The 4ᵗʰ International Conference on Nursing and Public Health (ICONPH)

Complementary Nursing Intervention Bay Leaves to Prevent Complications in Hypertension Patients at Surabaya

Jujuk Proboningsih[1*], Mohammad Najib[1], Sriyono[2], Rini Ambarwati[1], Sri Hardi Wuryaningsih[1], Mohammad Zamroni[1]
[1]Department of Nursing, Poltekkes Kemenkes Surabaya, Indonesia
[2]Faculty of Nursing, Universitas Airlangga

*Corresponding author: jujuk@poltekkesdepkes-sby.ac. id

ABSTRACT

Introduction: Surabaya is one of the cities with the highest prevalence of hypertension in Indonesia, namely 45,015 sufferers. Most of the people use herbs as a companion for treatment of chronic diseases. Chronic disease sufferers must receive ideal services so that they can continue to implement a healthy lifestyle appropriately and regularly. This study aims to assess complementary nursing interventions Bay Leaves to Prevent Complications in Hypertension Patients at Puskesmas Tambak Rejo Surabaya. **Method:** This research uses a quasi-experimental type of research using a pre-post test group design. The population in this phase 2 study were hypertensive patients who visited the Puskesmas Tambak Rejo Surabaya. The sample size in this study was 50 respondents in accordance with the criteria set by the researcher. The 50 samples were divided into 2 groups, namely 25 bay leaf treatment samples and 25 control samples (regular drug administration). The sampling technique chosen was consecutive sampling, namely a method of taking samples by selecting according to predetermined criteria. **Result**: The results showed that bay leaf intervention for the systole-diastole variable obtained a p value of 0.000 and 0.001, where the value was <0.05, which means there was a significant difference between pre and post in the intervention group. **Discuss:** It is provids complementary nursing interventions herbal medicine namely bay leaves, is effective in preventing hypertension and its complications. This has become one of the newest models in health literature. May be used as a medical reference in the education and implementation of nursing actions.

Keywords: Bay leaves, Hypertensive Patient, Prevention of Hypertension Complications

INTRODUCTION

Surabaya is one of the cities with the highest prevalence of hypertension in Indonesia, namely 45,015 sufferers. (Infodatin 2014, Perki 2015, Ministry of Health 2019, WHO 2019) The prevalence of hypertension based on measurement results in the population aged 18 years is 34.1%. From the prevalence of hypertension of 34.1%, it is known that 8.8% were diagnosed with hypertension

The Surabaya Ministry of Health Polytechnic, as a health education institution, continues to strive to implement the tri dharma of higher education, the goal of which is to make people live healthy, continues to facilitate its staff to always look for breakthroughs to accompany the community towards a healthy Indonesia. It cannot be denied that the majority of people use herbs as a companion for treatment of chronic diseases. Hypertension treatment must be carried out for life. Management of hypertension is carried out through 2 types, namely non-pharmacological and pharmacological therapy (Perki, 2015; Weber et al, 2013). Management of hypertension in patients with heart and

blood vessel disease is aimed at preventing death, complications in the form of myocardial infarction, stroke, reducing the frequency and duration of myocardial ischemia and improving signs and symptoms. (Perki, 2015). Hypertensive patients as chronic disease sufferers must receive ideal services so that they can continue to implement a healthy lifestyle appropriately and regularly. This healthy lifestyle must be implemented regularly to prevent acute and long-term complications.

Based on the description above, research will be carried out on Complementary Based Nursing Interventions with Bay Leaves on the Prevention of Complications in Hypertension Patients at the Tambak Rejo Community Health Center, Surabaya. Applying Complementary Based Nursing Interventions with Bay Leaves on the Prevention of Complications in Hypertension Patients at the Tambak Rejo Community Health Center, Surabaya

RESEARCH METHOD

Phase 2 of this research is the implementation phase of the model which is carried out by providing intervention in the form of CCM-based nursing intervention modules for hypertensive patients.

This research uses a type of quasi-experimental research usingpre-post test group design. The aim of this research is to analyze the effectiveness of implementing nursing-based interventionsCCM in hypertensive patients

The population in this phase 2 study were hypertensive patients who visited the Tambak Rejo Surabaya Community Health Center. The sample size in this study was 50 respondents in accordance with the criteria set by the researcher. The 50 samples were divided into 2 groups, namely 25 bay leaf treatment samples and 25 control samples (regular drug administration).

The sampling technique chosen isconsecutive sampling namely the method of sampling by selecting according to predetermined criteria. This research has been declared ethically appropriate with ethical number EA/1532/KEPK-Poltekkes_Sby/V/2023.

RESULT AND DISCUSSION

The characteristics taken in this study are gender, age, weight, TB, duration of hypertension, ever taking hypertension medication and ever using herbs, along with the results of descriptive characteristics by group.

Table 1. Distribution of characteristics of Hypertension Patients in the Treatment and Control Groups

Demographic Characteristics	Group		Total (n=50)
	Bay Leaves (n=25)	Control (n=25)	
Types of Calamine			
Man	8 (32,0%)	6 (24,0%)	14 (**28,0%**)
Woman	17 (68,0%)	19 (76,0%)	36 (**72,0%**)
Age	59,56 ± 8,60	53,41 ± 10,61	55,18 ± 10,88
BB	57,36 ± 13,12	61,85 ± 11,11	61,79 ± 11,93
TB	156,92 ± 3,93	158,71 ± 5,37	158,09 ± 5,04
Long duration of hypertension			
< 10 Years	23 (92,0%)	22 (88,0%)	45 (**90,0%**)
>= 10 Years	2 (8,0%)	3 (12,0%)	5 (**10,0%**)

Have you ever taken HT medication?			
Once	18 (72,0%)	7 (28,0%)	25 (**50,0%**)
No	7 (28,0%)	18 (72,0%)	25 (**50,0%**)
Ever consumed herbs			
Once	14 (56,0%)	6 (24,0%)	20 (**40,0%**)
No	11 (44,0%)	19 (76,0%)	30 (**60,0%**)

Table 1 above shows the distribution of characteristics for the male gender distribution in the bay leaf group 8 (32.0%) and the control group 6 (24.0%), while the female gender distribution in the bay leaf group is 17 (68.0%).) and control group 19 (76.0%). Judging from the distribution of percentages of gender characteristics, it can be concluded that for each group the majority or dominant gender is female.

Based on the description in the distribution table of age characteristics, the mean ± sd value for the age of the bay leaf group was 59.56 ± 8.60 and the control group was 53.41 ± 10.61. Judging from the mean ± sd value of age characteristics, it can be concluded that for each group the age distribution is on average 52 to 59 years.

Based on the description in the distribution table of BW characteristics, the mean ± sd value for BW in the bay leaf group was 57.36 ± 13.12 and in the control group 61.85 ± 11.11. Judging from the mean ± sd value of BW characteristics, it can be concluded that for each group the BW distribution is on average 57 to 66 kg.

Based on the description in the distribution table of TB characteristics, the mean ± sd value for TB in the bay leaf group was 156.92 ± 3.93 and in the control group 158.71 ± 5.37. Judging from the mean ± sd values of TB characteristics, it can be concluded that for each group the TB distribution is on average 156 to 158 cm.

Based on the description in the characteristic distribution table for the duration of hypertension <10 years in the bay leaf group 23 (92.0%) and the control group 22 (88.0%), while for the duration of hypertension >=10 years in the bay leaf group 2 (8.0%) and control group 3 (12.0%). Judging from the distribution of the percentage characteristics of duration of hypertension, it can be concluded that for each group, the duration of hypertension < 10 years is the most common or dominant in the sample of this study.

Based on the description in the characteristic distribution table, the distribution of those who have ever consumed hypertension medication in the bay leaf group is 18 (72.0%) and the control group is 7 (28.0%), while for those who have never consumed hypertension medication in the bay leaf group is 7 (28.0%). %) and the control group 18 (72.0%). Judging from the distribution of the percentage characteristics of ever consuming hypertension medication, it can be concluded that for each group the majority or dominant group is never consuming hypertension medication in this research sample.

Based on the description in the characteristic distribution table for the distribution of ever consuming herbs in the bay leaf group 14 (56.0%) and the control group 6 (24.0%), while for never consuming herbs in the bay leaf group 11 (44.0%) and control group 19 (76.0%). Judging from the distribution of the percentage characteristics of ever consuming herbs, it can be concluded that for each group the majority or dominant group is never consuming herbs in this research sample.

Descriptive pressure consists of 2 variables, namely systole and diastole. The

following is a descriptive picture of blood pressure by group.

Table. 2 Description of blood pressure of hypertensive patients in the treatment group and control group

Variable	Descriptive	Bay leaf			Control		
		Pretest	Posttest	Δ	Pretest	Posttest	Δ
Systole	Minimum	110	110	-50	80	100	-30
	Maximum	200	190	10	160	155	50
	Mean	154,20	140,40	-13,80	126,47	126,40	-0,07
	SD	24,05	18,37	17,28	17,93	10,80	16,98
Diastole	Minimum	70	70	-30	50	70	-20
	Maximum	110	100	10	100	90	30
	Mean	91,40	85,00	-6,40	80,27	79,13	-1,13
	SD	10,56	7,36	9,63	8,50	5,29	9,36

Based on descriptive table 2 for the pre and post systolic blood pressure variable, the Mean ± SD score for the bay leaf group was 154.20 ± 24.05 and 140.40 ± 18.37 with a range of 110-200 and 110-190, and for the control 126.47 ± 17.93 and 126.40 ± 10.80 with a range of 80-160 and 100-155. Based on the change or delta value for the bay leaf group -13.80 ± 17.28 and the control group was -0.07 ± 16.98. Based on data on changes or delta in systolic blood pressure, the bay leaf intervention group tended to experience a higher decrease than the control group.

Based on descriptive table 2 for pre and post diastolic blood pressure variables, the Mean ± SD score for the bay leaf group was 91.40 ± 10.56 and 85.00 ± 7.36 with a range of 70-110 and 70-100, and for the control 80.27 ± 8.50 and 79.13 ± 5.29 with a range of 50-100 and 70-90. Based on the change or delta value for the bay leaf group -6.40 ± 9.63 and the control group was -1.13 ± 9.36. Based on data on changes or delta in diastolic blood pressure, the bay leaf intervention group tended to experience a higher decrease than the control group.

Table. 3: Description of cholesterol levels of hypertensive patients in the treatment group and control group

Variable	Descriptive	Bay leaf			Control		
		Pretest	Posttest	Δ	Pretest	Posttest	Δ
Systole	Minimum	157	140	-89	138	138	-91
	Maximum	291	315	80	294	312	123
	Mean	221,16	217,04	-4,12	215,47	204,40	-11,07
	SD	39,10	40,67	40,49	32,27	35,25	34,81

Seen in table 3, the picture for the cholesterol variable at pre and post shows that the Mean ± SD score for the bay leaf group was 221.16 ± 39.10 and 217.04 ± 40.67 with a range of 157-291 and 140-315, and for the control group 215.47 ± 32.27

and 204.40 ± 35.25 with a range of 138-294 and 138-312. Based on the change or delta value, the bay leaf group was -4.12 ± 40.49 and the control group was -11.07 ± 34.81. Based on data on changes or delta cholesterol in the intervention group for the bay leaf intervention, data on changes or delta cholesterol decreased tended to be smaller than the control group.

Normality test

The normality test in this research is used to determine whether the data is normally distributed or not. The normality test uses Shapiro Wilk and Kolmogorov Smirnov because the number of samples for each group is less or more than 50 samples. The Shapiro Wilk and Kolmogorov Smirnov test is used to determine whether the data is normally distributed or not if the p value is > 0.05. The function of the normality test is to determine the next test, where if the data is normally distributed then the test that will be used to test the comparison of intervention with control is the parametric test with the anova test, whereas if the data is not normally distributed then the test used is the non-parametric test with the Kruskal Wallis test. Meanwhile, for the pre and post test, if the data is normally distributed, use the Paired t test, whereas if the data is not normally distributed, use the Wilcoxon test. The following is an overview of the normality test for each variable by group.

Table. 4. Variable Normality Test Results

Variable	Group		Normality test	Information
Systole	Pre	Bay leaf	0,071	Normal
		Control	0,008	Abnormal
	Post	Bay leaf	0,029	Abnormal
		Control	0,000	Abnormal
	Delta	Bay leaf	0,012	Abnormal
		Control	0,016	Abnormal
Diastole	Pre	Bay leaf	0,060	Normal
		Control	0,000	Abnormal
	Post	Bay leaf	0,001	Abnormal
		Control	0,000	Abnormal
	Delta	Bay leaf	0,033	Abnormal
		Control	0,000	Abnormal
Cholesterol	Pre	Bay leaf	0,174	Normal
		Control	0,200	Normal
	Post	Bay leaf	0,318	Normal
		Control	0,013	Abnormal
	Delta	Bay leaf	0,998	Normal
		Control	0,005	Abnormal

*It is declared normal if the p/siq value is > 0.05

Based on the results of the normality test for the bay leaf intervention test with control for the systolic, diastolic blood pressure variables at pre, post and delta using the test *kruskal wallis test*, as well as for the cholesterol variable in post and delta using the test *kruskal wallis test*, while for cholesterol in pre using the test *anova*.

Based on the normality test results for the pre and post tests for the systole blood pressure variable in the turmeric + honey group and cholesterol in the cucumber,

turmeric + honey and bay leaf groups using the test*Paired T test.* Meanwhile, the pre and post test for the systolic blood pressure variable in the cucumber, bay leaf, control groups and diastolic blood pressure in the cucumber, turmeric+honey, bay leaf and control groups used the test.*wilcoxon.* For the cholesterol variable in the pre and post tests, the control test is used*wilcoxon.*

Table 5. Comparative test results on systole, diastole and cholesterol

Variable	Group	Pretest	Posttest	Δ	p-value
		Mean ± SD	Mean ± SD	Mean ± SD	
Systole	Bay leaf	154,20±24,05	140,40±18,37	-13,80±17,28	0,001
	Control	126,47±17,93	126,40±10,80	-0,07±16,98	0,840
	p-value	0,000	0,000	0,000	
Diastole	Bay leaf	91,40±10,56	85,00±7,36	-6,40±9,63	0,005
	Control	80,27±8,50	79,13±5,29	-1,13±9,36	0,304
	p-value	0,000	0,000	0,037	
Cholesterol	Bay leaf	221,16±39,10	217,04±40,67	-4,12±40,49	0,616
	Control	215,47±32,27	204,40±35,25	-11,07±34,81	0,001
	p-value	0,146	0,285	0,768	

*It is declared significantly different if the p/siq value is <0.05

Based on the test results in Table 5, the comparison between the cucumber, turmeric+honey and bay leaf interventions with the control for the systole and diastole variables during the pre-stage, obtained a p value of 0.000 and 0.000, where the value was <0.05, which means there was a significant difference between the leaf intervention groups. Greetings with control during pre data. Based on the mean value, it can be seen that the bay leaf intervention group's pre-systole and diastole values were greater than the control.

Based on the test results in table 5, the comparison between the cucumber, turmeric+honey, bay leaf intervention and the control for the systole and diastole variables at post showed a p value of 0.000 and 0.000, where the value was <0.05, which means there was a significant difference between the turmeric intervention groups. +honey, bay leaves with control at the time of post data. Based on the mean value, it can be seen that the bay leaf intervention group's systole and diastole values at post were greater than the control.

Based on the results of the test in table 5, the comparison between the intervention of cucumber, turmeric+honey, bay leaves and the control for the variables systole, diastole during delta or change, obtained a p value of 0.000 and 0.000, where the value is <0.05, which means there is a significant difference between the groups. bay leaf intervention with control when delta data or changes. Based on the mean value, it can be seen that the bay leaf intervention group's delta value or changes in systole and diastole decreased more compared to the control.

Based on the test results in table 5, the comparison between the bay leaf intervention and the control for the cholesterol variable in the pre, post and delta data or changes showed a p value of 0.146, 0.285 and 0.768 where the value was > 0.05, which means there was no significant difference between the intervention groups. Bay leaf with controls on pre, post and delta or change data.

Based on the test results in table 5, the comparison between pre and post in the cucumber and bay leaf intervention groups

for the systole variable showed a p value of 0.000 and 0.001, where the value was <0.05, which means there was a significant difference between pre and post in the bay leaf intervention group. Meanwhile, for the control group, the p value was 0.150 and 0.840, where the value was > 0.05, which means there was no significant difference between pre and post in the turmeric + honey intervention group and the control.

Based on the test results in table 5, the comparison between pre and post in the bay leaf intervention group for the diastole variable showed a p value of 0.006, 0.023 and 0.005, where the value was <0.05, which means there was a significant difference between pre and post in the bay leaf intervention group. Meanwhile, for the control group, the p value was 0.304, where the value was > 0.05, which means there was no significant difference between pre and post in the control group.

Based on the test results in table 5. the comparison between pre and post in the cucumber and bay leaf intervention group for the cholesterol variable showed a p value of 0.088 and 0.616, where the value was > 0.05, which means there was no significant difference between pre and post in the intervention group. Bay leaf. Meanwhile, for the control intervention group, the p value was 0.040 and 0.001, where the value was <0.05, which means there was a significant difference between pre and post in the control intervention group.

This research was conducted with 50 respondents with 2 treatment groups, namely bay leaves and control (administration of regular medication) in accordance with the criteria set by the researcher. This research is to analyze the effectiveness of implementing CCM-based nursing interventions in hypertensive patients. The research discussion approach is carried out by explaining the relationship between the influence of each independent variable on the dependent variable which has a significant influence. Researchers will explain the new model that has been discovered at the end of the research. This model will be the basis for researchers to create modules.

The effect of providing a CCM-based nursing module with bay leaf herbs on blood pressure and cholesterol values in hypertensive patients.

In the bay leaf herbal group, the majority of respondents said they had consumed herbal medicine. Around 72% of respondents in the bay leaf herbal group stated that they had taken hypertension medication. Researchers found a significant difference in systolic and diastolic blood pressure in hypertension sufferers in the bay leaf herbal group. During the delta state or changes in systolic and diastolic blood pressure values decreased compared to the control group. This means that there is a comparable relationship between the habit of consuming hypertension drugs and hypertension herbs and reducing systolic and diastolic blood pressure in hypertensive sufferers. A traditional herb originating from plants which are generally used in everyday life as a kitchen spice, bay leaves can be obtained easily so it is not a burden on sufferers to provide them and process them to treat hypertension. This is also in accordance with Winasis' theory (2015), that bay leaves can overcome blood vessel blockages and according to Purwanto (2016), bay leaves are useful as antihypertensives (Suprayitno & Huzaimah, 2020).

The decrease in blood pressure after consuming bay leaf decoction was studied by Andoko (2016). According to (Dobroslavić et al., 2022) The causative factor of the decrease after eating ripe bay leaves is not too significant or close to normal, because people's consumption habits tend to consume coconut milk at every meal, and respondents of bay leaves and amlodipine also consume durian fruit which prevents lowering blood pressure (Silvitasari, 2018).

The mineral content in bay leaves makes blood circulation smoother and reduces high blood pressure Bay leaves also

contain essential oils of eugenol and metal cavikol, as well as ethanol which 22 plays an active role as an anti-fungal and bacterial. (Lee et al., 2019). Essential oils (Lee et al., 2019). Essential oils (sesquiterpenes, lactones, and phenols), which can be used to treat diarrhea, diabetes, ulcers, hypertension, cholesterol, migraines, itching (pruritis), scabies, eczema, and eliminate alcohol hangovers (Anwar et al., 2016).

Based on Yunus' research (2015), bay leaves contain flavonoid compounds, where flavonids containing Quarcertin have an influence as a vasodilator, antipletelet and antipolyferative and reduce blood pressure, the result of oxidation and repair of organs that have been damaged due to hypertension. Thus, it was concluded that flavonoids can be used to reduce the risk of myocardiac infarction and stroke (Dafriani, 2016).

The content in bay leaves stimulates a decrease in cholesterol in the blood, thereby helping to maintain the elasticity of blood vessels. It is proven by the decrease in the average systolic blood pressure of respondents from 154.44 mmHg to 140 mmHg (Tika, 2021). However, this study on cholesterol values in the bay leaf herbal group with cucumbers got no significant difference.

The effect of CCM-based nursing module administration in the control group on blood pressure and cholesterol values in hypertensive patients.

Respondents in this group are the most. This group as recipients of treatment with pharmacological treatment (usual hypertension drugs) in hypertensive patients. According to (Khoshandam et al., 2023) Management of hypertension can be done by means of non-pharmacological treatment, namely weight loss, exercise, reducing salt intake, not smoking, avoiding stress and pharmacological treatment there are several classes of antihypertensive drugs, namely diuretics, sympathetic inhibitors, betablockers, vasodilators, angiotensin conversion enzyme inhibitors, calcium antagonists and angiotensin II receptor inhibitors. (R.A kuswardhani Tuty, 2006).

Findings (Kandarini, 2017) Some people with hypertension think that hypertension can be cured so that people with hypertension stop taking medication Hypertension cannot be cured but can be controlled so that it does not appear for a long time (years to decades) but still wary. Because, drugs do not always function to cure, but have four functions, namely, to prevent disease; disease control; eliminate symptoms/complaints; and to cure diseases. Pharmacological therapy can be given single or combined antihypertensives. The selection of antihypertensive drugs can be based on the presence or absence of special conditions (comorbidities and complications) (Primasari, Angg) (Primasari, Anggun, Nessy. Devianto, Aan. Sari, Intan, 2022).

Hypertension management (Komariah et al., 2023) Microsoft® Translator

One of them is by giving antihypertensive drugs that work to lower blood pressure. Treatment of hypertension should be carried out for life. Drugs that are widely used as antihypertensives are synthetic drugs whose active substances come from chemical compounds so that long-term use will pose a lot of risk of side effects (Yusetyani et al., 2022). Lifelong treatment of hypertension is also relatively expensive because it has many side effects, causing sufferers to often not comply with therapy and turn to other alternatives that are herbal or non-pharmacological drug therapies (Machus et al., 2020).

Analysis of the effectiveness of the application of CCM-based nursing interventions in hypertensive patients.

The majority of respondents in this study were most or dominant is the female gender. The results of this study are in line with Rahimatul Aini (2018) the most respondents are women, namely 30 people (75%) of 40 respondents. This research is in line with research conducted by Yaghoobi

(2008) on respondents as many as 55 people, 31 of whom are female. In younger age groups, men tend to suffer from hypertension than women because women have estrogen as a protector from the risk of cardiovascular disease. But as age increases and enters the age of menopause, the possibility of women and men to suffer from hypertension is the same. According to Anggraini, Waren, Situmorang, Asputra and Siahaan (2009), more than half of the number of hypertension sufferers were 42 women around 56.5%. The results of this study are most numerous or dominant are long hypertension (Ozemek et al., 2020) Secondary metabolites of some herbs and spices exhibit antihypertensive properties. Traditional herbs used in the management of hypertension include turmeric (rhizome), water gourd (meat and juice), watercress (all parts), ceplukan (all parts), reeds (roots), noni / pace (fruit), lime (fruit water), cat's whiskers (leaves), bay leaves (Aribowo, 2022).

There are studies that show that alternative medicine methods such as the use of herbs to treat chronic diseases are part of everyday life for many people. (Kamyab et al., 2021) . It provided new information and useful insights into participants' perceptions of their tendency to use alternative treatments. People believe based on their own personal experience, and their community that alternative medicine is effective with far fewer side effects compared to prescription drugs. (Paparella et al., 2022) Considering that many hypertensive patients are from the elderly, therapy using herbal medicine is the most effective use of therapy because herbal therapy is easily accessible and cheap and can even be obtained for free around the surrounding environment (Fu et al., 2020; Spence, 2018)

Unfortunately, in this study it can be seen the results of the distribution of the percentage of characteristics that have consumed hypertension drugs, it can be concluded that for each group all the most or dominant is never consumption of hypertension drugs and never consumption of herbal medicines. However, in general, the use of bay leaf herbs compared to the control group had a significant effect on systole and diastole blood pressure in patients with hypertension. While the bay leaf intervention group's cholesterol change data or delta cholesterol decrease tended to be smaller than the control group.

CONCLUSION

Based Complementary Nursing Interventions with Bay Leaves on the Prevention of Complications in Hypertension Patients at the Tambak Rejo Community Health Center, Surabaya. The results showed that bay leaf intervention for the systole-diastole variable obtained a p value of 0.000 and 0.001, where the value was <0.05, which means there was a significant difference between pre and post in the intervention group. Providing Complementary Based Nursing use herbal medicines is effective in preventing hypertension and its complications. This has become one of the newest models in health literature. Can be used as a medical reference in education and implementation of nursing.

REFERENCES

Anwar, M. A., Al Disi, S. S., & Eid, A. H. (2016). Anti-hypertensive herbs and their mechanisms of action: Part II. *Frontiers in Pharmacology*, 6(MAR). https://doi.org/10.3389/fphar.2016.00050

Aribowo, A. I. (2022). *Research Article : Efektivitas Pengobatan Herbal pada Pasien Hipertensi Research Article : Effectiveness of Herbal Treatment in Hypertension Patiens*. 34–40.

Dafriani, P. (2016). Pengaruh Rebusan Daun Salam (Syzigium Polyanthum Wight Walp) terhadap Tekanan Darah Pasien Hipertensi. *Jurnal Kesehatan Medika Saintika*, 7(2), 25–34.

Dobroslavić, E., Repajić, M., Dragović-

Uzelac, V., & Garofulić, I. E. (2022). Isolation of Laurus nobilis Leaf Polyphenols: A Review on Current Techniques and Future Perspectives. *Foods*, *11*(2). https://doi.org/10.3390/foods1102 0235

Fu, J., Liu, Y., Zhang, L., Zhou, L., Li, D., Quan, H., Zhu, L., Hu, F., Li, X., Meng, S., Yan, R., Zhao, S., Onwuka, J. U., Yang, B., Sun, D., & Zhao, Y. (2020). Nonpharmacologic interventions for reducing blood pressure in adults with prehypertension to established hypertension. *Journal of the American Heart Association*, *9*(19). https://doi.org/10.1161/JAHA.120.0 16804

Kamyab, R., Namdar, H., Torbati, M., Ghojazadeh, M., Araj-Khodaei, M., & Fazljou, S. M. B. (2021). Medicinal plants in the treatment of hypertension: A review. *Advanced Pharmaceutical Bulletin*, *11*(4), 601–617. https://doi.org/10.34172/APB.2021.0 90

Kandarini, Y. (2017). Tatalaksana Farmakologi Terapi Hipertensi. *Divisi Ginjal Dan Hipertensi RSUP Sanglah Denpasar*, 13–14.

Khoshandam, A., Hedayatian, A. H., Mollazadeh, A. R., Razavi, B. M., & Hosseinzadeh, H. (2023). Propolis and its constituents against cardiovascular risk factors including obesity, hypertension, atherosclerosis, diabetes, and dyslipidemia: A comprehensive review. *Iranian Journal of Basic Medical Sciences*, *26*(8), 853–871. https://doi.org/10.22038/IJBMS.202 3.67793.14835

Komariah, M., Amirah, S., Maulana, S., Abdurrahman, M. F., Ibrahim, K., Platini, H., Lele, J. A. J. M. N., Kohar, K., Rahayuwati, L., & Firdaus, M. K. Z. H. (2023). The Efficacy of Herbs as Complementary and Alternative Therapy in Recovery and Clinical Outcome Among People with COVID-19: A Systematic Review, Meta-Analysis, and Meta-Regression. *Therapeutics and Clinical Risk Management*, *19*(July), 611–627. https://doi.org/10.2147/TCRM.S405 507

Lee, J. H., Kim, K. Il, & Cho, M. C. (2019). Current status and therapeutic considerations of hypertension in the elderly. *Korean Journal of Internal Medicine*, *34*(4), 687–695. https://doi.org/10.3904/kjim.2019.19 6

Machus, A. L., ANggraeni, A., Indriyani, D., Anggraini, D. S., Putra, D. P., & Rahmawati, D. (2020). Pengobatan Hipertensi Dengan Memperbaiki Pola Hidup Dalam Upaya Pencegahan Meningkatnya Tekanan Darah. *Journal of Science, Technology, and Entrepreneurship*, *2*(NO.2), 51–56. https://online-journal.unja.ac.id/jkmj/article/downl oad/12396/10775/33174

Ozemek, C., Tiwari, S., Sabbahi, A., Carbone, S., & Lavie, C. J. (2020). Impact of therapeutic lifestyle changes in resistant hypertension. *Progress in Cardiovascular Diseases*, *63*(1), 4–9. https://doi.org/10.1016/j.pcad.2019.1 1.012

Paparella, A., Nawade, B., Shaltiel-Harpaz, L., & Ibdah, M. (2022). A Review of the Botany, Volatile Composition, Biochemical and Molecular Aspects, and Traditional Uses of Laurus nobilis. *Plants*, *11*(9), 1–24. https://doi.org/10.3390/plants110912 09

Primasari, Anggun, Nessy. Devianto, Aan. Sari, Intan, H. (2022). Dukungan Keluarga dan Kepatuhan Konsumsi Obat Hipertensi: Literature Review. *Dukungan Keluarga Dan Kepatuhan Konsumsi Obat Hipertensi Pada Lansia: Literature Review*, *13*(4), 1–

6. http://forikes-ejournal.com/index.php/SF

R.A kuswardhani Tuty. (2006). Tinjauan Pustaka Penatalaksanaan Hipertensi Pada Lanjut Usia Ra Tuty Kuswardhani Divisi Geriatri Bagian Penyakit Dalam FK . Unud , RSUP Sanglah Denpasar. *Penatalaksanaan Hipertensi Pada Lanjut Usia*, *7*(Jnc Vi), 135–140.

Silvitasari, I. (2018). Family Care Giver Pada Keluarga Penderita Hipertensi Dengan Terapi Komplementer (Bahan Herbal) Di Kelompok Dasawisma 2 Desa Tlobong. *GEMASSIKA : Jurnal Pengabdian Kepada Masyarakat*, *2*(1), 7. https://doi.org/10.30787/gemassika.v2i1.230

Spence, J. D. (2018). Controlling resistant hypertension. *Stroke and Vascular Neurology*, *3*(2), 69–75. https://doi.org/10.1136/svn-2017-000138

Suprayitno, E., & Huzaimah, N. (2020). Pendampingan Lansia Dalam Pencegahan Komplikasi Hipertensi. *SELAPARANG Jurnal Pengabdian Masyarakat Berkemajuan*, *4*(1), 518. https://doi.org/10.31764/jpmb.v4i1.3001

Tika, T. T. (2021). Pengaruh Pemberian Daun Salam (Syzygium Polyanthum) Pada Penyakit Hipertensi : Sebuah Studi LiteratuR. *Jurnal Medika*, *03*(01), 1260–1265. http://www.jurnalmedikahutama.com/index.php/JMH/article/download/263/177

Yusetyani, L., Inayah, A. F., & Asmiati, E. (2022). Pemberdayaan Masyarakat dalam Mencegah Komplikasi Hipertensi dengan Metode DAGUSIBU Obat-Obat Antihipertensi. *JPPM (Jurnal Pengabdian Dan Pemberdayaan Masyarakat)*, *5*(1), 145. https://doi.org/10.30595/jppm.v5i1.9515