



Effectiveness of Ear Acupressure on Anxiety Among Primigravida Women During Labor

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A B S T R A C T

Childbirth is a physiological process that is influenced by maternal, familial, and environmental support. Primigravida women often experience heightened anxiety due to lack of childbirth experience. Increased anxiety can stimulate cortisol release, potentially leading to labor complications such as impaired uterine contractions and prolonged labor. One non-pharmacological approach to reduce anxiety during labor is acupressure. While ear acupressure has been shown to reduce labor pain, evidence regarding its effect on anxiety remains limited. This study aimed to examine the effectiveness of ear acupressure at the Shen Men point in reducing anxiety during the early stage of labor. A quasi-experimental one-group pre-test-post-test design was used, involving 31 primigravida women in early labor selected through convenience sampling. Anxiety levels were measured before and after the intervention using the Anxiety Assessment Scale for Women in Labor (AASWL). Before the intervention, 67.70% of participants reported anxiety levels above 50%. After ear acupressure, more than half of the participants (54.80%) continued to report anxiety levels above 50%. The mean anxiety score decreased from 25.71 before the intervention to 16.48 after, showing an average reduction of 9.23 points. However, statistical analysis using the Wilcoxon signed-rank test yielded a p-value of 0.157, indicating that the reduction was not statistically significant. In conclusion, ear acupressure at the Shen Men point was not shown to have a significant effect on reducing anxiety during the first stage of labor in primigravida women.

INTRODUCTION

The process of giving birth for a primigravida is an anxious first experience. because the possibility of abnormalities and complications is quite large, both in terms of his strength (power), birth canal (passage) and condition of the fetus (passenger). Previous research shows that Nulliparous pregnant women with moderate-to-high anxiety scores experienced dystocia 10.5 times more often compared to other pregnant women (Alijahan & Kordi, 2014). According to the World Health Organisation (2019), maternal deaths are caused by major complications such as bleeding, infection, high blood pressure during pregnancy, complications from childbirth, and unsafe abortion. Based on WHO data, almost 75% of the major complications that cause One of the causes of maternal death is high blood pressure during pregnancy and childbirth (pre-eclampsia and eclampsia). The results of the study showed that as many as 52.7% of pregnant women had a high level of anxiety and experienced hypertension, while 57.8% of pregnant women had this high level anxiety and experiencing pre-eclampsia (Ningsih & Fauzi, 2022). The results of a study conducted in the independent practice of midwives in Surabaya, found that out of 25 mothers giving birth in January 2024, most of them experienced anxiety, especially in primigravida. The care provided by One way to help reduce anxiety is to provide education through classes for pregnant women

and teaches deep breathing relaxation techniques, but in reality the mother still experiences anxiety. The level of anxiety greatly affects the well-being of the mother and fetus. The level of anxiety low anxiety can reduce the complications that arise so that indirectly can reduce maternal and infant mortality rates, while high levels of anxiety can aggravate complications of maternal and fetal mortality rates (Siallagan & Lestari, 2018). Anxiety levels mother becomes more acute and intensive in the last week of pregnancy, this is related to the closeness childbirth is perceived by some pregnant women as a vulnerable moment and is capable of trigger feelings of fear (Silva et al., 2017). Biochemical research shows that anxiety that reported and endogenous plasma epinephrine correlated significantly. Higher epinephrine levels significantly associated with lower uterine contraction activity and duration of labor longer (Hishikawa et al., 2019). One of the important hormones in labor is oxytocin. Oxytocin is produced by the paraventricular nucleus of the hypothalamus and the supraoptic nucleus. Axons from Most of the magnocellular oxytocin neurons terminate in the posterior lobe of the pituitary. Posterior pituitary release oxytocin. Several studies have reported that anxiety disorders affect imbalance of the hormone oxytocin (Neumann & Slattery, 2016). Another hormone that is important in the birthing process is catecholamines, which include dopamine, epinephrine, and norepinephrine. Catecholamines are synthesized in the brain, adrenal medulla, and sympathetic nerve fibers, and is known to be involved in the body's stress response to exogenous situations perceived as dangerous.

Catecholamines activate emotional responses in the amygdala that cause fear, anxiety, or anger, dilate the pupils, and increase oxygen absorption. Fear or anxiety can cause increased levels of catecholamines and labor disorders so which directly or indirectly interfere with the oxytocin system through the amygdala. Therefore, labor must occur within a safe situation, without negative emotions such as anxiety. To support the labor process safe and healthy labor process, health workers need to provide health education and care to reduce anxiety. Non-pharmacological therapies to reduce anxiety include acupressure. The ear acupressure method is a part of body acupressure that is effective in reducing anxiety. but there is still little empirical evidence to support it. According to Wei He. et al (2012) the earlobe has many nerve fibers and blood vessels originating from large nerve fibers and large blood vessels of the body. If stimulated, the ends of the nerve fibers in the ear can send waves of stimulation to large nerve fibers in the body in the relevant organs (Setiawandari et al., 2023). Performing acupressure on the outer ear will stimulate the nerves in the ear. in the outer ear, where the nerves connect directly to the brain. Some branches of the nerve. The large nerves in the outer ear include the major auricular nerve, the occipital nerve minor, the trigeminal nerve, the temporoauricular nerve, the facial nerve, the vagus nerve, and the glasso-pharyngeus via the sympathetic, parasympathetic and autonomic nerves related to the brain, brain stem and cerebral cortex (Putriatri Krimasusini Senudin & Nurdin, 2019). Indications: Shen Men acupressure point is at the body level to reduce pain, tension, excessive sensitivity; reduce hypertension. At the mental level, it can

calm the mind and relieve anxiety, depression, insomnia, restlessness, and desire. While at the spiritual level, it opens up connections to the spirit (opening one's heart), the ability to love oneself and others. (Nityamo, nd) In Indonesia, the practice of ear acupressure has not been widely implemented due to a lack of evidence. empirical. Therefore, the purpose of the study was to determine the effect of acupressure on the Shen Men ear point. on primigravida anxiety in the first stage of labor.

METHOD

The type of research used is quasi-experimental with a one-group pre-post test design. The number of research samples was 31 mothers in the first stage of labor using the accidental technique. sampling and met the inclusion criteria, namely gestational age 36-41 weeks, head presentation, fetus single, and TBJ 2500-3500 grams. While childbirth with complications, Pudji Rochyati Score Card (KSPR) > 10, suffers from skin disease on the ear, cannot read and write, and the mother came with cervical dilation of more than 8 cm, were excluded from the study. Anxiety levels were assessed twice, before and after treatment, using the anxiety instrument Anxiety Assessment Scale for Pregnant Women in Labor (AASPWL) consists of 9 questionnaire items, with assessment categories as follows: < 50% = positive (not anxious) and > 51% = negative (anxious). Acupressure is performed at the points Shen Men is located in the triangular fossa of the right and left outer ear, every 30 minutes. for 2-3 minutes clockwise. Acupressure is given by a trained midwife. following Normal Delivery Care (APN) training and a common perception has been achieved, so that provision of interventions in accordance with standard operating procedures. Data were analysed using the test Wilcoxon signed rank test. This research has been tested ethically at the Health Research Ethics Commission of the Faculty of Science and Health of PGRI Adi Buana University Surabaya, dated January 20, 2025, with number: 171 KEPK.

RESULT

Table 1. Frequency distribution of characteristics of primigravida respondents in the first stage of labor

Characteristics	Mean±SD Median;Min-Mak	N=31	%	<i>p-value</i>
Age (Years)				
12-16	26,52±	0	0,00	0,017*
17-25	3,94	13	41,90	
26-35	26;	17	54,80	
36-45	20-40	1	3,20	
Education				
Elementary-Middle School	-	0	0,00	0,000*
High school/equivalent		17	54,80	
D3/SI		14	45,20	
Work				
Doesn't work	-	18	58,10	0,000*
Self-employed		3	9,70	
Civil servant Private		10	32,3	

Gestational Age (weeks)				
37-38	38,35±	17	54,80	0,000*
39-40	1,45	8	25,80	
>40	38;	6	19,40	
	35-41			

Table 1 it is known that the majority of respondents are aged 26-35 years, namely 54.8%, with an average value of 26.52. years, the lowest age is 20 years, and the oldest age is 40 years. Most respondents have a high school education, namely 54.8%, not working or as a housewife, namely 58.1% and gestational age 37-38 weeks, namely 19.4%. The mean (average) value of gestational age was 38.35 weeks, with the age of the youngest pregnancy being 35 weeks, and the oldest pregnancy was 41 weeks.

Table 2. Analysis of Primigravida Anxiety in the First Stage of Labor

Anxiety	Mean±SD Median;Min-Mak	N= 31	%	<i>p-value</i>	
<i>Pre test</i>					
<50% Not Worried	25,71±8,49	10	32,30	0,000*	0,157**
>50% Anxious	25,00;10-44	21	67,70		
<i>Post test</i>					
<50% Not Worried	16,48±11,54	14	45,20	0,000*	
>50% Anxious	19,00;9-35	17	54,80		

Table 2 it is known that the majority of respondents experienced anxiety before being given ear acupressure, 21 respondents (67.70%). After being given ear acupressure, more than half of them, 17 respondents (54.8%) still experiencing anxiety. The average anxiety score before ear acupressure was 25.71, and after being given ear acupressure, it was 16.48, so the average reduction in anxiety was 9.23. Results Shapiro-Wilk test $\bar{y}=0.000$ ($<0,05$) means the data is not normally distributed, so the test is used Wilcoxon signed rank test. The result of the Wilcoxon signed rank test, $\bar{y}=0.157$ ($<0,05$), means there is no effect of Shen Men ear acupressure on primigravida anxiety during the first stage of labor.

DISCUSSION

The results of this study showed no effect of Shen Men ear acupressure on primigravida anxiety. in the first stage of labor. The average decrease in anxiety was 9.23. Many factors influence anxiety, including age, physical condition, socio-cultural, level of education and knowledge. Respondents in this study were almost half aged 17-25 years (41.9%), and more than half of them have a high school education or equivalent. Mothers who are young when they give birth for the first time, likely to have significant adverse implications for women's mental health, not only in the short term, but also throughout their lives. Previous research results reported that there is strong evidence of a link between teenage births and poor mental health, with average mental health scores being 2.76 to 3.96 points lower for mothers aged under 20 compared to mothers aged 25 and over (Aitken et al., 2016). This is because mothers who give birth at a young age are a vulnerable group at risk. high due to the complexity of the problems faced such as the

readiness of reproductive organs, economic factors, adolescent emotional well-being and sense of personal control. Maternal education level is correlated with the mother's level of knowledge. Mothers who have high knowledge will have the effort to address problems related to pregnancy and childbirth. Previous studies have reported that knowledge obtained in the prenatal class has a positive effect on health anxiety, reducing the duration of labor, and increasing newborn weight (Nikoozad et al., 2024).

Ear acupressure at the Shen Men point, located in the triangular fossa. The triangular fossa is innervated by the vagus nerves and trigeminal nerves. The triangular fossa as a reflex organ in the lower extremities such as the hips, knees, ankles, uterus and pelvic organs. The Shen Men point is the gateway spirit, stimulating this point can reduce anxiety, nervousness and produce a calming effect. calming and relaxing (Nityamo, nd). The Shenmen Ear Point is named after the traditional point on the Heart Channel (HE-7). The actions of the HE-7 point include: calming the Soul, regulating, and strengthening the heart. Shenmen HE-7 (Gate of the Soul) is the most important acupuncture point for calming and regulating the soul. The Shen Men area of the lateral triangular fossa is associated with: Phase 1 musculoskeletal mesodermal structures and spleen; Phase 2 ectodermal thalamus, hypothalamus, and hippocampus; and Phase 3 endodermal liver and pancreas (Stanton, 2024). Therefore, stimulating the point Shen Men stimulates the brain, then the hypothalamus and anterior pituitary to produce γ -endorphin hormone . Increasing the γ -endorphin hormone makes the mother relaxed so that she can reduce anxiety. The results of this study are in line with previous research, where ear acupressure at the Shen Men point was not significant ($\bar{y}=0.64$) in reducing anxiety in primigravida mothers giving birth, but increasing average γ -endorphin levels (355.4 ± 224.7) compared to the deep breathing relaxation group (225.1 ± 127.5) with a value of $\bar{y} = 0.004$ (Setiawandari et al., 2023). Many factors cause anxiety in mothers giving birth, one of which is the parity factor. Mothers who give birth for the first time feel anxious about the labour process is caused by the mother's inexperience. In addition, there is a lack of knowledge and information about the correct delivery process. Health workers also have a significant influence on the level of anxiety of mothers who have just given birth for the first time, because education plays an important role in increasing the knowledge and understanding of first-time mothers time of giving birth. Social support, such as support from husband and family and support from officers, Health (midwives) can have a positive influence on maternal anxiety (Fauziyah & Anggraeni, 2023). There needs to be a combination of interventions, such as stimulation of more than one point, to get results. maximum information and support from family and health workers in reducing anxiety.

CONCLUSION

The conclusion of this study is that acupressure of the Shen Men ear point has no effect on anxiety experienced by primigravida during the first stage of labor.

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