
THE EFFECT OF DHIKR ON THE STRESS LEVEL AND BLOOD PRESSURE IN THE PATIENTS WITH HYPERTENSION AT PUSKESMAS GAMPING 1

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ARTICLE INFORMATION

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ABSTRACT

Background: Hypertension can be prevented by pharmacological and non-pharmacological therapies. One of the non-pharmacological therapies is dhikr.

Objective: The study aimed to know the effect of dhikr on stress level and blood pressure in patients with hypertension at Gamping 1 Public Health Center.

Method: This research used Quasi experimental design. The sampling quota was 30 people. The Parametric statistical tests were sample dependent t-test and independent sample t-tests; and the non-parametric analysis were Wilcoxon and Mann Whitney.

Results: The stress levels reduction in the intervention group was 5.80 with a P-value <0.05 (0.001), and the control group was -0.27 with a P-value > 0.05 (0.812). The decrease in systolic blood pressure in the intervention group was 21.14 mmHg, P-value <0.05 (0.000), and the control group was 4.00 mmHg, P-value > 0.05 (0.305). The decrease in diastolic blood pressure in the intervention group was 10.40 mmHg with a P-value <0.05 (0.000), and the control group it was 0.87 with a P-value > 0.05 (0.599).

Conclusions and Suggestions: There is a reduction in stress levels and blood pressure in the patients with hypertension at Gamping 1 Public Health Center. Respondents are expected to do dhikr every day to reduce stress levels and blood pressure.

INTRODUCTION

Hypertension is a condition when a person has an increase in blood pressure above normal, namely the systolic blood pressure is ≥ 140 mmHg and the diastolic is ≥ 90 mmHg. Hypertension is often called the silent killer. Hypertension is one of the main factors that cause heart attacks and strokes (Kowalski, 2010).

It is estimated about 1.13 billion people worldwide suffer from hypertension. In 2015, 1 out of 4 male and 1 out of 5 female had hypertension. Hypertension is the leading cause of premature death worldwide (WHO, 2019). The prevalence of the population with high blood pressure in Indonesia is 34.11% (The Indonesian Republic of Ministry of Health, 2019).

The prevalence of Indonesian people with high blood pressure is 34.11%. The prevalence of high blood pressure in female (36.85%) was higher than that of male (31.34%). The prevalence in urban areas was slightly higher (34.43%) compared to rural areas (33.72%). The prevalence increases with age.

Hypertension occurs in the group of people aged 31 to 44 years old is (31.6%), aged 45-54 years old is (45.3%), and aged 55-64 years old is (55.2%) (The Indonesian Republic of Ministry of Health, 2019).

Baseline Health Research (*Riskesmas*) 2018 data shows that the population aged over

15 years old has some risk factors such as the proportion of people who eat less vegetables and fruit for 95.5%, people with hypertension who do not take medication because they feel healthy for 59.8%, and irregular visits to health facilities for 31.3% (The Indonesian Republic of Ministry of Health, 2019).

Hypertension can be caused by several factors, one of which is stress. Stress stimulates the sympathetic nervous system to release adrenaline which affects the work of the heart (Hariyanto & Sulistyowati, 2015).

Hypertension can be prevented in several ways, including pharmacological and non-pharmacological therapies. Non-pharmacological therapy is an alternative therapy that can treat hypertension. One of the non-pharmacological therapies that are inexpensive, effective and play an important role in the prevention and treatment of cardiovascular disease is prayer therapy (Nasiri et al., 2014).

Dhikr method is very good for reducing stress levels. Based on the description above, the researchers are interested in conducting research with the title of the effect of dhikr on the stress levels and blood pressure in patients with hypertension at Gamping 1 Public Health Center.

METHOD AND MATERIAL

The type of this research is quasi experimental design with a control group design

pre-test-post-test. The populations of this study were all the patients with hypertension at Gamping 1 Public Health Center who live in Ambarketawang Village.

This study used a quota sampling technique with a total sample of 30 respondents (15 people were in the intervention group and 15 people were in the control group).

The instruments used to obtain the data were an aneroid Sphygmomanometer that has been calibrated, stethoscope, stature meter for measuring height and weight of Tian Shan (2003A) which has been tested for calibration, Timmer, and the DASS questionnaire.

The data retrieval was conducted door to door interview and given knowledge about the effect of dhikr on stress levels and blood pressure. Then, the stress level and blood pressure were measured. Respondents were given treatment (dhikr) and measured their level of stress and blood pressure. Then, the results were written on the observation sheet. Meanwhile, for the control group, blood pressure measurements were taken at the beginning and at the end of the research.

The data analysis used in this research was the Shapiro-Wilk test. In addition, the statistical test used in this research was the Wilcoxon non-parametric test and the paired sample t-test parametric test.

RESULTS AND DISCUSSION

1. Research Characteristics

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a. Gender

Table 1. Frequency distribution of respondents' gender characteristics at Gamping 1 Public Health Center

| Sex | I | (%) | C | (%) |
|--------|----|-------|----|-------|
| Male | 9 | 60.0 | 5 | 33.3 |
| Female | 6 | 40.0 | 10 | 66.7 |
| Total | 15 | 100.0 | 15 | 100.0 |

Table 1 shows that based on the gender in the intervention group, most of respondent are male, totaled 9 people (60.0%). Meanwhile, the female respondents are 6 people (40.0%). The dominant sex of the control group respondents is female for 10 people (66.7%) and the male respondents are 5 people (33.3%).

b. Age

Table 2. Frequency distribution of the age characteristics of respondents at Gamping 1 Public Health Center

| Variable | I | (%) | K | (%) |
|----------------------------|----|-----|----|-----|
| 26-35 (early adulthood) | 1 | 6.7 | 1 | 6.7 |
| 36-45 (late adulthood) | 0 | 0 | 1 | 6.7 |
| 46-55 (early elderly) | 4 | 26. | 4 | 26. |
| 56-65 (late elderly) | 8 | 53. | 5 | 33. |
| >65 (old age) | 2 | 13. | 4 | 26, |
| Total | 15 | 100 | 15 | 100 |

Based on table 2 the age group that frequently occurs in the intervention group and the control group is the late elderly (56-65 years). There are 8 people (53.4%) in the intervention group and 5 people (33.2%) in the control group.

The Ministry of Health of Indonesian Republic (2019) states that the older you get, the greater the risk of hypertension caused by structural changes in blood vessels to become stiff, reduced elasticity, atherosclerosis; which can reduce cardiac output and increase peripheral resistance resulting in hypertension.

c. Profession

Table 3. Frequency distribution of respondents' job characteristics at Gamping 1 Public Health Center

| Variable | I | (%) | K | (%) |
|----------------|----|-------|----|-------|
| Housewives | 5 | 33.3 | 4 | 26.7 |
| Civil Servants | 1 | 6.7 | 1 | 6.7 |
| Entrepreneur | 3 | 20.0 | 3 | 20.0 |
| Labour | 3 | 20.0 | 3 | 20.0 |
| Unemployment | 3 | 20.0 | 4 | 26.7 |
| Total | 15 | 100.0 | 15 | 100.0 |

Based on table 3, it shows that the occupation of the most respondents is housewives. There are 5 people (33.3%) in the intervention group and 4 people (26.7%) in the control group that work as housewife.

According to the previous research (Andria, 2013), financial problems and household needs trigger stress. Women are more prone to stress than men. This is because physiologically, women's brains are smaller than men's. However, when faced with problems, women's brains can work 7-8 times harder than men.

2. Bivariate analysis

a. The frequency distribution of the average stress level and blood pressure in the intervention group and the control group on day 0 and day 7.

Table 4. Frequency distribution of average stress levels and blood pressure in the intervention group and the control group on day 0 and day 7

| Group | Variable | Mean | | Margins |
|--------------|-------------------------|--------|--------|---------|
| | | Day 0 | Day 7 | |
| Intervention | Stress Level | 16.06 | 10.27 | 5.79 |
| | Systole Blood Pressure | 160.46 | 139.33 | 21.13 |
| | Dyastole Blood Pressure | 100.00 | 89.60 | 10.40 |
| Control | Stress Level | 14.73 | 15.00 | -0.27 |
| | Systole Blood Pressure | 159.33 | 155.33 | 4.00 |
| | Dyastole Blood Pressure | 96.66 | 95.80 | 0.86 |

Based on table 4, it can be obtained an overview of the average stress level on day 0 of the 15 respondents in the intervention group that is 16.07 (mild stress). Meanwhile, the average overview in the control group is 14.73 (normal). After the intervention is given, the average stress level of the intervention group is 10.27 (normal) with the margins of 5.80. Meanwhile, in the control group it is 15.00 (mild stress) with the margins of -0.27.

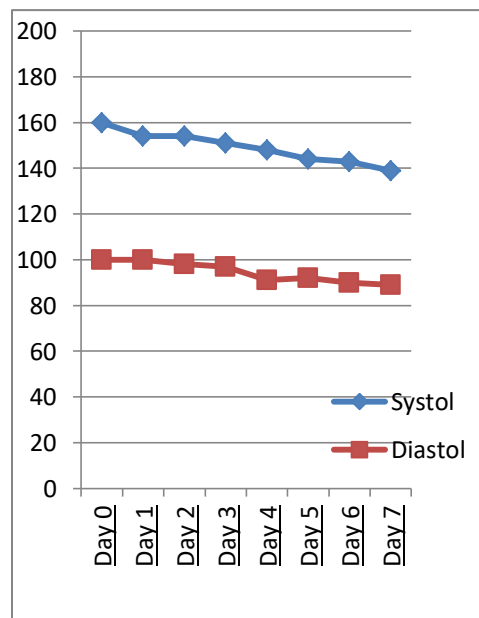
The initial illustration of systolic blood pressure from the 15 respondents in the intervention group is an average of 160.47 mmHg (hypertension stage 2). Whereas, in the control group it is 159.33 mmHg (hypertension stage 1). After being given the intervention, the average systolic blood pressure in the intervention group is 139.33 mmHg (prehypertension) with the difference of 21.14 mmHg. In the other hand, in the control group the blood pressure value on day 7 is 155.33 mmHg (stage 1 hypertension) with the difference of 4.00 mmHg.

The mean initial diastolic blood pressure of the respondents in the intervention group is 100 mmHg (hypertension stage 2), and in the control group it is 96.67 mmHg (hypertension stage 1). After being given the intervention, the average diastolic blood pressure of the 15 respondents in the intervention group is 89.60 mmHg (prehypertension) with the difference of 10.40 mmHg. However, in the control group it

is 95.80 mmHg (stage 1 hypertension) with the difference of 0.87 mmHg.

Based on these results it can be said that dhikr can reduce the stress level of hypertension sufferers. According to Zulfah, Rosaalina & Rosyidi (2019) dhikir can reduce tension and bring peace of mind. Dhikr means as a confession, trust and belief only in Allah Almighty. This belief can lead to strong control and guide the individual in a positive mind.

b. The mean of the blood pressure of the intervention group from day 0 to day 7 presented in a graphical form.



Based on graph 1, it can be obtained an overview of the respondent's blood pressure in the intervention group has commonly decreased on the first day. The average blood pressure of the intervention group respondent has decreased from stage 2 hypertension to prehypertension on day 7.

c. The results of the paired sample t-test and the Wilcoxon test

Table 5. Data on the results of the paired sample t-test and the Wilcoxon test of the stress levels and blood pressure in the intervention and control groups

| Variable | Group | N | P-value | Statistical Test |
|--------------|-----------------------------------|----|---------|----------------------|
| Stress Level | Before *After Intervension | 15 | 0.001 | <i>Wilcoxon</i> |
| Stress Level | Control day-0 *hari ke-7 | 15 | 0.812 | <i>Wilcoxon</i> |
| Systole | Before *After Intervension | 15 | 0.000 | <i>Paired t-test</i> |
| Dyastole | Before *After Intervension | 15 | 0.000 | <i>Paired t-test</i> |
| Ssystole | The control of day 0 *Day 7 | 15 | 0.305 | <i>Paired t-test</i> |
| Dyastole | The control of day 0 *Day 7 | 15 | 0.599 | <i>Wilcoxon</i> |

Based on table 5, it can be seen that the stress level of the intervention group results in a P-value <0.05 ($0.001 < 0.05$). The results of the blood pressure in the intervention group (systole and diastole) results in a P-value <0.05 ($0.000 < 0.05$ for systole) and ($0.000 < 0.05$ for diastole).

The control group (systole and diastole) exposes P-value > 0.05 ($0.305 > 0.05$ for systole) and ($0.599 > 0.05$ for diastole). Meanwhile, the stress level in the control group results in a P-value > 0.05 ($0.812 > 0.05$).

These results indicate the influence of dhikr on stress levels and blood pressure in the

patients with hypertension. The dhikr recitation that is done with a sense of belief in Allah Almighty will lead to a process of surrendering oneself to Allah Almighty which will generate a relaxed condition in the body. The dhikr recitation focuses on the phrases that are pronounced repeatedly with a regular rhythm accompanied by submission to Allah Almighty. When repeating these phrases, the body will experience a relaxation process which is basically activating the sympathetic nerves. This condition will decrease the body's response which has been raised by the sympathetic nerves (Sahputri and Suprayitno, 2017).

The quantitative research results are supported by the statements of all respondents who experience a sensation of mental peace after doing dhikr. Respondents feel comfortable when doing dhikr and after dhikr. Therefore, most respondents do it almost every prayer and while resting.

So perfect is the wisdoms of Islam, not a single problem is overlooked in the book of the Qur'an. Thus, the matters of soul or spirit, heart therapy and various aspects of life are all arranged perfectly in a complex unity. This is in accordance with the word of Allah Almighty in surah Yunus: 57

” O mankind, there has come to you instruction from your Lord and healing for what is in the breasts and guidance and mercy for the believers.” (quran.ksu.edu.sa)

The verse explains that every disease will have a cure; and remembrance (of Allah Almighty) is part of the method of treatment.

There is also a cure for the heart from ignorance, idolatry and all diseases, and is a righteous guide for those who follow it. Based on the results of this research, it reminds us that it is important to always do dhikr both for healthy people and those who are sick since remembering Allah is a remedy for all types of diseases, both psychological and physical disease.

c. The analysis of the differences in blood pressure of patients with hypertension in the intervention group and the control group.

Blood pressure (systolic and diastolic) in the group of the respondents who do dhikr (intervention group) and groups that do not make dhikr (control group) in this research shows significant difference. This is confirmed by the statistics test results in table 7, Mann test Whitney, that is used to know the difference in average stress levels and blood pressure in the intervention group and control group. It depicts that the result P-value is less than 0.05 (0.018 <0.05, for stress levels) (0.006 <0.05 for systole and 0.037 <0.05 for diastole). This means that there are differences in stress levels, systolic blood pressure, and diastolic blood pressure in the intervention group and the control group.

These results indicate that the people, who do dhikr, has stress levels and blood pressure decrease. This is because dhikr can reconcile a stressed person and calm down the soul. The repeated recitation of dhikr causes one's mind to focus on the meaning of the dhikr sentence. The dhikr sentence contains positive meanings, thus the negative thoughts experienced by someone who is anxious will be replaced with positive thoughts.

The meaning contained in the sentence of the dhikr is "Most holy to Allah, praise be to Allah, there is no single God who is worshiped except Allah, and Allah is great." Dhikr drives humans to always be aware of the attributes of Allah as God who creates and maintains the universe.

Dhikr is as a form of surrender to Allah, thus it will raise hopes and a positive outlook on life and provide peace of mind (Maqruf, 2017).

The closeness of humans to Allah can lead to peace in the soul, eliminate negative thoughts, and generate positive thoughts. Positive thoughts that stream in the body cause the body to relax and the blood flow becomes smooth. This condition causes a decrease in blood pressure (Sartika & Suprayitno, 2018).

d. Data independent sample t test and Mann Whitney

Table 6. The difference test results on posttest mean scores of stress levels and systolic and diastolic blood pressure in the intervention group and the control group

| | N | Asymp. Sig. (2-tailed) |
|--------------|----|------------------------|
| Stress Level | 30 | 0.018 |
| Systol | 30 | 0.006 |
| Diastol | 30 | 0.037 |

Based on table 6, the results of the Mann-Whitney statistical test show that the results of the stress level in the intervention and control groups obtained a P value of 0.018 <0.05. The results of the test of Independent sample statistical t-test shows that the systolic blood pressure in the intervention and control groups obtained a p value of 0.006 <0.05. Meanwhile, the results of diastolic blood pressure using the Mann-Whitney statistical test obtained a p value of 0.037 <0.05. Therefore, it

can be concluded that there is a difference of the stress levels and blood pressure in the intervention group and the control group.

CONCLUSIONS AND SUGGESTIONS

a. Conclusions

The results of this study indicate that there is an effect of dhikr on reducing stress levels and blood pressure in patient with hypertension in Gamping 1 Public Health Center.

b. Suggestion

It is expected that the results of this study can benefit patient with hypertension can have dhikr as the complement of non-pharmacological therapy in daily live and facility to get closer to Allah Almighty.

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