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DECREASE HYPERTENTION THROUGH GIVING NONI FRUIT JUICE

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Abstract

Hypertension in elderly people in Indonesia is included in the 10 countries with the highest prevalence in the world. This disease is controlled to prevent further complications. The juice of noni (*morinda citrifolia*) fruit can be used as a provision for lowering blood pressure in elderly people with hypertension in Durin Tonggal village, Pancur batu sub-district. Objective to determine the effect of noni juice on lowering blood pressure in patients with hypertension. A Quasy Experiment study design with a population of 60 elderly with hypertension. The sample was taken by purposive sampling technique of 60 people divided into 15 people. The research instrument was the observation sheet. Data were analyzed with $\alpha 0.05$. The results of the experimental group research showed that the average pre TDS was 150.00mmHg, pre-TDD 90.00mmHg and TDS 200.00mmHG, and TDD 150.00mmHg. The results of the analysis and statistical tests obtained a systolic BP of 0.000 and a diastolic of 0.002 with a P value of <0.05 , so H_0 is rejected meaning that noni juice is effective in reducing blood pressure in the elderly.

Keywords: *Hypertension, Noni juice*

1. INTRODUCTION

Especially developed countries, hypertension is a public problem that is often the main cause of death. Although Indonesia is not yet a developed country, hypertension has become one of the biggest causes of death and the number continues to increase every year. This is a very sad reality. Efforts to provide understanding and public awareness of hypertension are continuously carried out by the health office and related agencies. Usually, this program is often labeled with "Concern for Hypertension" which aims to make people aware of the

dangers of hypertension, which is ready to attack anyone (Susilo and Wulandari, 2011).

Based on The Sevent Report Of The Joint National Committee On Prevent Ion, Detection, Evaluation, And Treatment Of Hight Blood Pleasure, 5 million Americans (29% of the population) suffer from high blood pressure or hypertension, which shows a 30% increase over the previous decade. According to the American Heart Association, four out of 10 African-Americans suffer from high blood pressure, compared to 10 in 10 Mesiko-Americans and whites.

According to experts from the World Health Organization (WHO) in 2015, it shows that around 1.13 billion people in the world are aware of hypertension, the number of people affected by hypertension continues to increase every year, it is estimated that in 2025 there will be 1.5 billion people with hypertension and it is estimated that every year 10 , 44 million people died from hypertension and its complications.

Based on data from the Indonesian Ministry of Health, hypertension is the third leading cause of death after stroke and pulmonary tuberculosis, which is about 6.7% of the population. Meanwhile, according to the Ministry of Health (Ministry of Health), hypertension is a very dangerous disease, because there are no warning signs or symptoms. There were 44 people with hypertension in 2014, 56 people in 2015 and 108 people in 2016.

Based on data from Indonesia's health profile in 2014, hypertension is one of the most common diseases in Indonesia from the top 10 inpatient diseases in hospitals, the Case Fatality Rate (CFR) reached 4.81%, hypertension in the Indonesian profile was (26.5%).) in 2013, cases of hypertension in Central Java in 2012 amounted to 554,771 cases (67.57%).

Data obtained from the Indonesian health office of North Sumatra, recorded 50162 people, Medan regency / city, Deli Serdang,

Labuhan Batu Selatan, Tanjung Balai, North Tapanuli, Samosir, North Tapanuli, South Nias and North Nias. women numbered 27021, aged over 55 years with a total of 22618, then 18 to 44 years amounting to 14984 and ages 45 to 55 years with a total of 12,560, while for areas with the most high hypertension, the number was 6643, from 5652, asahan with a total of 5421 and Pematang Siantar 4055.

Therefore, high blood pressure/hypertension can be lowered by consuming traditional medicines, namely one of the traditional medicines that can be used and believed for a long time and is able to reduce hypertension is noni. Noni is a plant that has long been used as a medicine for both the body and its roots. Noni can also treat various diseases such as headache disorders, diabetes skin disease, kidney failure, heart disease, and hypertension.

2. METHOD

This research was a quasi-experimental study with a one-group pre-post test design. The sample consisted of 15 hypertention patient in Durin and Tongal, Pancur Batu Distric with purposive sampling. The instrument used in this study was sphygmomanometers and observational sheets. Data analysis was performed using the Wilcoxon Singed-Ranks test $P < 0.05$ to determine the effect of the effectiveness of giving noni juice to blood pressure in patients with

hypertension.

3. RESULT

Table 1. Distribution Based on the Characteristics of Preetest System and Posttest System in Dusun II and III of Durin Tonggal Village in 2020

	Category	Frequency	Percent
Systole Preetest	Inceasing	15	100,0
	Decreasing	15	100,0
Posttest			

Based on table 1. Before giving the noni fruit juice, the systole blood pressure category increased by 15 people or (100.0%), and after being given the noni fruit juice, the systolic blood pressure category decreased by a total of 15 people or in total (100.0 %).

Table 2. Distribution Based on the Characteristics of Preetest Diastole and Posttest Diastole in Dusun II and III of Durin Tonggal Village in 2020

	Kategori	Frekuensi	Percent
Dyastole Preetest	Normal	3	20,0
	Inceasing	12	80,0
Total		15	100,0
Dyastole Posttest	Decreasing	12	80,0
	Constant	3	20,0
Total		15	100,0

Based on table 2, it is found that the diastolic blood pressure category before being given noni fruit juice is normal with a total frequency of 3 people or around (20.0%), and the majority increased by 12 people or around (80.0%). And after being given the noni fruit juice, it was found that the majority of Diastolic Blood Pressure categories decreased by 12 people or about (80.0%), and there were as many as 3 people or around (20.0%).

Table 3. Distribution of Blood Pressure Frequency Before Giving Noni Fruit Juice in Dusun II and III of Durin Tonggal Village in 2020.

Variable	Median	Std. Deviation	Min - Max	95 % CI
Systole	160,00	19,591	150-200	160,48 - 182,18
Dyastole	110,00	15,584	90 -150	110,00 - 101,37

Based on table 3. This showed that the blood pressure prior to the intervention given to the respondent has a minimum value for systolic pressure, namely 150 mmHg and for diastolic pressure, a minimum value of 90 mmHg. And the maximum value for systolic pressure is 200 mmHg and for diastolic pressure the maximum value is 150 mmHg. The results of the study interval estimation concluded that 95% of the respondents believed to be

systolic blood pressure average 160.48 - 182.18 mmHg and diastolic pressure 110.00 - 101.37 mmHg.

Table 4. Frequency Distribution of Blood Pressure After Giving Noni Fruit Juice in Dusun II and III of Durin Tonggal Village in 2020.

Variable	Median	Std. Deviation	Min - Max	95 % CI
Systole	120,00	8,916	110 -140	117,23 - 126,77
Dyastole	90,00	10,465	70 - 100	80,87 - 92,46

Based on table 4. It showed that blood pressure after being given intervention to the respondent has a minimum value for systolic pressure that is 110 mmHg and for diastolic pressure has a minimum value of 70 mmHg. And the maximum value for systolic pressure is 140 mmHg and for diastolic pressure the maximum value is 100 mmHg. The results of the study interval estimation concluded that 95% of the respondents believed to be systolic blood pressure mean 117.23 - 126.77mmHg and diastolic pressure 80.87 - 92.46 mmHg.

4. DISCUSSION

Hypertension or high blood pressure is a condition when the blood pressure against the artery walls is too high. Usually hypertension is defined as blood pressure above 140/90 and is considered severe if the blood pressure is above 180/120. High blood pressure often shows symptoms, over time, If not treated it can cause health problems such as heart disease and stroke. There are several factors that can cause hypertension, namely gender, heredity, obesity, stress, work status, smoking, and age.

Hypertension can be prevented by avoiding bad habits, namely by implementing a healthy lifestyle by doing regular physical activity, avoiding smoking or drinking alcohol, the need for adequate sleep or rest, a relaxed mind, reducing high fat foods such as high

calories, food oily, high cholesterol, coconut milk, excessive salt. Efforts that hypertension sufferers can do in lowering blood pressure can be done in two types, namely either in the form of pharmacology or non pharmacology.

Pharmacological therapy can be done or given by taking anti-hypertensive drugs such as amlodipine 500grm while non-pharmacology can be done such as reducing salt and saturated fat intake, regular exercise, giving potassium in the form of dietary fat, consuming fruits and vegetables and drinking herbal drinks such as cucumber juice. , celery juice, bay leaves and noni juice which can reduce hypertension and cholesterol. Noni hardness is one of the drinks that can reduce blood pressure, headaches, heart failure, stroke and cholesterol.

From the results of the research that has been done, it was found that the significant value of systole blood pressure before and after drinking noni fruit juice was 0.001 or <0.05 with a z value of -3.414 and a significant value of diastolic blood pressure before and after giving noni fruit juice of 0.002 or <0.05 with z value count -3,077. Then H_0 is rejected and H_a is accepted, which means that there is an effect of giving noni fruit juice on reducing blood pressure in hypertension in Dusun II and III, Durin and Tonggol Villages in 2020.

Research from Indah Kurmala Sari (2017) also shows that there is a significant difference in systolic and diastolic blood pressure of hypertension group respondents before and after being given noni juice to hypertension patients in wedoroklurak village, caandi sub-district, Sidoarjo regency, systolic blood pressure, p value 0,000 and diastolic p. value 0.015) so it can be concluded that there is an effect of noni juice on reducing blood pressure in the elderly in the village of Wedoroklurak, Caandi sub-district, Sidoarjo regency.

Research from Sosilo yobel, (2017) shows that there is a significant difference of 0.000 which means $P < 0.05$. This means that it can be concluded that there is an effect of noni juice on reducing blood pressure in hypertensive patients at the elderly posyandu Kresna Mukti RW 07 Barata Jaya Surabaya.

5. CONCLUSION

This action is important to do as a non-pharmacological and independent action by nurses in providing nursing care for the hypertention patient at home.

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