



Effectiveness Of Giving Water Boiled From Binahong Leaves (*Anredera Cordifolia*) With Hypertension In The Elderly In Dusun II Helvetia Village Medan, 2015

Tri Maya Sari 

Department of Nursing, Politeknik Kesehatan Medan, Indonesia

*Corresponding Author: trimayasari084@gmail.com

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ABSTRACT

*Background: Hypertension is one of the main factors in the occurrence of cardiovascular disease and is one of the most important global health burdens because cardiovascular cases are one of the highest contributors to death in the world, including in Indonesia. Hypertension treatment can be done pharmacologically and non-pharmacologically. One of the non-pharmacological treatments and complementary therapies is boiled water from binahong leaves (*auredera cordifolia*) which contains high levels of flavonoids which can lower blood pressure. The aim of this study was to determine the frequency distribution of blood pressure before and after being given boiled water from binahong leaves (*auredera cordifolia*) to the elderly in Hamlet II, Helvetia Village. This research is quantitative research, using a quasi experiment (quasi experiment). The population in this study were all elderly people with hypertension in Hamlet II, Helvetia Village. Sampling used total sampling, namely with a sample of 40 elderly people. Blood pressure was measured before giving boiled water from binahong leaves (*auredera cordifolia*) for 7 days, then measured again. The percentage of changes in blood pressure before and after the binahong leaf boiled water therapy for systole was 151.55 to 93.5 while for diastole it was 94.33 to 86.80, which means there was a decrease in blood pressure in systole and diastole. The results of data analysis using the paired sample T-test in systole and diastole showed a P value = 0.000, which means a P value = <0.05, meaning that there is effectiveness of boiled water therapy from binahong leaves (*auredera cordifolia*) in reducing blood pressure in hypertensive patients. It is hoped that elderly people with hypertension can lower blood pressure by consuming binahong boiled water regularly.*

ABSTRAK

Latar Belakang: Hipertensi merupakan salah satu faktor utama terjadinya penyakit kardiovaskular dan merupakan salah satu beban kesehatan global yang paling penting karena kasus kardiovaskular merupakan salah satu penyumbang kematian tertinggi di dunia, termasuk di Indonesia. Pengobatan hipertensi dapat dilakukan secara farmakologis dan nonfarmakologis. Salah satu pengobatan non farmakologi dan terapi komplementer adalah air rebusan

daun binahong (*anredera cordifolia*) yang mengandung flavonoid dalam kadar tinggi sehingga dapat menurunkan tekanan darah. Tujuan penelitian ini adalah untuk mengetahui distribusi frekuensi tekanan darah sebelum dan sesudah diberikan air rebusan daun binahong (*anredera cordifolia*) pada lansia di Dusun II Desa Helvetia. Penelitian ini merupakan penelitian kuantitatif, dengan menggunakan metode eksperimen semu (quasi eksperimen). Populasi dalam penelitian ini adalah seluruh lansia penderita hipertensi di Dusun II Desa Helvetia. Pengambilan sampel menggunakan total sampling yaitu dengan sampel sebanyak 40 orang lansia. Tekanan darah diukur sebelum pemberian air rebusan daun binahong (*anredera cordifolia*) selama 7 hari, kemudian diukur kembali. Persentase perubahan tekanan darah sebelum dan sesudah terapi air rebusan daun binahong untuk sistol sebesar 151,55 hingga 93,5 sedangkan untuk diastol sebesar 94,33 hingga 86,80 yang berarti terjadi penurunan tekanan darah pada sistol dan diastol. Hasil analisis data menggunakan uji T-sampel berpasangan pada sistol dan diastol menunjukkan nilai $P = 0,000$ yang berarti nilai $P < 0,05$ artinya ada efektivitas terapi air rebusan daun binahong (*anredera cordifolia*) dalam menurunkan tekanan darah pada pasien hipertensi. Diharapkan bagi para lansia penderita hipertensi dapat menurunkan tekanan darahnya dengan mengkonsumsi air rebusan binahong secara rutin.

Kata Kunci: Daun Binahong (*Anredera Cordifolia*), Penderita Hipertensi, Lansia.

1. INTRODUCTION

As an individual ages, they become more susceptible to various types of disease, one of which is increased blood pressure. The government's success in the medical sector has been able to increase efforts for optimal health quality for each resident and Life Expectancy (UHH) which can be seen from the increasing number of elderly people in Indonesia.

Elderly is anyone aged 60 years or more, who physically looks different from other age groups. Generally, everyone will experience the process of growing old and old age is the last period of human life. During this period, a person experiences physical, mental, health and social decline, making it less enjoyable to carry out daily tasks.

According to the Central Statistics Agency, Susenas results, the number of elderly people in Indonesia in 2010 reached 18 million (7.56%) and it is estimated that in 2035 it will reach 48 million (15.77%). The number of elderly people in Indonesia is spread across all provinces with the 10 largest provinces as follows: Yogyakarta (13.69%), Central Java (12.09%), East Java (11.8%), Bali (11.2%), Sumatra North (10%), South Sumatra (9%), West Sumatra (9%), West Java (8%), Lampung (8%), and NTB (7.8%).

Hypertension is often referred to as the "silent killer" because people with hypertension often go years without experiencing any problems or symptoms. Hypertension is one of the main factors in the occurrence of cardiovascular disease and is one of the most important global health burdens because cardiovascular cases are one of the highest contributors to death in the world, including in Indonesia. Therefore, blood pressure that is always high if it is not prevented early on will have a very high risk of causing degenerative diseases such as thickening of the heart walls, kidney damage, coronary heart disease, rupture of blood vessels, stroke, and even death. With a risk of more than 20% or 1 in 5 hypertension sufferers will experience death.

According to WHO, there are 600 million people with hypertension worldwide, and 3 million of them die every year. The number of increases in hypertension cases is estimated to be around 80%, especially in developing countries in 2025 from 639 million in 2020, to 1.15 billion cases in 2025 or equivalent to 29.2% of the total population in the world.

According to the results of Basic Health Research, the prevalence of hypertension in Indonesia reached 31.7% of the population aged 18 years and over. Of that number, 60% of hypertension sufferers experience stroke complications. Meanwhile, the rest experienced heart disease, kidney failure and blindness. Hypertension is the third cause of death after stroke and tuberculosis, reaching 6.8% of the proportion of causes of death at all ages in Indonesia.

Based on data from the North Sumatra Provincial Health Service, there were 50,162 hypertension sufferers. From this data, it was recorded that the age group that suffered the most from hypertension was those aged over 55 years with a total of 22,618, then aged 18 to 44 years with a total of 14,984 and aged 45 to 55 years with a total of 12,560.

The prevalence of hypertension continues to increase, one of which is caused by unhealthy lifestyles such as frequently eating fast food which contains a lot of fat and salty foods. Apart from that, obesity, stress, smoking and consuming alcohol can also trigger hypertension.

Hypertension treatment can be done pharmacologically and non-pharmacologically. Pharmacological use of hypertension drugs is in accordance with therapeutic goals, but has adverse side effects if taken long term. So non-pharmacological treatment can be an alternative for hypertension sufferers.

One of the non-pharmacological treatments used as anti-hypertension is herbal therapy which is proven to lower blood pressure, such as boiled water from binahong leaves. Binahong leaves (*Anredera Cordifolia*) are an extraction that contains high flavonoids. Plants that contain high levels of flavonoids can have a good effect on cardiovascular health, including controlling hypertension. Flavonoids work by relaxing muscles and increasing the vasodilation effect of blood vessels so that blood pressure can decrease. Apart from the flavonoid content contained in binahong leaves, it also contains nitric oxidants and saponins, nitric oxide is able to stabilize blood flow which carries nutrients to every cell tissue. The saponin content can also reduce cholesterol levels, has antioxidant, antiviral and anti-carcinogenic properties. The ability of binahong to cure various types of diseases is closely related to the active compounds contained therein.

Based on the results of research on the effect of consuming boiled water from binahong leaves (*Anredera Cordifolia*) on reducing high blood pressure in the elderly at UPT PSTW Khusnul Khotimah Pekan Baru conducted by Muhammad Firdaus, it shows that there is a significant effect between giving herbal therapy and consuming boiled water from binahong leaves on reducing high blood pressure with $p < 0.05$ ($p = 0.0009$) as an alternative non-pharmacological treatment for hypertension.

2. RESEARCH METHODE

This research is quantitative research, using a quasi experimental design with a one group pretest-posttest design. This research was carried out by giving a pretest (initial observation) before the intervention was given, after the intervention was given, then a posttest (final observation) would be carried out again. After the intervention is carried out, changes are expected to occur by comparing the pretest and posttest blood pressure. The location of this research was carried out in Dusun II, Helvetia Village, Medan, Jl. Mosque, Gg. Self-subsistent. The research was carried out from March until the end of 2015, starting from submitting the title, initial survey, data collection, proposal consultation, proposal ACC, data processing, and compiling research results.

The population in this study was all 40 elderly people with hypertension in Hamlet II, Helvetia Village. Sampling used total sampling, namely with a sample of 60 elderly people with hypertension.

3. RESULT AND ANALYSIS

Respondent Characteristics

Table 1. Frequency distribution of gender, age, occupation, and history of hypertension among the elderly in Hamlet II, Helvetia Village, Medan, 2015.

	Karakteristik	f	%
Jenis Kelamin	Laki-Laki	28	46,7
	Perempuan	32	53,3
Usia	45-50 Tahun	11	18,3
	51-56 Tahun	28	46,7
	57-62 Tahun	21	35,0
Pekerjaan	Ibu Rumah Tangga	14	23,3
	Wiraswasta	9	15,0
	Pns	12	20,0
	Pegawai Swasta	13	21,7
	Tidak Bekerja	12	20,0
Riwayat Hipertensi	< 3 Tahun	32	53,3
	>3 Tahun	28	46,7

Based on table 1. characteristics of respondents based on gender, it can be seen that of the 60 respondents, 28 respondents were male (46.7%), and 32 respondents were female (53.3%).

Based on age, it can be seen that of the 60 respondents aged 45-50 years there were 11 respondents (18.3%), aged 51-56 years there were 28 respondents (46.7%), and aged 57-62 years there were 21 respondents (35.0%).

Based on occupation, it can be seen that of the 60 respondents who worked as housewives, there were 14 respondents (23.3%), who worked as entrepreneurs, there were 9 respondents (15.0%), who worked as civil servants, there were 12 respondents (20.0%), working as private employees amounted to 13 respondents (21.7%), and those who did not work amounted to 12 respondents (20.0%).

Based on history of hypertension, of the 60 respondents who had a history of hypertension <3 years there were 32 respondents (53.3%), and those >3 years totaled 28 respondents (46.7%).

Univariate Analysis

Univariate analysis aims to determine the frequency distribution of a respondent's answer to a variable based on the research problem outlined in the frequency distribution table. Based on research conducted in Hamlet II, Helvetia Village, Medan in 2015, the following research results were obtained.

Table 2 Distribution of the average blood pressure values of respondents before drinking boiled water from binahong leaves in Hamlet II, Helvetia Village, Medan in 2015

Variabel	N	Mean	Std Deviation
Sistol	60	151.32	11,084

Diastol	60	94,33	8,680
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Based on table 2, it can be seen that the respondents' blood pressure before drinking binahong leaf boiled water with systole got a mean of 151.32 with a standard deviation of 11.084, while for diastole it got a mean of 94.33 with a standard deviation of 8.680. The results above will then be compared with the table after drinking binahong leaf water, by comparing whether there is a change in the mean value and standard deviation.

Table 3 Distribution of the average blood pressure values of respondents after drinking boiled water from binahong leaves in Hamlet II, Helvetia Village, Medan in 2015.

Variabel	N	Mean	Std Deviation
Sistol	60	145,08	10,311
Diastol	60	87,63	6,425

Based on table 3, it can be seen that the blood pressure of respondents after drinking boiled water from binahong leaves with systole got a mean of 145.08 with a standard deviation of 10.311, while for diastole it got a mean of 87.63 with a standard deviation of 6.425. From the results of table 4.2. and table 4.3. obtained the results that there was a change in blood pressure when boiled water from binahong leaves was given by looking at the mean value and standard deviation.

Bivariate Analysis

Table 4. Tabulation of the effectiveness of giving boiled water from binahong leaves for hypertension in the elderly in hamlet II, Helvetia village, Medan, 2015.

Variabel	N	Mean	Std. Deviation	Hasil uji T-test
Sistol Sebelum	60	151,32	11,084	P= 0,000
Sistol Sesudah	60	145,08	10,311	
Diastol Sebelum	60	94,33	8,680	P= 0,000
Diastol Sesudah	60	87,63	6,425	

Based on table 4, it shows that there is a difference in blood pressure (systole and diastole) before and after being given boiled water from binahong leaves. The mean value of systole before and after (151.32-145.08) and the standard deviation for systole before and after (11.084-10.311). The mean value for diastole before and after (94.33-87.63) and the standard deviation for diastole before and after (8.680-6.425). The results of bivariate analysis using the paired sample T-test on systole and diastole show that the p value = 0.000, which means the p value < 0.05, so the null hypothesis (Ho) is rejected, which means that there is effectiveness of boiled binahong leaf water on reducing blood pressure. in hypertensive patients.

Based on the SPSS results, it was found that the p value in the paired simple T-test was on the effectiveness of giving boiled water from binahong leaves for hypertension in the elderly in II Helvetia Village, Medan. Has an effect or decreases blood pressure in hypertensive elderly who are given binahong leaves.

This can be seen from the frequency distribution sample of respondents' blood pressure in Helvetia Village that there has been a decrease in the number of moderate-severe hypertension to mild-moderate. Based on the results of research conducted by Mela Amalia, regarding the effect of giving boiled water from binahong leaves on blood pressure in the elderly in Suko Mulyo

village, Mojo Warno subdistrict, Jombang district, the results obtained showed that blood pressure before being given boiled water from binahong leaves, almost half of the respondents had mild blood pressure. a total of 8 respondents (62%). Blood pressure after being given boiled water from binahong leaves for 7 days, the majority of respondents had normal blood pressure, 7 respondents (54%). The Wilxon test shows a value of $p = 0.001 < \alpha (0.005)$, so it is accepted with a value of $\alpha (0.001)$.

Supporting research is based on an initial survey conducted by researchers in Helvetia Medan hamlet II, data was obtained from January to December 2020 that there were 60 people suffering from hypertension and researchers conducted interviews with 10 elderly people with hypertension, it was found that 3 elderly people had consumed binahong leaves and decreased blood pressure. Meanwhile, 7 elderly people said they did not understand or know what the benefits of boiled binahong leaves were.

Binahong leaves (*Anredera Cordifolia*) are an extraction that contains high flavonoids. Plants that contain high levels of flavonoids can have a good effect on cardiovascular health, including controlling hypertension. Flavonoids work by relaxing muscles and increasing the vasodilation effect of blood vessels so that blood pressure can decrease. Apart from the flavonoid content contained in binahong leaves, it also contains nitric oxidants and saponins, nitric oxide is able to stabilize blood flow which carries nutrients to every cell tissue. The saponin content can also reduce cholesterol levels, has antioxidant, antiviral and anti-carcinogenic properties. The ability of binahong to cure various types of diseases is closely related to the active compounds contained therein.

The researcher's assumption is that the reduction in blood pressure can occur due to the content in binahong leaves and can be studied further by future researchers.

4. CONCLUSION

The number of respondents in this study was 60 respondents with the age category 45-50 years totaling 11 respondents (18.3%), 51-56 years totaling 28 respondents (46.7%), and 57-62 years totaling 21 respondents (35, 0%). The results of data analysis using the paired sample T-test on systole and diastole showed a P value = 0.000, which means the P value = <0.05 , meaning that there is effectiveness of boiled binahong leaf water on reducing blood pressure in hypertension patients.

References

- [1] Imelda I, Sjaaf F, Puspita T. Faktor-Faktor Yang Berhubungan Dengan Kejadian Hipertensi Pada Lansia Di Puskesmas Air Dingin Lubuk Minturun. *Sembuhkan Med J*.2(2):68-77.
- [2] Senjaya Arifin A. *Gigi Lansia*. 2014;72-81.
- [3] Radang Sendi No. Pengaruh Terapi Yoga “Pranayama” Dan Aromatherapy Terhadap Penurunan Tingkat Nyeri Rheumatoid Arthritis Pada Lansia Di Pantii Wredha Budhi Dharma Yogyakarta 2019. 2013;14(3).
- [4] Fazriana E, Roslinda M, Luju D. Profil Aktivitas Sehari-Hari Lansia Demensia Di Pantii Sosial Tresna Wredha Nazareth. 2015;Xv:128-35.
- [5] Penderita P, Di H, Kerja W, Lubuk P, Kunci K. *Jurnal Abdimas Saintika*. 2012;
- [6] Wiliyanarti Pf. Pengaruh Ekstrak Mengkudu (*Morinda Citrifolia*) Terhadap Penurunan Tekanan Darah Pada Tikus Putih Wistar Jantan Dengan Hipertensi. ;3(1).

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- [7] Provinsi L, Utara S. Laporan Provinsi Sumatera Utara.
 - [8] Pekanbaru Kk. Jurnal Stikes Awal Bros Pekanbaru September, (2014):29-37.
 - [9] Iman Muhammad, S.E, S.Kom, M.M. Mrk. Panduan Penyusunan Karya Tulis Ilmiah Bidang Kesehatan Menggunakan Metode Ilmiah. Medan