

## THE EFFECT OF BOILED GINGER DRINK JAHECANG ON BLOOD PRESSURE REDUCTION IN HYPERTENSION PATIENTS IN THE HAMLET OF BABAN AROSBAYA VILLAGE AROSBAYA DISTRICT BANGKALAN REGENCY

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### ABSTRACT

**Background:** Blood pressure was the power needed for blood to flow in blood vessels and circulate in all tissues of the human body. The Lack of physical activity can result in a variety of complaints, characterized by a decrease in pulse rate and a decrease in the amount of blood pumped in each beat. Treatment of hypertension was divided into two namely pharmacology and non-pharmacology. Pharmacological management for hypertension was the provision of antihypertensive with the aim of preventing hypertension complications with the smallest possible side effects.

**Objective:** The purpose of this study was to determine whether there was an effect of giving ginger drink to reduce blood pressure in patients with hypertension in Baban Hamlet, Arosbaya Village, Arosbaya District, Bangkalan Regency.

**Methods:** The research design uses Quasy Experiment with pre-test and post-test control group design. The population was 21 respondents. Samples taken with the technique of Random Sampling, amounting to 20 respondents. The research data was taken by observation of blood pressure, after tabulating data obtained using Independent T-Test with a significance level of 0.05.

**Results:** Research shows that the experimental group that was given the ginger drink got a value of 154.44 mmHg with a change in value of 131.11 mmHg. Whereas in the control group which was not given ginger drink got a value of 153.00 mmHg with a change in value of 142.00 mmHg. From the statistical test results obtained 0.000 because of the sign value (2-tailed) <0.05, the hypothesis of research H0 is rejected and H1 was accepted, meaning that there was an influence of ginger drink on reducing blood pressure in patients with hypertension in Baban Hamlet, Arosbaya Village, Arosbaya District Bangkalan.

**Conclusion:** The ginger drink there are several components and compounds that can reduce blood pressure in people with hypertension. Potassium which can affect the effects of diuretics resulting in an increase in intracellular Na and affect vasodilation of blood vessels so that blood vessels circulate smoothly resulting in a decrease in blood pressure.

**Key words:** Ginger drink, blood pressure, hypertension.

### INTRODUCTION

Indonesia is in a phase of epidemiological transition that has resulted in a shift in disease patterns from infection to non-communicable diseases (Stefhany, 2012). Blood pressure is the power needed for blood to flow in blood vessels and

circulate in all tissues of the human body. Pharmacological treatment is considered expensive by the community, besides pharmacological treatment also has side effects. It is necessary to handle non-pharmacological because it is very easy to practice and does not cost too much. In

Indonesia, the National Hypertension Prevalence based on the 2018 Riskesdas shows that from 25.8% of people to 34.1% who suffer from hypertension. Meanwhile, the 2016 National Health Indicator (Sirkenas) survey data showed an increase of hypertension prevalence in the population, with a proportion of men by 13.78% (387,913 residents) and women by 13.25% (547,823 residents) hypertension prevalence in Indonesia which obtained through measurements at the age of  $\geq 18$  years by 25.8 percent. Hypertension of East Java Province, the percentage of hypertension was 13.47% or around 935,736 residents, with the proportion of males amounting to 13.78% (387,913 residents) and women of 13.25% (547,823 residents) (MOH 2016).

In Kepindon Hamlet, RW 13, Japan Village, Sooko Subdistrict, Mojokerto Regency, after observing, the number of hypertension sufferers was 21. Jahechang or what is called wedang uwuh is a traditional health drink typical of Imogiri, Bantul, Yogyakarta. Blended from natural herbs and spices, they give off a distinctive aroma of spices, red in color, and spicy sweet. Wedang uwuh in Javanese means garbage drink.

## **METHODS**

### *Study Design*

This type of research used in this study is Quasi Experiment with pre-test and post-test control group design.

### *Setting*

This research was conducted in Baban Hamlet, Arosbaya Village, Arosbaya District, Bangkalan Regency.

### *Research Subject*

According to the design of this study, there are two groups, namely the experimental / treatment group and the control group

randomly selected, then given a pretest to find out the initial state, are there differences in the experimental / treatment group and the control group (Sugiyono, 2009).

The population in this study were all hypertension sufferers in Kepindon Hamlet, RW 13, Japan Village, Sooko Subdistrict, Mojokerto Regency with 21 respondents. The sample in this study were 20 people with research criteria owned by the population:

1. Inclusion criteria
  - a. Patients with hypertension with blood pressure  $\geq 140/90$  mmHg.
  - b. Patients with hypertension with age  $\geq 25$  years.
  - c. Willing to be a respondent in research.
2. Exclusion criteria

The exclusion criteria for this study are:

  - a. Patients with hypertension with complications (kidney disease, stroke, heart attack).
  - b. People with hypertension with mental disorders.

### *Instruments*

The instrument used in this study is the Dependent variable is an observation sheet, the measuring instrument used in the form of a sphygmomanometer and a stethoscope. While the instruments on the Independent variable are SOP (Standard Operational Procedure) and SAK (Event Unit).

Data collection by the researcher conducted an approach to the respondent to get the respondent's approval as a sample and explained the intent and purpose and gave informed consent as a sign of agreement to be the respondent and was willing to intervene (given a jelly drink).

After the respondent agreed, the researcher conducted a pretest by measuring the blood pressure first. To find

out there is an influence before it is done and after treatment. Then the respondent is given ginger drink 1 day 1 time in 5 days. Whereas the control group was not given treatment or intervention in the form of ginger drink. After that, measurements/ observations are made again.

#### Data Analysis

The results of the pre-test and post-test observed differences. After all the data has been collected, the researcher carries out the processing and analysis of the data and then the independent t-test is performed. Decision is based on the amount of value, if  $\alpha < 0.05$  then H1 is accepted, it means that there is an effect of giving ginger drink to changes in blood pressure in people with hypertension.

#### Ethical Consideration

This research has gone through an ethical test from the STIKES Dian Husada Mojokerto and obtained permission from National Unity and Politics of Bangkalan Regency.

## RESULTS

*Examination of the Effect of Giving Ginger Drink to Reduce Blood Pressure in Patients with Hypertension in Baban Hamlet, Arosbaya Village, Arosbaya District, Bangkalan Regency using Independent T-Test*

**Table 1.** Examination of the Effect of Giving Ginger Drink to Reduce Blood Pressure in Patients with Hypertension in Baban Hamlet, Arosbaya Village, Arosbaya District, Bangkalan Regency (n = 20).

	<b>Blood Pressure Results in the Experiment and Control group</b>			
	<b>Experiment Group</b>		<b>Control Group</b>	
	<b>Pre</b>	<b>Post</b>	<b>Pre</b>	<b>Post</b>
Mean	154.44	131.11	153.00	142.00
Nilai Minimum	140	120	140	130
Nilai Maximum	170	140	170	150
Range	30	20	30	20
N	10	10	10	10
t-test value	8.083		3.973	
Sig	0.00		0.03	

The results of this study based on the table 1 found that in the Pre-Post Test experimental group, it was 154.44 mmHg with an average value change of 131.11 mmHg. In the control group showed that the average value of pre-post-test blood pressure was 153.00 mmHg with changes in the average value of 142.00 mmHg. Based on the results of the independent t-test changes in the experimental group got a value of  $t = 8.083$  with a significant 0.000 and changes in the control group with a value of  $t = 3.973$  with a significant 0.03.

## DISCUSSION

Based on the table 1, it found that in the Pre-Post Test experimental group, it was 154.44 mmHg with an average value change of 131.11 mmHg. In the control group showed that the average value of pre-

post-test blood pressure was 153.00 mmHg with changes in the average value of 142.00 mmHg.

With this it is stated that after being given the intervention of Ginger drink obtained Asymp value. Sig (2-tailed) for the treatment is 0.000 and for the sign value (2-tailed) in the control group is 0.03 because the Sig (2-tailed) value  $< 0.05$  then the  $H_0$  research hypothesis is rejected and  $H_1$  is accepted meaning that there is an influence of boiled Ginger drink against a decrease in blood pressure in people with hypertension at Baban Hamlet, Arosbaya Village, Arosbaya District, Bangkalan Regency.

In ginger drink there are several components and compounds that can reduce blood pressure in people with hypertension. In the ginger plant there are Flavonoid compounds which have an inhibitory effect on the activity of angiotensin-converting enzyme (ACE) (Guarrero, 2012) which causes the formation of angiotensin II from angiotensin I to decrease resulting in vasodilation, then a decrease in cardiac output and finally decreased blood pressure (Gyuton & Hall, 2008). In Secang there are saponin compounds that give bitter taste to plants can bind LDL cholesterol in the blood. Saponin compounds will bind LDL cholesterol in the blood and transport it back to the digestive tract to be excreted, resulting in repair of blood vessels that can reduce blood pressure (Khomsan, 2009). Potassium contained in cardamom can affect the effect of diuretics so that there is an increase in Na to intracellular and affect vasodilation of blood vessels so that blood vessels circulate smoothly so that there is a decrease in blood pressure, while Calcium in cinnamon can relax blood vessels so that blood circulation becomes smooth and can reduce blood flow blood pressure.

## CONCLUSION

There was a change in the mean blood pressure in the experimental group after being given a jelly drink. There was no change in the mean value of blood pressure in the control group. Based on the results of the T-Test it was concluded that there was an effect of giving boiled ginger drink to changes in blood pressure in patients with hypertension.

## SUGGESTION

The results of the study should be taken into consideration for choosing appropriate and practical alternative treatments in reducing blood pressure by consuming decoction of the ginger drink respondents are able to do it independently.

It is expected that respondents can make their own ginger even if it can be sold among the community.

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