

Independent Care of Family Medicinal Plants and Acupressure for Blood Pressure in Hypertension

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ABSTRACT

Hypertension that occurs in the long term and is not treated will affect all organ systems of the body so that various complications occur that can cause death. To prevent complications in hypertension, hypertension control efforts are needed, one of which is complementary therapy in the form of utilizing toga and acupressure. Family medicinal plants or "TOGA" can be processed into various types of preparations so that they can be consumed by the community as a natural medicine to replace chemical drugs. The purpose of this study was to analyze the effect of the asman toga and acupressure program on blood pressure before and after being given asman toga and acupressure. This type of research is a one group pre-post test with a quasi-experimental research design. The number of samples in this study was 40 respondents. The research instrument used a needle tensiometer, questionnaire, "Asman Toga" pocket book and register book. The results of this study based on the results of the Wilcoxon Signed Rank Test statistical test on the pre-test and post-test obtained a p-value of 0.000 or <0.05, then H_0 was rejected and H_a was accepted, which means that there is an effect in providing the "Asman toga" and acupressure program where there was a decrease in blood pressure. It is hoped that the results of this study can utilize toga and acupressure to maintain health because toga and acupressure are health facilities that are easy to apply.

Keywords: medicinal plants, TOGA, Hypertension, acupressure

Background

Hypertension is a common disease found in various countries. According to the American Heart Association (AHA), the American population aged over 20 years who suffer from hypertension reaches 74.5 people and almost 90-95% do not know the cause (1). Hypertension is an increase in blood pressure above normal values. Hypertension is an increase in systolic blood pressure of around 140 mmHg or diastolic pressure of around 90 mmHg. Hypertension is a problem that needs to be watched out for, because there are no specific symptoms of hypertension and some people still feel healthy to do activities as usual. This is what makes hypertension a silent killer(2) People will realize that they have hypertension when the symptoms they feel get worse and they go to a health service.

According to the World Health Organization (WHO) in 2011, one billion people in the world suffer from hypertension, 2/3 of hypertension sufferers are in developing countries. The prevalence of hypertension will continue to increase and it is predicted that by 2025 as many as 29% of adults worldwide will suffer from hypertension (3). Hypertension sufferers in Indonesia reached 8.4% based on doctor's diagnosis in the population aged ≥ 18 years, Based on the results of blood pressure measurements in the population, the prevalence of hypertension sufferers in Indonesia is around 34.1%, while in 2013 the prevalence of hypertension sufferers

in Indonesia was around 25.8%. The prevalence results from blood pressure measurements from 2013 to 2018 can be said to have increased, namely around 8.3% (4).

Symptoms that are often complained of by hypertension sufferers are headaches, dizziness, weakness, fatigue, shortness of breath, restlessness, nausea, vomiting, epistaxis, and decreased (2). Hypertension occurs because it is influenced by risk factors. Risk factors that cause hypertension are age, gender, obesity, alcohol, genetics, stress, salt intake, smoking, physical activity patterns, kidney disease and diabetes mellitus (5).

Therapies that are useful for lowering hypertension include pharmacological therapy (drugs) and non-pharmacological therapy. The results showed the distribution of blood pressure frequency of respondents after acupressure therapy. There were 5 people (71.42%) decreased and 2 people (28.58%) remained, this study concludes that there is an effect of acupressure therapy on the reduction of blood pressure in hypertensive patients (6). In addition, family medicinal plants, research results prove that patients with hypertension who use single hypertension drugs experience a decrease in blood pressure to normal (<140/90 mmHg) from 54 patients with hypertension to 18 people (33.3%). While those who use drugs and TOGA (Family Medicinal Plants) as complementary therapy for hypertension experience a decrease in blood pressure to normal (<140/90 mmHg) from 40 people with hypertension to 22 people (55%). The results of the Wilcoxon test obtained a significance value of <0.05, meaning that there is an effect of TOGA (Family Medicinal Plants) on hypertension therapy (7). This is despite advances in the prevention and treatment of hypertension, there is a high percentage of people with high or uncontrolled blood pressure. New patient-centered strategies are needed to support people in managing their condition (8).

"*Asman Toga*" is an effort to maintain and improve health and prevent and overcome minor health problems independently by individuals in families, groups or communities by utilizing Family Medicinal Plants and certain skills (9). Meanwhile, acupressure is a finger prick therapy that applies pressure and massage to certain points on the body based on the principles of acupuncture (10). In the circulatory system, acupressure massage can improve blood flow and result in a decrease in heart rate which can lower blood pressure. The research results showed that the average blood pressure before the intervention was 152.35/97.65 mmHg, while after the intervention the average blood pressure became 140.74/90.59 mmHg. Analysis with paired sample t-test obtained a p value = 0.001 for systolic and diastolic pressure, so there was a difference in blood pressure before and after acupressure therapy intervention was given to the elderly (11). Meanwhile, "*Asman Toga*" utilizes celery plants and cat's whiskers leaves which have a diuretic effect, causing an increase in intravascular blood volume to decrease (12).

Traditional health services are one of the choices for people in seeking treatment or overcoming their health problems. Traditional health services have long been known since ancient times until now. The trend of using natural things or what is commonly known as returning to nature is a reason for people to utilize natural ingredients including for treatment (13). The Wonodadi Health Center oversees 11 villages as its working area. Based on the achievement of Pis-PK data from the Wonodadi Health Center in 2022, there were 4,556 hypertension sufferers who did not seek treatment. In activities outside the building such as the Occupational Health Efforts integrated service post, many hypertension sufferers were found who did not seek treatment regularly. Based on the background above, the researcher is interested in taking the topic "*Asman Toga* and Acupressure for Blood Pressure of Hypertension" Sufferers in the Occupational Health Efforts Posyandu Group, Wonodadi District.

Methods

This study uses a quasi-experimental research design and uses a pretest and posttest

design, namely by taking initial measurements before and after treatment is given. The population in this study were all members of the "Putra Fajar" Work Health Post aged 40-75 years with hypertension in Rejosari Village. The number of samples was 40 respondents. The sampling technique used total sampling. The independent variables are Asman Toga and Acupressure, the dependent variable is hypertension. The instruments in this study were needle sphygmomanometers, questionnaires, "Asman Toga" pocket books and register books. The research steps that have been carried out are as follows: the researcher determined the sample and measured blood pressure (Pre Test), then carried out the "Asman Toga" and Acupressure Programs according to standard operating procedures. After that, the researcher monitored the respondents in carrying out the "Asman Toga" with details of the Acupressure technique 3 times a day and the use of medicinal plants 1 week 3 times, this activity was carried out for 2 weeks and monitored via the Whatsapp group to ensure that Asman Toga activities were in accordance with standard operating procedures. Then the researcher measured the blood pressure (post test) of the respondents after 2 weeks of the "Asman Toga" and Acupressure Program. This study has received ethical clearance from the Health Research Ethics Committee of STIKes Patria Husada Blitar with Letter Number: **06/PHB/KEPK/198/02.24**.

Results

General data

Table 1 Characteristics of Research Respondents

Characteristics Respondent	Frequency	Percentage (%)
Age		
Late Adulthood (36-45th)	4	10
Early Elderly (46-55th)	24	60
Late Elderly (56-65th)	10	25
Seniors (>65th)	2	5

Based on table 1 above, it shows that of the 40 respondents based on age characteristics, the majority are early elderly (46-55 years) totaling 24 people (60%), then late adults (36-45 years) totaling 4 people (10%), late elderly (56-65 years) totaling 10 people (25%), and elderly (>65 years) totaling 2 people (5%).

Specific data

Table 2. Data Analysis Before (Pre Test) and After (Post Test) Given the Asman Toga Program and Acupressure Therapy

Variabel	Pre Test		Post Test		p value
	f	%	f	%	
Pre Hypertension	0	0	6	15	0.00
Stage 1 Hypertension	9	22.5	22	55	
Stage 2 Hypertension	31	77.5	12	30	
Total	40	100	40	100	

Based on table 2 the results of the study of blood pressure before the asman toga program and acupressure in stage 1 hypertension (22.5%) and stage 2 hypertension (77.5%). while blood pressure after the "Asman Toga" program and acupressure pre-hypertension (15%), stage 1 hypertension (55%) and stage 2 hypertension (30%). The results of the Wilcoxon Signed Rank Test obtained a significant value of 0.00 or p value <0.05 which indicates the effect of the "Asman Toga" program and acupressure therapy where there was a decrease in blood pressure both systolic and diastole.

Discussion

There is a difference in systolic and diastolic blood pressure before and after acupressure therapy in hypertension patients. Increased levels of endorphin hormones in the body will increase the production of dopamine hormone work, where an increase in this hormone will result in increased activity of the parasympathetic nervous system (14). Increased work of the parasympathetic nervous system functions to control ongoing activities and works when the body is relaxed, so that hypertension sufferers perceive touch as a stimulus for a relaxation response or calming the mood and reducing fatigue, this causes a decrease in blood pressure in hypertension sufferers (15). Another effect of acupressure therapy is to stimulate the release of serotonin, which functions as a neurotransmitter that carries stimulation signals to the brain stem which can activate the pineal gland to produce the hormone melatonin, where this hormone can also lower blood pressure (16).

Giving *Orthosiphon aristatus* in Indonesia it is called “Kumis Kucing” leaves can significantly reduce initial and final blood pressure in hypertension sufferers because the “Kumis Kucing” plant contains sinensetin which works actively as an antioxidant, and has quite strong diuretic properties (17). Apigenin, found in celery is very useful for preventing narrowing of blood vessels and high blood pressure. Vitamin C is an antioxidant and can lower blood pressure by about 5 mmHg, through its role in repairing arterial damage due to hypertension. Vitamin C helps maintain normal blood pressure by increasing the excretion of lead from the body. Chronic exposure to lead can increase blood pressure. So, by removing lead from the body, blood pressure will also decrease. Vitamin C restores the elasticity of blood vessels (18). The main benefits and properties of *Centella asiatica* in Indonesia it is called "pegagan" leaves are to increase the immune system in growth and as a traditional medicine to cure various diseases, including: As an antileprosy and antiforgetfulness. Lowering blood pressure and inhibiting the occurrence of keloids. Pegagan leaves are thought to contain antioxidants in the form of flavonoids which are part of centellacoside and contain triterpenoids, which act as natural antioxidants. The antioxidants in pegagan juice can stimulate collagen formation and tissue regeneration, increase blood flow by strengthening the walls of blood vessels (19). Research results show that there is an effect of boiled pegagan leaves on lowering blood pressure in the elderly (20)

Conclusions and Recommendations

The results of the study of blood pressure before the asman toga program and acupressure in stage 1 hypertension (22.5%) and stage 2 hypertension (77.5%). while blood pressure after the "Asman Toga" program and acupressure pre-hypertension (15%), stage 1 hypertension (55%) and stage 2 hypertension (30%). The results of the Wilcoxon Signed Rank Test obtained a significant value of 0.00 or p value <0.05 which indicates the effect of the “Asman Toga” program and acupressure therapy where there was a decrease in blood pressure both systolic and diastole. The implementation of the kogerta deep breathing relaxation technique had a measurable effect on the physical fitness of elderly individuals. The Wilcoxon Signed Rank Test produced a p-value of less than 0.05, indicating that the intervention had a statistically significant effect on improving the physical fitness of the elderly. Input for further researchers to create movements that are adjusted to their cultural background.

It is expected that the results of this study can add information about the benefits of family medicinal plants, especially for hypertension, applying complementary therapy at home to lower blood pressure in hypertension sufferers and simple massage or acupressure. The

results of this study can also be followed up by further researchers to use a control group as a companion, so that the results obtained will be more effective and significant so that they can find new theories in overcoming health problems that occur in the community.

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