Journal for Quality in Public Health ISSN: 2614-4913 (Print), 2614-4921 (Online)
Vol. 5, No. 2, May 2022, pp: 526-531
DOI: https://doi.org/10.30994/jqph.v5i2.351

The Effect of Decoction of Coriander Seeds on Blood Pressure in Menopausal Women with Hypertension in the Work Area of the Mrican Health Center Kediri in 2022

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Received : March 7nd 2022

Accepted : April 11rd 2022

Published : May 27th 2022

ABSTRACT

This study is based on the high incidence of hypertension in menopausal women and 40% of them solved it by consuming herbal drinking from their parents before. One of the herbs that can be used to lower blood pressure is coriander seeds. The purpose of this study is the influence of coriander seed stew to the blood pressure of menopausal women who experience hypertension in the work area of Mrican Public Health Center Kediri in 2022.

The design used in this research is pre experimental with pretest-post test one group design approach. The population in this study were all postmenopausal women who experienced hypertension in Gayam Posyandu village 3 working area of Mrican Kediri Public Health Center in April 2022 of 27 people. Sampling technique of this research is purposive sampling. The sample size is 20 people. The independent variable (X) in this research is coriander seed stew while blood pressure as dependent variable (Y). The instrument used is spygmo manometer. Data analysis using T paired samples.

The results showed that the mean blood pressure value of sistole after giving the coriander seed stew was lower than before, as was the diastolic blood pressure. Result of data analysis got pvalue = 0.000 or less from α = 0,05 meaning that H0 rejected and H1 accepted, meaning there is influence of coriander seed stew to blood pressure of menopausal women who have hypertension in Work Area of Mrican Kediri Public Health Center in 2022.

Coriander seeds can lower blood pressure elderly because it contains flavonoids. Elderly are expected to consume coriander seed stew regularly because hypertension is a chronic disease, control blood pressure to the health center on a regular basis.

Keywords: Coriander seed stew, Blood pressure, Menopausal women, Hypertension

INTRODUCTION

The growth and development of every human being throughout life and life will experience various changes until at the time of aging, especially in women, they will experience physical, social, and emotional changes in life, as well as psychological changes in women making menopause a period of shock and self-analysis. greatest for some women (Andrews, 2009). One of the physical changes experienced by menopausal women is that there is a change in circulation in the face which can widen to a red nape (hot flushes), easy palpitations and high blood pressure occurs (Manuaba, 2009). People

who have hypertension are not only at high risk of suffering from heart disease but also suffer from other diseases such as diseases of the nerves and blood vessels where the higher the blood pressure, the higher the risk (Nurarif & Kusuma, 2016). Drugs used to treat hypertension sometimes have an unfavorable effect on menopausal women, so herbal medicines are needed that have fewer side effects than synthetic drugs, one of which is coriander seeds. Coriander contains a variety of minerals and vitamins. The main minerals contained in coriander are calcium, phosphorus, magnesium and iron. Calcium in addition to acting as a bone mineral, also plays a role in maintaining normal blood pressure (Astawan, 2011).

Based on data from the World Health Organization (WHO) shows that worldwide, the prevalence of the population aged 18 years and over who experience hypertension is 20.5% of the female population, while in Indonesia it is 22.6% of the female population (WHO, 2015). The results of the 2013 Basic Health Research (Riskesdas) showed that 26.2% of the population in East Java had hypertension (Kemenkes RI, 2013). Based on the patient's age group, the prevalence of hypertension at age > 75 years was 63.8%; age 65-74 years is 57.6%; age 55-64 years is 45.9%; age 45-54 years is 35.6%; age 35-44 years is 24.8%; age 25-34 years is 14.7%; and age 15-24 years is 8.7% (Kemenkes RI, 2016). The health profile of Kediri Regency in 2014 showed that there were 285,674 cases of hypertension of which 122,822 were male and 162,852 were female (Kediri District Health Office, 2015). The results of a preliminary study at the Mrican Health Center showed that during December 2016 there were 19 women aged 50 years and over whose systolic blood pressure was more than 140 mmHg and/or diastolic blood pressure was above 90 mmHg. The results of interviews with 5 menopausal women with hypertension, 2 people (40%) said that they used to take medicine and herbs that were known from their parents or neighbors, 2 people (40%) said they used to take medicine only from a doctor, and 1 person (20%) said that they did not take medicines from the doctor, only drank potions made by themselves.

Hypertension is often idiopathic or has no known cause, but hypertension is influenced by genetic, environmental factors, sympathetic nervous hyperactivity, the renin-angiotensin system and increased intracellular Na and Ca. Risk factors for hypertension are obesity, smoking, alcohol, and polycythemia (Nurarif & Kusuma, 2016). Hypertension can be treated with herbal plants, one of which is coriander. Coriander contains high levels of potassium and calcium, both of which are very important in the regulation of blood pressure. Consumption of a lot of potassium and calcium will increase its concentration in the intracellular fluid, so it tends to draw fluid from the extracellular part and lowers blood pressure (Astawan, 2011). Hypertension that is not handled properly will cause a very wide impact, even death. Deaths due to hypertension are caused by diseases that begin with hypertension, namely kidney damage, heart attacks, strokes, and glaucoma (Lingga, 2012).

Efforts that can be made to prevent hypertension are lifestyle modifications, namely by maintaining an ideal body weight through regular exercise, reducing sodium intake, limiting alcohol consumption, consuming adequate potassium and calcium from the diet, avoiding smoking, reducing stress by creating a relaxed atmosphere. fun for people with hypertension, and through massage (Wijaya & Putri, 2013). Based on this background, the researchers are interested in researching the effect of boiled coriander seeds on the blood pressure of postmenopausal women with hypertension in the working area of the Mrican Kediri Health Center in 2022.

MATERIALS AND METHODS

Design and Samples

The design used in this research is pre experimental with pretest-post test one group design approach. The population in this study were all postmenopausal women who experienced hypertension in Gayam Posyandu village 3 working area of Mrican Kediri Public Health Center in April 2022 of 27 people. Sampling technique of this research is purposive sampling. The sample size is 20 people.

Data Collection

The chosen respondents were 20 postmenopausal women who experienced hypertension that met inclusion and exclusion criteria. Data collected by identifying the blood pressure of postmenopausal women with hypertension before being given a decoction of coriander seeds, giving a decoction of coriander seeds as much as 600 ml / day to be drunk 3 times each 200 ml, asking respondents to drink regularly at 05.00, 13.00, and 21.00, giving boiled coriander seeds for 3 days in a row, and identifying

the blood pressure of postmenopausal women who have hypertension after giving coriander seed decoction for 3 days and carried out on the 4th morning.

Data Analysis

Data analysis used Saphiro Wilk to test the data normality, and using Paired T test to analyze the hypothesis

RESULTS

The result shows that most of the respondents are of middle age, namely 14 people (70.0%), most of the respondents did not exercise at all, namely 13 people (65.0%), most of the respondents do not have the habit of drinking coffee, namely 11 people (55.0%), most of the respondents do not usually consume fatty foods and offal, namely 15 people (75.0%).

Table 1. Frequency distribution based on blood pressure before being given coriander seed decoction in postmenopausal women with hypertension in Gayam Posyandu Village 3, the working area of Mrican Public Health Center, Kediri Regency in 2022

Pressure	*Min*	*Max*	*Mean*	N	*Std. Dev*	*SE Mean*
Sistole	140 mmHg	180 mmHg	154.50	20	11.227	2.511
Diastole	90 mmHg	110 mmHg	93.75	20	5.590	1.250

Source: Research primary data in 2022

Table 1 shows that the average systolic pressure is 154.5 mmHg, and the average diastolic pressure is 93.75 mmHg before being given coriander seed stew.

Table 2. Frequency distribution based on diastolic blood pressure after being given boiled coriander seeds in postmenopausal women with hypertension in Gayam Posyandu Village 3 working area of Mrican Public Health Center, Kediri Regency in 2022

Pressure	*Min*	*Max*	*Mean*	N	*Std. Dev*	*SE Mean*
Sistole	130 mmHg	165 mmHg	145.25	20	10.572	2.364
Diastole	90 mmHg	110 mmHg	87.00	20	5.231	1.170

Source: Research primary data in 2022

Table 2 shows that the average systolic pressure is 145.25 mmHg, and the average diastolic pressure is 87 mmHg after being given a decoction of coriander seeds.

Table 3. The Effect Of Being Given A Decoction Of Coriander Seeds On The Blood Pressure Of Postmenopausal Women With Hypertension In Gayam Posyandu Village 3, The Working Area Of The Mrican Public Health Center, Kediri Regency in 2022

Blood pressure	*Mean*	N	*Std. Dev*	*SE Mean*	*pvalue*	*A*
Sistole Pretest	154,50	20	11,227	2,511	0,000	0,05
Sistole Posttest	145,25	20	10,572	2,364		
Diastole Pretest	93,75	20	5,590	1,250	0,000	0,05
Diastole Posttest	87,00	20	5,231	1,170		

Source: Research primary data in 2022

Table 3. shows that the mean value of systolic blood pressure after being given boiled coriander seeds was lower than before being given boiled coriander seeds, as well as diastolic blood pressure. This shows a decrease in blood pressure after being given a decoction of coriander seeds

The results of the paired sample T test show the results of value = 0.000 on systolic blood pressure before and after being given coriander seed stew, and value = 0.000 on diastolic blood pressure before and after being given coriander seed stew, so H0 is rejected and H1 is accepted, meaning that there is an effect Coriander seed decoction on the blood pressure of postmenopausal women with hypertension in Gayam Posyandu Village 3, the working area of the Mrican Public Health Center, Kediri Regency in 2022.

DISCUSSION

1. Blood Pressure Before Being Given Coriander Seed Decoction In Postmenopausal Women With Hypertension In Gayam Posyandu Village 3, The Working Area Of Mrican Public Health Center, Kediri Regency In 2022

Table 1 shows that the average systolic pressure is 154.5 mmHg, and the average diastolic pressure is 93.75 mmHg before being given coriander seed stew.

Hypertension is a condition where the systolic blood pressure is more than 120 mmHg and the diastolic pressure is more than 80 mmHg (Muttaqin, 2014). Complaints felt by menopausal women that affect the function of the heart and blood vessels include: dry skin, wrinkles from the muscles due to decreased circulation to the skin, hot body including the face, changes in circulation on the face that can widen to red nape (hot flushes), easy palpitations, high blood pressure occurs which continues to coronary heart disease (Manuaba, 2009). Hypertension is influenced by obesity, salt intake, food and lifestyle, heredity (genetic), and age (Sunanto, 2009). Menopausal women tend to experience hypertension due to their advanced age, so that blood vessels also experience a decreased ability to deliver blood throughout the body, especially the heart which causes hypertension. Hypertension that occurs in respondents varies in level because there are many factors that influence hypertension, including age, diet and lifestyle.

The result shows that most of the respondents are of middle age, namely 14 people (70.0%). Age (age) is often called that hypertension is a degenerative disease, namely a disease due to age. As a person's age increases, the productivity of a person's organs will decrease (Sunanto, 2009). Respondents who experienced mild hypertension were more common in middle age menopausal women (45-59 years) because the decline in body function was not as severe as in elderly menopausal women (60-74 years). Meanwhile, respondents who experience moderate and severe hypertension occur in elderly menopausal women, because at this age the decline in body functions occurs drastically, so that in some respondents, severe hypertension does not cause complaints. High blood pressure is closely related to lifestyle and food. Some lifestyle factors that cause hypertension include being overweight, drinking alcohol, lack of exercise, stress, and smoking. Dietary factors include: more nutrition, low salt consumption, excessive salt consumption, high fat intake (Sunanto, 2009).

Food and lifestyle have an important role in the occurrence of hypertension. Respondents whose blood pressure < 160 mmHg occurs in postmenopausal women who exercise every day, do not consume coffee, so that even though their lifestyle factors are good it does not cause a high increase in blood pressure because the risk factors are few, only because of the age factor that has entered menopause women so that body functions have decreased, including cardiovascular function, one respondent who consumes fat or offal can also be the cause of mild hypertension he experiences because fat and offal contain a lot of cholesterol which can cause constriction of blood vessels thereby increasing blood pressure. Respondents whose blood pressure > 160 mmHg occurred in respondents who never exercised at all, consumed coffee > 1 cup every day, and did not consume fat and offal, so the risk factors came from not exercising at all and drinking coffee and consuming fatty foods. . Excessive coffee consumption is also not good for health because by consuming coffee that contains caffeine, the body is forced to fight the circadian rhythm so as not to be sleepy and this condition can cause stress that triggers an increase in blood pressure. If this is coupled with not exercising at all, then postmenopausal women who are prone to accumulation of fat and cholesterol in the blood vessels will cause narrowing of the blood vessels because they do not burn with exercise.

2. Blood Pressure After Being Given Coriander Seed Decoction In Postmenopausal Women With Hypertension In Gayam Posyandu Village 3, The Working Area Of Mrican Public Health Center, Kediri Regency In 2022

Table 2 shows that the average systolic pressure is 145.25 mmHg, and the average diastolic pressure is 87 mmHg after being given a decoction of coriander seeds. The principle of management of lowering blood pressure should consider blood flow to the brain, heart and kidneys. Blood pressure control goals (TDS<140 mmHg and TDD<90mmHg) appear to be too strict for the elderly. The Sys-Eur trial recommends a decrease in TDS < 200 mmHg as an intermediate target blood pressure, or a decrease of 20 mmHg from the initial blood pressure (Kuswardhani, 2016). Drugs used to treat hypertension sometimes have an unfavorable effect on menopausal women, so herbal medicines are needed that have fewer side effects than synthetic drugs, one of which is coriander seeds. Coriander

contains a variety of minerals and vitamins. The main minerals contained in coriander are calcium, phosphorus, magnesium and iron. Calcium in addition to acting as a bone mineral, also plays a role in maintaining normal blood pressure (Astawan, 2011).

According to the researcher, the decrease in blood pressure experienced by the respondents was in accordance with the theory above that in the management of hypertension it is not to normalize blood pressure, but to reduce systolic pressure by at least 20 mmHg from the initial blood pressure, this is what causes a decrease in blood caused by giving boiled coriander seeds not drastically but slowly, to get used to reducing the burden on the heart in pumping blood little by little.

3. The Effect Of Boiled Coriander Seeds On The Blood Pressure Of Postmenopausal Women With Hypertension In Gayam Posyandu Village 3, The Working Area Of The Mrican Public Health Center, Kediri Regency In 2022

Table 3 shows that the mean value of systolic blood pressure after being given boiled coriander seeds was lower than before being given boiled coriander seeds, as well as diastolic blood pressure. This shows a decrease in blood pressure after being given a decoction of coriander seeds. The results of the paired sample T test show the results of value = 0.000 on systolic blood pressure before and after being given coriander seed stew, and value = 0.000 on diastolic blood pressure before and after being given coriander seed stew, so H0 is rejected and H1 is accepted, meaning that there is an effect Coriander seed decoction on the blood pressure of postmenopausal women with hypertension in Gayam Posyandu Village 3, the working area of the Mrican Public Health Center, Kediri Regency in 2022. Coriander contains high levels of potassium and calcium, both of which are very important in the regulation of blood pressure. Consumption of a lot of potassium and calcium will increase its concentration in the intracellular fluid, so it tends to draw fluid from the extracellular part and lowers blood pressure (Astawan, 2011).

Coriander seeds also contain a number of essential compounds that work as phytochemicals. A number of them will work as anti-oxidants, such as carvone, geraniol, limonene, borneol, camphor, elemol, alinalool quercitin, kaempferol, rhamnetin, and epigeninactive. It also contains phenolic acids including caffeic and chlorogenic acid. Chlorogenic acid, a number of lemonede content and several types of acids and anti-oxidants help overcome cholesterol deposits in the blood, improve blood circulation, increase the size of blood vessels which will be important to neutralize blood pressure (Jabeen et al, 2009). Coriander seed decoction contains substances that can affect the blood pressure regulation system so that it lowers blood pressure although not drastically, but slowly, over the 3 days of the study, the client's blood pressure decreased by an average of 10-15 mmHg.

This is in accordance with the results of research conducted by Romlah (2015) on the effect of coriander seed decoction as a reducer of hypertension in Jabon Village, Mojoanyar District, Mojokerto which showed that coriander seed stew was effective as a hypertension reducer based on the Friedman test. There was an average decrease of 41.1 mmHg in systolic pressure and an average of 21 mmHg in diastolic pressure, the study for one month of coriander seed decoction was given twice a week.

CONCLUSSION

The results showed that the mean blood pressure value of sistole after giving the coriander seed stew was lower than before, as was the diastolic blood pressure. Result of data analysis got pvalue = 0.000 or less from $\alpha = 0,05$ meaning that H0 rejected and H1 accepted, meaning there is influence of coriander seed stew to blood pressure of menopausal women who have hypertension in Work Area of Mrican Kediri Public Health Center in 2022.

ACKNOWLEDGMENTS

The author is thankful to respondents for their valuable information and their awareness to participate in this research.

CONFLICTS OF INTEREST

The author declares that they have no conflict of interest

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