



GENERAL REVIEW

EFFECT YOGA GYMNASTIC TO BLOOD PRESSURE FLUCTUATION IN HYPERTENSION PATIENTS

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ABSTRACT	Keywords
<p>Hypertension is the most common disease found in the community, not only lowers quality of life but can be life-threatening. Hypertension is known as a heterogeneous group of disease because it can affect anyone from different age groups and various economic classes. One of the non-pharmacological therapy for hypertension is yoga exercises. Purpose was to determine the effect of yoga exercises on blood pressure in hypertensive patients in Sumokali village, Candi district, Sidoarjo regency. This research method used one group pre-test - post-test design. The sampling technique used simple random sampling, with a population of hypertension patients in Sumokali Village, Candi District of Sidoarjo Regency and a large sample of 18 people according to criteria. Data collection used interval scale and instrument used is observation sheet. This yoga exercise was done for 2 weeks in the morning or afternoon. The result of Paired T-Test test showed that the value of $p\text{-Value } (0,000) < \alpha (0,05)$ as well as the result that yoga gymnastics affect the fluctuation of blood pressure in hypertension patient in Sumokali Village, Candi District of Sidoarjo Regency. It concludes that Gymnastics yoga was one effective therapy, easy to do and useful. Because yoga gymnastics can make the body relaxed and blood vessels become vasodilates so that the blood flow and oxygen supply become smooth.</p>	<p>Yoga Gymnastics, Blood Pressure, Hypertension Patient.</p>

INTRODUCTION

Heart and blood vessel disease, including hypertension, has been a deadly disease of many people in developed and developing countries over the past eight decades. Hypertension is often referred to as a silent killer because it is often hypertensive sufferers for years without feeling any disturbance or symptoms (Triyanto, 2014).

The World Health Organization (WHO) notes in 2012 at least 839 million cases of hypertension, estimated to be 1.15 billion by 2025, or about 29% of the world's population, where more women (30%) than men (29%). Approximately 80% rise in cases of hypertension occurs mainly in developing countries. Prehension of hypertension in Indonesia based on Basic Health Research in 2013 reached 26.5% compared to 2007 as much as 21.7% (Risksdas, 2013).

Data from Health Service Office of East Java in 2012 mentioned total hypertension sufferer in East Java as many as 285,724 patients. The district level of hypertension incidence in Sidoarjo regency in 2012 reached 48,437 patients (Dido Sidoarjo, 2012). One of the non-pharmacological therapy in people with hypertension is yoga exercises. Gymnastics yoga is an activity where one concentrates his entire mind to control the senses and the body as a whole. (Triyanto, 2014). Based on a preliminary study conducted by researchers 10 respondents have hypertension with blood pressure > 140 mmHg / 90 mmHg. In the background, researchers are interested in researching with the title "The Influence of Yoga Gymnastics on Blood Pressure Fluctuation in Hypertension Patients in Sumokali Village, Candi District of Sidoarjo Regency.

RESEARCH PURPOSE

The research aim was to know the Influence of Yoga Gymnastics on Fluctuation of Blood Pressure on Hypertension Patients in Sumokali Village Candi Sidoarjo Regency.

METHOD

This research used design (One Group Pretest-Posttest Design) and the population were 39 persons with hypertension. Simple Random Sampling, and using Paired T-Test.

The independent variable was Yoga gymnastic, and the dependent variable was blood pressure on hypertension people. This research conducted at 4th – 23rd April 2016 in Sumokali village, Candi District, Sidoarjo regency.

RESULTS AND DISCUSSION

1. Blood Pressure before Doing Yoga Gymnastics In Hypertension Patients

Table 4.7 Distribution of blood pressure frequency before performing yoga exercises

Blood pressure before					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	140-159 mmHg / 90-99 mmHg	8	44.5	44.4	44.4
	160-179 mmHg / 100-109 mmHg	10	55.6	55.6	100.0
Total		18	100.0	100.0	

Based on Table 4.7 it is known that before being given treatment, most respondents have moderate blood pressure category 160-179 mmHg / 100-109 mmHg as many as 10 respondents (55.6%).

2. Blood Pressure After Doing Yoga Gymnastics In Hypertension Patients

Table 4.7 Frequency distribution of blood pressure after performing yoga exercises

Blood pressure after				
Valid	Frequency	Percent	Valid Percent	Cumulative Percent
120-129 mmHg / 80-84 mmHg	2	11.1	11.1	11.1
140-159 mmHg / 90-99 mmHg	10	55.6	55.6	66.7
160-179 mmHg / 100-109 mmHg	6	33.3	33.3	
Total	18	100.0	100.0	

Based on Table 4.8 it is known that after treatment, most respondents have mild hypertension category 140-159 mmHg / 90-99 mmHg as many as 10 respondents (55.6%).

3. Blood Pressure Changes Before And After Doing Yoga Gymnastics In Hypertension Patients

Table 4.9 Analysis of blood pressure changes before and after yoga exercises

Variable	Before Mean	SD	After mean	SD	p-value
Sistole	160	10	153	13	0,000
Diastole	101	5	94	5	

Based on the results of the research can be seen that the average blood pressure before treatment is given systole 160 mmHg and diastole 101 mmHg and average blood pressure after treatment is given systole 153 mmHg and diastole 94 mmHg. These results

indicate a change in blood pressure after being given yoga exercises.

DISCUSSION

Based on Table 4.7 it is known that before being given treatment, most respondents are 10 respondents (55.6%) have moderate hypertension blood pressure, i.e., between 160-179 mmHg / 100-109 mmHg.

Hypertension is not only caused by a single factor, but a variety of factors can be the originator of the occurrence of hypertension such as disease complications, lifestyle, descent as described previously. The data obtained by each respondent vary due to factors affecting blood pressure and the cause of hypertension among individuals of different factors. This ensures a more accurate interpretation of blood pressure measurements (Marliani, 2007). After the treatment, 10 respondents (55.6%) experienced a change of blood pressure into a light category. Based on existing theory various factors influence blood pressure, as described above. And the action to reduce the pressure of one of these nonpharmacological therapies is with yoga exercises. Gymnastics yoga has proven to increase levels of β -endorphin up to five times in the blood. The more gymnastics, the higher the β -endorphin level. Endorphin is a neuropeptide that produces the body during relaxation and calm. When a person performs gymnastics, then β -endorphin will come out and be captured by receptors in the hypothalamus and limbic system that serves to regulate emotions. Increased β -endorphin proved to be closely related to decreased pain, increased memory, improved appetite, sexual ability, blood pressure and respiration (Shindu, 2006). This hormone can function as a natural sedative produced by the brain that channel comfort and increase endorphin levels in the body to lower blood pressure.

The results of this study are also in line with the results of research conducted by Trisnadewi (2014) on "The Effect of Asanas Yoga Practice on Blood Pressure on Primary Hypertension Sufferers in Pasemetonan SegerOger Denpasar" The results showed a significant change between blood pressure before and after asana given yoga. This is evident from the average systolic pressure value down as much as 20.07 mmHg and the average diastolic pressure down 13.08 mmHg.

CONCLUSION

Based on the statistical test using paired T-test, it means that there is Influence of Yoga Gymnastic on Fluctuation of Blood Pressure on Hypertension Patients in Sumokali Village, Candi District of Sidoarjo Regency.

SUGGESTION

For Respondents

- Respondents who suffer from hypertension to change their lifestyle by reducing salt intake, eliminating smoking, and avoiding bad stressors.
- Principles of yoga exercises applied at home can be done a week three times to relax the muscles of the body and control blood pressure to avoid complications.
- Controlling blood pressure by checking blood pressure regularly.

For Health Officers

Health workers can make yoga gymnastics as an alternative to independent nursing actions that can be used by nurses in providing counseling to surrounding communities, to prevent complications.

For Further Researchers

The researchers then could use control variables as a comparison and look for other therapies to control blood pressure in hypertensive patients.

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