



The Effect of Single Point Cup Therapy on Blood Pressure in Hypertension Patients at Campaka Arum Health Center

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Abstract

The highest prevalence in the world is hypertension because this disease is not controlled optimally. Hypertension can be overcome by pharmacological treatment such as drugs that are diuretic, sympathetic and vasodilator. As well as nonpharmacological treatment with weight loss, regular exercise, low salt consumption, low fat and complementary therapies. One of the effective complementary therapies to treat hypertension is cupping therapy. The cupping point used, namely the al-kahil point, serves to prevent an increase in blood pressure. The purpose of this study was to determine the effect of one-point cupping therapy on blood pressure in patients with hypertension at the Campaka Arum Health Center. The research method used a pre experiment with a one group pre-test- post-test approach. The research population is hypertension sufferers at the Campaka Arum Health Center with a sample of 41 respondents. The instruments used are sphygmomanometer and stethoscope, as well as an assessment sheet. Data analysis using the Wilcoxon test. The results of statistical tests showed a decrease in blood pressure with a difference of 15.42 (systolic) and 11.71 (diastole). From the Wilcoxon test results obtained $p - value$ 0.000 or $p < 0.005$ so that H_0 is rejected and H_a is accepted. It can be concluded that there is an effect of one-point cupping therapy on blood pressure in patients with hypertension at the Campaka Arum Health Center. It is hoped that this therapy can be included in the list of alternative therapies to treat hypertension at the Campaka Arum Health Center.

Keywords: Single point cup therapy, blood pressure, hypertension

1. Introduction

In Indonesia, the prevalence of hypertension sufferers in the population aged over 18 years is 658,201 people, while the highest prevalence is in the area of West Java, which is as many as 131,153 people (Riskesdas, 2018). In 2017 hypertension in West Java was around 33% while in 2018 it was 34.5% (Dinkes, 2019). There are 18.99% of hypertension sufferers in Bandung from 2019 to 2020 (Dinkes, 2020).

Hypertension sufferers sometimes do not realize that they have hypertension or do not even know the symptoms of this very deadly disease. Before checking blood pressure, patients usually find out too late that they have hypertension. (Nurhalim, 2022). Prolonged hypertension causes complications such as organ damage to the aorta and small arteries, the heart, kidneys, retina and central nervous system are clearly visible. (Fitzpatrick, 2002).

To deal with further complications, the role of the nurse is needed, whose role is as a Care Giver or health service provider, advocate, educator, counselling, disease prevention, collaboration and researcher (Rahmadhani, 2017). Management of hypertension can be done with both pharmacological and nonpharmacological treatment. Pharmacological management is with drugs that are diuretic, sympathetic and vasodilators. While non-pharmacological can be done by maintaining ideal body weight and not obesity, exercising regularly, consuming low salt, low fat and doing complementary therapy. (Depkes, 2021).

Cupping is an effective non-pharmacological therapy to treat hypertension. (Mukhlis, 2020). In this study, the cupping that will be carried out is one-point cupping, namely the al-kahil point. The function of the al-kahil point itself is to prevent an increase in blood pressure. (Aleyeidi, 2015). Based on the background and problems above, the researcher is interested in conducting research on "The Effect of One-Point Cupping Therapy on Blood Pressure in Hypertension Sufferers at the Campaka Arum Health Center".

2. Literature Review

Hypertension is an increase in blood pressure beyond normal limits due to disturbances in the circulatory system. The benchmark for high blood pressure or hypertension is systolic blood pressure > 140 mmHg and diastolic blood pressure > 90 mmHg (Dinkes, 2020). It is said to be hypertension if it is measured on two different days with a systolic blood pressure of at least 140 mmHg and a diastolic blood pressure of at least 90 mmHg (WHO, 2021).

Hypertension can affect all groups, both individuals and groups in terms of age and socioeconomic status (Nurhalim, 2022). Signs and symptoms of high blood pressure include headaches, anxiety, palpitations, dizziness, blurred vision, chest pain and fatigue (Harigai, 2019).

Each disease has a different cause. Mental and physical disorders can cause hypertension. Hypertension is divided into primary hypertension and secondary hypertension depending on the cause (Nurhalim, 2022). Prolonged high blood pressure, if not detected early and treated properly, can cause kidney failure, coronary artery disease, and stroke (Widana, 2021). The next complication of hypertension is organ damage, with clearly visible aorta and arterioles, heart, kidneys, retina and central nervous system (Fitzpatrick, 2002). Hypertension can be prevented with pharmacological and non-pharmacological treatment (Risksedas, 2019).

Non-pharmacological treatment of hypertension can be carried out by losing weight for those who are obese, exercising regularly and regularly, reducing salt consumption, low fat intake and carrying out complementary therapies (Harigai, 2019). Complementary therapy to treat hypertension is progressive muscle therapy, music therapy, aerobics and cupping (Azizah, 2021). Linguistically, cupping can be interpreted as sucking, whereas in terms of the term cupping, it can be interpreted as sucking, cutting, and bleeding through the surface of the skin and the blood is accommodated in a cup or cupping tube (Umar, 2017).

The cupping point used in this study is the al-kahil point. The function of the al-kahil point itself is to prevent an increase in blood pressure. The al-kahil point is on the spinous process of the VII vertebra or on the back of the neck between the right and left shoulder. Cupping is able to improve blood circulation in blood vessels through nitric oxide which plays a role in dilating blood vessels by supplying nutrients and blood needed by cells in the lining of blood vessels, both arteries and veins. Therefore blood vessels become more elastic, stronger and have the effect of lowering blood pressure. One of the functions of tit al-kahil itself is to prevent an increase in blood pressure (Aleyeidi, 2015)

3. Materials and Methods

3.1. Materials

The population in this study were hypertension sufferers who came for treatment at the Cempaka Arum Health Center in March 2022 as many as 69 respondents. Based on the results of the slovin formula, the number of samples in this study was 40.82. Which, if rounded up, becomes 41 samples. The sample used in this study were hypertension sufferers who came for treatment at the Cempaka Arum Health Center. The research was conducted at the Cempaka Arum Health Center located at the Cempaka Arum Complex, Gedebage, Rancanumpang, Bandung City, West Java. Postal Code 40292.

Data analysis aims to obtain an overview of research results that are formulated for research purposes, prove definitive hypotheses, and draw general conclusions from research that contributes to the development of the science concerned (Lister-Sharp, 1999). Researchers want to know whether cupping therapy has the effect of reducing blood pressure in hypertensive patients. Normality test is a requirement to perform data analysis. This test was conducted to determine whether the data is feasible and normally distributed. The normality test is evident from the results of the pretest and posttest data.

3.2. Methods

Data processing takes place in several stages such as processing, coding, input, data entry, cleaning data, tabulating data (Lister-Sharp, 1999).

Univariate analysis

Cupping

Univariate analysis on cupping therapy is measured by cupping according to standard operating procedures. After the data has been collected, the researcher analyzes the data for each variable categorized in percentage form using the percentage formula:

$$DP = \frac{n \times 100\%}{N}, \quad (1)$$

Information *DP*: Descriptive Percentage, *n*: Empirical score (score obtained), and *N*: Maximum score of the selected item

Blood pressure

Univariate analysis of blood pressure was measured using a sphygmomanometer before and after cupping with normal results (<120/80 mmHg), prehypertension (120/80 mmHg- 139/89 mmHg), stage I (140/90 mmHg- 159/99 mmHg), stage II (\geq 160/100 mmHg).

After the data has been collected, the researcher analyzes the data for each variable categorized in percentage form using the percentage formula (1).

In this study, bivariate analysis was performed to find out significant differences between the two data sets, the dependent variable of blood pressure before and after cupping.

The normality test in this study is the Shapiro-Wilk test. This test is used because it is more suitable for measuring less than 50 data ($n = 25$) (Dahlan, 2012). After the normality test was carried out by the researchers, the results obtained were $p = 0.000$ or $p < 0.05$, which means that the data were not normally distributed, so for the next stage the researchers analyzed the data using the Wilcoxon test.

4. Results and Discussion

4.1 Univariate Analysis Results

Univariate analysis was carried out to explain and describe each variable by calculating numerical data, the mean, median, standard deviation and minimum and maximum values.

Table 1. Characteristics of Gender and Age of Respondents

Variable	Gender		Frequency	Percent
	Category			
Gender	Man	Women	15	36.6
			26	63.4
	Total		41	100.0
Age	Y Adults (19-40 Years)		8	19.5
	M Adult (40-60 Years)		28	68.3
	Late Adult (\geq 60)		5	12.2
	Total		41	100.0

In Table 1 the characteristics of the respondents in this study were mostly (63.4%) female with the age of the majority (68.3%) aged 40 to 60 years.

Table 2. Blood Pressure Before Cupping

Blood pressure	Mean	Minimal	Maximal
Systolic	147.98	140	180
Diastolic	94.76	90	120

Table 2 describes the results of systolic and diastolic blood pressure for 41 respondents before cupping. The highest systolic blood pressure is 180 mmHg and the lowest is 120 mmHg. While the highest diastolic blood pressure is 120 mmHg and the lowest is 90 mmHg.

Table 3. Blood Pressure After Cupping

Blood pressure	Mean	Minimal	Maximal
Systolic	132.56	120	170
Diastolic	83.05	70	100

Table 3 describes the results of systolic and diastolic blood pressure for 41 respondents after cupping. The highest systolic blood pressure is 170 mmHg and the lowest is 120 mmHg. While the highest diastolic blood pressure is 100 mmHg and the lowest is 70 mmHg.

Table 4. Frequency Distribution Systolic and Diastolic Blood Pressure Before Cupping

Blood pressure	Frequency	Percent
Systolic Stage 1 (140-159)	30	73.2
Systolic Stage 2 (≥ 160)	11	26.8
Total	41	100.0
Diastolic Stage 1 (90-99)	28	68.3
Diastolic Stage 2 (≥ 100)	13	31.7
Total	41	100.0

Table 4 explains that almost all of the systolic blood pressure before cupping (73.2%) had stage 1 hypertension. Meanwhile, most of the diastolic blood pressure before cupping (68.3%) had stage 1 hypertension.

Table 5. Frequency Distribution Systolic and Diastolic Blood Pressure After Cupping

Blood pressure	Frequency	Percent
Normal systolic (<120)	11	26.8
Prehypertension Systolic (120-139)	19	46.3
Systolic Stage 1 (140-159)	8	19.5
Systolic Stage 2 (≥ 160)	3	7.3
Total	41	100.0
Normal Diastolic (<80)	25	61.0
Prehypertension Diastolic (80-89)	5	12.2
Diastolic Stage 1 (90-99)	7	17.1
Diastolic Stage 2 (≥ 100)	4	9.8
Total	41	100.0

Table 5 explains that almost half of systolic blood pressure after cupping (46.3%) had prehypertension. While the diastolic blood pressure after cupping, most (61%) of the blood pressure became normal.

Results of Bivariate Analysis Bivariate analysis was carried out with the aim of testing the research hypothesis regarding the effect of one-point cupping therapy on blood pressure in hypertensive patients at the Cempaka Arum Health Center.

Table 6. Ranks Results of Bivariate Analysis of Single Point Cupping Therapy on Blood Pressure (Wilcoxon Test)

Variable	Category	Respondent	Average
Systolic Pretest- Posttest	Negative Ranks	41 ^a	21.00
	Positive Ranks	0 ^b	.00
	Ties	0 ^c	.00
	Total	41	21.00
Diastolic Pretest- Posttest	Negative Ranks	37 ^d	19.00
	Positive Ranks	0 ^e	.00
	Ties	4 ^f	.00
	Total	41	19.00

Based on Table 6 the results of bivariate analysis of systolic blood pressure in 41 respondents showed that there was a decrease in blood pressure after cupping with an average decrease of 21.00 and no ties value (same-percis value). While the results of bivariate analysis of diastolic blood pressure in 41 respondents there was a decrease in blood pressure after cupping with an average decrease of 19.00 and a tie value (same exact value) 4 people. Which means that after cupping there is no increase in blood pressure either systolic or diastolic.

Table 7. Statistical Test Results Bivariate Analysis of One Point Cupping Therapy on Blood Pressure (Wilcoxon Test)

Test Statistics	
Variable	<i>P – Value</i>
Systolic Pretest - Posttest	.000
Diastolic Pretest - Posttest	.000

In table 7 the results of the calculation of bivariate analysis using the Wilcoxon test for both systolic and diastolic blood pressure before and after cupping, the results obtained are a p-value of 0.000. Because the p value of 0.000 is less than $p < 0.05$, it can be concluded that H_a is accepted, which means that after one point of cupping there is a decrease in blood pressure. From the analysis of the data and all the data shown in this table is that one-point cupping therapy has an effect on blood pressure, namely hypertension sufferers at the Cempaka Arum Health Center who are cupped experience a decrease in blood pressure both systolic and diastolic.

5. Conclusion

In a study conducted by researchers on the effect of one-point cupping therapy on blood pressure in hypertensive patients at the Cempaka Arum Health Center, the conclusions were obtained:

- Shows changes in systolic blood pressure before and after cupping. The systolic before cupping was 147.98 and after cupping was 132.56 with a difference of 15.42 and a *p value* of 0.000 or $p < 0.05$ then H_0 was accepted which means that one point cupping therapy had an effect on systolic blood pressure.
- Presenting changes in diastolic blood pressure before cupping 94.76 and diastolic after cupping 83.05 with a difference of 11.71 and a p value of 0.000 or $p < 0.05$ then H_0 is accepted which means one point cupping therapy has an effect on diastolic blood pressure.

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