



THE EFFECT OF MINDFULNESS MEDITATION IN MAINTAINING BLOOD PRESSURE IN ELDERLY PEOPLE WITH HYPERTENSION: SYSTEMATIC REVIEW

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ABSTRACT

Elderly with hypertension is group necessary vulnerability handling in giving care nursing in a way comprehensive . The purpose of review from systematic This is explore about influence deep mindfulness meditation maintain pressure blood in the elderly with hypertension . Data obtained from Embase, Pubmed, Proquest and Ebscohost databases start from 2019-2023 . Collected articles in review systematic using the keywords "Older people" AND mindfulness meditation AND "Blood Pressure", and "elderly with Hypertension OR transcendental meditation AND Blood pressure ". Selected articles with screening using the PRISMA flowchart in quote from literature This . Review results show that influence mindfulness meditation on pressure blood in patients hypertension give enhancement quality self, reduction in levels of anxiet, stress, as well beneficial For various condition health, influence function and structure brain with fast.

Keywords: elderly; hypertension; mindfulness meditation

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INTRODUCTION

Hypertension or high blood pressure is called " *the silent killer* " without complaints and without realizing it, sufferers experience complications in vital organs (Eliopoulos, 2018; Kemenkes, 2022). Ascension pressure blood above normal triggered by existence thickening wall arteries that impact the buildup substance collagen in tissue muscles and causes narrowing vessels blood , condition This hinder ability elderly For activity optimally well in exercising nor in exercise movement (Stanhope & Lancaster, 2016; Tabloski, 2019). This increase in blood pressure above normal is triggered by thickening of the arterial walls which has an impact on the buildup of collagen substances in muscle tissue and causes narrowing of the blood vessels (Ratnawati, 2022).

The prevalence of hypertension is known to be 8.8% diagnosed with hypertension, 13.3% of people diagnosed with hypertension do not take medication and 32.3% do not regularly take medication. This shows that the majority of hypertension sufferers do not know that they are hypertensive so they do not receive treatment. The prevalence of hypertension is also caused by population growth, aging and behavioral risk factors including consuming unhealthy food, consuming alcohol, lack of physical activity, being overweight and psychological stress (Tuminah Sulistyowati, 2023; WHO, 2023). Risk factors for cardiovascular disease include

increased cholesterol, hypertension, diabetes mellitus, smoking, lack of physical activity, obesity, alcohol use, advanced age and heredity. As a person ages, the likelihood of comorbid conditions increases, in fact atherosclerosis, the main cause of most cardiovascular clinical problems, usually appears many years before the onset of clinical events such as heart attacks or angina-like symptoms (Meiner & Yeager, 2019).

Aging process something change progressive in organisms that have reach maturity intrinsic and characteristic irreversible as well as show exists setback in line with time . Aging process different for each individual , there is internal and external factors that influence it . Besides that impact increase age to structure and function cardiovascular influenced by existence non-cardiovascular diseases and changes style life . Disease cardiovascular can caused by change style a life that doesn't healthy , disease chronic like hypertension and diabetes mellitus also play a role important in speed up change. Management of hypertension consists of pharmacological and non-pharmacological therapy. Non-pharmacological therapy to reduce blood pressure is by implementing complementary therapy. According to *the National Center for Complementary and Alternative Medicine* (NCCAM) there are 5 types of complementary therapy, namely: mind and body therapy, natural products, manipulation practices and body systems, energy therapy and nursing systems. Several types of classification for mind and body therapies *include* meditation, yoga, music therapy, prayer, art therapy, *imagery* , *journaling* (writing a formal journal/diary), biofeedback, humor and tai chi (McEwen & Nies, 2019).

Mindfulness meditation is a possible technique somebody capable use awareness and experience so that make somebody has aware will himself (Snyder & Linquist). Meditation can make somebody relax, decline consumption oxygen, reducing frequency breathing and pulse heart. This matter can make body feel relax, mind more calm down, improve well-being physical and emotional with condition environment calm, comfortable position and sometimes use A tool mental measurements such as mantras (Fontaine, 2005; Mantle & Tiran, 2009 in Nies Mary & McEwen Melanie, 2019). According to Guyton & Hall (2015) stated that factor originator happen hypertension can done with meditation that gives effect vasodilation vessels blood, increase oxygen network and can lower stress. This matter in line with research conducted by (Utama et al., 2021) conclude that there is influence therapy mindfulness meditation carried out on sufferers hypertension. Case study conducted by (Faradilah & Saktiwiroto, 2022) find that there is difference in average pressure blood before and after done therapy meditation dhikr, average pressure blood before given meditation 175/82 mmHg, after done meditation to 171/88 mmHg. The purpose of This systematic review is explore about influence deep mindfulness meditation maintain pressure blood in the elderly with hypertension.

METHOD

The method used is *a systematic review* , articles prepared based on Preferred Reporting Items for Systematic Reviews and Meta Analyzes (PRISMA). This article summarizes several research article results to present more comprehensive and balanced data, data taken from the online databases Embase, Pubmed, Proquest, and Ebscohost for 2019-2023. Presentation of data using PRISMA flow diagrams

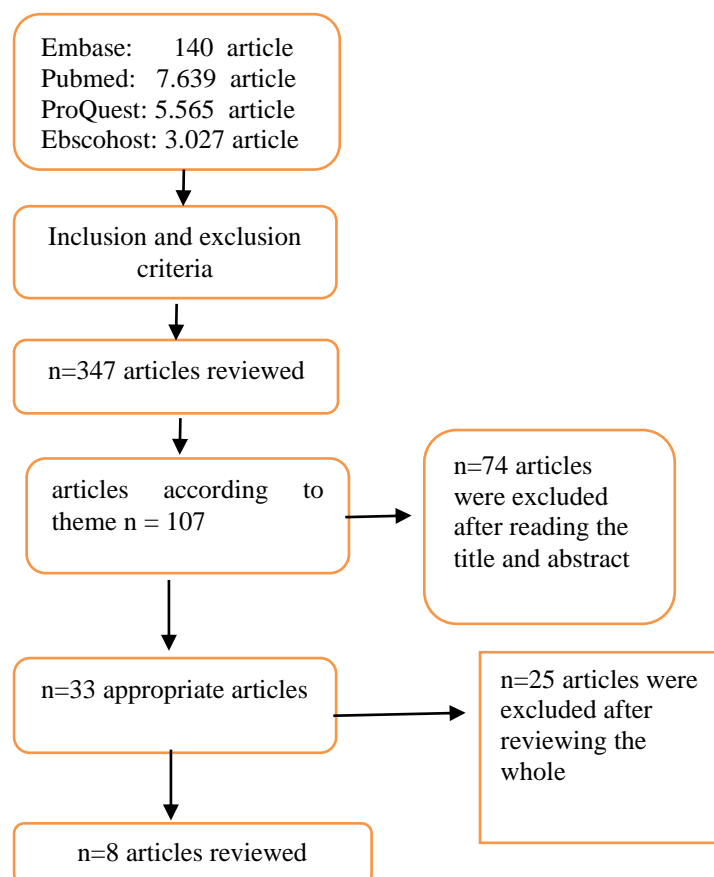


Figure 1. Prism Flow Diagram

At the search process stage, the keywords " *Older people* " AND mindfulness meditation AND " *Blood Pressure* ", and " *elderly with Hypertension OR transcendental meditation AND Blood pressure* " were used to select articles that were appropriate to the research objectives. The data bases used are Embase, Pubmed, Proquest, and Ebscohost, from 2019 to 2023. Inclusion and exclusion criteria were used to select articles. Inclusion criteria included Hypertension patient population, young adults and older adults, study type *RCT*, Case-Control, Quasi-experimental, cross-sectional. research on humans, English, and full text publication types or academic journals. From October to December 2023, an article search was conducted. To ensure suitability, articles that did not match the title and abstract were removed. Figure 1 shows the search sequence

RESULTS

The results of the systematic review obtained are as follows:

Table 1.

Characteristics and Effects of Mindfulness Meditation on Elderly People with Hypertension				
No	Author	Year	Method	Outer
1	Xiao Shuwen, Liu Rong, Song Jian	2021	Case-control	Meditation intervention in elderly hypertensive patients in the community can reduce negative emotions, reduce adrenaline and norepinephrine levels, increase the effect of controlling blood pressure and improve quality of life.
2	Seung-Ho Lee, Sun-Mi Hwang, MS Do-Hyung Kang, MD,	2019	Randomized controlled trial	In this RCT, results showed that 8 weeks of training reduced LDL cholesterol and inflammatory gene expression and improved several elements of physical/mental health of patients with type 2 diabetes/hypertension indicating that BEM induces beneficial changes in patients' physical/mental health. Because type 2 diabetes and hypertension are chronic diseases,

No	Author	Year	Method	Outer
	Hyun-Jeong Yang,			develop slowly and are systemic, patients need long-term treatment and prevent complications. In this aspect, invasive and non-pharmacological methods such as BEM are very useful for long-term complementary treatment of hypertension/type 2 diabetes
3	Paola Marquez, Albert Soler, Maria JS-Villa, Laila MP, David FA, Montserrat, Joaquim SR, Alex Coll, Juan A-Diaz	2019	Prospective randomized open-label blinded-endpoint	<p>This study evaluated the benefits of mindfulness meditation in controlling BP as well as its impact on anxiety, stress, and depression in a Mediterranean population aged 18-65 years with high-normal BP or grade 1 HT who received mindfulness training for 8 weeks.</p> <p>The results of the study showed that the group that received the mindfulness meditation intervention experienced a significant reduction in systolic and diastolic blood pressure compared to the control group, especially in 24-hour clinical and ambulatory blood pressure measurements as well as systolic and diastolic blood pressure during rest/night sleep.</p>
4	Babak, Narges Motamedi, Seyedeh Z. Mousavi, Nadia G. Darestami	2021	Randomized controlled trial	This research shows a reduction in mean blood pressure, stress, depression and anxiety scores, as well as a significant improvement in various aspects of quality of life in patients who received Mindfulness-Based Stress Reduction (MBSR)
5	Loucks, William R,N, Roece G, Ian MK, Frances BS, Yu Li, Anna, Julie, David, Abigail, Willoughby	2019	<i>Clinical Trials</i>	This study provides initial evidence that a mindfulness-based program tailored for participants with high blood pressure is well-accepted and feasible. The program also appears to be able to engage measures of self-regulation that are assumed to be mechanisms between mindfulness-based programs and blood pressure, including attention control, self-awareness and emotion regulation. Several modifiable determinants of hypertension were significantly increased at 1 year after intervention in participants who did not adhere to American Heart Association guidelines at baseline, including physical activity, DASH diet, salt intake, and alcohol consumption. Perceived stress also decreased significantly. Although the findings are preliminary, they are limited because it was a single-arm clinical trial
6	Adrian Isaza, and Macarena Lopez Gonzales,	2022	<i>Cross-sectional</i>	Meditation, yoga, and massage therapy can be considered as inexpensive and safe lifestyle modifications to support cardiovascular risk reduction based on guidelines, with the understanding that their benefits need to be further demonstrated. This method needs to be researched more deeply in the future. Adequate randomized studies need to be conducted to ensure objective conclusions. The use of these techniques is thought to lower blood pressure by reducing cortisol levels, which is positively related to blood pressure
7	Pommy, Collette M. Smart, Andrew MB, Yang Wang	2019	Quasi Experiment	This article combines the results of fMRI studies in elderly adults at rest with the results of fMRI studies in samples of clinical and healthy adults performing specific tasks. Based on the findings of these studies, the authors proposed three potential mechanisms explaining the neurovascular therapeutic benefits of mindfulness meditation for older adults: (1) a direct neurovascular mechanism through increased resting cerebral blood flow, (2) an indirect anti-neuroinflammatory mechanism through increased functional connectivity in the default mode network, and (3) top-down control mechanisms that likely reflect direct and indirect neurovascular pathways.
8	Pandya	2020	Case-control	The research results support the initial hypothesis. The intervention group consisting of older adults living in assisted living facilities (ALF) showed higher scores on tests of neuropsychological function and visual working memory after the intervention

No	Author	Year	Method	Outer
				compared with the control group. The impact of meditation varied based on several participants' sociodemographic profile variables (such as gender, education, class, and marital status), self-rated health, diagnosed psychiatric conditions, number of meditation lessons attended, and self-directed practice.

DISCUSSION

Based on the results of a study of 8 articles carried out by researchers, the influence of mindfulness meditation on blood pressure stability in the elderly includes:

Benefits of mindfulness meditation in controlling ambulatory blood pressure and the impact of such intervention on levels of anxiety, stress, and depression (Isaza & Lopez Gonzalez, 2022). effect of stress and depression is acute and chronic activation of the sympathetic nervous system, which can lead to the development of hypertension in susceptible individuals or worsen blood pressure levels in already hypertensive patients. Accessible, cost-effective, and reproducible therapeutic techniques such as mindfulness meditation can significantly reduce this pathology and associated organ damage (Ponte Márquez et al., 2019). Most patients with hypertension take several pharmacological drugs to control their blood pressure, but usually fail to achieve optimal blood pressure control (Babak et al., 2022; Loucks et al., 2019). Stress reduction through meditation is a potential and important non-pharmacological approach that can reduce the use of multiple medications and improve blood pressure control (Isaza & Lopez Gonzalez, 2022). In the guide latest For prevention risk cardiovascular disease and treatment hypertension For meditation based education lower rate LDL cholesterol in patients hypertension and/ or type 2 DM (Lee et al., 2019). It is important to evaluate psychosocial factors through interviews or standardized questionnaires, as this will enhance individualized clinical management to improve the patient's quality of life and prognosis (Isaza & Lopez Gonzalez, 2022; Pandya, 2020).

Mindfulness meditation can influence neurovascular function in older adults, a top-down control mechanism involving both direct and indirect neurovascular pathways (Pommy et al., 2023). These mechanisms reflect the effects of mindfulness meditation on better emotional regulation, attention regulation, and cognitive control in older adults. In this regard, mindfulness meditation may influence neurovascular function through complex neurocognitive (Pandya, 2020; Pommy et al., 2023). Intervention meditation in a way significant reduce emotion negative , lowering rate hormones and increase control pressure blood in patients hypertension (Lindsay et al., 2019; Shuwen et al., 2021). Meditation which is action nonpharmacological effective For manage anxiety in patients undergoing procedure operation , yes give benefit emotional and well- being in vulnerable elderly (Aliche & Onyishi, 2020; Gurram et al., 2021).

Analysis show that obedience to intervention meditation is very important . Seniors who follow session meditation in a way organized and doing practice independent with high frequency get benefit more big . This confirms importance consistency and discipline in practice meditation For reach optimal results . Research conducted by(Fergusson, 2022; Polaski et al., 2021; Rao et al., 2022) intervention meditation can manage symptom health psychological in reduce risk cardiovascular , reducing pain , anxiety , decline stress and increase function cognitive. Values nursing holistic about maintenance self and reflection self with do meditation proven can increase health and well-being , satisfaction life as well as perception more stress low (Johnson et al., 2023; Sri Ayunia et al., 2019). Can concluded that intervention meditation in patients hypertension carry on age in society can in a way

significant reduce emotion negative , lowering levels of adrenaline and norepinephrine , increase effect control pressure blood , as well increase quality life patient

CONCLUSION

Mindfulness meditation has positive influence on blood pressure in hypertensive elderly. This non-pharmacological therapy can lower blood pressure, manage stress, increase body awareness and encourage a healthy lifestyle. The results of this research suggest providing health education to the elderly about easy non-pharmacological therapy so that they can find out about preventing and reducing the disease they are suffering from as well as having the disease checked by existing health services. However, meditation should not replace recommended medical treatment.

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