

A Literature Review: The Effect of Yoga Exercises on Lowering Blood Pressure in the Elderly with Hypertension

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ABSTRACT

Hypertension is increase in systolic blood pressure of 140 mmHg and diastolic blood pressure of 90 mmHg. Non-pharmacological therapy is one alternative that can be done in elderly with hypertension, namely yoga exercise because it can lower blood pressure. This study purpose was to analyse the effect of yoga exercise on lowering blood pressure in the elderly with hypertension. This research method used a literature review. Journal search sources in this study used google scholars, Garuda Dikti and Data Base with the keywords Yoga Gymnastics, Elderly, Hypertension, Blood Pressure. The results of research from the five journals on the effect of yoga exercise on lowering blood pressure in the elderly with hypertension with a total of 336 respondents obtained the p-value = 0.000 with a value = 0.05 ($p < \alpha$) this indicates that the decrease in blood pressure is significant after being given yoga exercises 3 times a week in elderly patients with hypertension. A significant review of this literature found that blood pressure before and before yoga exercise showed a decrease in blood pressure which was proven that yoga exercise had an effect on lowering blood pressure.

Keywords: *Yoga Exercise; Elderly; Hypertension; Blood Pressure*

1. INTRODUCTION

Hypertension or commonly called high blood pressure is an increase in systolic blood pressure above normal more than 140 mmHg and diastolic blood pressure more than 90 mmHg [1]. Hypertension is one of the deadliest diseases in the world, and age is a major risk factor for hypertension, so it is not surprising that hypertension often occurs in the elderly [2].

According to WHO data in 2015, around 1.13 billion people worldwide suffer from hypertension, meaning that 1 in 3 people in the world is diagnosed with hypertension. It is also estimated that 9.4 million people die from hypertension and complications every year [3]. Based on the measurement of the population's blood pressure, the prevalence of hypertension sufferers >60 years in Indonesia is around 25.8%. It can be said that the frequency of blood pressure measurement results in 2013-2018 increased by 8.3% [3].

According to Riskesdas in 2018, the prevalence of hypertension in DIY was 11.01% or higher than the national figure (8.8%). This prevalence places DIY in the

4th position as a province with high hypertension cases. Hypertension has always been included in the top 10 diseases as well as the top 10 causes of death in DIY for the past few years based on STP and STP RS. The STP report for Puskesmas in DIY in 2016 showed 29,105 cases of essential hypertension, in 2017 there were 56,668 cases of hypertension, while the STP report for outpatient hospitals was 37,173 cases of essential hypertension during 2018 [4].

Management of the elderly with hypertension can be done pharmacologically and non-pharmacologically. Pharmacological treatment can be done with antihypertensive drugs. while non-pharmacological treatment of hypertension in the elderly involves lifestyle changes such as reducing stress and regular physical activity such as yoga practice because this is one of the measures to lower blood pressure in the elderly and perform regular blood pressure checks [5]. Yoga exercises can be done 3 times a week for 15-30 minutes. Yoga practice can stimulate endorphins in the body. Endorphins are useful for making you feel comfortable and lowering high blood pressure because it is a natural sedative [6].

Based on this description, the authors are interested in conducting a literature review of the effect of yoga exercise on reducing blood pressure in the elderly with hypertension. research objectives are, analysing the average blood pressure before and after doing yoga exercises for the elderly with hypertension, and analysing the frequency of good yoga exercises for the elderly with hypertension.

2. METHOD

This type of research uses the literature review method. The data used in this study are the results of research that has been carried out and published in national online journals. In carrying out this research, the authors searched journals through Google Scholar, Data Base, Garuda Dikti, with keywords: hypertension, elderly, blood pressure, yoga exercise. The journal criteria reviewed were research journal articles with the theme The Effect of Yoga Exercise on Lowering Blood Pressure in Elderly People with Hypertension with a journal publication time span of 2010 - 2020.

Table 1 Inclusion Criteria

Criteria	Inclusion
Time period	Period of journal publication is the last 10 years (2010-2020)
Journal type	Original research articles Available full text and published
Language	Indonesian
Research design	Experiment
Subject	Elderly who has hypertension
Journal theme	Yoga Gymnastics Journal Theme for Elderly with Hypertension Or do yoga for the elderly with hypertension

3. RESULT AND DISCUSSION

Based on article search results via Google Scholar, database, and Garuda Dikti with the keywords Hypertension, Elderly, Blood Pressure, Yoga Exercises. the author found 665 articles and then selected according to the range of the year of the article, namely the last 10 years as many as 606 articles. A total of 456 articles were excluded due to mixed topics. then the article is selected

according to the title, there are 150 articles. out of 135 articles were excluded because they did not fit the topic and full text was not available. from 15 full text articles, they were screened again based on predetermined inclusion criteria. and as many as 10 articles were excluded so that 5 full text articles were reviewed.

Five articles were reviewed and synthesized as shown in the table 2.

Table 2 Synthesis Data

No	Description	Article 1	Article 2	Article 3	Article 4	Article 5
1	Author	D Prawesti, Rimawati, AS Nurcahyani	KM Sari, WDN Herawati	ES Hendarti, A Hidayah	RA Sena, H Ike S, SE Purnamaningsih	DM Gea, EA Nainggolan, ED Karmila
2	Method (design, sample)	<ul style="list-style-type: none"> Design: Pre-experiment Sample: 33 with purposive sampling 	<ul style="list-style-type: none"> Design: quays experiment Sample: 13 with purposive sampling 	<ul style="list-style-type: none"> Design: Pre-experiment Sample: 50 with simple random sampling 	<ul style="list-style-type: none"> Design: Pre-experiment Sample: 20 with simple random sampling 	<ul style="list-style-type: none"> Desain pre-experiment Sample: 20 with purposive sampling
3	Research Result	yoga therapy had an effect on lowering systolic blood pressure in respondents.	yoga practice has an effect on reducing systolic blood pressure in patients with hypertension	there is an effect of yoga exercise on changes in blood pressure in the elderly with hypertension.	there is an effect of Yoga exercise on reducing blood pressure in the elderly with hypertension.	there is a significant effect on reducing blood pressure in elderly patients who are experiencing hypertension

The results of the analysis of research from the five journals that have been reviewed, the average systolic blood pressure before yoga is 153.08 and after yoga is 142.51. while the average diastolic blood pressure before

yoga was 9.62 and after yoga was 7.50. The results of the Wilcoxon statistical test showed a p-value of 0.000 < (0.05), indicating that there was a significant effect

before and after yoga exercise on reducing blood pressure in the elderly with hypertension.

Risk factors for increased blood pressure include age, gender, and lifestyle. This is in accordance with the theory of [7], increasing blood pressure with age because arterial walls thicken in the elderly, and increased blood pressure is more common in women with hypertension than men. Yoga is recommended for people with hypertension, because the elderly who do not work will reduce their physical activity, causing an increase in blood pressure in the body, this is in line with the theory of [6], which states that lack of exercise and movement can increase blood pressure. inside the body.

According to [8], yoga is a form of physical activity that can be done by the elderly. Yoga practice is designed to heal the organs that carry out the functions of the heart and blood circulation which are used to lower blood pressure in patients with hypertension.

According to the findings of the five journals, the frequency of yoga exercise is three times per week, and the average systolic blood pressure before and after yoga is 153.08 and 142.51. While the average diastolic blood pressure before yoga was 9.62, it was 7.50 after yoga. The Wilcoxon statistical test revealed a p-value of 0.000 (0.05), indicating a significant effect before and after yoga exercise. According to Ananda et al, the treatment of yoga exercise three times a week results in a decrease in blood pressure in hypertensive patients. A decrease in blood pressure in hypertensive people can be caused by an activated limbic system, which causes a person to relax, lowering blood pressure.

4. CONCLUSION

Based on the results of research from 5 journals that were reviewed, it can be concluded as follows, The average blood pressure of respondents before doing yoga is 153.08 mmHg, After being given yoga exercises, the respondent's systolic blood pressure decreased to 142.31 mmHg and diastolic blood pressure to 7.50 mmHg, Giving yoga exercises is more effective done 3 times a

week to reduce blood pressure in the elderly with hypertension

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