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The Combination of Acupressure and Cupping Therapy for Hypertension Patients Blood Pressure

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ABSTRACT

Hypertension that is not controlled and occurs in the long term will affect all body organ systems resulting in various complications that can cause death. To prevent complications in hypertension, it is necessary to control hypertension, one of which is by complementary therapy in the form of acupressure and cupping. This study aims to determine differences in blood pressure in patients with hypertension after acupressure therapy combined with cupping therapy with wet cupping therapy. The type of research is Quasy Experiment with pre-post test with a control group design. The study was conducted at the Asy-Syaafi Holistic Center with a sample of 34 hypertension patients where 14 respondents were in the intervention group and 14 respondents in the control group. The data analyst used the Independent T-test. The results found that there was no difference in systolic blood pressure (p-value 0.800) and diastolic (p-value 0.274) between the intervention group and the control group, but there was a significant difference in systolic blood pressure (p-value 0.000) and diastolic (p-value 0.002) in the intervention group. before and after cupping acupressure therapy and there was a difference in systolic (p value 0.000) and diastolic (p value 0.000) blood pressure in the control group before and after wet cupping therapy. it can be concluded that there is no difference in blood pressure between the group given acupressure combination cupping therapy and the group given wet cupping therapy alone.

Keyword : Hypertension;acupressure; cupping therapy

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INTRODUCTION

Hypertension is a cardiovascular disease that is common in society and the number continues to increase every year. WHO estimates that 22% of the world's population has hypertension.[1] WHO also predicts that in 2025 the number of hypertensives will increase to 1.5 billion, and an estimated 10.44 million people will die from hypertension and its complications.[2] In Indonesia, data from Basic Health Research (Riskesdas) reported that there was an increase in the number of hypertension cases from 2013 to 2018. In 2013 the number of hypertension sufferers based on measurements at ages ≥ 18 years was 25.8% and increased in 2018 to 34.1%. The estimated number of hypertension cases in Indonesia is 63,309,620 people with a death rate of 427,218 deaths.[3]

Hypertension that is not controlled and occurs over a long period can cause complications such as stroke, coronary heart disease, myocardial infarction, congestive heart failure, hypertensive encephalopathy, chronic renal failure, and hypertensive retinopathy.[4] Therefore, efforts are needed to prevent complications in hypertension. One of the ways to control hypertension is with a non-pharmacological approach. Through a non-pharmacological approach, blood pressure can be reduced without causing side effects and dependence on drugs.[5] Non-pharmacological control of hypertension can be done with complementary therapies such as acupressure and cupping.[6]

Many previous studies have shown that acupressure and cupping therapy can be useful in reducing blood pressure in hypertensive sufferers. The study by Aminuddin, Sudarman, & Syakib (2020) which showed a decrease in blood pressure in hypertension sufferers after acupressure therapy, where the average systolic pressure before therapy was 144.76 mmHg to 140.24 mmHg and diastolic pressure was 90.95 mmHg down to 86. .67 mmHg.7 Acupressure is a traditional treatment that involves massaging the body's meridian points based on the principles of acupuncture. affects vasodilation of blood vessels, thereby reducing blood pressure.

Many previous studies have shown that acupressure and cupping therapy can be useful in reducing blood pressure in hypertensive sufferers. Like the study by Aminuddin, Sudarman, & Syakib (2020) which showed a decrease in blood pressure in hypertension sufferers after acupressure therapy, where the average systolic pressure before therapy was 144.76 mmHg to 140.24 mmHg and diastolic pressure was 90.95 mmHg down to 86. .67 mmHg.[7] Acupressure is a traditional treatment that involves massaging the body's meridian points based on the principles of acupuncture. affects vasodilation of blood vessels, thereby reducing blood pressure.[8] The benefit of this therapy is that it can stimulate the secretion of endophrin hormones which provide a feeling of calm and comfort, besides that acupressure also triggers the release of histamine which affects vasodilation of blood vessels so that it has an impact on reducing blood pressure. [9]

Similar to acupressure therapy, cupping therapy has also been proven to be able to reduce blood pressure in hypertension sufferers. As in the study by Sormin (2019) which proved that there was a difference in blood pressure before and after the intervention (p-value = 0.000), where the average

systolic blood pressure before therapy was 152.50 mmHg, decreasing to 134.25 mmHg after cupping therapy, which is the same at the mean diastolic pressure from 85.25 to 80 mmHg. Similar results were also shown by research by Sardaniah, Nurhasanah, & Marlena (2020), Nuridah & Yodang (2021), and Candrawati & Sukraandini (2021) which showed the benefits of therapy cupping in reducing blood pressure in hypertension sufferers (p-value < 0.05).[10,12,6]

Cupping is a therapy by removing metabolic blood containing toxins and oxidants from the body through the surface of the skin..[13] The effect of cupping can calm the work of the sympathetic nerves and control the amount of the hormone aldosterone in the nervous system, this stimulates the secretion of enzymes which act as angiotensin renin which can reduce blood volume, and produce nitric oxide which functions in vasodilation of blood vessels so that blood pressure decreases. [14]

It is hoped that the combination of acupressure and cupping therapy can provide optimal results in reducing blood pressure in hypertensive sufferers, so that blood pressure in hypertensive sufferers can be well controlled.

METHOD

Quasi experimental research design with pre-posttest with control group design. The total sample was 34 respondents using a purposive sampling technique, where the respondents consisted of two groups, namely the first group, 17 respondents were given acupressure and cupping therapy and the other 17 respondents as a control group only received wet cupping intervention. The research was conducted at the Asy-Syaafi Holistic Center from September to November 2021. The instruments used include a sphygmomanometer, stethoscope, and blood pressure observation sheet. Tools for acupressure therapy include wet and dry tissue, a mattress, and for cupping therapy the tools used include a cupping set, scalpel, pen tip, gloves, mask, treatment table/bed, wet cup holder rack, instrument tub, gauze sterile, cotton, shaving tools, hair scissors, bends, comms, and aprons.

Data was obtained by measuring blood pressure before giving therapy to both groups. Then the first group received combination cupping acupressure therapy, while the second group only received wet cupping therapy. After the therapy was completed, blood pressure was measured again in both groups. The frequency of giving therapy is only done once. The data analysis carried out was univariate to describe each variable and characteristic of the respondent and bivariate to determine the difference in average blood pressure before after therapy using a paired t test and after that an independent t test was carried out to determine the difference in average blood pressure between group. Degree of confidence 95% ($\alpha = 0.05$).

RESULT

Characteristics of the research subjects included gender and age in the cupping acupressure group and the control group with only wet cupping therapy.

Table 1. Characteristics of Respondents Based on Age and Gender

Variable	Group		n
	Acupressure with Cupping	Cupping	
Usia (th)	53,06 (30-76)	52,82 (30-72)	
Gender			34
Male	10 (58,8%)	9 (52,9%)	
Female	7 (41,2,%)	8 (47,1%)	

From table 1, the average age in the cupping combination acupressure group is 53 years with the majority being male (58.8%) while in the cupping group the average age is 52 years with the majority being male (52 .9%).

Table 2. Systolic and Diastolic Blood Pressure Combination Cupping Acupressure Group

Blood Pressure	*Mean*	SD	Min-Max	*p* value
Systolic				
Before	170,06	23,62	140 – 230	0.000
After	135,18	13,32	110 - 159	
Diastolic				
Before	102,41	16,48	75 – 144	0.002
After	83,76	10,52	68 - 100	

Paired Sample T-test

Based on table 2, the average systolic blood pressure before the combined cupping acupressure therapy was 170.06 mmHg with a standard deviation of 23.62, and the lowest systolic pressure value was 140 mmHg and the highest was 230 mmHG, whereas after the combined cupping acupressure therapy the average was Systolic pressure decreased by 135.18 mmHg with a standard deviation of 13.32, and the lowest systolic pressure value was 110 mmHg and the highest was 159 mmHg. From the results of the Paired Sample T-test, it was found that the p value was 0.000 < 0.05, so there was a difference in systolic blood pressure before and after the combined cupping acupressure therapy.

Then the average diastolic blood pressure before therapy was 102.41 mmHg with a standard deviation of 16.48, the lowest diastolic pressure value was 75 mmHg and the highest was 144 mmHg. Meanwhile, the average diastolic pressure after combined cupping acupressure therapy was 83.76 mmHg with a standard deviation of 10.52, where the lowest diastolic value was 68 mmHg and the highest was 100 mmHg. The results of the Paired Sample T-test showed a p value of 0.002 < 0.05, so there was a difference between diastolic blood pressure before and after combined cupping acupressure therapy.

From table 3, it is known that before cupping therapy was carried out the average systolic blood pressure in the control group was 156.53 mmHg with a standard deviation of 14.56, where the lowest systolic pressure value was 140 mmHg and the highest was 186 mmHg. Meanwhile, after completing therapy, the average systolic blood pressure decreased to 134 mmHg with a standard deviation of 13.58,

where the lowest systolic pressure value was 108 mmHg and the highest was 157 mmHg. The results of the Paired Sample T-test show a p value of 0.000 < 0.05, so it can be said that there is a difference in systolic blood pressure before and after cupping therapy.

Table 3. Systolic and Diastolic Blood Pressure in the Cupping Group

Blood Pressure	*Mean*	SD	Min-Max	*p* value
Systolic				
Before	156.53	14.56	140 -186	0.000
After	134	13.58	108 - 157	
Diastolic				
Before	97.88	11.59	78 – 116	0.000
After	87.94	11.32	70 – 114	

Paired Sample T-test

Furthermore, the average diastolic blood pressure before cupping therapy was given was 97.88 mmHg with a standard deviation of 11.59, where the lowest diastolic value was 78 mmHg and the highest was 116 mmHg, whereas after cupping therapy the average diastolic pressure was 87.94 mmHg with a standard deviation of 11.32, where 70 mmHg for the lowest diastolic pressure value and the highest 114 mmHg. The results of the Paired Sample T-test showed a p value of 0.000 < 0.05, meaning that there was a difference in diastolic blood pressure before and after cupping therapy.

Table 4. Differences in Blood Pressure in the Cupping Acupressure Group and the Cupping Group

Group Variables		N	*Mean*	SD	SE	*p* value
Systolik	Acupressure With Cupping	17	135.18	13.32	3.23	0.800
	Cupping	17	134.00	13.58	3.29	
Diastolic	Acupressure With Cupping	17	83.76	10.52	2.55	0.274
	Cupping	17	87.94	11.32	2.74	

Independent T-Test

The statistical test results in table 4 showed that there was no difference in blood pressure, both systolic and diastolic, between the acupressure therapy groups combined with cupping and cupping therapy. The test results for the difference in the average systolic blood pressure of the two groups were p value 0.800 > 0.05 and diastolic blood pressure p value 0.274 > 0.05, which means there was no significant difference in blood pressure between the acuprsue cupping group and the cupping group.

DISCUSSION

From the results of the Independent T-Test, it was found that there was no difference in systolic and diastolic blood pressure between the two groups. The results of this study are not in accordance with the study conducted by Candrawati & Sukraandini (2021) which differentiated blood pressure in the intervention group with combined acupressure cupping therapy with the dry cupping therapy control group. Independent T-Test results showed that there was a difference in systolic blood pressure (p value

0.007) and diastolic blood pressure (p value 0.000) between the two groups. [6]

Although there was no difference in blood pressure between the two groups, the results of the study proved that there was an effect of both therapies on reducing blood pressure. Basically, acupressure and cupping therapy is a non-pharmacological therapy whose benefits can reduce blood pressure in hypertension sufferers. Acupressure is a treatment technique from China (Traditional Chinese Medicine) which is carried out by massaging the human body with hands at acupuncture points (acupoints). [15] Meanwhile, cupping is a therapy that involves vacuuming or suctioning the skin using a suction device.[16] In this study after Acupressure therapy was performed for 15 minutes followed by wet cupping therapy. Wet cupping is more effective for people with hypertension, because cupping removes blood containing toxins and oxidants from the body.

In this study, acupressure therapy was carried out to relax the body, where the effect of acupressure can increase blood circulation by stimulating mast cells to release histamine as a mediator of vasodilation of blood vessels, so that blood circulation increases and causes the body to become more comfortable. Several studies have proven the benefits of acupressure in reducing blood pressure, such as research by Suwarini et al., (2021) which shows changes in the blood pressure of the elderly after acupressure therapy, where the average blood pressure before therapy was 152.35/97.65 mmHg and decreased became 140.74/90.59 mmHg after acupressure therapy.[17]

Acupressure therapy causes the release of endorphin hormones through stimulation of nerves on the surface of the skin, which then sends the stimulus to the spinal cord, mesencephalon and pituitary complex of the hypothalamus.[16] An increase in endorphin hormone levels will cause an increase in the synthesis of the hormone dopamine, where an increase in this hormone will increase system activity. parasympathetic nerves.[7] Increasing the work of the parasympathetic nervous system causes the body to experience relaxation, the mood becomes calm and reduces feelings of fatigue, this results in a decrease in blood pressure in hypertension.[6] Apart from that, acupressure therapy can also stimulate the secretion of serotonin, whose function is to transmit signals to the brainstem. to trigger the pineal gland to produce the hormone melatonin, which can also help control and lower blood pressure. [18]

Apart from acupressure, cupping also turns out to be useful in lowering blood pressure in hypertension. Several studies have proven this, such as in research by Amaliyah & Koto (2019) who provided cupping therapy to 38 hypertension sufferers, with the result being a decrease in systolic blood pressure from 160.53 mmHg to 153.16 mmHg and diastolic blood pressure from 101.32 mmHg to 96 .89 mmHg with a p value of 0.000.[19] The study by Sardaniah et al., (2020) on 98 hypertension sufferers also proved that cupping therapy given once as an intervention can reduce blood pressure with a difference in the average value of systolic (12.143) and diastolic (8.265) with a p value of 0.000.[11]

The mechanism for reducing blood pressure with cupping therapy is through cupping techniques and vacuum cups as well as punctures in the cupping area which stimulate the release of inflammatory mediators, namely serotonin, histamine, bradykinin, and slow reacting substance (SRS) which will stimulate the release of endothelium derived relaxing factor (EDRF). or nitric oxide (NO) and

aldosterone. These substances have a dilating effect on the capillaries and reduce blood volume which results in a decrease in peripheral resistance which ultimately decreases blood pressure.[20] In addition, blood vessels located far from the cupping site also experience dilation, this has an impact on improving microcirculation. blood vessels so that stiff muscles relax. So this causes a steady decrease in blood pressure.[21] Apart from that, cupping therapy can also calm the sympathetic nervous system, where when the activity of this nervous system decreases, it will cause a decrease in blood pressure.[22]

In wet cupping therapy where punctures are performed, subcutaneous blood flow at the puncture site increases, which is also followed by an increase in nitric oxide production in areas with high circulation [23]. This nitric oxide also plays a role in vasodilation, and increases the supply of nutrients and blood used by cells. - cells and vascular layers, namely arteries and veins, so that blood vessels become stronger and more elastic [11]. Cholesterol can also be released at the same time as blood is released during wet cupping, this has an impact on blood viscosity so that it will affect blood pressure. 20 Previous studies have proven that wet cupping therapy is effective in reducing cholesterol levels in hypertension sufferers, where there was a change in the average cholesterol level from 216.03 mg/dl to 184.48 mg/dl after wet cupping therapy [24]. In line with research by Hapipah et al (2021) which proves that the Wet cupping can reduce total cholesterol levels in diabetics who have high cholesterol. The mechanism of cupping therapy in reducing cholesterol levels is through opening the skin barrier to increase the excretory function of the skin. The mechanism also includes the release of lipids and hydrophobic substances including lipoproteins, and one of the main substances in the lipoprotein component is cholesterol. Thus, cholesterol excretion occurs by thin incisions in the skin and suction during wet cupping therapy so that total cholesterol levels can decrease25. The results of controlled clinical studies also prove that wet cupping can significantly reduce cholesterol, triglyceride, low-density lipoprotein (LDL) and fasting blood glucose levels [26].

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total cholesterol levels can decrease [25]. The results of controlled clinical studies also prove that wet cupping can significantly reduce cholesterol, triglyceride, low-density lipoprotein (LDL) and fasting blood glucose levels.[26]

Based on the description above, it can be assumed that providing therapy to hypertensive patients, either combination cupping acupressure therapy or wet cupping therapy alone, can actually reduce systolic and diastolic blood pressure. By doing acupressure, the body becomes relaxed, calm and comfortable, which is then followed by wet cupping therapy which provides a vasodilation effect resulting in a stable decrease in blood pressure.

CONCLUSIONS AND RECOMMENDATIONS

There was no difference in blood pressure between the cupping acupressure group and the cupping group, however, providing therapy to hypertensive patients, either combination cupping acupressure therapy or wet cupping therapy alone, was found to be able to reduce systolic and diastolic blood pressure. It is recommended that hypertension sufferers use acupressure and cupping therapy as an alternative treatment, because this therapy is a complementary therapy that is safe, comfortable and economical. The hope for future researchers is that it can be used as a reference and reference source for further research by comparing the effectiveness of the two therapies and to be able to prove the combination of acupressure and cupping therapy with a longer research time and a larger number of respondents.

REFERENCE

1. Kemenkes RI. Hipertensi Si Pembunuh Senyap Infodatin Hipertensi 2019. Kementrian Kesehat RI. 2019;
2. P2PTM Kemenkes RI. P2PTM Kemenkes RI.2019. .(P2PTM Kemenkes RI2019. 2019;
3. Badan Penelitian dan Pengembangan Kesehatan. Laporan Nasional RISKESDAS 2018. Badan Penelitian dan Pengembangan Kesehatan. 2019.
4. Nuraini B. Risk Factors of Hypertension. J Major. 2015;
5. Kowalski R. Terapi Hipertensi: Program 8 minggu Menurunkan Tekanan Darah Tinggi. Bandung. 2010.
6. Candrawati SAK, Sukraandini NK. Pengaruh Terapi Bekam Kering Kombinasi Akupressure Terhadap Tekanan Darah Pada Pasien Hipertensi Primer. J Perawat Indones. 2021;5(1):537–47.
7. Aminuddin A, Sudarman Y, Syakib M. Penurunan Tekanan Darah Penderita Hipertensi Setelah Diberikan Terapi Akupresur. J Kesehat Manarang. 2020;
8. Fengge A. Terapi Akupresure Manfaat dan Teknik Pengobatan. Yogyakarta: Crop Circle Corp; 2012.
9. Majid YA, Rini PS. Terapi Akupresur Memberikan Rasa Tenang dan Nyaman serta Mampu Menurunkan Tekanan Darah Lansia. J Aisyah J Ilmu Kesehat. 2016;
10. Sormin T. vaPengaruh Terapi Bekam Terhadap Tekanan Darah Penderita Hipertensi. J Ilm Keperawatan Sai Betik. 2019;
11. Sardaniah S, Nurhasanah H, Marlena F. Pengaruh Terapi Bekam Terhadap Penurunan Tekanan Darah Pada Penderita Hipertensi Di Pondok Pengobatan Alternatif Miftahusyifa Kota Bengkulu. J Vokasi Keperawatan. 2020;
12. Nuridah N, Yodang Y. Pengaruh Terapi Bekam terhadap Tekanan Darah pada Penderita

Hipertensi: Studi Quasy Eksperimental. J Kesehat Vokasional. 2021;
13. Widada W, Ontoseno T, Purwanto B. Pengaruh Terapi Bekam Basah Dalam Menurunkan Apolipoprotein-B Papa Penderita Hiperkolesterolemia. In 2019.
14. Rahman HS, Ahmad GA, Mustapha B, Al-Rawi HA, Hussein RH, Amin K, et al. Wet cupping therapy ameliorates pain in patients with hyperlipidemia, hypertension, and diabetes: A controlled clinical study. Int J Surg Open. 2020;
15. Putri DMP, Amalia RN. Terapi Komplementer Konsep dan Aplikasi Dalam Keperawatan. Yogyakarta: Pustaka Baru Pers; 2019.
16. Umar WA. Bekam Medik, Hijamah Dalam Persepektif Kedokteran Modern, Prosedur Bekam Sayat Sesuai Satndar Tindakan Medis. I. Sholikah A, editor. Sukoharjo: Thibbia; 2019.
17. Suwarini NM, Sukmandari NMA, Wulandari MRS. Pengaruh Pemberian Terapi Akupresur terhadap Tekanan Darah Lansia di Puskesmas Kediri I Tabanan. J Surya Med. 2021;7(1).
18. Kamelia ND, Ariyani AD. Terapi Akupresur Pada Tekanan Darah Penderita Hipertensi: Studi Literatur. Nurs Inf J. 2021;1(1).
19. Amaliyah H, Koto Y. Terapi Bekam Terhadap Penurunan Tekanan Darah. J Ilm Ilmu Keperawatan Indones. 2019;
20. Siregar M. Efektivitas Terapi Bekam Dalam Menurunkan Tekanan Darah Pada Pasien Hipertensi Di Indonesia: Systematic Review. Implementa Husada. 2020;1(3):240–7.
21. Kusyati E, Hartono S, Hastuti W. Pengaruh Arah Putaran Jarum Bekam Basah Terhadap Tekanan Darah Penderita Hipertensi Di Kedung Mundu Semarang. Pros Seminar 2014;
22. Sharaf AR. Penyakit dan Terapi Bekamnya, Dasar-Dasar Ilmiah Terapi Bekam. Surakarta: Thibbia; 2012.
23. Mahmoud HS ESS. Methods of Wet Cupping Therapy (Al-Hijamah): In Light of Modern Medicine and Prophetic Medicine. Altern Integr Med. 2013;02(03).
24. Mardiah, Sintiya Halisya. Pengaruh Terapi Bekam Basah Terhadap Kadar Kolesterol Pada Penderita Hipertensi Di Rumah Sehat Ibnu Sina Palembang. J Kesehat J Ilm Multi Sci. 2023;13(1):11–6.
25. Hapipah H, Zulhan MI, Nadrati B. Wet Cupping Therapy to Reduce Total Cholesterol Levels in People with Diabetes. J Heal Sci. 2022;15(01).
26. Rahman HS, Ahmad GA, Mustapha B, Al-Rawi HA, Hussein RH, Amin K, et al. Wet cupping therapy ameliorates pain in patients with hyperlipidemia, hypertension, and diabetes: A controlled clinical study. Int J Surg Open. 2020 Jan 1;26:10–5.