomized controlled trials, cohort studies, cross-sectional studies, case-control studies, etc.).

Source of evidence screening and selection Information Sources:
Chinese databases: CNKI, WANFANG, VIP, SinoMed
English databases: PubMed, Embase, Web of Science, APA PsycNET, Cochrane Library
Timeframe: From inception to 2025
Search Strategy: Search terms will be based on MeSH terms and keywords related to:
Population: Hypertension, high blood pressure, essential hypertension
Concept: mind-body therapy/intervention/practice; meditation, mindfulness, yoga, tai chi, qigong, CBT, music therapy, etc.
Context: Clinical trials, such as observational studies, RCTs, cohort studies, etc.
Search strategies will be piloted and refined by two independent reviewers.
Selection Process: Two reviewers will independently screen titles, abstracts, and full texts for eligibility. Disagreements will be resolved through discussion or a third reviewer.

Data management The retrieved literature will be imported into the NoteExpress reference management software, where the automatic duplicate detection feature will be used to remove duplicate studies. Additionally, manual checks will be conducted by setting specific fields for further verification to ensure all duplicates are removed. Two trained researchers will independently screen the titles and abstracts of the studies according to the inclusion and exclusion criteria. After the initial screening, the two researchers will cross-check their results. Any discrepancies will be resolved by a third researcher to ensure the accuracy and consistency of the selection process.
For the data extraction process, a dual independent approach will be employed. Two researchers will use a pre-designed standardized form to extract data from the included studies using Microsoft Excel. The data extraction form will include the following categories: (1) Basic Information: authors, publication year, study country, and journal name; (2) Study Characteristics: clinical study design type and sample size; (3) Hypertension-related Information: hypertension stage and comorbidities; (4) Mind-Body Therapy: type, duration, frequency, and number of interventions; (5) Outcome Measures: changes in blood pressure (SBP and DBP), relevant physiological/psychological indicators, and adverse effects.
Data will be securely stored and accessible upon request.Data management plan includes secure storage and sharing upon request.

Language restriction No language limits will be imposed on the search. Translation tools and

relevant personnel will be used to include as many languages as possible.

Country(ies) involved China, UK.

Keywords hypertension; scoping review; mind-body therapies.

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