



The Effectiveness of *Syzygium polyanthum* to Reduce Blood Pressure in Elderly with Hypertension

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ABSTRACT

Hypertension is often referred to as the "silent killer". The factors that influence blood pressure are age, gender, high salt consumption, environment (stress), obesity, high coffee consumption, and genetics. One effort to treat hypertension is with pharmacological and non-pharmacological treatment, non-pharmacological treatment by giving boiled bay leaf water to lower blood pressure in hypertension sufferers. The aim of this research was to determine the effectiveness of giving brewed bay leaves to reduce blood pressure in elderly people with hypertension in the work area of the Posyandu for the Elderly in Gayaman Village, Mojoanyar District, Mojokerto Regency. The type of research used is a Quasy-experimental research design with the design used One Group Pre-Post Test Design. This attempts to reveal cause and effect by involving groups of brewed bay leaves. The population of this study was 45 elderly people in the working area of the Posyandu for the Elderly in Gayaman Village, Mojoanyar District, the sample taken was 40 respondents using simple random sampling. The independent variable in this study was the administration of brewed bay leaves, the dependent variable was blood pressure. The collected data was then tabulated and analyzed using the Wilcoxon statistical test and t-test with a significance level of 0.05. From the results of this research, it was found that in the brewed bay leaf group, before being given boiled bay leaf water, the average MAP (Mean Arterial Preassure) value was 103.67 and after being given boiled bay leaf water, the average MAP (Mean Arterial Preassure) value was 94.67. So it can be concluded that the results of this study are effective in reducing hypertension by administering brewed bay leaves.

Keywords: Hypertension; Blood presure; *Syzygium polyanthum*

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INTRODUCTION

High blood pressure is a condition that is often encountered in everyday life. Some people complain of pain or heaviness in the back of the head and when examined it turns out their blood pressure is high. Hypertension is often referred to as the "silent killer", because hypertension sufferers often go years without feeling any problems or symptoms.¹ To prevent these complications, of course people need treatment to lower blood pressure, namely pharmacological and non-pharmacological treatment.

Pharmacological treatment is used by the public to lower blood pressure, but in reality pharmacological treatment if consumed in the long term causes continuous side effects so that many people do not consume these drugs. So people also need non-pharmacological treatment, one of which is complementary treatment by giving bay leaves. Bay leaf therapy has several effects, including being able to ward off free radicals which can cause damage to cells and body tissue, improving blood circulation from the existing compounds, therefore giving bay leaf therapy is very effective in lowering blood pressure.² There are many elderly people in my area who suffer from hypertension but they are afraid of the side effects if they continue to take pharmacological medicine and sometimes they forget not to take medicine to reduce hypertension. Therefore, I am interested in providing complementary therapy with brewed bay leaves to the elderly in the working area of the elderly posyandu, Gayaman Village, Mojoanyar District, Mojokerto Regency.

Along with changes in lifestyle following the current era of globalization, cases of hypertension continue to increase, a lifestyle that is fond of eating fast food that is rich in fat and various kinds of preservatives, alcohol or excessive salt in food can trigger hypertension.³ And from lazy exercise habits, stress can also trigger hypertension. Stress tends to cause a temporary increase in blood pressure. If the stress has passed, the high blood pressure will return to normal.⁴ unhealthy lifestyle, heredity, smoking, high medical costs. When symptoms arise, such as severe pain and blurred vision, people immediately go for treatment to the village midwife or community health center and take pharmacological drugs, but people do not know the long-term impact of taking these drugs.⁵ So researchers are interested in conducting research and looking for alternatives to lower blood pressure in elderly people with hypertension with non-pharmacological measures, namely by giving brewed bay leaves to reduce hypertension. The compounds contained in these compounds that can lower blood pressure include anti-hypertensive and heart-protective properties. and there are also several vitamins contained in it.

METHOD

This research uses a quasi-experimental research design with the design used Pre-Post Test Design, namely revealing cause and effect relationships by involving groups of subjects. The subject

group was observed before the intervention was carried out, then observed again after the intervention was carried out.⁶

RESULTS

Based on the research, the results obtained :

Table 1. Distribution of Research Results Frequency Table

No.	Variable	Total	
		N	%
1	Lama menderita hipertensi		
	< 1 tahun	10	25
	1-5 tahun	25	62,5
	> 5 tahun	5	12,5
	Total	40	100
2	Jenis Kelamin		
	Laki-laki	9	22,5
	Perempuan	31	77,5
	Total	40	100
3	Tingkat Pendidikan		
	SD	25	62,5
	SMP	10	25
	SMA	5	12,5
	Perguruan tinggi	0	0
	Total	40	100
4	Pekerjaan		
	Tani	30	75
	Wiraswasta	8	20
	PNS	2	5
	Total	40	100
5	MAP Tekanan Darah pada lansia		
	Pre test	20	50
	Post test	20	50
	Total	40	100
6	Efektifitas pemberian seduh daun salam utk menurunkan hipertensi		
	Turun	28	70
	Naik	5	12,5
	Tetap	7	17,5
	Total	40	100

Table 2. Wilcoxon Statistical Test Result Pre test and Post test

Bay Leaf Group	N	Z- Value	P-Value	A
Pre Test	20	-2.779	0,005	0,05

In the table based on the length of time the respondents have suffered from hypertension, it is found that for the bay leaf group, the majority of them have suffered from hypertension for a long time in the period of 1-5 years, as many as 25 respondents (62,5%). Results of the Average MAP Value of Blood Pressure Measurement in Elderly People Suffering from Hypertension in the Working Area of the Elderly Posyandu, Gayaman Village, Mojoanyar District, Mojokerto Regency Before and After Consuming bay leaf brewed water by 20 respondents (50%).

Based on the table, the average distribution data was obtained based on the MAP (Mean Arterial Pressure) results in the elderly sufferers of hypertension in the bay leaf group before being given bay leaf boiled water. The average MAP results were obtained, namely a mean of 103.67, a minimum value of 86, 70, and the minimum value is 116.70. And after being given bay leaf boiled water, the average MAP results were obtained, namely a mean of 94.67, a minimum value of 86.70, and a maximum value of 103.30. And it can be seen that the change in the average MAP value before and after being given bay leaf boiled water is 9.

Bay leaves contain natural chemicals such as potassium and alkaloids which are diuretic, meaning they help the kidneys remove excess fluid and salt in the body, reducing fluid in the blood will lower blood pressure.⁷ The chemical content in bay leaves that plays a role in reducing blood pressure is flavonoids. Flavonoid compounds can improve blood circulation throughout the body and prevent blockages in blood vessels. Apart from that, flavonoid compounds can also reduce System Vascular Resistance (SVR), cause vasodilation and affect the work of ACE inhibitors which can inhibit the change of angiotensin I to angiotensin II. The effects of vasodilation and ACE inhibitors can reduce blood pressure.⁸ The essential oil in bay leaves can provide a relaxing effect and the aromatic chemical compounds, from the angenol content, are good for reducing stress.⁹

DISCUSSION

In this study, it can be seen that almost all of the elderly respondents suffering from hypertension in the work area of the Posyandu for the elderly in Gayaman Village, Mojoanyar District, Mojokerto Regency who were given bay leaf boiled water experienced a decrease in blood pressure, but a small number of respondents did not experience a decrease in blood pressure. Apart from using medication, hypertension can also be treated with non-pharmacological therapy, namely by drinking water boiled with bay leaves, so that hypertension treatment becomes more effective. Apart from that, it must also be supported by reducing excessive salt consumption, reducing eating fatty foods, avoiding stress, and exercising regularly.⁵ based on leaf gender, almost all of them were female, 31 respondents (77.5%). based on their work, most of them are farmers/laborers, 30 respondents (70%), so it can trigger high

blood pressure due to too much activity so that the respondents' rest time is reduced and irregular. Based on the length of time they have suffered from hypertension in the brewed bay leaf group, it was found that the majority of respondents had suffered from hypertension for a long time of 1-5 years as many as 25 respondents (62.5%), based on the results of the length of time they had suffered from hypertension above, treatment could be carried out more strictly to reduce the risk of organ damage. doesn't get any higher.

Based on the results of the t-test post test for brewed bay leaves, the t value was obtained (-0.935) with a Sig value (0.361) > significant standard ($\alpha = 0.05$), so, from the results of the test above which was carried out by researchers on brewed bay leaves To reduce blood pressure, researchers can conclude that there is effectiveness in giving brewed bay leaves to reduce blood pressure in elderly people with hypertension.

CONCLUSION

From the results of research, giving boiled bay leaf water is effective in lowering blood pressure in elderly people with hypertension. For seniors suffering from hypertension, it is recommended to consume boiled water from bay leaves as an alternative non-pharmacological treatment.

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