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THE EFFECT OF WET CUPPING THERAPY ON REDUCING BLOOD PRESSURE IN HYPERTENSION PATIENTS

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ABSTRACT

Hypertension or high blood pressure is an increase in abnormal blood pressure in the blood vessels continuously over a period. This occurs when the arterioli-arterioli are constricting. Arterioli constriction makes it difficult for blood to flow and increases the pressure against the artery walls. The provision of pharmacological therapy and the incidence of side effects on drugs as well as the relatively high prices make non-pharmacological treatments the right choice. One of them is cupping therapy that cannot lower blood pressure. The purpose of this study was to determine the effect of wet cupping therapy in hypertensive patients with blood pressure. The research design used a pre-experimental design with a one group pretest-posttest model. The population in this study were hypertension patients who were in the RW 006 Ciganjur district who met the inclusion criteria. The sampling technique was purposive sampling with a sample size of 20 respondents. The instrument was carried out by measuring blood pressure using a blood pressure measuring device and the data were analyzed using the paired sample t test. The results of this study were obtained after two consecutive months of wet clamping, systolic and diastolic blood pressure decreased significantly. *So it can be concluded that cupping therapy effective for lowering blood pressure in people with hypertension*. It is hoped that the community and the medical world can use cupping therapy as a complementary therapy in overcoming hypertension.

Keywords: Wet Cupping, Hypertension, Complementary Therapy

Introduction

Hypertension or high blood pressure is an abnormal increase in blood pressure in the arteries continuously over a period. This occurs when the arterioli-arterioli are constricting. Arterioli constriction makes it difficult for blood to flow and increases the pressure against the artery walls. Hypertension increases the workload of the heart and arteries, which if it continues can cause damage to the heart and blood vessels. Hypertension is defined as a systolic blood pressure of more than 140 mmHg and a diastolic pressure of more than 90 mmHg, based on two or more measurements (Udjianti, 2011).

The incidence of hypertension in the world is quite high, according to the World Health Organization (WHO) in 2015 showing that around 1.13 billion people in the world have hypertension, meaning that 1 in 3 people in the world are diagnosed with hypertension. The number of people with hypertension continues to increase every year, it is estimated that by 2025 there will be 1.5 billion people affected by hypertension, and it is estimated that each year 9.4 million people die from hypertension and its complications. Hypertension is a major problem for all of us, not only in Indonesia but in the world,

because hypertension is one of the entry points or risk factors for diseases such as heart disease, kidney failure, diabetes and stroke (Kemenkes, 2019).

In Indonesia, hypertension ranks fifth as a disease that causes the most deaths. According to the Basic Health Research (Riskesdas) from the Indonesian Ministry of Health conducted in 2018, the prevalence of hypertension sufferers in Indonesia has increased from 2013 to 2018. In 2013 it was 26.5% of the adult population, and in 2018 it increased to 34 , 1% based on measurement results, the prevalence of hypertension in DKI Jakarta reached 34.1% in 2019.

Non pharmacological or alternative medicine is preferred by some people, related to the public perception of the side effects of chemical consumption and economic conditions. Alternative medicine is generally carried out using herbal medicines and traditional methods in accordance with hereditary beliefs and religion. One of the alternatives chosen as a complementary therapy is cupping. Apart from being very affordable with access to a comfortable and safe environment, it is also highly recommended because of its efficacy and affordability (Syahputra et al., 2019).

In linguistic terms, cupping means to suck. Cupping is a method by removing metabolized blood or blood contaminated with toxins and oxidants from the body through the skin surface. This method is considered safer than the way of giving antioxidant drugs or other chemical drugs. Dainggap wet cupping is effective for various diseases, especially diseases related to blood vessel disorders. In contrast to dry cupping which may only cure minor ailments, wet cupping can help treat more severe, acute, chronic or degenerative diseases, such as hypertension (Widada et al., 2019).

The benefits of cupping in hypertension are a process of lowering the sympathetic nervous system and helping control the levels of the hormone aldosterone in the nervous system. Then, it stimulates the secretion of an enzyme that acts as a renin angiotensin system which can reduce blood volume, and secretes nitric oxide which plays a role in vasodilation of blood vessels so that a decrease in blood pressure can occur. In addition, the nature of preventive therapy from the incidence of hypertension is very strong so it is highly recommended as a complementary therapy for the prevention and treatment of hypertension (Rahman et al., 2020).

Nitric oxide cupping will increase the supply of nitration and blood needed by the cells and lining of the arteries and veins, which makes it stronger and more elastic and reduces blood pressure. Cupping plays a role in stimulating specific receptors that are associated with shrinkage and stretching of blood vessels (receptors) so that blood vessels can respond to stimuli and increase sensitivity to the causes of hypertension (Muflih & Judha, 2019).

Given that pharmacological therapy and the high incidence of side effects on drugs and relatively expensive prices make non-pharmacological treatment the right choice. One of them is cupping therapy which is believed to lower blood pressure. Thus, the community can minimize the use of pharmacological drugs for hypertension, which are quite expensive. Based on the background and description above, the researchers were interested in examining the effect of wet cupping therapy on changes in blood pressure in hypertensive patients.

Methods

The research design used in this study was a pre-experimental design type experimental research method. According to Sugiyono (2013: 76) "in the type of pre-experimental design there is no control class and the sample is not randomly selected". This study uses the One Group Pretest-Posttest Design approach. Pretest is before giving wet cupping therapy and Post Test is after giving wet cupping therapy. Expected to know the effect of wet cupping therapy on lowering blood pressure. The sample in this study amounted to 20 respondents partly from hypertension sufferers who fit the inclusion criteria.

The sampling technique in this study is to use purposive sampling which is included in nonprobability sampling, which is sampling based on certain considerations made by the researcher himself, based on previously known characteristics or characteristics of the population. The pre-test and post-test data were collected by observing one by one on hypertension sufferers. The data collected in the pretest and posttest is in the form of blood pressure data, obtained by the researcher doing direct observation of blood pressure in patients with hypertension. Blood pressure before cupping therapy is entered in the blood pressure column (pretest) then calculates the MAP (Mean Arterial Pressure) to determine the average value of arterial pressure or the average value of blood pressure during the pretest, and blood pressure after cupping therapy entered in the final column (posttest).

Experimental procedure

The experimental group will be given treatment with clamping at the point of hypertension once a month for 2 consecutive months, before being given treatment, the intervention group will have their blood pressure measured 5 minutes before the intervention is carried out (pre test), then given treatment (cupping) with time for 20 minutes, and then measure his blood pressure again (post test) 5 minutes after clamping. At the end of each month for 2 consecutive months of the intervention period, evaluation was carried out by re-measuring the respondent's blood pressure.

Wet Cupping Procedure

The wet cupping procedure is 1) initially, we determine the cupping point on the skin area; 2) then the cupping point is disinfected using 70% alcohol; 3) then the cupping or cupping cups are placed at predetermined cupping points (according to the complaint); 4) negative pressure is applied so that the air will collect in the glass; 5) leave it for 1-2 minutes; 6) then the glass will be opened and let the air in the glass escape; 7) after that, the epidermis of the skin is punctured or cut using a single-use lancet or bisturi; 8) then, the glass will be placed back in the area of the same cupping point; 9) negative pressure is applied again so that the air and blood that has collected in the cupping area are sucked out; 10) let stand for 3-5 minutes; and 11) after that the blood is removed and the clamping area is cleaned while still observing the aseptic principle (Abdullah et al., 2016). Standardization of cupping therapy practice is a very important step to eliminate or reduce side effects associated with cupping (Aboushanab & AlSanad, 2018).

Some of the mild side effects that occur in cupping patients are weakness, drowsiness, thirst, hematoma or redness in the area of the clamping point, and achy feeling after cupping. However, these conditions will disappear in some time to come, while serious side effects usually occur in lesions or blisters in the area of the clamping point which is due to the length of time opening the cup to the clamping action, so it is very necessary to have professional experts in carrying out this clamping action (Muflih & Judha, 2019).

The instrument in this study was to use a cupping device to intervene in the intervention group and a tensimeter and manual stethoscope to measure blood pressure. Data analysis was carried out by using paired t test. Test for normality using the Shapiro-Wilk. Cupping therapy is carried out by researchers with official certificates and national standardization.

The study was conducted for 2 months, in December 2020 - January 2021.

Result

Characteristics of Respondents

Characteristics of Respondents by Age

Characteristics of respondents based on age in hypertensive clients with systolic blood pressure ≥ 130 mmHg and diastolic blood pressure ≥ 90 mmHg in Ciganjur Village RW 06 in December 2020.

Table 1.
Distribution of Respondents Based on Age

No	Age (Years)	Percentage	Frequency (%)
1	40 – 49	7	35
2	50 – 59	8	40
3	60 – 69	5	25
	Total	**20**	**100**

Source: Primary Data (2020)

Table 1. It shows that most of the respondents aged 50-59 years were 8 people (40%), 7 people aged 40-49 years (35%), and 5 people aged 60-69 years (25%).

Table 2.
Distribution of Respondents Based on Gender

No	Gender	Frequency	Percentage (%)
1	Male	5	25
2	Female	15	75
	Total	**20**	**100**

Source: Primary Data (2020)

Table 2. It shows that most of the respondents were female as many as 15 people (75%), while the least number were male respondents, namely as many as 5 people (25%).

Univariate Analysis

a. Description of the frequency of blood pressure in people with hypertension.

Table 3.
Frequency Distribution Mean Blood Pressure of Hypertension Patients.

No	Blood Pressure	Measurement period	Max (mmHg)	Min (mmHg)	Mean (mmHg)
1	Systolic	Pre-Intervention 1	200	120	147
		Post-Intervention 1	190	110	150
		Post-Intervention 2	140	110	120
2	Diastolic	Pre-Intervention 1	110	70	91
		Post-Intervention 1	110	60	89
		Post-Intervention 2	100	70	85

Table 3. Shows the highest systolic blood pressure before cupping therapy at 200 mmHg (hypertension level II) and the lowest at 120 mmHg (pre-hypertension). After cupping therapy for two consecutive months, the highest systolic blood pressure was 140 mmHg and the lowest was 110 mmHg. Then,

the diastolic blood pressure found before cupping therapy was 110 mmHg and the lowest was 70 mmHg. After cupping therapy, at month 2, the highest diastolic blood pressure was 100 mmHg and the lowest was 70 mmHg.

b. Normality Test

In the normality study using Shapiro-Wilk because the respondents were less than 50.

Table 4.
Shapiro-Wilk Data Normality Test

	Shapiro-Wilk		
	Statistic	Df	Sig
Before Cupping Therapy	.169	20	.117
After Cupping Therapy	.189	20	.143

Based on table 4, it shows that the results of the Shapiro-Wilk Normality Test obtained significant results before giving cupping therapy, which is 0.117, while after giving cupping therapy the significant value is 0.143 where the results show a p value > 0.05, it can be concluded that the data from before and after cupping therapy were normally distributed

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Bivariate Analysis

Bivariate analysis in this study was to determine the effect of cupping therapy on lowering blood pressure in hypertensive patients, then analyzed using the paired sample t test.

Table 5
Pre and Post Intervention Blood Pressure Analysis

Variable	Mean	Std Deviation	df	Sig. (2 tailed)
Before Cupping Therapy After Cupping Therapy	57.950	28.550	19	.000

Based on table 5.Shows that from the results of the t-dependent or paired sample t-test, it can be seen that the average reduction in blood pressure in hypertensive patients before giving cupping therapy and after cupping therapy is 57,950 and the p value = 0.000 <0.05 then Ho is rejected, meaning that there is a decrease in blood pressure in patients with hypertension in the Ciganjur District RW. 06 of 2021.

Discussion

Characteristics of Respondents

From the research results obtained based on demographic data that the most hypertension sufferers are in the age range 50-59 years. This shows the high risk of hypertension in line with the increasing age of humans, with age being one of the main risk factors for the occurrence of hypertension. Previous research found some demographic data in this case age as the biggest factor from the incidence of hypertension, with the most increased risk factors for those over 50 years of age (Hazwan & Pinatih, 2017). The results of this study are in line with the research of Nugroho (2014), with the results of the study that most of the 38 patients were> 56 years old as many as 17 people (44%) had hypertension, while a small proportion were 35-45 years old as many as 9 people (23 , 7%) suffering from hypertension. Based on the results of other studies, it explains that with increasing age, the anatomical structure of the organs in the body also undergoes several changes, including the thinning and inelastic structure of the arteries, which causes the cross-section of the blood vessels to become narrower so that this creates pressure. blood flow is increasing. In addition, several studies have found that the sex most vulnerable to the incidence of hypertension is women, especially women who are less obedient in taking hypertension drugs (Pramana et al., 2019).

Female gender has many risk factors for hypertension such as hormonal imbalances so that women are more likely to have high blood pressure. This is also explained in the Journal of Clinical Of Hypertension, according to Miller (2010), which states that hormonal changes that often occur in women cause women to be more likely to have high blood pressure. This study is in line with Nugroho's research (2014), in his research, there were also 38 patients who experienced hypertension based on gender, most of them were female, namely (60.5%), male (39.5%). However, several other studies report that male gender is more at risk than women because lifestyle factors such as smoking and workload are more experienced by men (Tumanduk et al., 2019).

Measurement of blood pressure before and after cupping therapy

Based on Table 3, the results of the research conducted showed that before and after cupping therapy was given, there was a difference in mean blood pressure. The act of lowering blood pressure that can be applied by respondents who experience stage 2 hypertension is cupping therapy. According to Kasmui (2010), cupping therapy can be done to lower blood

pressure, namely wet cupping therapy (hijamah rothbah), which is the inhalation of the skin surface by the wind trapped by the cupping set dialate and a hand pump to remove dirty blood from the body, done for a maximum of 5 minutes at a time interval. use of cupping again after 4 weeks.

Cupping therapy from several studies generally illustrates that cupping therapy is a complementary therapy that is safe and comfortable to use (Lu et al., 2019). This was felt by some patients in this study several hours after cupping therapy, where the relaxing effect they felt and the relief of the headache they felt made them feel very comfortable after cupping therapy. The mechanism of cupping therapy in lowering blood pressure also occurs through the release of nitric oxide which causes blood vessel dilation, thus making blood vessels stronger and elastic, which controls the aldosterone hormone so that the volume of blood flowing in blood vessels decreases and blood pressure decreases stably (Asmalinda & Sapada, 2018).

Effect of wet cupping therapy on lowering blood pressure

Based on the T test, it can be seen that the average reduction in blood pressure in patients with hypertension before giving cupping therapy and after giving cupping therapy is 57,950 and the p value is obtained = 0.000 <0.05. The results of this study indicate that the provision of cupping therapy for two consecutive months has been shown to be effective in reducing systolic and diastolic blood pressure in hypertensive patients. These results are in line with previous studies, where it was reported that cupping therapy had an effect on lowering blood pressure (p <0.05) (Astuti & Syarifah, 2018).

The same thing was also found in the study by Mustika (2012), namely the effect of cupping therapy on blood pressure in hypertensive patients at the de besh center arrahman clinic and the Sabbihisma healthy house in Padang city on systolic blood pressure with a p value of 0.000 for systolic and 0.003 for diastolic (p value <0.05), then there is a significant effect on systolic and diastolic blood pressure in hypertensive patients.

The effects of cupping on hypertension include the role of cupping to calm the sympathetic nervous system. This upheaval in the sympathetic nervous system stimulates the secretion of an enzyme that acts as the rennin angiotensin system. Once the system is calm and reduced in activity, blood pressure will drop. Cupping plays a role in reducing the volume of blood that circulates blood in the blood vessels, thereby reducing blood pressure. Cupping

controls levels of the hormone aldosterone so it controls blood pressure as well. Nitric oxide (NO) plays a role in vasodilation, causing a drop in blood pressure. Cupping controls the hormone aldosterone so that it controls blood pressure. Cupping plays a role in stimulating special receptors associated with contraction and stretching of blood vessels (baroreceptors) so that blood vessels can respond as stimuli and increase their sensitivity to factors that cause hypertension (Sharaf, 2012).

In addition, negative pressure on cupping therapy can also affect the stimulus for a decrease in blood pressure, with the results of trials in a study showing that 400-540 mbar can reduce blood systolic and diastolic pressure for up to two weeks (Zarei et al., 2012)

Researchers assume that cupping therapy given to hypertensive patients has a significant effect on systolic and diastolic blood pressure of hypertensive patients before and after cupping therapy. Cupping can also be used as an alternative treatment for people who have hypertension to use cupping therapy routinely and maintain diet and avoid stress as an effort to reduce blood pressure.

Conclusion

Cupping therapy has a significant effect in reducing systolic and diastolic blood pressure in hypertensive patients for up to two consecutive months, so it can be concluded that cupping therapy can be used as an alternative and complementary therapy that is safe, comfortable and economical in terms of both preventive, curative and rehabilitative.

Suggestion

Suggestions in this study are to promote more about cupping therapy as an alternative therapy for hypertension sufferers, more need to build legal cupping therapy treatment centers and provide alternative therapies in the form of cupping therapy in various health facilities.

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