

# Effectiveness Of Framework Therapy And Reflection On Reduction Of Blood Pressure In Hypertension Patients In Working Area Of Langus Baras Barsa Barat, Langsa City

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**Abstract:** Cupping (Bekam) is a therapy that aims to cleanse the body of blood containing toxins. So far there has been growing trust from the public, especially Muslims, that Cupping (Bekam) can be used as a therapy for hypertension, this is because Cupping (Bekam) is a therapy recommended by the Prophet Muhammad SAW that can overcome various diseases. To determine the effectiveness of Cupping (Bekam) therapy and reflection on blood pressure reduction in hypertensive patients in the Langsa Barat Health Center in Langsa City. This type of research is quasi experiment. Design used before and after control. The sample in this study were hypertensive patients as many as 30 people according to the inclusion and exclusion criteria. The reduction in systole in the Cupping (Bekam) group was 19.3 in the reflection group reduced by 12.5. Diastole pressure results in Cupping (Bekam) group decreased by 8.0 while in the reflection group decreased by 11.3. The results of diastole analysis between Cupping (Bekam) and reflection groups only differed by -1.4. Cupping (Bekam) also decreases diastole pressure by 1.4 greater but this decrease is not significant with a p value of 0.77. The results of paired ttest systole and diastole analysis in Cupping (Bekam) and reflection groups after intervention were significant changes ( $p < 0.05$ ). The results of the analysis of independent test systole in Cupping (Bekam) and reflection groups differed by -11.3 with a value of 0.0001. It is expected that people who experience hypertension sufferers can use alternative treatments with a non-pharmacological approach.

**Index Terms:** Effectiveness, framework, blood pressure, Cupping (Bekam), reflection, therapy, Langsa-Aceh

## 1 INTRODUCTION

Hypertension has killed 9.4 million people worldwide every year. The World Health Organization (WHO) [1] estimates that the number of people with hypertension will continue to increase along with the increasing population. In the next 2025 it is estimated that around 29% of the world's citizens suffer from hypertension. The percentage of hypertensive patients is currently the most prevalent in developing countries. Global Status Report on 2010 Non communicable Diseases data from WHO states that 40% of developing economies have hypertension sufferers, while advanced countries are only 35%. The African region holds the peak position of hypertensive patients as much as 46%, while the American region occupies a distended position with 35%. In Southeast Asia 36% of adults suffer from hypertension. The prevalence of hypertension in Indonesia is 26.5%. Prevalence was obtained through measurements at  $\geq 18$  years of age at 25.8%, the highest in Bangka Belitung 30.9%, followed by South Kalimantan 30.8%, East Kalimantan 29.6%, and West Java 29.4%, Aceh as big as 21.5% and that was obtained through a questionnaire diagnosed by health personnel of 9.4%, who were diagnosed with health workers or were taking medication at 9.5%. So there is 0.1% who take their own medicine. Respondents who had normal blood pressure but were taking hypertension medication were 0.7%. So the prevalence of hypertension in Indonesia is 26.5% (25.8% + 0.7%)

The high prevalence of hypertension indicates that hypertension is necessary and must be addressed immediately to prevent the occurrence of complications such as stroke, heart problems, chronic kidney, eye, even related to short life expectancy. Changes in diet and lifestyle can improve blood pressure control and reduce the risk of health complications. Broadly speaking, the treatment of hypertension is divided into two treatments, namely pharmacological and non-pharmacological treatment. One of the efforts made by the patient to overcome dyslipidemia and hypertension by using Cupping (Bekam) therapy. Bekam is a term known in Malay, Arabic knows it as Hijamah, in English known as Cupping (Bekam), the Chinese know it as a guasha, whereas Indonesian people know it as a sign or letterhead. Cupping (Bekam) Therapy is believed by the Islamic community in Indonesia as the method recommended by Rasullullah to treat various disease conditions. Cupping (Bekam) therapy is also used by Cupping (Bekam) practitioners to diagnose a patient's disease. The therapy removes oxidants by scraping or incision on the skin surface of the epidermis with a scalpel as deep as approximately 0.04 mm to 0.09 mm to take out the accumulation of toxins (oxidants) located within the dermal papilla (peripherally) which is done 3 times with five-day lag[2]. Based on this background, the following research problems can be formulated: "Does giving Cupping (Bekam) therapy to hypertensive patients reduce blood pressure compared to those with hypertension who get reflection in the Puskesmas West Langsa City Work Area? The hypothesis of study to determine of decrease in blood pressure in patients with hypertension who get bekan therapy compared to patients with hypertension who get reflection.

### Benefits of Cupping (Bekam)

The results of this study are expected to be useful both theoretically and practically, namely:

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## 1. Theoretical use

Can develop nursing knowledge about Cupping (Bekam) therapy to lower blood pressure

## 2. Practical use

It is hoped that it can provide information for colleagues so as to add insight in providing services to the community in accordance with the development of knowledge. This research is also expected to provide information to hypertensive patients with Cupping (Bekam) therapy.

### Definition Cupping (Bekam)

Cupping (Bekam) is a treatment that is prescribed in Islam through the Prophet Muhammad. According to Penelope, quoted by Ridho, Cupping (Bekam) is a disease management method that involves withdrawing Qi (energy) and Xue (blood) to the surface of the skin using vacuum created in a bowl such as glass or bamboo. Some hadiths explain about Cupping (Bekam) and its virtues, including: "If in some medicine you have goodness then it is in the incision of Cupping (Bekam) equipment, drinking honey, or hot iron that is suitable for the disease, but I do not like treatment with hot iron wax" (Narrated by Bukhori, Muslim and Ahmad). Jabir bin Abdullah narrated in a hadith, "I heard the Messenger of Allah said, 'If there is healing in your medicine, then it is in Cupping (Bekam), a sip of honey or burned with fire (cauterization) that suits the disease, but I do not like (burning) burned with fire'. Various types of Cupping (Bekam) of [3] and [4] consist of: 1) Dry Cupping (Bekam) (Cupping (Bekam)) is a Cupping (Bekam) that is not followed by removing blood. This is effective to relieve pain in an emergency or is used to relieve pain in the veins of the back, thighs, stomach and others. This dry Cupping (Bekam) is suitable for people who cannot stand needle injections, knife cuts and fear of seeing blood. The skin that is recorded will appear red black for 3 days. 2) The Cupping (Bekam) is done dry first, then the surface of the skin is slashed with a scalpel, then it is sucked around with a Cupping (Bekam) set, hand pump, or other savings to remove blood from the body. 3) Cupping (Bekam) is a substitute for scraping which can harm the skin because it can damage the pores. Gliding Cupping (Bekam) can be useful for removing wind on the body, relaxes the muscles and expedites blood circulation. 4) Cupping (Bekam) pull, this method is for relieving pain or fatigue in the forehead, forehead and sore areas. Cupping (Bekam) equipment Cupping (Bekam) equipment basically consists of three kinds of tools [3],[5],[6],[7],[8] namely: 1) Tools for sucking skin, skin tissue and blood. This tool can be made of glass, glass, wood, iron, copper, cans, drinking glasses, animal horns, bamboo tubes, and so on. 2) Tools for removing blood The tools used to slash are skapels, needles, scalpels, or lancets. All must be sterile so as not to transmit the disease. 3) Supporting equipment and medicine Supporting tools to help with Cupping (Bekam) treatment are: cloth with holes in the middle, gloves, bowls/bowls, trash cans, tables and chairs. While the ingredients and medicines used are gauze, cotton, betadin, detol, soap, zalf, alcohol, spirits, olive oil, and others. Determination of Cupping (Bekam) point is the main thing in Cupping (Bekam) therapy. Cupping (Bekam) therapy uses network mechanisms and representative principles. So not all parts of the body are injured to bleed. There are 3 main parts 1) Point 1, is at the neck meeting with two shoulders. This point represents the upper organs. Can improve blood

circulation to the brain so it is very effective for people who experience dizziness, migraines, and insomnia. 2) Points 2 and 3 are in the direction of the lungs, heart and liver. Can release toxic gases in the lungs, remove pathogens found in the liver and also help smooth blood circulation to the heart. Toxic gases easily enter the body through various mechanisms and will accumulate in the lungs. If it lasts for a long time, the body will experience damage due to contamination above the threshold level. 3) Points 4 and 5, representing the organs in the body function for the production of blood, namely the liver and spinal cord and are very effective for increasing immune power (immune system). 4) Points 6 and 7, points that represent the middle to lower body regions, namely the digestive and kidney channels. The length or duration of the recommended Cupping (Bekam) is 4 minutes at each point {9,10,11}. Cupping (Bekam) therapy uses three main principles, namely skin suctioning, suctioning, and removal of blood. In general, Cupping (Bekam) has several techniques which include: 1) Technique to suck air and pull the skin by including: Fire-throwing technique into the tube 2) Technique of sucking air and pulling the skin not by fire, but by air suction using a suction tube/pump 3) Advanced techniques (manipulation techniques) after suctioning the skin, either with fire or not with fire 4) Technique of removing blood (How to pierce the skin) 5) Cupping (Bekam) techniques without bleeding, are called hijamah jaaffah (dry Cupping (Bekam)) [12,13,14].

## RESEARCH METHODS

### A. Type of Research

This type of research is quasi experiment. Design used before and after control. Before consist of intervention group in period 1 and 2 measure systole and diastole (X,Y) with cupping therapy. Meanwhile, After consist of control group in period 1 and 2 measure systole and diastole (A,Z) with Reflexion.

### B. Place and Time of Research

This research was carried out in the work area of Langsa Barat Health Center, Langsa City. The research was conducted from September to October 2017.

### C. Population and Sample

The population is the entire object of the study or object under study. 30 The population in this study were all hypertensive patients in the health center of Langsa Barat City of Langsa as many as 98 people in 2016. The sample is part of the population that will be examined or part of the number of characteristics possessed by the population. 30 The sample in this study were hypertensive patients with inclusion and exclusion criteria. The inclusion criteria of this study were: respondents were willing to take part in the study and sign informed consent, respondents aged 30 to 70 years and did not consume hypertension drugs from doctors. The exclusion criteria for this study were: respondents consumed herbal medicines. In general, in the experimental research the sample number is minimum 15. Therefore in this study the sample is determined by non-probability sampling (purposive sampling) which is a technique in which the sample determinant is given certain consideration according to the desired research. The number of samples in the study of 30 respondents, each in the intervention group and the control group. The operational definition of this research can be seen

in the table 1 below:

**Table 1. Defenition Operational**

| Variable           | Definition Operational  | Measure way                      | Tool measure      | Scale Measure |
|--------------------|---|----------------------------------|-------------------|---------------|
| (1)                | (2)   | (3)                              | (4)               | (5)           |
| Dependent variable | Examination carried out using sphygmomanometer and stethoscope to determine the value of systole and diastole.          | Using sphygmomanometer (Mercury) | Observation sheet | Ratio         |
| Free variable      | Removing dirty blood or toxins from the body through the surface of the skin by suctioning and slicing on certain parts | Divided into two groups:         |                   | Nominal       |

#### D. Research Instruments

Instrument to measure blood pressure using a sphygmomanometer (mercury). Measurement to get the value of systole and diastole with mmHg units.

#### E. Data Collection Method

This research was carried out through several stages, namely: Research preparation, research implementation and report preparation.

##### 1. Research preparation

Research preparation begins with literature studies by studying some of the results of previous studies. Furthermore, the research proposal was accompanied by a preliminary study in the working area of the Langsa Barat Health Center in Langsa City. After obtaining data, licensing is carried out.

##### 2. Research implementation

- Determine and select respondents according to inclusion and exclusion criteria. Fill out the approval form as a respondent. If the respondent agrees then signs the informed consent provided. The process of collecting data and filling in biodata is done directly by the researcher.
- Preliminary observations in Cupping (Bekam) and reflection groups performed blood pressure measurements to obtain systole and diastole values Blood pressure measurements using sphygmomanometer (mercury).
- Carry out the intervention in the treatment group that is providing Cupping (Bekam) therapy by trained Cupping (Bekam) officers.
- In the control group only 30 minutes of foot massage for foot massage were given
- The second observation was in Cupping (Bekam) and reflection groups, measuring blood pressure directly after

- giving Cupping (Bekam) or reflection.
- Processing and analysis of data.

#### 3. Compilation of reports

This last stage is preparing the report after analyzing the data, discussing the results, and drawing conclusions from the research. The data collected is primary data, namely data directly obtained from the field.

#### F. Data Analysis

Data tabulation is carried out in accordance with the variables studied to facilitate analysis. Data analysis using a computer with the Stata program with the following stages:

##### 1. Univariate analysis

Performed with descriptive statistics to see the frequency distribution of research variables and presented in the form of frequency distribution tables.

##### 2. Bivariate analysis

The analysis used to see the effect of Cupping (Bekam) therapy on blood pressure reduction using a paired sample t-test. Whereas to see the difference in the dependent variable in the treatment and control groups using the independent t-test.

## RESULTS AND DISCUSSION

### Results

General Description of Research Location Langsa Barat Health Center was established in 2010, located in Seuriget village, Langsa Barat sub-district, Langsa City.

- The West is bordered by Birem Puntong Village
- East is bordered by Simpang lhee Village
- North is bordered by the Malacca Strait
- The South is bordered by Paya Bujuk Teungoh and Serambi Indah Villages

Langsa Barat Health Center has a building area of approximately 320 m with a land area of approximately 1500 m<sup>2</sup>. The work area of the Langsa Barat Health Center covers 600 hectares with 13 villages. With a population of 23,735 people, there are 12,151 male and female population of 11,553 people with a total of 6,417 souls.

#### 1. Univariate Analysis

Characteristics of respondents' data in this study were respondents divided into two groups, namely Cupping (Bekam) and reflection with 15 respondents. Research respondents consisted of 56.7% male respondents and 43.3% female respondents. The level of education of respondents ranging from elementary to S1 level with the dominance of education level is S1 at 30.0% (9 people). The majority of respondents work as IRT 43.3% (13 people) then followed by civil servants 26.7%. The average age of the respondent was 56.2 years with the youngest age 44 years and the oldest 68 years. The pressure of systole before intervention was 162.3 with the lowest systole being 130 and highest 200 meaning that all systolic patients were above the threshold. The diastole pressure before intervention was 106 with the lowest pressure being 90 and the highest 140, this also shows the pressure above the threshold. The average value of systole pressure after intervention was 148.7 with the lowest pressure of 100

and the highest of 200. There was also an average value of diastole pressure after intervention was 94.3 with the lowest pressure of 70 and the highest 130. The results of descriptive analysis of the characteristics of respondents shown in Table 2.

**Table 2.** Characteristics of respondents of research variables

| Variabel          | n  | %          | Mean-SD | Min-max |
|-------------------|----|------------|---------|---------|
| Group             |    |            |         |         |
| Bruise            | 15 | 50         |         |         |
| Reflection        | 15 | 50         |         |         |
| Type              |    |            |         |         |
| Man               | 17 | 56,7       |         |         |
| Woman             | 13 | 43,3       |         |         |
| Education         |    |            |         |         |
| Elementary school | 8  | 26,7       |         |         |
| Middle school     | 5  | 16,7       |         |         |
| High school       | 8  | 26,7       |         |         |
| S1                | 9  | 30,0       |         |         |
| Work              |    |            |         |         |
| PNS               | 8  | 26,7       |         |         |
| Employee          | 1  | 3,3        |         |         |
| entrepreneur      | 2  | 6,7        |         |         |
| Retired           | 6  | 20,0       |         |         |
| IRT               | 13 | 43,3       |         |         |
| Age               | 30 | 56,2±7,8   |         | 44-68   |
| Pre sistole       | 30 | 162,3±22,8 |         | 130-200 |
| Pre diastole      | 30 | 106,3±17,2 |         | 90-140  |
| Post systole      | 30 | 148,7±23,7 |         | 100-200 |
| Post diastole     | 30 | 94,3±13,1  |         | 70-130  |

After the descriptive test is continued, the normality test is used to see whether the data size of the measured variable is normally distributed or not. If the data is normally distributed then the test is then performed using a paired ttest parametric test for paired data and independent ttes for unpaired data. The results of the normality test using the Kolmogorov Smirnov test are shown in Table 3 below.

**Table 3.** Data Normality by Kolmogorov Smirnov test

| variabel     | Bekam (15) |      | Refleksi(15) |      |
|--------------|------------|------|--------------|------|
|              | z          | p    | z            | p    |
| Pre sistole  | 0,83       | 0,49 | 0,85         | 0,47 |
| Pre diastole | 1,00       | 0,27 | 1,13         | 0,15 |
| Pos systole  | 0,81       | 0,54 | 0,90         | 0,39 |
| Pos diastole | 0,88       | 0,41 | 1,03         | 0,24 |

Kolmogorov smirnov test results on systole variables before and after intervention in Cupping (Bekam) group obtained z values of 0.83 and 0.81 with each p value of 0.49 and 0.54 while in the reflection group the z value obtained was 0, 85 and 0.90 with p values of 0.47 and 0.39. These results indicate that the systole data both before and after the intervention were normally distributed in two groups. There were also diastole values before and after intervention in the group Cupping (Bekam) z values obtained at 1.00 and 0.88 with p values of 0.27 and 0.41 respectively. The z value of the diastole in the reflection group before and after the intervention was 1.13 and 1.03 with each p value of 0.15 and 0.24. These results indicate that diastole data is normally distributed in both groups. Next, paired ttest analysis for systole and diastole was carried out in Cupping (Bekam) and reflection groups

## 2. Bivariate Analysis

Bivariate analysis was carried out by paired t test and independent t test. Paired t test was used to see differences in systole and systole pressure before and after intervention in Cupping (Bekam) and reflection groups. There is also an independent test used to examine differences in changes in systole and diastole to Cupping (Bekam) and reflection. The results of paired test analysis are shown in table 4.

**Table 4.** Analisis of paired t test systole and diastole

| Variabel | Cupping (Bekam) |                |           | p        | Reflexion      |               |               | p           |
|----------|-----------------|----------------|-----------|----------|----------------|---------------|---------------|-------------|
|          | Before          | After          | Diff      |          | Before         | After         | Diff          |             |
|          | Mean<br>±SD     | Mean±<br>SD    |           |          | Mean<br>±SD    | Mean±<br>SD   |               |             |
| Systole  | 163,3±<br>22,6  | 144,0±<br>21,6 | -<br>19,3 | 0,<br>00 | 161,3<br>±23,8 | 153,±<br>25,5 | -<br>8,0      | 0<br>1      |
| Diastole | 107,3±<br>17,9  | 94,8±<br>9,9   | -<br>12,5 | 0,<br>00 | 105,3<br>±16,8 | 94,0±1<br>5,9 | -<br>11,<br>3 | 0<br>0<br>1 |

The results of paired ttest analysis in table 4 above show that the pressure of systole and diastole in the Cupping (Bekam) group and reflection after intervention showed a significant change with a p value below 0.05. The decrease in systole pressure in the Cupping (Bekam) group was 19.3 then the reflection group was reduced by 8 and all significant reductions meant that there was a marked decrease after Cupping (Bekam) and reflection action on systole pressure. Diastole pressure results in Cupping (Bekam) group decreased by 12.5 while in the reflection group decreased by 11.3. Significant decline means that after the action of diastolic pressure is significantly reduced. Furthermore, to examine changes in diastole and diastole pressure to Cupping (Bekam) and reflection groups, independent test was tested. The complete independent ttest test is shown in Table 5 below:

**Table 5.** Analisis independent t test cupping (bekam) and reflection between systole and diastole

| Variable  | Systole<br>Mean±SD | Diff | p   | Diastole<br>Mean±SD | Diff | p    |
|-----------|--------------------|------|-----|---------------------|------|------|
| Group     |                    |      |     |                     |      |      |
| Cupping   | -19,3±7,9          | -    | 0,0 | 12,7±13,8           | -    | 0,77 |
| Reflexion | -8,0±5,6           | 11,3 | 001 | -                   | 1,4  |      |
|           |                    |      |     | 11,3±10,6           |      |      |

The results of the independent ttest analysis in the table above show that the systole pressure in the Cupping (Bekam) and reflection groups differs by -11.3. These results indicate that Cupping (Bekam) greater decreases systole pressure by 11.3 compared to reflection. This result is significant with a value of 0.0001 which means that there is a difference in the decrease in systole pressure between Cupping (Bekam) groups compared to the reflection group. The results of analysis for diastole pressure between Cupping (Bekam) and reflection groups were only at odds of -1.4. Cupping (Bekam) also decreases diastole pressure by 1.4 greater but this decrease is not significant with a p value of 0.77. These results can be

concluded that there is no difference between Cupping (Bekam) and reflection in reducing diastolic pressure.

### Discussion

Based on the results of the study concluded that the pressure of systole and diastole in the Cupping (Bekam) group and reflection after intervention showed a significant change with a p value below 0.05. The decrease in systole pressure in the Cupping (Bekam) group was 19.3 then the reflection group was reduced by 12.5 and all significant reductions meant that there was a marked decrease after Cupping (Bekam) and reflection action on systole pressure. Diastole pressure results in Cupping (Bekam) group decreased by 8.0 while in the reflection group decreased by 11.3. Significant decline means that after the action of diastolic pressure is significantly reduced. The results of the independent ttest analysis in the table above show that the systole pressure in the Cupping (Bekam) and reflection groups differs by -11.3. These results indicate that Cupping (Bekam) greater decreases systole pressure by 11.3 compared to reflection. This result is significant with a value of 0.0001 which means that there is a difference in the decrease in systole pressure between Cupping (Bekam) groups compared to the reflection group. The results of analysis for diastole pressure between Cupping (Bekam) and reflection groups were only at odds of -1.4. Cupping (Bekam) also decreases diastole pressure by 1.4 greater but this decrease is not significant with a p value of 0.77. These results can be concluded that there is no difference between Cupping (Bekam) and reflection in reducing diastolic pressure. More effective Cupping (Bekam) therapy because Cupping (Bekam) therapy stimulates nerve points in the body and causes blood flow movements unlike reflexology therapy which only stimulates nerve points in the body. In addition Cupping (Bekam) therapy also secretes nitric oxide (NO) which expands blood vessels so that blood pressure drops [15,16,17], The results of this study state that Cupping (Bekam) therapy is effective in reducing systolic and diastolic blood pressure, so hypertensive patients can use this alternative therapy to control blood pressure to be stable. Cupping (Bekam) can trigger the release of several substances such as serotonin, histamine, bradykinin, slow reacting substance (SRS) which causes dilation of capillaries and arteriols. This causes improvements in the microcirculation of blood vessels and causes a relaxing effect so long. Cupping (Bekam) therapy mechanism in lowering blood pressure through the release of nitric oxide which causes dilation of blood vessels, makes blood vessels stronger and elastic, controls the hormone aldosterone so that the volume of blood flowing in the blood vessels decreases and the end result of blood pressure decreases steadily. From the results of the study showed the effectiveness difference of both therapies only occurs in systolic blood pressure, this is due to lowering blood pressure Cupping (Bekam) therapy will improve blood microcirculation starting from large blood vessels first, so that large blood vessels will elastic back and systolic blood pressure will experience a faster decline. When the heart contracts to pump blood, Cupping (Bekam) therapy also has an effect on reducing the volume of blood circulating in the blood vessels. In diastole blood pressure work Cupping (Bekam) therapy looks longer because diastole pressure occurs when the heart relaxes and blood is sent back to the heart through less elastic venous vessels [18,19,20]. Non-pharmacological or non-medical treatment as alternative

medicine is expected to reduce medical costs. There are various types of treatment or non-pharmacological therapies that can be used as alternatives, one of which is Cupping (Bekam). Cupping (Bekam) or hijamah (another language of candok, kop, Cupping (Bekam)) is a therapy that aims to cleanse the body of blood containing toxins with thin slices or small punctures on the surface of the skin [21,22]. The results of [23,24,25,26], Based on the T test by comparing TDS before intervention (pre-test) with TDS after intervention (post-test) yielded  $p = 0.001$ . This means that there are significant differences in mean TDS before and after Cupping (Bekam) intervention. While the T test by comparing TDD before intervention (pre-test) with TDD after intervention (post-test) yielded 0.003. This means that there are also significant differences in mean TDD before and after Cupping (Bekam) intervention. Because in TDS or TDD the value is  $p < 0.005$ . Blood pressure reduction can occur because Cupping (Bekam) therapy causes an inflammatory reaction (rubor, dolor, heat, funsiolesa) in all respondents. This indicates the occurrence of damage from mast cells and others due to the release of some substances such as serotonin, histamine, bradykinin, slow reacting substance (SRS), and other substances that are not yet known. These substances cause dilation of capillaries and arterioles, as well as flare reaction in areas that are recorded and there will also be an excretion of factors that cause relaxation of endothelial derivatives (FBRDE, endothelium-derived relaxing factor/ EDRF) or now better known as Oxide Nitrate (NO ) which will have an effect on the relaxation of vascular smooth muscle.

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusion

1. The results of paired ttest analysis showed that the pressure of systole and diastole in the Cupping (Bekam) group and reflection after the intervention showed a significant change with a p value below 0.05.
2. The decrease in systole pressure in the Cupping (Bekam) group was 19.3 then the reflection group was reduced by 12.5 and all significant reductions meant that there was a marked decrease after Cupping (Bekam) and reflection action on systole pressure.
3. The results of diastolic pressure in Cupping (Bekam) group decreased by 8.0 while in the reflection group decreased by 11.3. Significant decline means that after the action of diastolic pressure is significantly reduced.
4. The results of the independent ttest analysis showed that the systole pressure in Cupping (Bekam) and reflection groups differed by -11.3. These results indicate that Cupping (Bekam) greater decreases systole pressure by 11.3 compared to reflection. This result is significant with a value of 0.0001 which means that there is a difference in the decrease in systole pressure between Cupping (Bekam) groups compared to the reflection group.
5. The results of analysis for diastole pressure between Cupping (Bekam) and reflection groups only differed by -1.4. Cupping (Bekam) also decreases diastole pressure by 1.4 greater but this decrease is not significant with a p value of 0.77. These results can be concluded that there is no difference between Cupping (Bekam) and reflection in reducing diastolic pressure.

## Suggestions

### 1. For Respondents

It is expected that all respondents can carry out non-pharmacological treatment in lowering blood pressure, both using Cupping (Bekam) therapy.

### 2. For the Health Service

It is expected to be able to develop the ability of health workers in the city of Langsa in providing alternative non-pharmacological treatments to help patients recover.

### 3. For Researchers

It is expected to develop and continue this research in more depth by using environmental, cultural, family support, and other techniques to be more specific so that the results can be more perfect.

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