

## ***Acupressure on Acupoint SP6 and LI4 Against the Level of Pain and the Old Labor Active Phase I in Inpatient Clinics of Yogyakarta***

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**Abstract**—Women will experience pain during the birth process of their baby. Pain that is not controlled will affect the duration of the first period which affects pain in the mother and baby. This study describes the effect of acupressure on acupoint SP6 and LI4 on pain intensity and length of labor during the active phase. The method used Quase Experiment with a pre post test group design. The 42 participants were divided into two groups. The intervention group was given acupressure treatment on acupoint SP6, and acupoint LI4, while the control group was in accordance with the standar operational procedure of service at the Health Center. The results of this study after treatment the level of pain reduction was significant between the intervention group compared to the control group on the level of pain ( $p = 0.001$ ). There were significant differences in the length of time during the active phase between the intervention and control groups ( $p = 0.001$ ).

**Keyword:** Acupressure Acupoint SP6 and LI4, Then-Active Phase 1 Delivery, Long Labor

### **1. INTRODUCTION**

Giving birth in a woman's life is an important experience and the quality of this experience leaves them short and long-term effects. To eliminate labor pain, many woman choose cesarean section, which the result in physical complications for the mother and baby, namely anxiety, stress, prolonged labor, changes in fetal heart rate and abnormal Apgar scores.<sup>1</sup> Severe delivery pain causes maternal emotional turmoil and disrupts his mental health. Besides, the negative effects on the phycology of the mother and fetus on the progress of delivery, such as increased oxygen consumption, increased pulmonary ventilation, increased cardiac output, delayed gastric emptying, uterine contraction inefficiency, prolonged labor, decreased uterine perfusion, fetal hypoxia, and metabolic acidosis, which cause obstetric interventions and consequently complications from labor pain which increase maternal pain and discomfort during labor.<sup>2</sup> Various pharmacological and nonpharmacological methods have been used to calm labor pain. In recent years, doctors and researchers have come to the conclusion that they must use safe and effective methods that do not interfere with labor, maternal awareness and cause maternal tension and other physiological actions to reduce pain.<sup>2</sup>

Complementary and herbal care approaches have been widely used in medical interventions; acupuncture and acupressure is one of the complementary therapies that have been recognized as successfully managing pain in labor and birth.<sup>3</sup> Acupressure is a therapy that is carried out by applying physical pressure at various points on the surface of the body by launching energy and balance in reducing pain.<sup>4</sup> Acupressure increases the release of hormones from the hypothalamus in the anterior pituitary system to activate the hormone oxytocin to stimulate the uterus. This acupressure, is a non-invasive medical procedure for relieving labor pain. Most women use a non-pharmacological approach to manage labor pain, with or without a pharmacological approach.<sup>5</sup> Acupressure measures are believed to be able to eliminate pregnancy nausea and vomiting, treatment of insomnia in postpartum women, and reduction in labor pain.<sup>6</sup>

SP6 points specifically has a strong influence on the reproductive organs, placental retention, and prolonged labor caused by dystocia. Acupressure is not indicated for premature pregnancies because

Yin energy can induce labor. Acupressure acupoints can be useful in inducing labor and shortening labor time, including LI4.<sup>7</sup> Hugo Point (LI4) is one of the 14 major meridians which is a key role in reducing labor pain.<sup>8</sup> Therefore, this study aims to look at the effects of acupressure on labor pain and duration of time two.

## 2. MATERIALS AND METHOD

This type of research is an experiment with *pre post test with control group design*. Dependent variable is the pain intensity and the length of labor during the active phase I, in mothers in the first active phase, single pregnancy, term pregnancy (37-40 weeks), and independent variable is acupressure on acupoint SP6 and LI4. This research was conducted on 11 July to 5 October 2015 at *Puskesmas Jetis* and *Puskesmas Tegalrejo* in Yogyakarta. Descriptive analysis is in the form of mean and standard deviation, while inferential analysis using Mann-Whitney Test.

## 3. RESULTS AND DISCUSSION

This study looked at differences in the intensity of pain scale and the duration of active phase 1 in maternal acupressure on acupoint SP6 and LI4 at *Puskesmas Jetis*, as well as in the control group, in Yogyakarta Inpatient Health Center, there are 42 maternity mothers.

Test the Normality of Group Data before and after with Shapiro-Wilk

From the results of the Shapiro-Wilk Data Normality Test the results show that the data is not normally distributed.

Table 1. Table Of Results Of Normality Test Data With Shapiro-Wilk On The Pre And Post Pain Scale In The Intervention Group And Control Group

No	Data	p
1	Pain score of pre control group	0,017
2	Pain score of post control group	0.004
3	Pain score of pre intervention group	0,001
4	Pain score of post intervention group	0,000

If it is seen the significance value of 0.00 ( $0.00 < .05$ ) means that the data is not normally distributed.

Normality Test Results in group data when active phase 1 with Shapiro-Wilk

From the results of the Shapiro-Wilk Data Normality Test the results show that the data is not normally distributed.

Table 2. Table Of Results Of Normality Test Data With Shapiro-Wilk During The First Period Of Active Phase 1 Time Of Labor

No	Data	p
1	Duration of first active phase	0,000

If it showed that the significance value of 0.00 ( $0.00 < .05$ ), that means the data is not normally distributed.

### 1) Characteristics of Respondents

According to the results of the characteristics of the respondents, the results are based on age, education, income and parity.

Tabel 3. Table Of Results Of Respondent Characteristics In The First Period Of Active Phase 1 When Labor Changes In Pain Scale

Demographic characteristic	Categories	Duration of first active phase (in hours)		Pain intensity	
		Mean	SD	Mean	SD
Age (in years)	≤ 20	4,20	1,64	0,60	0,54
	20-30	4,25	1,83	0,29	1,40
	≥ 30	4,75	2,05	0,38	1,14
Education	Elementary	4	-	0,5	2,12
	High school	4,67	1,68	0,16	1,30
	Diploma and higher	3,50	2,42	0,66	1,07
Income (in million IDR)	< 1	4,37	1,87	0,26	1,26
	1-3	6	-	1	-
Parity	1 dan > 3	4,31	1,85	0,20	1,19
	2-3	4,69	1,98	0,38	1,60

In reference to table 3, it present that during the active phase 1, the average is lowest at the age of 20-30, which the education is in higher education, while for income at less than one million, and for parity 1 and more than 3. As for change pain scale, at the age of less than 20 years and in secondary education and at income of less than one million and at parity in mothers with 2-3 parity.

2) Results of the mean values in the intervention group and the control group on the pain scale

Table 4. Table Results Of Wilcoxon Signed Rank Analysis Found Differences In The Scale Of Pain In The Pre And Post Intervention Groups And Control Groups

No	Group	Mean	SD	p
1	Pain score of pre control group	5,76	1,35	0,025
2	Pain score of post control group	6,09	1,32	
3	Pain score of pre intervension group	5,69	1,02	0,000
4	Pain score of post intervension group	3,83	1,16	

Based on Table 4 of the Wilcoxon signed rank analysis above, it is known that there are differences in mean scores on the pain scale in the pre and post groups with a significant value of 0.025, and there are differences in the pre and post mean scores in the intervention group with a significant value of 0,000.

3) Results of the mean values in the intervention group and the control group on the pain scale

Table 5. Table Of Results Of Analysis By Mann-Whitney Test For The First Period Of The Active Phase And Changes In Pain Scale In The Intervention Group And Control Group

No	Group	Mean	SD	p
1	Duration of first active phase of control group (in hours)	5,07	1,65	0,000
2	Duration of first active phase of intervension group (in hours)	2,01	0,87	
3	Pain score of control group	0,33	0,90	0,000
4	Pain score of intervension group	1,86	0,68	

According to Table 5, the Mann-Whitney analysis presents that there are differences in mean values on the old scale of the active phase in the control and intervention groups with a significant value of 0.001. In contrast, there are differences in mean scores on changes in pain scale in the control group and intervention with a significant value of 0.001.

Homogeneity of respondents' characteristics in this study included age, education, income and parity. According to the results of the Kolmogorov-Smirnov homogeneity, the data obtained that between the intervention and control groups were not normally distributed. The results of this study showed that the average pain scale using VAS in the intervention group before treatment 5.69 (SD 1.02) and after treatment 3.83 (SD 1.16) while in the control group before intervention 6.76 (SD 1, 35) and after intervention 6.09 (SD 1.32). The results of the Mann-Whitney Test showed that there were significant differences in the reduction in the average pain scale between the intervention and control groups with p value <0.001.

The results of this study indicate that acupressure performed on Pericardium SP6 and LI acupoints can scale pain during the active phase. The findings of this study were carried out by Fahimeh et al. that

Acupressure on SP6 and LI4 points decreases the labor pain. Therefore, this method can be used effectively in the labor process.<sup>9</sup> Acupressure at SP6 and LI4 points reduces labor pain. Therefore, this method is carried out in similar and effective, non-invasive, and easy-to-use techniques to reduce labor pain.<sup>8,10</sup> The use of acupressure in SP6 is a method used to reduce pain and can improve the quality of life for maternity.<sup>7,11</sup> The study conducted by Marzieh Akbarzadeh et al. putting pressure on the sp6 point is effective in reducing pain, and can provide support to the mother due to stress during labor. Therefore, this method is expected to be the foremost care for health workers, especially midwives, as an effective strategy to reduce labor pain.<sup>1,2,12</sup>

This acupressure method shows that SP6 is effective for reducing labor pain and accelerating the duration of labor. Acupressure SP6 can be an effective midwifery care management for maternity.<sup>13,14</sup> Acupressure can be used to relieve labor and birth.<sup>15,16,17</sup> In addition, the importance of specific support for women such as pre-natal counseling, emotional support, and psychological support.<sup>18</sup>

#### 4. CONCLUSION

- A. There was a difference in the mean pain scale between the control group and the acupressure acupoint intervention group for mothers giving birth at the Inpatient Health Center in Yogyakarta.
- B. There was a difference in the mean duration of 1 active phase between the control group and the intervention group acupressure acupoints for maternity at the Inpatient Health Center in Yogyakarta.

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