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The Effect of Dhikr Meditation on Blood Pressure Changes in Elderly with Hypertension in Gowa Regency

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ABSTRACT

Hypertension increases blood pressure that results in the supply of oxygen and nutrients being blocked by the blood reaching the body's tissues that need it. This study aims to determine the effect of dhikr meditation on changes in blood pressure in the elderly with hypertension in Gowa Regency. This research was conducted in Gowa Regency, South Sulawesi, Indonesia. This research method is experimental research with pre and post-test design. The number of samples is 15 people using the purposive sampling technique. Data collected using questionnaires and observation sheets were analyzed by Paired t-test. The results showed an effect of dhikr meditation on changes in blood pressure in the elderly with hypertension. So that it can be concluded, there is a significant effect between dhikr meditation and changes in blood pressure in the elderly with hypertension in Gowa Regency.

1. Introduction

Hypertension continues to increase from year to year, not only in Indonesia but also in the world. As many as 1 billion people in the world or 1 in 4 adults suffer from this disease. It is estimated that the number of people with hypertension worldwide is around 982 million people or 26.4% of the earth's inhabitants suffer from hypertension, with a ratio of 26.6% men and 26.1% women. This number is estimated to increase to 29.2% or 1.6 billion in 2025. Hypertension is the third leading cause of death after stroke and tuberculosis, with a proportional mortality rate (PMR) reaching 6.70% of the population of deaths at all ages in Indonesia. . The increase in the

prevalence of hypertension is in line with increasing age, especially in the elderly. In Gowa Regency, hypertension among the elderly is relatively high, around 40% with 50% mortality over 60 years.¹⁻³

One of the complementary nursing therapies that can be done to reduce complaints and reduce blood pressure in hypertensive patients is meditation. Meditation is a technique to concentrate the mind to be more alert and wise and can be used to prevent or cure disease. Research conducted by Fuad et al. stated a significant change in reducing blood pressure in the elderly with hypertension by giving meditation.⁴⁻⁷

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According to the interpretation of Al-Misbah by M. Quraish Shihab, dhikr means remembering. The activity of "remembering" has a tremendous impact on life. When he remembers something, he will also remember the sequences associated with it. Memories can arise because we have desires, interests, hopes, and longings for what we remember. Activities "remembering" can also trigger the birth of new ideas and creativity. Meditation with dhikr focuses on God so that the patient can get closer to God and realize that all diseases come from God and the cure is from God. This study aims to determine the effect of meditation in remembrance on blood pressure in the elderly in Gowa Regency, South Sulawesi.

2. Methods

This research is experimental research using a pretest-posttest one group design. This research was conducted in Rombong District, Gowa Regency, South Sulawesi, in November 2018. The sample selection used purposive sampling. The inclusion criteria in this study were the elderly aged between 60-74 years with mild-moderate hypertension (systolic blood pressure 130-150 mmHg, diastolic 90-100 mmHg). Participants have previously explained the research procedures and had signed an informed consent form. The number of participants in this study was 15 people.

Participants were then asked to do dhikr meditation for five days with a duration of 10-30 minutes for each dhikr session. After five days, each participant's blood pressure was measured using a set of blood pressure gauges. In this design, one group of participants was measured before and after being treated with dhikr meditation.

Data analysis was using SPSS 16.0 for Windows program (IBM, Armonk, USA). Bivariate analysis was conducted to see the effect of the independent variable on the dependent by displaying a cross table.

To determine the effect of dhikr meditation on reducing blood pressure, a paired sample T-test was carried out to determine the effect of the independent variable on the dependent variable. The degree of significance was determined as 0.05.

3. Results and discussion

Characteristics of participants

Characteristics of the participants were seen based on the distribution of respondents according to age, education, occupation, diet and physical activity. In this study, the characteristics of respondents according to age were classified in the age group of 60-65 years as seven people (46.7%), age 66-70 years as many as five people (33.3%) and belonging to the age of 71-75 as many as three people (20%) and the characteristics of respondents based on education are high schools as many as two people (13.3%), junior high school as many as four people (26.7%), elementary school as many as five people (33.3%) and four people did not finish elementary school (26.7%). Characteristics of respondents based on occupation are self-employed as many as two people (13.3%) and elderly with household work as many as 13 people (86.7%). Moreover, the frequency distribution of respondents based on eating patterns is three times a day as many as 13 people (87%) and > 3 times a day is two people (13%). At the same time, the frequency of physical activity respondents was light as many as nine people (60%) and heavy as many as six people (40%).

Distribution of blood pressure frequency before and after dhikr meditation

Table 1 shows the distribution of respondents based on the frequency of blood pressure before dhikr meditation dominated by mild hypertension as many as eight people (53.3%). Meanwhile, after treatment, the frequency of mild hypertension increased (87%).

Table 1. Measuring the degree of hypertension before and after dhikr meditation.

Hypertension level	Before dhikr	After dhikr
Mild	8 (53.3%)	13 (87%)
Moderate	7 (46.7%)	2 (13%)

The effect of giving dhikr meditation on changes in blood pressure

After being analyzed using the t-test sample paired test to see the effectiveness of giving dhikr meditation to respondents, there was an effect on changes in blood pressure with a significance level of $p: 0.008$. So it can be concluded that there is an effect of dhikr meditation on blood pressure changes. Changes in blood pressure decreased by ten people (66.7%), fixed blood pressure by two people (13.3%) and increased blood pressure by three people (20%).

Based on this study, the average systolic blood pressure before treatment was 156 mmHg. After being given treatment H1-H3, there was a decrease in the average systolic blood pressure, but on H4 treatment, there was an increase in blood pressure by an average of 155 mmHg; this is probably due to irregular eating patterns and light physical activity. H5 treatment respondents' average blood pressure decreased to 151 mmHg.

Meanwhile, the average diastolic blood pressure before treatment was 92 mmHg. After being given treatment H1-H3, there was an average decrease in diastolic blood pressure of 92 mmHg, but on H4 treatment, there was an increase in blood pressure by an average of 93 mmHg; this might be due to irregular eating patterns and light physical activity. H5 treatment respondents' average blood pressure decreased to 91 mmHg.

The results of this study are that there is an effect of giving dhikr meditation on changes in blood pressure in the elderly who suffer from hypertension.

This can be seen in the changes that occur in blood pressure on the first post-treatment day with the fifth post-treatment day. There is a significant change in blood pressure because it may be influenced by several factors besides the provision of dhikr meditation itself, including the condition of the elderly living in one health care unit, which allows the elderly to seek treatment and get the same service in the service unit. A study conducted by Fuad (2012) on meditation therapy with a combination of dhikr on lowering blood pressure in the elderly with hypertension. Of the 30 elderly respondents, it was proven that there was a decrease in blood pressure during the five days of treatment.⁹

The concentration of thoughts and temporary diversion from psychosocial problems allows a decrease in the excitability of the stressor. The hypothalamus then responds to decreased excitability to stressors by decreasing the hormones cortisone, epinephrine and norepinephrine in the blood vessels. The decrease in the secretion of these hormones results in a decrease in sympathetic activity resulting in a vasodilating effect on blood vessels throughout the body. This vasodilating effect reduces peripheral resistance so that there is a decrease in blood pressure and pulse relaxation in the body, which also causes two things, namely increased awareness and sensitivity to self-sensing and the hypothalamic response to secrete the body's analgesic hormones, namely endorphins and melatonin. Increased awareness and sensitivity to self-sensing allows a person to be in alpha waves in brain activity, which helps decrease the excitability of stressors which will lower blood pressure and pulse.

The factors that cause hypertension are still unknown, but several conditions can cause hypertension in a person. Gender, genetics, age, environment, renin-angiotensin system, autonomic nervous system and other factors are some examples of conditions that cause a person to develop hypertension. Smoking, excessive salt consumption, alcohol, obesity, stress, medication and lack of exercise/physical activity also affect a person's hypertension condition. Physical activity can increase undulating blood flow, which encourages the production of nitric oxide (NO) and stimulates the formation and release of endothelial-derived relaxing factor (EDRF), which relaxes and dilates blood vessels. NO acts as a mediator in smooth muscle relaxation in blood vessels. Coronary blood flow at rest is about 200 ml per minute (4 per cent of total cardiac output). Research in the laboratory shows that an increase in blood flow of 4 ml per minute can produce nitric oxide to stimulate the repair of endothelial fungi or the lining of blood vessel walls.¹⁰⁻¹²

Dhikr meditation consists of 2 phases, namely the coaching phase and the cooling phase. In the coaching phase, a person will do dhikr, quick emptying the mind on psychosocial problems, focusing on complete surrender to God. Temporarily emptying the mind of psychosocial problems allows a decrease in the excitability of the stressor. The hypothalamus then responds to decreased excitability to stressors by decreasing the secretion of the hormones cortisone, epinephrine and norepinephrine in the blood vessels. The decrease in the secretion of these hormones results in a decrease in sympathetic activity resulting in a vasodilating effect on blood vessels throughout the body. This vasodilating effect reduces peripheral resistance, resulting in a decrease in blood pressure and pulse. The relaxing effect is produced by two other activities of the cooling phase, namely breath management. This relaxation in the body also causes two things,

namely increased awareness and sensitivity to self-sensing and the hypothalamic response to secrete the body's analgesic hormones, namely endorphins and melatonin. Increased awareness and sensitivity to self-sensing allows a person to be in alpha waves in brain activity, which helps decrease the excitability of stressors which will lower blood pressure and pulse.

The cooling phase performs breath processing. Processing the breath that is meant is like a deep breath. With breath management, it is possible to increase the maximum expansion of the lungs to increase the volume of inspiration and oxygenation in the circulation through the blood vessels throughout the body. This allows oxygen supply and circulation to target organs, including blood vessels in the heart, to be adequate. An adequate supply of oxygen and circulation to the heart allows an increase in cardiac contractility. An increase in cardiac contractility will increase stroke volume.

Along with the vasodilating effect of blood vessels due to decreased sympathetic stimulation, this increase in stroke volume is followed by a decrease in heart rate. A decrease in heart rate will decrease cardiac output. Oxygen supply and circulation also increase to peripheral areas during the cooling phase. This allows for adequate peripheral circulation, and along with the vasodilating effect of blood vessels due to decreased sympathetic stimulation, there is a decrease in peripheral resistance. Decreased peripheral resistance is accompanied by a decrease in cardiac output, decreasing blood pressure and pulse.¹³⁻¹⁵

4. Conclusion

There is an effect of dhikr meditation on changes in blood pressure in the elderly with hypertension in Gowa Regency, and there is a change in blood pressure on the fifth day after giving dhikr meditation, which is a lower percentage of moderate hypertension to mild hypertension.

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