

Rose Aromatherapy Affects Blood Pressure in Menopausal Women

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ABSTRACT

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The health problem that often occurs in menopause is hypertension. One way of non-pharmacological treatment for lowering blood pressure can be done using rose aromatherapy. The purpose of this study was to determine the effect of rose aromatherapy on blood pressure in mother menopause at the Mojoroto sub-district, Kediri, East Java. The research design uses the pre experiments approach one group pretest-posttest design. The study population is menopausal mothers who have high blood pressure with some 40 people. Random Sampling technique in getting a sample of 28 people. Collecting data using primary data using observation sheets and the results analyzed using the Wilcoxon test. From the results of the research conducted shows that getting ρ value = 0.001, which means that the value of $\rho < \alpha$ so that H_0 rejected H_1 is accepted, meaning there is an effect of rose aromatherapy on blood pressure in the mother menopause. Rose aromatherapy proven its effect in lowering blood pressure in menopausal women. Aromatherapy can be made non-pharmacological handling in lowering blood pressure in the elderly.

I. Introduction

Physical health problems are still a threat to public health, especially in non-communicable diseases such as hypertension, stroke, heart disease, and diabetes mellitus. In general, non-communicable diseases which are the number one cause of mortality each year are cardiovascular diseases, one of which is hypertension. Hypertension or increased blood pressure is a silent killer because this disease does not show any distinctive symptoms. Symptoms include headaches, shortness of breath, palpitations, tiredness, ringing in the ears (tinnitus), nosebleeds, and blurred vision caused by damage to the brain, eyes, heart, and kidneys (Bustan Nadjib. 2007).

Increased blood pressure that lasts for a long time (persistent) can cause complications. Changes in blood pressure can be influenced by age, stress, ethnicity, gender, drugs, smoking, activity and weight. The possibility of someone experiencing hypertension will be higher as age increases or in the elderly (Jaelani. 2009). The age that is used as a benchmark for the elderly varies, generally ranging from 60-65 years, but according to WHO the elderly include the middle age group, namely the age group of 45 to 59 years, the elderly between 60-74 years and the elderly between 75 to 90 years (Koensomardiyah. 2009).

Results of Basic Health Research (Riskesdas) in 2020, the disease that is mostly suffered by the elderly is hypertension, which is 63.5%. Meanwhile data from the World Health Organization (WHO) in 2020 shows that around 1.13 billion people in the world have hypertension.

The prevalence of hypertension in East Java has increased from 7.6 per mil in 2020 to



9.5 per mil in 2013. This means that out of a thousand inhabitants there are an estimated 9 more people suffering from this disease. Meanwhile, based on data from the 2020 East Java Provincial Health Office, out of 11 types of non-communicable diseases, hypertension is the most common disease that affects the people of East Java with a proportion of 55% (Kumar, V., Abbas, A. K., and N, F. 2015).

Management of hypertension can be done with pharmacological therapy. There are 9 classes of antihypertensive drugs namely diuretics, beta-blockers, angiotensin converting enzyme inhibitors (ACEI), angiotensin receptor blockers (ARBs), and calcium antagonists which are considered as the main antihypertensive drugs. Non-pharmacological therapy as antihypertensive namely acupuncture, herbal medicine from China, juice therapy, herbal therapy, yoga massage, aromatherapy, breathing and relaxation, treatment of the mind and body, meditation, hypnosis, home care (Lima, R., Wofford, M., and Reckelhoff, J. F. 2012). One of the best ways to reduce blood pressure is by administering aromatherapy through inhalation or inhaling aromatherapy. When aromatherapy is inhaled, volatile molecules will carry aromatic elements which will stimulate memory and emotional responses which cause feelings of calm and relaxation and can improve blood flow (Majidi, Ahmad dan Juanita, Farida. 2013).

One of the plants that has a function as aromatherapy is a rose. When the aromatherapy is inhaled, the volatile molecules will carry the aromatic elements contained therein such as geraniol and linalool to the apex of the nose where the cilia emerge from the receptor cells. When the molecules stick to the hairs, an electrochemical message will be transmitted through the olfactory tract into the limbic system. This will stimulate memory and emotional response. The hypothalamus which acts as a regulator raises messages that must be conveyed to the brain. The message received is then converted into action in the form of electrochemical compounds which cause feelings of calm and relaxation and can improve blood flow (Mariza, A., dan Kalsum, A. U. 2017).

Preliminary study in June 2022 in the Mojoroto sub-district, Kediri, East Java, out of 22 elderly women, 19 of them had a history of high blood pressure and at the time of examination. There were 14 elderly who had stage 1 hypertension, one elderly had stage 2 hypertension and 7 of them were normal. The growth of roses in the village is very large and easy to obtain and even cultivated by the local community, so the researchers chose rose aromatherapy as an intervention for menopausal women who experience hypertension in Mojoroto sub-district, Kediri, East Java. The purpose of this study was to determine the effect of rose aromatherapy on reducing blood pressure in menopausal women.

II. Methods

Design and Samples

Based on the research objective, it is an experimental type of research with a research design of One Group Pretest-Post Test Design. The independent variable in this study was rose aromatherapy and the dependent variable in this study was blood pressure. The sample in this study was some of the menopausal women at Mojoroto sub-district, Kediri, East Java in August 2022, totaling 28 samples.

Data Collections

The sampling technique used was purposive sampling. This research was conducted by giving a pre test (initial observation) before being given treatment (X) after being given the treatment, then doing a post test (final observation) this was done for the difference between the pre test and post test. Researchers conducted an examination of blood pressure on respondents (pre-test) to blood pressure in the elderly before being given treatment and then recorded on the observation sheet. Rose aromatherapy is given before bedtime for 5 days.

Data collection was carried out using direct measurements of research respondents to

see changes in systolic and diastolic blood pressure before and after being given rose aromatherapy. Systolic and diastolic blood pressure in menopausal women with hypertension as measured using a sphygmomanometer and stethoscope.

Data Analysis

Statistical tests for both variables used the Wilcoxon test . All tests are done by using SPSS for Windows 24.

III. Results and Discussion

The results of this study indicate the ages of the respondents who were studied included 11 people aged 45-50 years and 17 people aged 51-55 years. From the initial measurement of blood pressure in the respondents, the results showed that 4 people had normal blood pressure and 24 people had blood pressure measurements above 140/90 mmHg.

The results of statistical tests on the effect of rose aromatherapy on blood pressure in menopausal women are presented in the table below.

Table 1. Effect Of Rose Aromatherapy On Blood Pressure In Menopausal Women

Blood Pressure	Mean	df	p
Sistole Pre	151,25	28	0,000
Sistole Post	143,13	28	
Diastole Pre	88,75	28	0,000
Diastole Post	78,94	28	

The statistical test results proved that the value of $p = 0.000$, which means that the value of $p < 0.05$ and it can be concluded that there is an effect of giving rose aromatherapy on blood pressure in postmenopausal women. In this case, giving rose aromatherapy is statistically proven to reduce blood pressure.

Women aged over 60 years have a 2.7 times greater risk of experiencing hypertension when compared to women aged 40-50 years. This is due to various physiological changes that occur in elderly women, one of which is the thickening of the arterial walls due to the accumulation of collagen in the muscle layer (Prisilia dkk. 2016).

The relationship between age and the incidence of hypertension in postmenopausal women is due to hormonal changes during menopause. Several hormones during menopause have an additive effect on increasing blood pressure, such as a relative increase in androgen levels, activation of the renin-angiotensin system, increased plasma endothelial levels, and increased insulin resistance. Steroid hormones in women have regulatory effects on the Renin Angiotensin System and influence angiotensinogen production and sodium metabolism. Decreased estrogen levels during menopause result in increased regulation of the Renin Angiotensin System and increased plasma renin activity. The existence of various physiological changes, can cause hypertension in menopausal women (Riskesdas. 2020).

Some respondents said that if they felt more comfortable and calm, they experienced slightly less complaints of dizziness. This is because aromatherapy gives a sense of relaxation to the elderly. it has been proven that inhaling aromatherapy will increase alpha waves in the brain and these waves help to relax, this can reduce the activity of vasoconstriction of blood vessels, blood flow becomes smooth thereby lowering blood pressure (Sudoyo AW, Setiyohadi. 2013). This essential oil can affect the activity of the work function of the brain through the nervous system associated with the sense of smell. This response will be able to stimulate increased production of brain nerve conduction mass (neurotransmitters), namely

those related to the recovery of psychological conditions (such as emotions, feelings, thoughts, and desires). Aromatherapy components interact quickly when inhaled, these compounds interact with the central nervous system and directly stimulate the olfactory system, then this system will stimulate the nerves in the brain under the balance of the cerebral cortex (Riskesdas. 2020).

According to the researchers' assumption that rose aromatherapy can stimulate olfactory nerve cells and affect the work of the limbic system by increasing positive and relaxed feelings, so that the work of the heart becomes more stable and blood circulation throughout the body will be maximized, so it can lower blood pressure.

IV. Conclusion

There is a significant effect of giving rose aromatherapy to blood pressure in postmenopausal women, in this case giving interventions can reduce blood pressure.

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