



Effect of Hypnopressure on Anxiety in Pregnant Women with Preeclampsia

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Abstract

Background: Preeclampsia in pregnancy is one of the dominant causes of maternal death in the world and will be seven times higher in developing countries. Anxiety is more common in pregnant women with preeclampsia than normal pregnant women and will aggravate that condition. Hypnotherapy can reduce anxiety and blood pressure, but not all pregnant women are easily suggested and show resistance to hypnotherapy. Objective: This study aims to prove the effect of hypnopressure on anxiety in pregnant women with preeclampsia. Methods: This study used quasi-experimental with pretest-posttest design on two groups of study. Hypnopressure was a stimulation technique at yintang, neiguan and baihui points during hypnotherapy. It was applied one hour weekly for three weeks in intervention group, while the control group received integrated ANC as standard care and anti-hypertension. A consecutive sampling was conducted for 40 pregnant women with preeclampsia and divided into two groups or 20 women for each group. Instruments used to measure anxiety applied Zung Self-Rating Anxiety Scale (ZSAS). Data analysis used paired and independent t-test. Results: After the intervention of hypnopressure, anxiety score decreased significantly from 44.90 to 33.75 with p-value <0.001. In the control group, anxiety score was reduced from 45.65 to 42.70 with p-value <0.001. Hypnopressure could reduce anxiety score greater than control group. Conclusion: Hypnopressure has the effect of reducing anxiety levels in pregnant women with preeclampsia.

Keywords: acupressure, anxiety, hypnosis, preeclampsia

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Introduction

Preeclampsia is one of the risk factors in pregnancy that dominates cause of maternal death. Based on data from World Health Organization (WHO), preeclampsia has caused 14% of 289.000 maternal death.(World Health Organization, 2015) In Indonesia, the prevalence of preeclampsia in 2013 reached 25.8%.(Kemenkes RI, 2013) In Central Java, the number of maternal deaths in 2017 was 475 cases and the most common cause of maternal death was preeclampsia by 32.97%.(Dinas Kesehatan Provinsi Jawa Tengah, 2016)

Pregnant women with preeclampsia will have more severe anxiety than normal pregnant women.(Isworo et al., 2012) As many as 5.3% of pregnant women with preeclampsia have severe anxiety, while in normal pregnant women it has only 0.7%.(Kordi et al., 2017) The other studies stated that anxiety in pregnant women would increase the incidence of preeclampsia 7.84 times. If anxiety occurred in pregnant women with preeclampsia, it will certainly aggravate the condition of the preeclampsia.(Isworo et al., 2012)

If anxiety in preeclampsia untreated properly, it will give some impact for mother

and fetal wellbeing. It was causing blood vessel spasm getting worse, thus blood pressure more increase.(Trisiani & Hikmawati, 2016) Impact on the fetus are stunting, premature birth, Low Birth Weight, low Apgar score and stillbirth.(Backes et al., 2011)

Perceived anxiety in pregnant women generally was fear of premature birth, complications of pregnancy and childbirth that can cause death and guilt feelings.(East et al., 2011) Unconsciously, that fear will be entered in the subconscious mind and eventually embedded as a negative program.(Kuswandi, 2011) Anxiety will also enhances the work of the sympathetic nervous system.(Guyton & Hall, 2013) The brain will send signals to the pituitary gland which controls the body to increase cortisol and epinephrine hormone. The increasing levels of adrenaline and nor adrenaline hormones causes the body's biochemical dysregulation, so resulting in physical tension in pregnant women and triggering the heart to pump blood faster.(Southwick & Charney, 2012) It will certainly aggravate the condition of pregnant women with preeclampsia.

There are two methods to reduce anxiety levels, pharmacologically or non-

pharmacologically. The administration of benzodiazepines as anti-anxiety are closely related to preterm birth and low birth weight.(Shyken et al., 2019) Non-pharmacological methods that can be done are murrotal therapy, hypnosis, massage, acupressure, relaxation, aromatherapy and dzikir therapy. The non-pharmacological approach was stated can help in reducing the dose of anti-hypertensive drugs.(Hikayati, Flora R, 2012)

Based on a systematic review by Catsaros & Wendland (2020), hypnotherapy as many as 2-6 times meeting in pregnancy could have a positive impact on the experience of women during childbirth.(Catsaros & Wendland, 2020) Stimulation of the wrist (H7) was reported could improve sleep quality and reduce anxiety of pregnant women in the third trimester of pregnancy.(Neri et al., 2016) Research by Lu Dominic (2013) compared the effectiveness of several meridian points in reducing anxiety and the most effective points in increasing relaxation was yintang point, meanwhile neiguan points also could reduce tension.(Lu & Lu, 2013)

Hypnotherapy can reduce the level of anxiety in pregnant women, but not all

pregnant women are easily suggestible and show resistance to hypnosis. Giving acupressure during hypnotherapy can help overcome the resistance to hypnosis by facilitating relaxation conditions.(Schiff et al., 2007) The more in a state of hypnosis, it will easier for pregnant women to be given suggestions.

Efforts to reduce anxiety can also be done by emphasizing the acupressure point through the regulation of anxiety hormones. However, negative record in subconscious mind will remain, so reprogramming through hypnotherapy is needed. Therefore, hypnotherapy and acupressure need to be done simultaneously as a single unit of action because it has potential synergism. This study aims to prove the effect of hypnopressure on anxiety in pregnant women with preeclampsia.



Figure 1. Yintang



Figure 2. Neiguan



Figure 3. Baihui

Methods

The design

This research was a quasi-experimental study with a non randomized pretest posttest with control group design.

Settings

The study was conducted for 3 weeks between December-March 2020 in the working area of Bulu, Dharmarini & Pare Health Center, Temanggung. Intervention was given at the home of each respondent.

Research Subjects

Forty respondents were recruited using consecutive sampling and divided into intervention groups (20 respondents) and control groups (20 respondents). Inclusion criteria for the samples included: systolic blood pressure 140-160 mmHg, diastolic blood pressure 90-100 mmHg, gestational age > 20 weeks, anxiety score > 20, getting nifedipine therapy, not have severe depression problems and domiciled in the study area.

Intervention

Hypnopressure at the meridian points of yintang, neiguan and baihui was performed 3 times for 3 weeks or once a week, ranged about 60 minutes. It was conducted at each respondent's home by two hypnotherapy and acupressure certified enumerators. In this study, the intervention group received an integrated ANC and hypnopressure, while the control group was only given an integrated ANC.

Instruments

The Zung Self-Rating Anxiety Scale (ZSAS) questionnaire was used to measure anxiety in preeclampsia pregnant women. The reliability of the ZSAS instrument is 0.87. Anxiety was measured before (pretest) and three weeks after intervention (posttest).

Ethical consideration

Ethical clearance was obtained from the Health Research Ethics Commission Dr. Moewardi with Number 1.396 / XII / HREC / 2019. This research has obtained permission from National Unity and Politics of Temanggung, Temanggung Health Service and the three related health centers. Each respondent obtained information about the study and signed an informed consent before data collection.

Data Analysis

Data analysis used paired and independent T-tests to determine the effect of hypnopressure on anxiety in preeclampsia pregnant women.

Result and Discussion

Table 1 showed that characteristics of respondents in the intervention and control group were mostly 30-33 years old, gestational age 26-28 weeks, consumed nifedipine obediently, not working, primary education levels and multiparous women. Levene's test showed that all variables were homogeneous with $p\text{-value} > 0.05$ which means that there were no differences in the characteristics of respondents between both groups.

In this study, the characteristics of respondents were seen based on maternal age, gestational age, medication adherence, education levels, working status and parity that affect anxiety in preeclampsia pregnant women. Table 1 showed the average age of pregnant women with preeclampsia in the intervention and control groups was 33 years

and 30 years. In the case of preeclampsia, age is not the only risk factor, but there are other factors.(Cunningham, 2009) The results of the study showed the number of preeclampsia in the healthy age range because the process of pregnancy and childbirth most often occurs in the productive age of 20-35 years.

The average gestational age was the end of the second trimester of pregnancy. Gestational age is closely related to the incidence of preeclampsia which is a pregnancy-specific syndrome and occurs after the age of 20 weeks.(Cunningham, 2009) The majority of respondents obeyed in taking nifedipine. Compliance with taking drugs plays a role in controlling blood pressure thereby reducing and preventing the risk of hypertension complications.(Hairunisa, 2014) The education level of respondents in both groups was mostly primary education, and the number of children ever born was more than one (multiparous).

Table 1. Characteristics of the respondents based on age, gestational age, medication adherence, education levels, working status and parity

Variable	Group		p-value
	Intervention n = 20	Control n = 20	
Age (year)			
Mean ±SD	33.75 ± 5.19	30.90 ± 5.92	0.114*
Min-Max	20-41	18-41	
Median	33	30	
Gestational age (week)			
Mean ±SD	26.95 ± 4.86	28.45 ± 4.70	0.328*
Min-Max	20-35	21-35	
Median	27	29.50	
Medication adherence ∑ (%)			
Obeyed	14 (70)	15 (75)	0.723**
Not obeyed	6 (30)	5 (25)	
Education levels ∑ (%)			
No education	1 (5)	1 (5)	0.351**
Primary	15 (75)	10 (50)	
Secondary	3 (15)	8 (40)	
High	1 (5)	1 (5)	
Working status ∑ (%)			
Working	9 (45)	7 (35)	0.519**
Not working	11 (55)	13 (65)	
Parity ∑ (%)			
Nulliparaous	4 (20)	6 (30)	0.723**
Primiparaous	7 (35)	7 (35)	
Multiparaous	9 (45)	7 (35)	

*Mann-Whitney Test **Chi-square Test SD:Standart Deviation

Table 2. The effect of hypnoprasure in anxiety scores

Group	Pre	Post	p-value
	Mean ±SD	Mean ±SD	
Intervention	44.90 ± 6.943	33.75 ± 9.635	0.001
Control	45.65 ± 6.659	42.70 ± 5.983	0.001

Paired T-test

Table 3. Differences in anxiety scores after an intervention

Group	Mean ±SD	p-value	Effect size
Intervention	11.15 ± 4.614	0.001	1.116
Control	2.95 ± 2.892		

Independent T-test

Table 2 showed that there were differences in anxiety scores of pregnant women with preeclampsia in the intervention group and the control group (p-value >0.05) because the intervention group was applied hypnoprasure. In contrast, the control

group only received standard care. However, hypnopressure reduced anxiety scores greater (11.15) than control group (2.95). Hypnopressure has effect on decreasing the anxiety in pregnant women with preeclampsia and effect size 1.116 (Table 3).

The results of this study in line with previous studies conducted by Tama (2019), hypnosis in pregnant women with preeclampsia could reduce anxiety effectively.(Tama, 2019)Other studies conducted by Beevi (2016) also provided the same results about the effectiveness of hypnosis in reducing pregnant women anxiety.(Beevi et al., 2016) Anxiety in high-risk pregnant women could also be significantly reduced after giving hypnotherapy and classical music therapy 8 times in two weeks with a duration of each meeting 15 minutes.(Asmara et al., 2017)

Mood disorders often occurred by hypertensive mothers and even more severe compared to normal pregnant women without complications. If the anxiety occurred by pregnant women with hypertension will certainly aggravate the condition of hypertension.(Isworo et al., 2012) Therefore, pregnant women must

maintain a balanced body and mind calm and comfortable, so they can work in balance and create a calm and pleasant pregnancy. One way to create calm conditions can be done through hypnopressure.

Hypnosis in pregnant women with will make relaxation, so it affects the body's system and creates a sense of comfort and a sense of calm.(Kuswandi, 2011) The patient's relaxed condition will stimulate the secretion and release of natural relaxation hormones from the body. Stimulated hormones then follow the systemic blood circulation which ultimately makes the patient feel more relaxed, the patient becomes more comfortable and finally the patient's anxiety becomes reduced.

This study consistent with the results of previous studies by Jannah (2017) about the effect of hypnoanxiety on reducing anxiety in pregnant women. Hypnotherapy could produce the hormone serotonin which can inhibit the transmission of anxiety impulses in the central nervous system, so that anxiety can be reduced.(Jannah et al., 2017) Hypnotherapy also works on the limbic system which will be delivered to the nervous system which activates the work of

the parasympathetic nerve which functions to reduce the tension in the muscles of the body, reducing the frequency heart rate, blood pressure and pulse.

Negative messages that were continuously received by pregnant women will be processed as something real and become part of the mother's belief system that can disrupt the body's chemical system. That is because the sympathetic nerves not only respond to real threats but also to newly imagined threats.(Gunawan, 2009) Therefore, the administration of hypnopressure to hypertensive pregnant women aims to reprogramming the negative recording in the subconscious mind.

When a pregnant woman with preeclampsia was given hypnopressure, there was a transfer of brain waves into alpha or theta waves. In the Theta condition a person feels asleep, the sounds outside can no longer be heard properly, but instead they can be heard by the subconscious mind very well, and become a permanent value, because it is not realized by the conscious mind.(Majid, 2013) Through hypnopressure, a positive suggestion that was included in the

subconscious could make the level of anxiety of pregnant women decreased. The results of this study can further strengthen the opinion that programs in the mind that have been implanted through affirmations or suggestions in a hypnotic state, can be a trigger for permanent change.(De Benedittis, 2015)

Giving stimulation at the acupressure point further strengthens the effects of hypnosis given. That was because acupressure could facilitate the conditions of relaxation of pregnant women so that it was easier to be given suggestions. Relaxation due to hypnopressure can help pregnant women achieve and maintain a deep condition of hypnosis.(Schiff et al., 2007) The results of this study support previous research by Nugraha (2018) which combined several acupressure points to reduce anxiety. There was a significant difference in anxiety score change between the hypnopressure anxiety score and the control group, the hypnopressure anxiety score was lower than the control group.(Nugraha et al., 2018)

Acupressure in anxiety patients combined several acupuncture points. The stimulated points were the Yintang,

Shenmen, Neiguan, Tay Yang and Shaofu points. Stimulation given at the combination of the meridian points will be continued to the posterior hypothalamus. The posterior hypothalamus would produce the hormone endorphine, which has a major effect on comfort and relaxation. Therefore the client will become more relaxed, and anxiety decreased.

Conclusion

Hypnopressure at the meridian points Ex-HN3 (yintang), P6 (neiguan) and GV20 (baihui) one hour weekly for three weeks affects in reducing anxiety levels in pregnant women with preeclampsia.

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