
HEALING ACUPRESSURE LR-3 ON BLOOD PRESSURE AND ANXIETY LEVELS IN PREGNANT WOMEN WITH HYPERTENSION

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ABSTRACT

Hypertension pregnancy disorders are one of the causes of increased morbidity and mortality of maternal, fetal, and neonates. The maternal mortality rate (MMR) in Indonesia is still quite high. One of the causes of maternal death is hypertension. Healing acupressure LR 3 is a combination of self-healing and acupressure, where the massage process has 2 reactions, namely the strengthening reaction (yang) and the lowering reaction (yin). Massages at a certain point in acupressure therapy can stimulate nerve waves so that they can launch blood flow, relax spasms, and lower blood pressure. This study aims to determine the effectiveness of healing acupressure LR-3 (healing-pressure) affects blood pressure and anxiety levels in pregnant women with hypertension, compare pre-test control groups and experiments, compare pre-and post-test in control and experimental groups, and compare the differences in pre-post tests between control groups and experiments. Research including experiment, using the randomized pre-test post-test control group design research design. The analysis used a repeated ANOVA test with post hoc Bonferroni. The results of this study are expected to be an operational standard in helping to increase knowledge to overcome pregnant women with hypertension in a non-pharmacological manner that is safe for mothers and babies. The results of the analyzed are found that there was a significant difference in the average blood pressure and anxiety level of pregnant women after being given intervention in the intervention group before and after the intervention

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period ($p < 0.000$), meaning that there was an effect of healing acupressure LR-3 (healing-pressure) affecting blood pressure and anxiety levels in pregnant women with hypertension.

KEYWORDS

Healing Acupressure, LR-3 (Healing-Pressure), Anxiety, Hypertension, Pregnant Women



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INTRODUCTION

Hypertension and pregnancy disorders are one of the causes of increased morbidity and mortality in maternal, fetal, and neonatal. According to the National Institute for Health and Care Excellence (NICE) Guidelines, hypertensive disorders during pregnancy carry risks to both mother and baby.

The Ministry of Health recorded that the Maternal Mortality Rate (MMR) in Indonesia is currently still quite high, even though it has decreased. P in 2016 reached 305 cases per 100,000 live births, which is still below the achievement of the 2014 target of 118 k per 100,000 live births. Meanwhile, the program target the Sustainable Development Goals (SDGs) by 2030 maternal mortality rate (MMR), or MMR on a global scale, decreases by less than 70 per 100,000 live births. As for the cause of maternal death in Indonesia in 2016, bleeding was 32%, 26% was caused by hypertension, 7.3% by infection, and 40.8% of others such as heart disease, and diabetes mellitus.

In Central Java Province during January to May 2016 the number of MMR was 251 cases per 100,000 live births. The cause of maternal death in Central Java province in 2015, hypertension was 26.34%, bleeding 21.14%, circulatory disorders 9.27%, infection 2.76%, and others 40.49%^{5,3}

According to the hypertension in Pregnancy Guideline from the American College of Obstetricians and Gynecologists (ACOG) 2013 it is estimated that 10% of pregnancies worldwide have hypertension during pregnancy. Based on the National High Blood Pressure Education Program Working Group in Pregnancy, pregnancy hypertension is divided into four categories namely chronic hypertension, hypertension, preeclampsia, and preeclampsia superimposed (Gillon et al., 2014a)

Hypertension is hypertension without proteinuria that arises after 20 weeks of pregnancy and disappears after delivery. Blood pressure in hypertension is $\geq 140/90$ mmHg, there is no history of hypertension before pregnancy, and in < 12 weeks of gestation, blood pressure is normal. There is no proteinuria (Gillon et al., 2014b) The American College of Obstetricians and Gynecologists (ACOG) stated, that the entire prevalence of pregnant hypertension 25% had preeclampsia.

Until recently, pregnancy hypertension of its exact etiology was not known. There are several hypotheses regarding the etiology of pregnancy hypertension, including ischemic placenta, immune maladaptation, and genetic factors. Ischemia placenta occurs due to the invasion of incompetent trophoblasts so that the decidua vessels will be wiped by endovascular trophoblasts. Based on WHO, the management of pregnant women with hypertension or arising after gestational age ≥ 20 weeks with routine antenatal examinations without being given antihypertensive therapy, unless blood pressure shows an increase, then the patient is referred and given blood pressure-lowering drugs. Antihypertensive therapy should be careful given the negative impact on infants.

Administration of antihypertensive drugs risks reducing the perfusion of uteroplacental, resulting in low birth weight (Brown et al., n.d.)

Indonesian people have long applied nonpharmacological and herbal therapies in overcoming their health. Several nonpharmacological methods have been applied in clinics or hospitals to help solve problems in pregnant women. Nonpharmacological therapy has become part of the practice of nursing, in the form of modality therapy that can be used by nurses as part of a comprehensive nursing plan, in providing women support during the pregnancy process (Bello et al., 2021).

Hypertensive treatment can be done in a pharmacological and non-pharmacological manner. Pharmacological treatment is treatment using drugs that can help lower and stabilize blood pressure (Sulistyowati et al., 2011). Meanwhile, non-pharmacological treatment is a form of treatment service that uses methods, tools, or materials used as alternatives or complements to certain medical treatments. The number of pregnant women in Banyumas Regency reaches 30,095 people, more than 6,000 of whom have a high risk. The results of studies show that pregnant women with hypertension have not been combined with non-pharmacological therapy. The nonpharmacological approach is a new trend that can be developed and is an alternative method that can be offered to the mother because of its not too great effect on both the mother and the fetus. One of the non-pharmacological therapies that can be used to reduce hypertension is acupressure healing therapy.

Human beings can heal themselves. This belief is applied in the self-healing technique so that harmony and balance are achieved between the body, mind, and mind. In self-healing exercises, there are several aspects involved, namely breath, motion, silence, and touch/massage. The touch or massage given is in the form of acupressure.

Acupressure is to provide massage and stimulation at certain points in the body that are used to improve health and overcome pain and reduce tension, fatigue, and various diseases with the intention of re-circulating the circulation of energy vital and chi (Indrati & Prasetyo, 2011) benefits of acupressure include helping in stress management, calming nerve tension, and increasing body relaxation. This therapeutic technique uses fingers that are carried out at points associated with hypertensive disease. Massages at certain points in acupressure therapy can stimulate nerve waves so that they can launch blood flow, relax spasms, and lower blood pressure (Samadi et al., 2018). As a result of research, Randomized Clinical Trial, Acupressure on Taichong Acupoint with general hypertension subjects, was shown to be able to lower blood pressure ($p < 0.05$), while the study with hypertension in pregnant women, it has never been studied (Sulianti et al., 2018)

Healing acupressure is a combination of self-healing and acupressure, where the massage process has 2 reactions, namely the strengthening reaction (yang) and the lowering reaction (yin). The massage is performed for 30 pressures or turns clockwise. Yin massage is performed for 40 pressures or round and counterclockwise. Massage can be started after finding the right massage point, that is, the onset of a reaction at the massage point in the form of pain or soreness. Point LR- 3 Taichong is a heart point, used to relieve headaches, vertigo, emotional stress, and blurred vision (Song et al., 2015). Such as the results of the research of a descriptive qualitative study The research Nursing Care Group conducted on pregnant women in the first trimester, with inclusion criteria, especially in pregnant women at risk, shows that Yongquan point acupressure (R1), Taichong (F3), Chengshan (B57) can provide a sense of comfort during pregnancy and lower anxiety, fatigue, dizziness during pregnancy (Sehhatie-Shafaie et al., 2013)

During pregnancy, the woman experiences both physical as well as emotional changes. The anxiety and depression that appear during pregnancy affect negative

psychological changes between the mother and the fetus. The results of the study of Rubertsson et al stated that depression and anxiety in early pregnancy are associated with the risk of preeclampsia (Samadi et al., 2018). Based on this, it is necessary to manage anxiety in pregnant women, including acupressure healing.

RESEARCH METHOD

This research is a type of research including experiments, using the randomized pre-test post-test control group design. This experimental activity or experiment aims to find out a symptom or change that arises from the LR-3 acupressure healing intervention and the control group given the intervention according to standards, by seeing a decrease in anxiety and blood pressure in pregnant women with hypertension. The reason for choosing this research design is to address the threat of internal and external validity.

The population in this study was all pregnant women ≥ 20 weeks of pregnancy with hypertension at the Banyumas Regency Health Center. The calculation of the study sample uses the calculation formula to compare the mean of two independent groups (Ismael, 2014) then the required number of samples is 30 responses.

RESULT AND DISCUSSION

A. Result

This research was carried out in the Purwokerto and Semarang areas. Data collection was carried out from August to September 2018. The total number of respondents in this study was 30 respondents consisting of 15 respondents grouped in the control group and the other 15 respondents grouped in the intervention group. This explains the results of the study according to the research objectives and discussion on "Healing acupressure LR-3 (Babhealing-pressure) affects blood pressure and anxiety levels in pregnant women with hypertension".

1. Characteristics of Respondents

The characteristics of respondents in this study include age, education, and occupation

Table 1 Distribution of characteristics of pregnant women

Variable	Intervention		Control	
	F	%	F	%
1 Year old				
< 20	2	13.3	1	6.7
20-30	4	26.7	3	2.0
>30	9	60.0	11	73.3
2 Work				
- yes	5	33.3	6	40
- no	10	66.7	9	60
3 Education				
SD	1	6.7	0	0
SMP	2	13.3	7	46.7
SMA	9	60	4	26.7
PT	3	20	4	26.7
4 Gestational Age				
≤ 19	4	13.3	1	6.7
20-30	9	26.7	3	20

≥ 31		60	11	73.3
5 ANC				
- yes	2	13.3	1	6.7
- no	13	86.79	14	93.3

'Table 1 above shows the interpretation of respondents' characteristics by age. The results of the analysis found that the average age of respondents was 32.69 years. Then the age of most respondents was more than 30 years old, which was 73.3% in the control group while 60% in the intervention group.

Table 1 above shows the distribution of respondents' characteristics by occupation, and antenatal class participation. The results of the analysis showed that 66.7% of pregnant women did not work in the intervention group while those who did not work in the control group were 60%. In the antenatal class, it shows that pregnant women have never participated.

1. Average Blood Pressure and Anxiety Levels Of Pregnant Women Before and After The Intervention Period In The Intervention Group And Control Group.

The following will be explained the differences in the average blood pressure and anxiety levels of pregnant women in the intervention group and the control group before and after the intervention.

Table 2 Distribution of average blood pressure and anxiety levels of pregnant women before and after intervention in the intervention and control groups.

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Group	n	Control		P	N	Intervention		p		
		Mean	SD			Mean	SD			
		pre	post			pre	post			
Blood pressure	15	139.1	138.60	1.642	0.229	15	137.60	128.73	6.278	0.000
- Systole	3	97.20	3.509	0.207			98.07	89.40	3.958	0.000
- Diastole		98.40								
Anxiety	15	6.93	7.20	1.033	0.334	15	5.93	8.93	0.926	0.000
cortisol	15	429.12	760.19	1.259	0.988	15	546.12	371.20	0.898	0.007

From table 2 above, it can be seen that the average blood pressure of systole pre averaged 139.13 mmHg and diastole 98.40 mmHg while post systole was 138.60 mmHg and diastole was 97.20 mmHg pada control group. Meanwhile, the standard deviation of systole 1,642 SD diastole was 3,509 in the control group. In the SD intervention group of systole 6,278 SD diastole 3,958.

From table 5.2 above it can be seen that the average level of anxiety there was a control group was pre-5.93 and post 8.93 with a standard deviation of 0.926 for the intervention group. In the control group, the average level of anxiety was pre 6.93 and post 7.20 with a standard deviation of 0.334. The results of the analysis found that there was a significant difference in the average level of anxiety in the control and intervention groups (p<0,000).

B. Discussion

The discussion of research results includes the interpretation of research results and research limitations. The interpretation of the results of the study includes: differences in the average level of knowledge and attitudes due to the influence of the application of "Healing acupressure LR-3 (healing-pressure) affects blood pressure and anxiety levels in pregnant women with hypertension. The general purpose of this study was to determine the effect of the application of Healing Acupressure LR-3 (healing-pressure) on blood pressure and anxiety levels in pregnant women with hypertension

The results of this study found that the level of basic education was as much as (6.7%), while universities were as much as (46.7%). These results show that the education of pregnant women in Mersi in August – September 2018 is of various levels. A study conducted by Hastomo (2009) stated that the education of parents, especially women, is one of the keys to socio-cultural change. Women who are relatively highly educated will have better health care measures. Women with higher levels of education will have greater knowledge than lower levels of education.

Education is obtained from the learning process through formal and informal education. The process is expected to gain better knowledge. Higher education will make it easier for a person to receive information and knowledge to lead a healthy life and overcome health problems (Ali, 2003 quoted by Estutiningsih, 2009). Another study was conducted by Fatmawati (2007) with the results on elementary education (42.5%).

The results of the study obtained the results that the application of Healing Acupressure LR-3 (healing-pressure) affects blood pressure and anxiety levels in pregnant women with hypertension. This can be seen in the results of the bivariate analysis, it is known that there is a significant difference between the average blood pressure level and the anxiety level of pregnant women, in the intervention group before and after the intervention period. Then there was no meaningful difference between the average blood pressure level and anxiety levels in the control group before and after the intervention period. These results show that Healing acupressure LR-3 (healing-pressure) affects blood pressure and anxiety levels in pregnant women.

Based on WHO, the management of pregnant women with hypertension or arising after 20 weeks \geq of gestational age with routine antenatal examinations without antihypertensive therapy is given, unless the blood pressure shows an increase, then the patient is referred and given blood pressure-lowering drugs (Bello et al., 2021; Brown et al., n.d.). The administration of antihypertensive therapy should be taken because of the negative impact on the baby (Gilbert et al., 2008; Gillon et al., 2014a). Administration of antihypertensive drugs risks reducing the perfusion of uteroplacental, resulting in low birth weight (Vickers, 2017).

Treatment of hypertension can be carried out pharmacologically and non-pharmacologically. Pharmacological treatment is the treatment using drugs that can help lower and stabilize blood pressure. Meanwhile, nonpharmacological treatment is a form of treatment service that uses methods, tools, or materials used as an alternative or complement to certain medical treatments (Mukkamala et al., 2021). The number of pregnant women in Banyumas Regency reaches 30,095 people, more than 6,000 of whom have a high risk. The results of preliminary studies show that the treatment of pregnant women with hypertension has not been combined with nonpharmacological therapy. The nonpharmacological approach is a new trend that can be developed and is an alternative

method that can be offered to the mother because of its not too great effect on both the mother and the fetus. One of the nonpharmacological therapies that can be used to reduce hypertension is an acupressure healing therapy (Ghule & Sureshkumar, 2020).

Indonesian people have long applied nonpharmacological and herbal therapies in overcoming their health. Several nonpharmacological methods have been applied in clinics or hospitals to help solve problems in pregnant women. Nonpharmacological therapy has become part of the practice of nursing, in the form of modality therapy that can be used by nurses as part of a comprehensive nursing plan, in providing support to women during the pregnancy process.

Human beings can heal themselves. This belief is applied in the self-healing technique so that harmony and balance are achieved between the body, mind, and mind. In self-healing exercises, there are several aspects involved, namely breath, motion, silence, and touch/massage. The touch or massage given is in the form of acupressure (Bastani, 2016).

Acupressure is to provide massage and stimulation at certain points of the body that are useful for improving health and overcoming pain as well as reducing tension, fatigue, and various diseases to reactivate the circulation of vital energy and chi. Benefits of acupressure include helping in stress management, calming nerve tension, and increasing body relaxation. This therapeutic technique uses fingers that are carried out at points associated with hypertensive disease. Massages at certain points in acupressure therapy can stimulate nerve waves so that they can launch blood flow, relax spasms, and lower blood pressure (Akbarzadeh et al., 2015). As the results of the Randomized Clinical Trial study, Acupressure on Taichong Acupoint with general hypertension subjects has been shown to lower blood pressure ($p < 0.05$) (Lin et al., 2016), while studies with hypertension subjects in pregnant women have never been studied.

Healing acupressure is a combination of self-healing and acupressure, where the massage process has 2 reactions, namely the strengthening reaction (*yang*) and the lowering reaction (*yin*). The massage is performed for 30 pressures or turns clockwise. *Yin* massage is performed for 40 pressures or turns and counterclockwise. Massage can be started after finding the right massage point, that is, the onset of a reaction at the massage point in the form of pain or soreness. Point LR- 3 Taichong is a point of the heart, used to reduce headaches, vertigo, emotional stress, and blurred vision (Cho & Tsay, 2004). As the results of a descriptive qualitative study, the research group Nursing Care conducted on pregnant women in the first trimester, with inclusion criteria, especially in pregnant women at risk, showed that acupressure points Yongquan (R1), Taichong (F3), Chengshan (B57) can provide a sense of comfort during pregnancy and reduce anxiety, fatigue, dizziness during pregnancy (Lan et al., 2015).

During pregnancy, the woman experiences both physical as well as emotional changes. The anxiety and depression that appear during pregnancy affect negative psychological changes between the mother and the fetus (Akbarzadeh et al., 2014). The results of the study of Rubertsson et al stated that depression and anxiety in early pregnancy are associated with the risk of preeclampsia (Silva et al., 2016). Based on this, it is necessary to manage anxiety in pregnant women, including acupressure healing.

CONCLUSION

There were significant differences in blood pressure and anxiety levels of pregnant women after the intervention in the control and intervention groups. This shows that Healing acupressure LR-3 (healing-pressure) can reduce blood pressure and anxiety levels in pregnant women with hypertension. LR-3 Acupressure Healing Program (healing-pressure) in pregnant women with hypertension can be applied to pregnant women to help government programs improve the health of women and babies.

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