

## Effect of Bay Leaves Boiled Water on Reducing Blood Pressure in Hypertension Patients at Sidorejo Public Health Center (PHC) in Lubuklinggau

Ida Samidah and Murwati

Sekolah Tinggi Kesehatan Dehasen

Email : idasamidah@yahoo.com

### ABSTRACT

Hypertension is known as the silent killer because it occurs without symptoms, so it is neither diagnosed nor receive adequate treatment. This is why the incidence of hypertension is increasing from year to year. The number of hypertension patients worldwide currently reach 600 million patient and three million passed away every year. In Indonesia, hypertension is the third cause of death, which is 6.7% of the mortality population at all ages. Bay leaf is one alternative of traditional medicine for lowering blood pressure. This study aimed to observe effect of boiled bay leaves water to reduce blood pressure on hypertension patients at Sidorejo PHC in Lubuk Linggau in 2015. The design study was Quasi Experiment with pretest-posttest study design. Selection of samples were using non-random sampling technique and purposive sampling. Number of respondents were 30 people, divided into 15 intervention and 15 control group. The results showed that there is influence of decoction of leaves to the reduction of blood pressure in patients with hypertension in Sidorejo Public Health Center Lubuk Linggau. This is indicated by a decrease in blood pressure by an average of 149.87 mmHg / 87.87 mmHg before administration stew bay leaves, fell to 143.33 mmHg /81.33 mmHg with p-value 0.002 systole and diastole p-value 0.002. The second p-value less than  $\alpha = 0:05$ . Expected respondent can consume and disseminate information about the bay leaf decoction as consideration for choosing an alternative treatment that can lower blood pressure in patients.

**Key word:** Bay leaves, Hypertension

### INTRODUCTION

Hypertension is often undetectable, even though it happened for years. According to WHO, hypertension is a condition when the blood pressure is equal to or exceeds 160 mmHg systolic and 95 mmHg in diastolic. Hypertension or high blood pressure is dangerous because of the increasing contraction of the arteries causing blood flow resistance which increases blood pressure toward the blood vessel. The heart has to work harder to pump blood through the narrow arteries. If this condition continues, the blood vessels and the heart will be disordered, so that the risk of stroke, heart attack and kidney damage increases (Rahajeng and Tuminah, 2009).

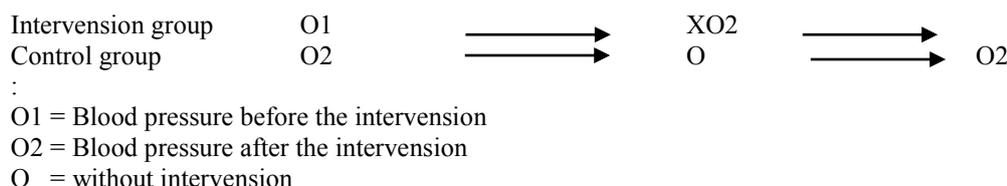
According Junaedi *et al.* (2013), basically the therapy or treatment of hypertension can be done in two ways; pharmacological and non-pharmacological treatment. The World Health Organization (WHO) recommends to use of traditional medicine, including herbs in the maintenance of society's health. Bay leaves is a kind of herb leaves used in various cooks as the food fragrances. The shape of leaves are very distinctive with a smell like guava because this plant is also included in Syzygium family. Besides being used as a food seasoning, bay leaves are also effective to cure some diseases.

### MATERIALS AND METHODS

The study design was Quasi Experiment, which is the research to study the causal correlation framework without any strict restrictions. This research model was to identify whether there was any effect of decoction of leaves to the reduction of blood pressure in patients with hypertension in Sidorejo Public Health Center IN Lubuklinggau (Notoatmodjo, 2012). The design of this study wastimeline design with comparison group or control group (Pretest and Posttest Control Group Design), with the comparison group (control), it guarantees the high internal validity (Notoatmodjo, 2012).

Pretest

Posttest



Non-random techniques (Non Probability) Sampling by purposive sampling. In this study, researchers used inclusion and exclusion criteria to determine samples in the control group and the intervention group. The difference was that in the control group, treatment was not given as in the intervention group.

## RESULTS AND DISCUSSION

### Univariate Analysis

This analysis was used to describe the characteristics of each variables by the respondents and the description about general characteristics distribution of respondents such as age, occupation and gender, as shown in Table 1.

Tabel 1. General characteristics distribution of respondents and homogeneity test on intervention group and control group on the hypertension patients in Sidorejo Public Health Center Lubuklinggau 2015

Characteristics of Respondents	Group				P
	Intervention		Control		
	N	%	N	%	
Age (years old):					
40 – 50	6	20	8	26.67	0.215
≥ 51	9	30	7	23.33	
Total	15		15		
Occupation:					
Employed	10	33.33	10	33.33	1.000
Unemployed	5	16.67	5	16.67	
Total	15		15		
Gender:					
Male	5	16.67	4	13.33	0.448
Female	10	33.33	11	36.67	
Total	15		15		

### Analysis Bivariat

Tabel 2. Distribution of respondents' blood pressure and homogeneity test on intervention and control group of hypertension patients in Sidorejo Public Health Center Lubuklinggau 2015

Timeline	Group	Blood Pressure			Normal Distributi on data	Mann Whitney Test
		Min – Maks	Median	Mean (SD)		
Before	Intervention (n=15)					
	TD sistol	140 – 158	150	149.87 (6.446)	Normal	0.768
	TD Diastol	70 - 98	90	87.87 (7.453)	Normal	0.145
	Control (n=15)					
After	TD sistol	140 – 158	150	150.60 (6.197)	Normal	
	TD Diastol	70 – 94	85	84.60 (6.566)	No	
	Intervention (n=15)					
	TD sistol	130 – 155	140	143.33(7.943)	No	0.003
	TD Diastol	70 – 90	80	81.33 (8.338)	No	0.030
	Control (n=15)					
TD sistol	140 – 170	160	155 (9.449)	Normal		
TD Diastol	80 – 100	90	88.67 (7.432)	Normal		

According to the Table 2, out of 30 respondents obtained median value of systolic blood pressure in the intervention group and the control group was 150, with 140 as the minimum value and maximum value at 158, and the median diastolic blood pressure in the intervention group of 90 with a minimum of 70 and a maximum value of 98, while the median pressure diastolic blood in the control group was 85 with a minimum value of 70, the maximum value of 94. The statistical test t-test independent before granting boiled bay leaf obtained p systole value of 0753 and Mann Whitney test for p diastole was 0145, it appears there is no significant difference blood pressure of the respondents between the intervention group and the control group. After intervention of granting bay leaf decoction decreased systolic blood pressure by 10 mmHg (SD = 1.5), diastolic of 10 mmHg (SD = 0.9). Mann Whitney statistical test results obtained systole  $p = 0.003$ ,  $p = 0.030$  for diastolic, at 0:05 alpha seen no significant difference in blood pressure reduction in both systolic and diastolic respondents between the intervention group and control group. As shown in Table 3.

Table 3. Distribution of blood pressure changes of intervention and control group after the treatment of bay leaf on the hypertension patients in Sidorejo Public Health Center Lubuklinggau 2015

Group of Respondent		Blood Pressure Changes			Total (%)
		Stative	Decrease	Increase	
Intervention (n=15)	Systole	0 (0%)	13 (86.7%)	2 (13.3%)	15 (100%)
	Diastole	3 (20%)	12 (80%)	0 (0%)	15 (100%)
Control (n=15)	Systole	2 (13.3)	2 (13.3%)	11(73.3%)	15(100%)
	Diastole	6 (40%)	2 (13.3%)	7 (46.7%)	15(100%)
Total	Systole	2 (6.67%)	15(50%)	13(43.3%)	30 (100%)
	Diastole	9 (30%)	14(46.67%)	7(23.3%)	30 (100%)

Table 3 shows the treatment group after treatment of boiled bay leaves had a decreased systolic blood pressure by 13 respondents (86.7%) and diastolic blood pressure of 12 respondents (80%), whereas all the control group only 2 (13.3%) with systolic blood pressure and decreased diastole, 11 respondents (73.3%) were in increasing systolic blood pressure and 7 respondents (46.7%) experienced an increase in diastolic blood pressure. It can be concluded that there was the influence of decoction of bay leaves against a decrease in systolic and diastolic blood pressure.

## CONCLUSION

Based on the results and discussion of the research conducted about the effect of decoction of leaves to the reduction of blood pressure in patients with hypertension in Sidorejo Public Health Center Lubuk Linggau 2015 could be summarized as follows:

1. Identification of blood pressure in patients with hypertension before being given a decoction of leaves in the intervention group in Sidorejo Public Health Center Lubuk Linggau 2015 showed that, the intervention group average blood pressure was at 149.87 / 87.87 mmHg. Whereas, in the control group amounted to 150.6 / 86.6 mmHg.
2. Identification of blood pressure after decoction of bay leaf decoction given in all intervention groups in Public Health Center Lubuk Linggau 2015 showed that, the intervention group average blood pressure was at 143.33 / 81.33 mmHg. Whereas, in the control group of 155 / 88.67 mmHg.
3. Identification the average high blood pressure in the intervention group before and after the intervention was a person suffering from hypertension grade 1.
4. There was the influence of decoction of leaves to the reduction of blood pressure in patients with hypertension in Sidorejo Public Health Center Lubuk Linggau 2015.

## REFERENCES

- Junaedi, E. *et al.* 2013. Hipertensi Kandas Berkat Herbal. Jakarta: Fmedia.  
 Notoatmodjo, S. 2012. Metode Penelitian Kesehatan. Jakarta: Asdi Mahastya

Rahajeng, E and S. Tuminah. 2009. Prevalensi Hipertensi dan Determinannya di Indonesia. Jakarta. Jurnal Penelitian Biomedis dan Farmasi Badan Penelitian Kesehatan Departemen Kesehatan RI Vo. 59 No. 12