

23. The effectiveness of acupressure intervention

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Submission date: 10-Apr-2022 09:48PM (UTC-0700)

Submission ID: 1807471482

File name: 23. The effectiveness of acupressure intervention.pdf (371.24K)

Word count: 2792

Character count: 14703

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The Effectiveness of Acupressure Intervention and Birth Delivery Standing Position to Decrease the Intensity of Labor Pain

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1

ABSTRACT

Background: Pain is an extraordinary physiological process, and its intensity is generally experienced by almost all mothers differently. Acupressure is one of the non-pharmacological techniques in the management of labor pain. Another method is by employing a standing birth position.

Methods: This is A quasi-experiment with pre-test and post-test groups with the sample of 36 mothers in the acupressure intervention group and 36 others in the standing position group who were based on inclusion and exclusion criteria with cluster sampling technique. Paired T-Test was employed to examine the effect.

Results: The average intensity of labor pain in the acupressure intervention group before the intervention was 6.81 and after the intervention was 2.22. The average power of labor pain in the standing position group before the intervention was 6.81 and after the intervention was 2.56.

Acupressure intervention is more effective than standing position because the average value of the difference in degrees of pain before and after in the acupressure intervention group is 4.583, higher than the standing position which has an average difference in the degree of pain before and 4.250.

Conclusion: The midwives can apply acupressure interventions to minimize interventions with chemical actions or drugs.

Keywords-: Labor Pain, Acupressure Intervention, Standing Position

INTRODUCTION

The process of childbirth is marked by an increase in myometrium activity significantly so that contractions become regular and cause pain ⁽¹⁾. Pain in childbirth can affect the mother's condition in the form of fatigue, fear, worry and cause stress and anxiety which causes the release of the hormone which can cause fetal acidosis ⁽²⁾. Anxiety felt by the mother will have an impact on the stronger sensation of pain that is perceived by the

mother, so that not infrequently from some mothers finally decide for cesarean surgery ⁽³⁾.

Various attempts were made to reduce pain in labor, both pharmacologically and non-pharmacologically. Pain management is pharmacologically more effective than non-pharmacological methods. Some non-pharmacological techniques, namely breathing method, movement and position changes, massage, hydrotherapy, hot/cold therapy, music, guided imagery, maternity, acupressure, aromatherapy are ways to improve maternal comfort during childbirth and have a useful coping effect. Towards labor experience ⁽⁴⁾. One popular method of labor induction is acupressure used during labor with the aim of reducing pain and shortening the

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duration ⁽⁵⁾.

This acupressure technique uses pressure, massage and sequencing techniques along the body’s meridians or energy flow lines. Pressure or massage along the meridian line can eliminate existing blockages and improve the body’s natural balance. Acupressure is more focused on the balance of all elements of life by providing stimulation at specific points by using the fingers, palms, elbows, knees, and feet which can reduce pain and make labor time effective, cheap and safe ⁽⁶⁾.

Another method to reduce labor pain is by giving birth positions. Certain positions can help reduce pain, for example, sitting position, leaning upright, leaning forward, kneeling forward, sorting back or leaning forward (upright / standing position) ⁽⁷⁾. Usually, 7-14 of women have painless delivery, and almost 90% have labored with pain. 92% of patients experienced new experiences of childbirth, including 66% fear and 78% labor pain ⁽⁸⁾. Pain causes frustration and despair, so some mothers feel worried that they will not be able to go through labor ⁽⁹⁾.

Another study of the birth touch proved that with a touch during labor, 56% experienced fewer cesarean action, a decrease in the use of oxytocin and a shorter labor duration of 25% ⁽¹⁰⁾. The touch in labor can reduce anxiety, reduce pain and improve comfort, experience significantly shorter labor times, shorter hospital stays and lower incidence of postpartum depression ⁽¹¹⁾.

Research on Acupressure techniques have been widely studied, but researchers will see a decrease in pain intensity in all women giving birth, not only to primiparous mothers. The reason for choosing Metro City, Indonesia as a place to conduct research is because the number of deliveries is quite high, and there are 10% of protective cases carried out by Caesar. Further, previously no research on acupressure intervention, and not all midwives have applied acupressure therapy to reduce pain at the first stage of labor.

METHODOLOGY

This research is intervention or quasi-experiment using approaches of pre and post-test design group. The total number of samples was 72 people, namely 36 acupressure intervention groups and 36 standing position groups. The sampling technique used was cluster sampling conducted in Metro City area from July

to October 2017. A non-parametric dependent t-test was applied to examine the relationship among variables.

RESULTS

The age of mothers in the intervention group of acupressure and the standing position was mostly 20-35 (94.4%). The maternal parity in the acupressure intervention group was primipara (55.6%), while the mother with the standing position group was multiparous (58.3%). The work of mothers with the intervention group of acupressure and the standing position group on average were housewives (94.4%).

The childbirth pain intensity in the acupressure group intervention is depicted in Table 1.

Table 1: Frequency distribution of maternal pain intensity before and after acupressure intervention

Pain Level	Pain Level Before Acupressure (%)	Pain Level After Acupressure (%)
0	0	11.1
1	0	19.4
2	2.8	27.8
3	2.8	25
4	2.8	11.1
5	11.1	5.6
6	11.1	0
7	13.9	0
8	19.4	0
9	19.4	0
10	5.6	0
Total	100 %	100%

The respondents experienced the highest pain degree (10) before the intervention was two people (5.6%) and after the intervention, the highest degree of pain reduced to 5 experienced by two people (5.6%) also.

Table 2: Frequency distribution of pain intensity of birth before and after standing position

Pain Level	Pain Level Before Standing Position (%)	Pain Level After Standing Position (%)
0	0	5.6
1	0	13.9
2	0	30.6
3	5.6	27.8
4	11.1	13.9
5	11.1	8.3
6	16.7	0
7	11.1	0
8	22.2	0
9	13.9	0
10	8.3	0
Total	100 %	100%

The highest pain level of respondents before the intervention was 10 experienced by three people (8.3%), and after the intervention, the highest degree of pain was only 5 occurred to 3 people (8.3%).

The result of the statistical test is shown in Table 3.

Table 3: Acupressure and standing position intervention relationships

Intervention	Mean	SD	SE	P-value	N
Acupressure	4.583	1.317	0.220	0.000	36
Standing Position	4.250	1.461	0.244	0.000	36

Table 3 shows that the p-values of the intervention group acupressure and the standing position group are both 0.00 <math>α</math> (0.05) indicating that there are differences in the degree of pain before and after the intervention in both groups.

1 For the average value of the difference in pain degrees, the mean acupressure intervention was 4.583, and the mean standing position was 4.250. The data

showed that the mean of the acupressure intervention group was more significant than the mean standing position implying that acupressure intervention is more effective than a standing position.

DISCUSSIONS

The pain felt by respondents before being given acupressure is included in the category of mild discomfort to severe pain. Pain is very subjective, not only depends on the intensity but also depends on the mother's mental state when facing labor. The maternal psychological state will make the mother become stressed or otherwise trigger the release of catecholamine and adrenaline hormones. These catecholamine will be released in high concentration during labor⁽¹²⁾. Acupressure provides the advantage that it can physiologically control labor pain by stimulating local endorphin production and closing gate control or pain gates through the release of large fibers and acupressure is effective in reducing labor pain⁽¹³⁾. Acupressure techniques at points L14 and BL 67 can reduce pain and make labor time effective⁽¹⁴⁾. By stimulating specific points along the meridian system, which are transmitted through large nerve fibers to the reticular formation, the thalamus and limbic system will release endorphins in the body⁽¹⁵⁾. Endorphins are naturally occurring painkillers produced in the body, which trigger a calming and uplifting response in the body, having a positive effect on emotions, can cause relaxation and normalization of bodily functions. As a result of the release of endorphins, blood pressure decreases and improves blood circulation⁽¹⁶⁾. Researchers assume that acupressure intervention can be a safe choice and minimal side effects in reducing the degree of labor pain in delivery mothers in the first stage, especially at the point L14 and Bladder 32.

The concept or philosophy of the professional midwife who believes that pregnancy and childbirth are natural/physiological processes is conducted by teaching various kinds of maternity positions. One of the efforts is to condition and seek maternity positions such as upright position/standing which supports labor to be able to walk physiologically. This is also one method that is very helpful in actively responding to pain and reducing the length of labor during the active phase⁽¹⁷⁾. The upright position in the first phase of active labor can shorten the delivery time of approximately 1 hour and can provide relaxation to blood vessels and can also provide acceleration of head reduction due

to the earth's gravitational force. The upright position can also improve self-control against pain. There is a slight reduction in pressure in the blood circulation that provides more oxygen to the baby which is very good for both mother and baby⁽¹⁸⁾. Upright and walking positions during childbirth were identical to a reduction in epidural analgesics. The upright position at the first stage is for an attitude that avoids lying flat on the bed without being followed by movement/mobilization during labor when I am active. The first phase of the busy period is a critical phase in the progress of childbirth. Therefore every childbirth helper must be able to control and supervise the labor process so as not to enter into a pathological situation⁽¹⁹⁾.

Acupressure is a form of physiotherapy by giving massage and stimulation to specific points on the body (energy flow lines or meridians) to reduce pain or change organ function. According to the theory of gate control, pain impulses can be regulated or even inhibited by defense mechanisms in the central nervous system, one attempt to close the defense which is a theory of pain relief. This theory says that there is a mechanism gate open on the nerve endings of the spinal column which can increase or decrease the flow of nerve impulses from peripheral fibers to the central nervous system. If the gate is closed, there is no pain, but if the gate is open, there will be a pain. In this case, pain is controlled by an inhibitory action on the pain pathway⁽²⁰⁾. In this study, pain reduction was influenced by stimulation carried out through acupressure. Acupressure technique has a significant effect on reducing the level of pain as the massages performed at specific points during acupressure therapy make the respondent feel more comfortable and the pain decreases⁽²¹⁾.

CONCLUSION

The average intensity of labor pain in the acupressure intervention group before the intervention was 6.81 and the average intensity of labor pain in the acupressure intervention group after the intervention was 2.22. The average intensity of labor pain in the standing position group before the intervention was 6.81 and the average intensity of labor pain in the standing position group after the intervention was 2.56. Acupressure intervention is more effective than standing position, with an average value of the difference in degrees of pain before and after that is 4.583, the average is 0.33 greater than the standing position group with an average difference in the

degree of pain before and after 4.250.

Ethical Clearance: The Ministry of Health Polytechnic approved this research in Tanjung Karang, Indonesia. A research permit was requested from the local health authorities. We also wish to thank all the participants who contributed to this study.

Conflict of Interest: Nil

Source of Funding: The Ministry of Health Polytechnic Tanjung Karang, Indonesia.

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