THE ACUPRESSURE COMBINATION POINTS BL32 AND L14 WITH POINTS BL32 AND SP6 ON LABOR PAIN IN ACTIVE PHASE

KOMBINASI TITIK AKUPRESUR BL32 DAN L14 DENGAN TITIK BL32 DAN SP6 PADA NYERI PERSALINAN TAHAP AKTIF

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ABSTRACT

Labor pain that is not resolved will cause hyperventilation so that the need for oxygen increases, blood pressure increases, and reduced intestinal motility and vesikaurinaria. This situation stimulates an increase in catecholamines which disrupts uterine contractions resulting in uterine inertia. Labor pain due to psychic responses and physical reflexes. Acupressure is used to treat pain. Acupressure can affect the intensity of pain. This study was to determine the effect of giving Acupressure Combination of Points BL32-L14 with BL32-Sp6 on Active Phase I Labor Pain in PMB Sukatmi Setrokalangan Kudus. This type of research was a Quasy experiment with a two-group pre-post test design. The sampling technique used was accidental sampling with a sample size of 24 respondents divided into two groups (12 interventions and 12 controls). The normality test used was the Shapiro-Wilks test, data analysis used the Wilcoxon and Mann-Whitney tests. Acupressure BL32 and L14 for pain (p 0.03), Acupressure BL32 and Sp6 got p 0.002. Comparison of BL 32-L14 acupressure with BL32-Sp6 got p 0.590. There is an effect of Acupressure BL32 and L14 on labor pain, and there is an effect of Acupressure BL32 and Sp6 on labor pain. There was no difference between BL 32-L14 and BL32-Sp6 on labor pain.

Keywords: acupressure; active phase; bl32-li4; bl32-sp6; labor pain

ABSTRAK


Kata kunci: akupresur; fase aktif; bl32-li4; bl32-sp6; nyeri persalinan

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INTRODUCTION

Labor begins when the uterus contracts and causes cervical changes (opening and thinning) and ends with the delivery of the complete placenta. The stage of labor begins with the first stage, which is the opening that takes place between zero dilatation to complete dilatation (10 cm). The length of first stage for primigravida lasted 12 hours and multigravida lasted 8 hours. Labor in primiparas lasts > 8 hours for the latent phase, > 6 hours for the active phase, and more than 2 hours in the second stage (Bobak 2014). he labor process raises the factors that are not smooth, including Passage (birth canal), Passenger (baby), and Power (mother’s strength). Passage and Passenger can be estimated the probability of causing difficulty in labor, but the power of pushing the mother should also be predictable in its potential to cause difficulty in labor (Kurniarum 2016b).

The strength of the mother in the normal delivery process which can have an impact on the difficulty of childbirth can be interpreted from the duration of the second stage of labor (Bobak 2014). The cause of prolonged labor is the lengthening of the first stage of labor, namely the occurrence of pain (Manuaba 2016). Pain can affect the mother’s condition such as fatigue, fear, and worry, and can cause stress. Pain that is not resolved quickly can lead to the death of the mother and baby because pain causes breathing and heart rate to increase which causes blood and oxygen flow to the placenta to be disrupted (Kurniarum 2016b).

Data from the World Health Organization (WHO) shows the maternal mortality rate due to childbirth in 2020 is 810 people, of which 94% are in developing countries. Myanmar with 250 deaths, and Laos has 185 deaths per 100,000 inhabitants (World Health Organisation, WHO 2021). The maternal mortality rate in Indonesia in 2020 was recorded at 177 deaths per 100 thousand births. This data is a reference for achieving the target of the maternal mortality rate according to the Sustainable Development Goals, which is 70/100,000 live births in 2030 and the target set by the United Nations is 102/100,000 births (Kemenkes RI 2021). The maternal mortality rate in Central Java currently in 2020 reached 88.58 per 100 thousand live births, where this data decreased compared to the previous year and even exceeded the SDG’s target of 90 per 100,000 live births (Dinkes Jateng 2020).

The main problem faced by mothers in labor is labor pain. Labor pain is a physiological condition that begins to arise in the first stage of labor, the active phase and the latent phase, in the latent phase, the opening occurs up to 3 cm. In primigravida the first stage of labor can last approximately 20 hours, in multigravida, it can last approximately 14 hours. Labor pain is caused by uterine contractions and cervical dilatation. The longer the pain that is felt will get stronger, the peak of pain occurs in the active phase, where the complete dilatation is up to 10 cm (Manuaba 2016). The intensity of pain during labor affects the psychological condition of the mother, the delivery process, and the well-being of the fetus (Kurniarum 2016b). The progress of the first stage of labor in the active phase is the most tiring, and strenuous, and most women begin to feel pain, in this phase most women feel intense pain because uterine contractions begin to become more active. In this phase, adequate contractions are needed to initiate labor. Weakening of uterine contractions or inadequate contractions is the most common cause of prolonged labor (Wiknjosastro 2014).

Handling labor pain with pharmacological or non-pharmacological methods. The use of pharmacological methods often causes side effects so it requires safer actions that do not cause adverse effects on the mother and fetus, namely non-pharmacological efforts. Non-pharmacological efforts are acupressure. Acupressure points associated with decreased pain intensity during labor include LI4 (Hegu), BL67 (Zhiyin), SP6 (Sanyinjiao), PC6 (Neiguan), BL19 (Danshu), BL21 (Weishu), BL60 (Kunlun) (Mafeton, R., & Shimo 2016). The results of Ozgoli’s study showed that acupressure at points LI4 and BL32 significantly reduced labor pain compared to the control group with a slight advantage at points BL32 (Ozgoli et al, 2016). The selection of a certain point has an impact on accelerating the labor process and reducing pain. BL32 point acupressure provides benefits in increasing uterine contractions to speed up labor, BL32 massage will reduce pain during labor (Febriyanti 2018). Acupressure is known to reduce labor pain by stimulating the BL 32 point and the point on the hand which is transmitted through large nerve fibers to the reticular formation, thalamus, and limbic system so that it can release endorphins which function as pain relievers, the presence of endorphins can trigger a calming and uplifting response. has a positive effect on emotions, so it can cause relaxation in the body (Nanur 2015).

Acupressure will provide optimal benefits if done correctly and for the appropriate duration.
Acupressure is performed using finger pressure on the combination points BL32, L14, and SP6. The implementation of the emphasis alternately when a contraction occurs in the first stage of the active phase, namely in the dilatation phase, the maximum opening is 4-9 cm with a duration of 5 minutes. The implementation of the acupressure combination is done by pressing the point in a clockwise direction (N. Febrianti, 2019).

METHOD
This research had passed the ethical test conducted by the ethics test team of Universitas Karya Husada Semarang with the ethical test number 1045/KH.KEPK/KT/2021. This type of quantitative research is in the form of a quasi-experiment with a two-group pre-post test design. The sampling technique used was accidental sampling with a sample size of 24 respondents who were divided into 2 groups: 12 respondents in the BL32 Li4 Acupressure Combination intervention group and 12 respondents in the BL32-Sp6 Acupressure Combination Intervention group.

Data analysis used the Wilcoxon test to determine the difference in labor pain before and after the intervention and Mann Whitney to test the effectiveness of the two acupressure interventions BL32-Li4 and BL32-Sp6 on labor pain in the active phase I. This research was conducted at PMB Sukatmi Setrokalangan, Kudus Regency in August-October 2021.

RESULTS
The characteristics of responden are basically from age dan education level. The age level of all respondents is 20-35 years as many as 24 (100%). The education level of the respondents is mostly junior high school graduates 13 (54.2%), high school graduates 10 (41.7%), and elementary school 1 (4.2%).

<table>
<thead>
<tr>
<th>Table 1. Characteristics of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>&lt; 20 years</td>
</tr>
<tr>
<td>20-35 years</td>
</tr>
<tr>
<td>&gt; 35 years</td>
</tr>
<tr>
<td>Education</td>
</tr>
<tr>
<td>Elementary School</td>
</tr>
</tbody>
</table>

The average data for first-stage labor pain before the combination acupressure BL32-L14 was 7.50 with the lowest scale being 7 and the highest being 8. After the procedure, the mean value was 6, the median value was 6.00 with the lowest scale being 5 and the highest scale being 7. (table 2)

<table>
<thead>
<tr>
<th>Table 2. Childbirth Pain In Stage 1 Active Phase Of Maternity Before And After Acupressure Combination Of Points BL32 And L14 Is Given.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Stage Pain</td>
</tr>
<tr>
<td>Pre Group BL32-L14</td>
</tr>
<tr>
<td>Post Group BL32-L14</td>
</tr>
</tbody>
</table>

The pain scale of the first stage of labor before the procedure got an average value of 7.5 and after the procedure, the average value was 6.00, so it can be concluded that Acupressure Combination Point BL32 and L14 proved effective in reducing labor pain by 1.5 points. This effect can also be seen from the Wilcoxon test which obtained a P-Value value of 0.003 (<0.05) so it can be concluded that the Acupressure Combination of Points BL32 and L14 has a significant effect on labor pain in the first stage of the active phase of childbirth and there is a decrease in pain intensity (negative) ranks. on 11 respondents with a mean rank of 6.00.

The average data for labor pain in the first stage before the combination acupressure BL32-Sp6 (table 3) was 7.83 with the lowest scale being 7 and the highest being 9. Meanwhile, after the procedure, the average labor pain was 6.17, and the median value was 6.00 with the lowest scale of 5 and the lowest scale is 5. highest 7.
Table 3. Childbirth Pain in Stage 1 Active Phase of Maternity Before and After Acupressure Combination of BL32 and Sp6 Points is Given.

<table>
<thead>
<tr>
<th>1st Stage Pain</th>
<th>N</th>
<th>Mean</th>
<th>Min</th>
<th>Maks</th>
<th>SD</th>
<th>Mean Rank</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Group BL32-Sp6</td>
<td>12</td>
<td>0.83</td>
<td>7</td>
<td>9</td>
<td>7.83</td>
<td>6.50</td>
<td>0.002</td>
</tr>
<tr>
<td>Post Group BL32-Sp6</td>
<td>12</td>
<td>6.17</td>
<td>5</td>
<td>7</td>
<td>6.17</td>
<td>0.00</td>
<td></td>
</tr>
</tbody>
</table>

Before the acupressure action with the combination of BL32 and Sp6 points, the average pain scale was 7.83 and after the action was 6.17, so it can be concluded that the acupressure action of the combination of BL32 and Sp6 points was proven to be effective in reducing the labor pain scale by 1.66 points. This effect is also shown from the results of the Wilcoxon test which obtained a p-value of 0.002 so that it can be concluded that there is a significant effect of the Acupressure Combination Point BL32 and Sp6 on labor pain in the first stage of the active phase of labor and there is a decrease in pain intensity in 12 respondents with a mean rank value of 6.5.

Table 4 shows the data from the Mann Whitney P-Value test is 0.590 (>0.05) so it can be concluded that there is no significant difference between the acupressure action of the BL 32-Li4 point combination and the BL32-Sp6 point combination acupressure.

Table 4. The Effectiveness of Acupressure Actions Combining Points BL32 and L14 with Points BL32 and Sp6 on Labor Pain in Active Phase.

<table>
<thead>
<tr>
<th>Intervention</th>
<th>N</th>
<th>Mean Rank</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BL32-L14</td>
<td>12</td>
<td>11.67</td>
<td>0.590</td>
</tr>
<tr>
<td>BL32-SP6</td>
<td>12</td>
<td>13.33</td>
<td></td>
</tr>
</tbody>
</table>

DISCUSSION

The Effect of Acupressure Combination of Points BL32 and L14 on Labor Pain in The First Stage of Active Phase of Maternity.

The results of the study found that in the BL32-L14 combination group the pain scale of the 1st stage of labor before the procedure got a mean value of 7.50 with the lowest scale of 7 and the highest being 8. After the action, the mean value of 6 with the lowest scale was 5 and the highest scale was 7. Labor pain was a physiological condition that begins to arise in the first stage of labor, the active phase, and the latent phase, in the latent phase, there is an opening up to 3 cm. In primigravida, the first stage of labor can last approximately 20 hours, in multigravida approximately 14 hours. Labor pain arises because of dilatation of the cervix and lowers the uterine segment, causing a reaction to the activity of the sympathetic nervous system. This pain is experienced both in the first labor and in multiparous labor (Widiawati 2018).

Response to labor pain in the category of severe and very severe. This pain response is indicated by increased anxiety, increased pulse, and difficulty direct (Angelia 2020). The pain response felt by the respondent was indicated by anxiety and emotional stress and even some could not be directed. Respondents who experience very severe pain due to increased cervical dilatation and contractions that are more adequate, this causes the pain to get worse and the mother can’t control it (Angelia 2020). Labor pain occurs due to uterine contractions and cervical dilatation. The longer the pain that is felt will get stronger, the peak of pain occurs in the active phase, where the complete dilatation is up to 10 cm (Andarmoyo 2016).

The pain felt by the respondent is influenced by the respondent’s characteristics such as age and education. The parity factor also affects labor pain, namely, nulliparous mothers feel more intense pain than multiparas, in addition, young mothers also show more severe pain levels than mothers of older ages (Ayu 2017). The pain felt does not show the difference between mothers with high and low education (Khoirunnisa 2017).

The results of the Wilcoxon analysis obtained a P-Value of 0.003 which showed a significant effect of the Acupressure Combination Point BL32 and L14 on labor pain in the first stage of the active phase of the mother giving birth because the p-value was 0.003 (<0.05) at a significance level of 5%. This study found that there was a decrease in 11 respondents with a mean rank value of 6.00. This is because acupressure is known to reduce labor pain by stimulating the BL 32 point and the point on the hand which is transmitted through large nerve fibers to the formation reticularis, thalamus, and limbic system so
that it can release endorphins that function as pain relievers (Rahmawati 2016).

BL32 point acupressure action is effective in reducing labor pain scale (Astuti et al., 2020). Labor pain that is not handled adequately has a harmful effect in addition to the discomfort it causes, the effects that arise will affect the delivery process in addition to worsening the condition of the mother and fetus, reducing pain after giving acupressure will help the mother reduce the discomfort felt due to the labor pain (Rahmawati 2016). Labor pain can be controlled by providing a stimulus, namely acupressure. Acupressure is one of the non-pharmacological pain management methods that can be applied to pregnant women. Acupressure is very practical because it does not require many tools and is enough with the fingers, thumb, index, and palm is cheap and safe (Basuki 2012).

This study found only 1 respondent with the same pain scale before and after the action due to the mother's condition being very anxious so that it could not be directed and the respondent's age approaching the age at risk so that the administration of acupressure did not show a decrease in the pain scale. Previous research found that acupressure did not have an effect due to maternal age > 35 years. Anxiety also occurs in mothers who are too old (> 35 years) so it can pose risks that need to be considered during childbirth. As a result of increased anxiety, the stimulus for labor pain will increase (Mustafida 2020).

Labor pain can cause effects that include suffering, fear, anxiety, increased cardiac output, blood pressure, pulse rate, increased plasma catecholamine levels, increased oxygen demand, decreased gastric emptying, incoordination of uterine contractions, decreased uteroplacental blood flow and acidosis due to fetal hypoxia. Giving acupressure techniques to mothers in labor will help to reduce labor pain felt by mothers. Stimulation of the hand points and points BL32 and L14 promotes the production of endorphins in the body. The presence of endorphins can trigger a calming and uplifting response and have a positive effect on emotions, which can lead to relaxation and normalization of body functions (Astuti et al., 2020; Mustafida, 2020).

The combined acupressure action of BL32 and L14 points had a significant effect on labor pain in the first stage of the active phase of labor with a decrease in the pain scale of labor by 1.5 points. Labor pain before acupressure was carried out in the severe category due to cervical dilatation. The pain scale before the acupressure action was Point BL32 (Ciliao) and Point L14 (Hegu) as well as point BL32 (Ciliao) and Point SP6 (Sanyinjiao) respectively with an average of 8.27 and 8.00. Giving acupressure action can reduce the scale of labor pain (Mustafida 2020). The feeling of pain at the time of his is very subjective, not only depends on the intensity of his breathing but also depends on the mental state of the mother at the time of delivery (Judha, M., Sudarti, Fauzia 2014). The pain felt by each individual in labor can be different (Cunningham 2014).

The mother's mental state will make the mother stressed or vice versa. Stress in labor can cause severe pain during labor because stress triggers the release of catecholamine and adrenaline hormones (Setyowati 2018). The progress of the first stage of labor in the active phase is the most tiring, and strenuous, and most women begin to feel pain, in this phase most women feel intense pain because uterine contractions begin to become more active. Giving acupressure action to pregnant women will reduce the pain scale (Ozgoli, G., Mobarakabadi, S. S., Heshmat, R., Majd, H. A., & Sheikhan 2AD).

**The Effect Of Acupressure Combination Of BL32 And Sp6 Points On Labor Pain In The First Stage Of Active Phase Of Maternity**

The results of the study found that in the BL32-SP6 combination group, the pain scale of the 1st stage of labor before the procedure got a mean value of 7.83 with the lowest scale of 7 and the highest being 9. After the action, the mean value of 6.17 with the lowest scale being 5 and the highest scale being 7. Pain in labor arises due to psychological responses and physical reflexes. Pain will have an impact on increasing the activity of the sympathetic nervous system which can lead to changes in blood pressure, pulse, breathing, and skin color, nausea and vomiting, and excessive sweating. Emotional tension and fear can exacerbate the mother's perception of pain during labor. Labor pain will cause fear so anxiety arises which ends in panic (Kurniarum 2016a).

Most of the labor pain felt by the mother before the procedure was carried out in the category of severe pain (Kurniyawan 2016). The labor pain scale before the action was given was 7 and 8. The
average estimated value of the pain scale was 6.17 to 7.10 (Nanur 2015). His labor pain affects the mother to be more stressed, causing excessive hormones such as catecholamines and steroids. This hormone can cause smooth muscle tension and vasoconstriction of blood vessels. This can result in decreased uterine contractions, decreased uteroplacental circulation, reduced blood and oxygen flow to the uterus, and the onset of uterine ischemia which makes pain impulses increase (Judha, M., Mustafida, Fauziah 2014).

The results of the Wilcoxon analysis obtained a P-Value value of 0.002 which indicates a significant effect of Acupressure Combination Point BL32 and Sp6 on labor pain in the first stage of the active phase of childbirth. This study found that there was a decrease in 12 respondents with a mean rank value of 6.5. This shows that acupressure at the BL32-Sp6 point provides hormonal and relaxing effects so that it can reduce labor pain.

Previous research found that the acupressure combination of BL32 (Ciliao) and SP6 (Sanyinjiao) points in the second group showed a decrease in the average intensity of labor pain from severe to moderate intensity. Acupressure points provide stimulation to reduce pain. Gate control theory explains that stimuli or impulses can be adjusted or regulated, even inhibited by defense mechanisms in the central nervous system. This theory explains that there is a gate mechanism that opens at the nerve endings in the spinal column so that it can increase or decrease the flow of nerve impulses, namely from the peripheral nervous system to the central nervous system (Mustafida, 2020).

Acupressure at points BL32 and Sp6 can facilitate the labor process because acupressure can increase the effectiveness of uterine contractions. In addition, acupressure can also help in producing endorphins that are useful for reducing pain (Angelia 2020). Acupressure is known to stimulate Ad fibers that enter the dorsal part of the spinal cord. This results in segmental inhibition of pain stimuli, which are conducted by slower-running C fibers, and through connections in the midbrain, causes inhibition of pain stimuli in C fibers in other parts of the spinal cord. The resulting message will stimulate mechanoreceptors, if the dominant input comes from delta A fibers and C fibers, it will open these defenses and the client perceives pain sensations even if pain impulses are transmitted to the brain, there are higher cortical centers in the brain that modify pain (Mustafida, 2020).

Previous studies have found that acupressure at the Sp6 point is effective in reducing labor pain scale (Rahmawati 2016). There are several acupressure points used for labor induction, including SP6. Acupressure at this point is believed to stimulate the release of oxytocin and the pituitary gland which in turn stimulates uterine contractions to improve the labor process or manage labor pains (Mustafida 2020). Descending nerve pathways release opiates in the form of endorphins, a natural pain killer that comes from the body. This can explain why acupressure massage on the point of the hand and point BL 32 can reduce labor pain (Kurniyawan 2016).

This study found that based on table 3, before the acupressure action with the combination of BL32 and Sp6 points, the average pain scale was 7.83 and after the action was 6.17, it can be concluded that the acupressure action of the combination of BL32 and Sp6 points was proven to be effective in reducing the pain scale. delivery by 1.66 points. This effect is also shown from the results of the Wilcoxon test which obtained a P-Value value of 0.002 so it can be concluded that there is a significant effect of the Acupressure Combination of BL32 and Sp6 points on labor pain in the first stage of the active phase of childbirth.

The Effectiveness of Acupressure Combination of Points BL32 and L14 with Points BL32 and Sp6 on Labor Pain in Active Phase

The results of the analysis of the Mann-Whitney test got a p-value of 0.590 which showed no difference in the effectiveness of the Acupressure Combination of Points BL32 and L14 with Points BL32 and Sp6 on Active Phase I Labor Pain. This study showed that there was no significant difference between BL 32-L14 combination acupressure and BL32-Sp6 combination acupressure. Previous research also showed that there was no difference in the Acupressure Point BL32 (Ciliao) and L14 (Hegu) acupressure groups and the Acupressure Point BL32 (Ciliao) and SP6 (Sanyinjiao) points.

Previous research found that the combination of BL32 (Ciliao) and L14 (Hegu) points with BL32 (Ciliao) and SP6 (Sanyinjiao) points did not show a significant difference in effect. This shows that the combination of acupressure at these points is equally effective in
reducing the intensity of labor pain. Acupressure actions at delivery points BL32, LI4, and SP6 have the same effect in reducing labor pain, including the combination of these points (Febriyanti 2018).

Massage or emphasis on points LI4 (Hegu) and point SP6 (Sanyinjiao) can be used to manage the duration and intensity of labor pain to increase comfort for the mother. Several studies have shown that acupressure at the LI4 point can increase uterine contractions in active phase I parturition mothers and manage labor pain because it can stimulate the release of the hormone oxytocin and endorphins, relax the mind, and can relieve anxiety. Previous research has also shown that acupressure at the SP6 point is effective in reducing labor pain, and shortening the delivery time (Febriyanti 2018).

Acupressure at the Sp6 point is also effective in reducing maternal anxiety and the consumption of analgesics, especially pethidine, thereby reducing pain (Setyowati 2018). Acupressure at point BL32 is effective in reducing labor pain (Nurnalitasari and Arindita 2019). Acupressure can facilitate the delivery process because acupressure can increase the effectiveness of uterine contractions. Acupressure can also help in producing endorphins that are useful for reducing pain.

CONCLUSION

The combination of acupressure at the BL 32 and LI4 meridians was proven to be effective in reducing the intensity of labor pain in the first stage of the active phase with a P-value of 0.003 with an average decrease in pain intensity before and after treatment was 1.50. In the acupressure group, the BL 32 and Sp 6 meridians were effective in reducing labor pain intensity with a P-value of 0.002 and the average decrease in pain intensity before and after therapy was 2.00. However, from the results of the Mann-Whitney test between the acupressure combination group BL 32-LI4 and BL 32-Sp6, it was found that the P-Value value was 0.590, which means that there was no significant difference between the two combination therapies because the two combination therapies were both BL32-LI4 and BL32-Sp6 can both reduce labor pain intensity.

REFERENCE


