

Effectiveness Of Rebozo Technique And Massage Counter Technique On Labor Pain In Active Phase 1 At Pmb Bd Itoh 2023

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Abstract.

Background: Labor pain is a subjective experience of physical sensations associated with uterine contractions, cervical dilatation and effacement, and fetal descent during labour. Labor pains begin during the first incubation period and continue into the active phase. Labor pain can be controlled by non-pharmacological methods, rebozo techniques and massage counters. Research Objectives: To determine the effectiveness of the rebozo technique and counter massage technique for active phase 1 labor pain at PMB BD Itoh in 2023. Research Methods: This type of research used quasi-experimental (quasi-experimental) with the Pre and Posttest Two Group design approach and the samples in this study were 30 mothers who gave birth who met the inclusion criteria and were divided into 15 people as the intervention group and 15 people as the control group with total sampling technique and bivariate analysis using the Dependent T test. Research Results: From the results of the dependent t test that there is a difference with the p value ($0.000 < 0.05$). This concluded that H_0 was rejected and H_a was accepted, so that it can be concluded that statistically the respondents had differences in the intensity of pain in labor before and after the rebozo technique at PMB BD Itoh in 2023. From the results of the dependent t test that there is a difference with the p value ($0.001 < 0.05$). This concludes that H_0 is rejected and H_a is accepted, so that it can be concluded that statistically there are differences in the intensity of pain in labor before and after the breathing relaxation technique at PMB BD Itoh in 2023. Conclusion: It can be concluded that the mean in the intervention group, namely the Rebozo technique, is more effective than the mean in the control group in reducing the scale of labor pain at PMB BD Itoh in 2023.

Keywords: Rebozo Technique, Massage Counter Technique and Labor Pain.

I. INTRODUCTION

Childbirth is the process of exiting or the birth of a fetus through the genitals to survive outside the womb. The process can be said to be normal when the fetus is born in the head position behind when it is in the vagina and takes place without using any aids, does not injure the mother's genitals or the fetus that comes out. Expulsion of the fetus that occurs at full term of pregnancy (37-42 weeks), born spontaneously with posterior head presentation, without complications for both mother and fetus. Several other meanings of spontaneous birth with maternal power, artificial birth with assistance, recommended delivery when the birth does not occur by itself but through a force. Delivery is said to be normal if there are no complications (Jenny, 2018). Labor pain is a subjective experience of physical sensations associated with uterine contractions, cervical dilatation and effacement, and fetal descent during labour. Labor pains begin during the first incubation period and continue into the active phase. Pain during labor is caused by uterine contractions and the development or dilation of the cervix. The stronger the pain, the longer it will take to experience peak pain during the active phase. Physiological responses to pain include increased breathing, blood pressure, pulse, pupil diameter, sweating, and muscle tension (Wulandari & Putri, 2018). The impact of labor pain causes ischemia in the placenta so that the fetus will lack oxygen besides that there is a decrease in the effectiveness of uterine contractions thereby slowing the progress of labor. Based on the survey also experienced severe pain during labor. High labor pain can cause anxiety (Melia, 2019). If the pain is not resolved quickly, it can cause death to the mother and baby, because pain causes the mother's breathing and heart rate to increase which causes the flow of blood and oxygen to the placenta to be disrupted. Handling

and monitoring of labor pain during the first stage of the active phase is important, because this is the determining point for whether a woman in labor can have a normal delivery (Mander, 2020).

Interventions to reduce labor can be carried out using pharmacological and non-pharmacological methods. According to Ariesta, 2019 several non-pharmacological techniques include massage, acupressure, acupuncture, relaxation techniques, counterpressure techniques and other techniques (Ariesta, 2019). The rebozo technique is a non-pharmacological or non-drug (traditional) way to help manage pain during labour. This technique originates from Mexico where women have a tradition of using rebozo before, during and after birth. Rebozo is a long cloth that is usually worn by Mexican women for their daily activities (shouldering, carrying the baby, blankets, etc.) wrapping the rebozo around the pelvis and buttocks of pregnant women, then shaking it during the birth process. The swing from the rebozo is considered capable of relaxing the mother and helping position the baby to the birth canal (Simbolon, 2021). Massage counterpressure (stimulation of the skin) is a massage that is performed by applying continuous pressure on the patient's sacrum bone with the base or fist of one of the palms. Counterpressure massage can be given both straight and circular. This method can provide pain relief by inhibiting pain signals, increasing blood flow and oxygenation to all tissues. During the massage it will stimulate the body to release endorphins which act as a pain reliever and create a feeling of comfort. Gentle massage helps mothers feel fresher, relaxed and comfortable during labor (Kurniawati, 2019). According to the World Health Organization (WHO) the Maternal Mortality Rate (MMR) in the world is 303,000 people.

The Maternal Mortality Rate (MMR) in ASEAN is 235 per 100,000 live births. Every day around 830 women of childbearing age in the world die due to problems related to pregnancy and childbirth. As many as 37 million live births in the Southeast Asian region each year, while the maternal and newborn mortality rates in Southeast Asia are estimated to be 170,000 and 1.3 million per year, respectively. 90% of maternal deaths due to labor and birth problems occur in developing countries. In 2020, as many as 150,000 women die during childbirth and the incidence of prolonged labor cases in women in the world is 289 per 100,000 live births (WHO, 2021). According to the Indonesian Demographic and Health Survey Data (SDKI) the Maternal Mortality Rate (MMR) in Indonesia increased from 228 per 100,000 live births in 2002-2007 to 359 per 100,000 live births in 2007-2012. The Maternal Mortality Rate (MMR) has decreased in 2012-2015 to 305 per 100,000 live births and the number of maternal deaths in Indonesia in 2021 is 4,221 cases. The delivery rate in Indonesia is 85.7%. A sample of 20,591 mothers who gave birth in the last 5 years surveyed from 33 provinces, the number of deliveries in Indonesia is around 75-85% of the total number of deliveries. The incidence of prolonged parturition ranks highest in ASEAN, namely 359 per 100,000 live births and mothers die due to prolonged parturition (RI Ministry of Health, 2021). According to West Java Province Health Profile Data for 2021, the Maternal Mortality Rate (MMR) for 2021 was 1,188 cases, with the highest cases of maternal death in Karawang Regency with 117 cases.

Compared to 2020 there were 745 cases of maternal death, in 2021 there has been an increase in cases of maternal death by 443 cases so that the most deaths in 2021 are due to Covid-19 with a percentage of 40%. The most maternal deaths occur during pregnancy and childbirth with the specification of mothers dying most at reproductive age, namely 20-35 years and there are still many over the age of 35 years with a percentage of 36% with a spontaneous delivery rate of 83.3%. The incidence of prolonged labor is 5% of the total 443 mothers who died (West Java Health Office, 2021). Based on the Karawang District Health Office, the maternal mortality rate (AKI) in 2021 is 59.43 per 100,000 live births or as many as 29 cases out of 13,462 live births. This data has increased compared to 2020, which was 50.44 per 100,000 live births or as many as 28 cases out of 13,879 live births. The number of maternal deaths in the city of Bandung in 2021 is 29 people spread across several health centers. Meanwhile, the incidence of prolonged labor in the city of Bandung in 2021 was 23.3% of the total 29 mothers who died (Karawang Regency Health Office, 2021). One of the causes of prolonged parturition is prolonged labor pain which is unbearable by the birthing mother so that it can cause the desire to immediately end labor and push before maximum cervical dilation which can cause swelling of the cervix which has an impact on labor dystocia. Labor pain can cause hyperventilation so that oxygen demand increases, blood pressure increases and reduced intestinal motility and urinary bladder.

This situation will increase catecholamine which can cause interference with the strength of uterine contractions resulting in uterine inertia (Hamilton, 2018).

The results of Eka Mardiana's research (2021) show that regarding comfortable deliveries with the rebozo technique at the Alyssa Medika Primary Clinic, Tangerang City in 2021. A sample of 30 respondents can be concluded that primigravida mothers in the first stage of labor using the rebozo technique are 1.20 faster with a p-value of 0.002. Meanwhile, the pain level for primigravida mothers using the rebozo technique was 1.20 with a p-value of 0.000. Statistically, there was an effect of the rebozo technique on the length of the 1st stage and the level of pain in labour. (Eka Mardiana, 2021). Research conducted by Judha (2020) Intervention when counter pressure the level of pain in respondents decreased from severe pain to mild pain. This is because the respondents feel anxious and afraid during the latent phase to the active phase. Pain and anxiety levels felt by respondents both before and after giving birth are certainly not the same between one respondent and another. Based on this background, the researcher is interested in conducting research on "The effectiveness of the rebozo technique and the massage counter technique for active phase 1 labor pain at PMB BD Itoh in 2023".

II. METHODS

This type of research used a quasi-experimental (quasi-experimental) with the Pre and Posttest Two Group design approach and the samples in this study were 30 birth mothers who met the inclusion criteria and were divided into 15 people as the intervention group and 15 people as the control group with total sampling technique. Bivariate analysis was carried out with the aim of seeing whether there is an influence or not between the independent variable and the dependent variable which is shown in the conceptual framework.

III. RESULTS AND DISCUSSION

Table 1. Intensity of labor pain in the first active phase before being given the rebozo technique at PMB BD Itoh in 2023

Mean	N	Std. Deviation	Std. Error Mean
7,33	15	1,234	0,319

Table 1 shows that the intensity of labor pain before being given the rebozo technique averaged 7.33, standard deviation of 1.234 and mean standard error of 0.319.

Table 2. Intensity of active phase 1 labor pain after being given the rebozo technique at PMB BD Itoh in 2023

Mean	N	Std. Deviation	Std. Error Mean
2,07	15	1,163	0,300

Table 2 shows that the intensity of labor pain after being given the rebozo technique averaged 2.07, a standard deviation of 1.163 and a mean standard error of 0.300.

Table 3. Intensity of labor pain before being given a counter massage technique at PMB BD Itoh in 2023

Mean	N	Std. Deviation	Std. Error Mean
7,13	15	1,060	0,274

Table 3 shows that the intensity of labor pain before being given the counter massage technique averaged 7.13, standard deviation of 1.060 and mean standard error of 0.274.

Table 4. Intensity of labor pain after being given a counter massage technique at PMB BD Itoh in 2023

Mean	N	Std. Deviation	Std. Error Mean
6,00	15	1,069	0,276

Table 4 shows that the intensity of labor pain after being given the counter massage technique averaged 6.00, standard deviation of 1.069 and standard error mean of 0.276.

Table 5. Differences in pain intensity in labor before and after the rebozo technique at PMB BD Itoh in 2023

Labor Pain Intensity	Mean	Standar Deviasi	Std. Error Mean	P Value
Before	7,33	1,234	0,319	0,000
After	2,07	1,163	0,300	

Table 5 shows that the scale of labor pain in women giving birth with a mean of 7.33 decreased to 2.07, which means there was a decrease in the pain scale of 5.26. From the results of the dependent t test that there is a difference with the p value ($0.000 < 0.05$). This concluded that H_0 was rejected and H_a was accepted, so that it can be concluded that statistically the respondents had differences in the intensity of pain in labor before and after the rebozo technique at PMB BD Itoh in 2023.

Table 6. Differences in pain intensity in labor before and after counter massage techniques at PMB BD Itoh in 2023

Labor Pain Intensity	Mean	Standar Deviasi	Std. Error Mean	P Value
Before	7,13	1,060	0,274	0,001
After	6,00	1,069	0,276	

Table 6. shows that the scale of labor pain in women giving birth with a mean of 7.13 decreased to 6.00, which means there was a decrease in the pain scale of 1.13. From the results of the dependent t test that there is a difference with the p value ($0.001 < 0.05$). This concludes that H_0 is rejected and H_a is accepted, so that it can be concluded that statistically there are differences in the intensity of pain in labor before and after the breathing relaxation technique at PMB BD Itoh in 2023.

Table 7. Differences in changes in pain intensity in labor after being given the rebozo technique and the massage counter technique at PMB BD Itoh in 2023

Labor pain scale	Decrease in Means	P Value
In the rebozo technique group	5,26	0,000
In the counter massage technique group	1,13	

From table 7.7 it can be seen that the results of the t test obtained a p-value of 0.000 where the p-value < 0.05 so that it can be concluded that H_a was accepted and H_0 was rejected, which means that the mean in the intervention group, namely the Rebozo technique, was more effective than the mean in the control group in reducing the scale of labor pain at PMB BD Itoh in 2023.

Discussion

Labor pain during the 1st active phase before being given the rebozo technique and counter massage technique at PMB BD Itoh in 2023

Based on the results of the study, it was shown that the intensity of labor pain before being given the rebozo technique averaged 7.33, a standard deviation of 1.234 and a standard error mean of 0.319 and the intensity of labor pain before being given the massage counter technique had an average of 7.13, a standard deviation of 1.060 and a standard error mean of 0.274. Labor pain is a feeling of discomfort and a condition of pain during labor that occurs from the beginning to the complete opening. Pain is caused by the emergence of contractions of the uterine muscles that experience contractions, stretching of the cervix at the time of opening, uterine corpus ischemia, and stretching of the lower uterine segment. Visceral afferent nerve fibers carrying sensory impulses from the uterus enter the spinal cord in the tenth, eleventh, and twelfth thoracic segments and first lumbar segment (T10 to L1), from the time of onset of labor to complete dilation.

Pain can be affected due to fatigue, fatigue, anxiety, and fear which can increase pain. Pain from the perineum travels through somatic afferent nerves, especially the pudendal nerves and reaches the spinal cord through the second, third and fourth sacral segments (S2 to S4). These sensory nerve fibers originating from the uterus and perineum make synaptic connections in the spinal cord horns with axon-giving cells which are the spinothalamic tracts. During the final part of stage I and throughout stage II, pain impulses not only arise from the uterus but also to the abdominal wall, the lumbosacral area of the iliac crest, buttocks, and thighs as the fetal part passes through the pelvis, so that it is in the thalamus and cerebral cortex that a person can perceive, describe, localize, interpret, and begin to respond to pain (Andarmoyo, 2018). The factors that influence a person's perception of labor pain Perception and expression of labor pain are influenced by

individual culture. Cultural influences can lead to expectations that are not in accordance with existing circumstances, for example Asian women believe that screaming and showing pain is embarrassing and they don't speak words when they feel pain. Beliefs, values, cultural practices influence a mother in perceiving and expressing labor pain.

Labor pain during the 1st active phase after being given the rebozo technique and counter massage technique at PMB BD Itoh in 2023

Based on the results of the study, it was shown that the intensity of labor pain after being given the rebozo technique averaged 2.07, the standard deviation was 1.163 and the mean standard error was 0.300 and the labor pain intensity after being given the massage counter technique averaged 6.00, the standard deviation was 1.069 and the mean standard error was 0.276. The sensation of pain will be reduced one of them by doing relaxation and comfort techniques. Relaxation and comfort responses are a large part of the general decline in cognitive, physiological, and behavioral stimulation. The process of relaxation and comfort also involves reducing pain stimulation. According to the gate control theory of Melzak and Wall said that a relaxation movement such as a rhythmic movement to make a stimulus is a pathway for energy to enter and exit and is associated with certain emotions. Tactile stimuli (small rhythmic movements and touches) applied to the skin can block pain signals from the same or other areas of the body. The Rebozo technique is a light touch and massage technique with rhythmic movements, which can normalize heart rate, blood pressure, and increase relaxation in the body by triggering a feeling of comfort through small rhythmic movements and touch stimulation with a long cloth.

This technique facilitates distraction and reduces sensory stimulation of pain from parts of the body that experience discomfort in the area of pain (Indrayani, 2020). This is supported by Cohen's research (2021) regarding the provision of the Rebozo technique in labor with the results of qualitative research in mothers during the 1st active phase experiencing a very significant reduction in labor pain because it can induce hip movement, feel free to choose a comfortable position, get a more positive psychology, and increase efforts towards natural birth with the contribution of good teamwork by providing psychological support. The Rebozo technique can control and restore emotions which will relax the body. The stimulation of labor pain due to contractions of the muscles in the pelvic area due to pressure on the fetal head will cause the release of pain mediators which will stimulate the transmission of impulses along nociceptor afferents to the substantia gelatinosa (gate) in the spinal cord to then pass through the thalamus and then be conveyed to the cerebral cortex and interpreted as pain (Keijzer, 2019). The Rebozo technique (small rhythmic movements by wrapping the base to the end of the buttocks using a long cloth) generates impulses that are sent through non-nociceptor afferent fibers. These nerve fibers cause the "gate" to be closed so that stimulus to the cerebral cortex is inhibited or reduced due to "motion" stimulation of relaxation techniques and the convenience of small rhythmic movements, so that the intensity of pain will change or experience modulation due to stimulation of relaxation and comfort of stimulation of movement using long cloths with rhythmic movements that reach the brain first (Keijzer, 2015). The Rebozo technique is a relaxation and comfort technique, namely making small rhythmic movements by wrapping the base to the tip of the buttocks using a long cloth for 3-10 minutes.

The factors that can affect the effectiveness of the rebozo relaxation technique for reducing pain include comfort. An alternative view of childbirth is that it is a natural process and women can feel comfortable and overcome discomfort or pain to get a relaxing and pleasurable birth outcome. Intervention can help increase the comfort of the midwifery care approach and the presence of a birth attendant (Indrayani, 2018). In addition, support shows the mother's satisfaction with the labor and delivery experience. The value of the presence of continuous support during labor is able to bring physical comfort, establish intensive communication, and help provide information and guidance to mothers in labor. Emotional support is shown by giving praise, reassurance, a positive attitude, calm, and confidence when providing care to mothers in labor. Support can be provided by midwives, doulas, birth educators, family members, spouses, or friends of other actors in influencing pain response, namely the environment. The quality of the environment can affect the perception of pain and overcome the pain. Mothers usually prefer to be cared for by caregivers who are known to be able to provide comfort. The environment should also be comfortable and maintain

privacy so that the mother can feel free to be herself while trying different comfort measures. Large environment of various stimuli such as; light, sound, temperature, space for movement, comfortable chairs and beds, bathrooms that must be available, as well as facilities for various actions as pain relievers (Indrayani, 2018).

Obstacles when performing the rebozo technique can be found when the mother is in a comfortable position because the pain can come, the time and duration cannot be determined, the lack of environmental facilities that make the mother panic and worry easily and the support from family or knowledge for self-empowerment is minimal. The decrease in the pain scale experienced by respondents was due to a greater sense of comfort and relaxation and a narrower sense of pain. Stimulation of rhythmic movements with long cloths and the right position can improve the circulation of oxygen that is distributed to the organs to be faster so as to facilitate distraction and reduce sensory transmission causing decreased pain. The next mechanism, involving the muscles to relax so that the movement of non-nociceptor afferent fibers can work more broadly. These nerve fibers cause the "gate" to be closed so that stimulus to the cerebral cortex is inhibited or reduced due to "motion" stimulation in the mind first and reaches more of the brain so that pain can be blocked, the mind becomes calm, feelings become more comfortable and relaxed. Reduced pain intensity can also be influenced by other factors such as parity, because multigravida parity already has childbirth experience.

The effectiveness of the rebozo technique and counter massage technique for active phase 1 labor pain at PMB BD Itoh in 2023

Based on the results of the study, it was shown that the results of the t test obtained a p-value of 0.000 where the p-value was <0.05 so that it could be concluded that H_a was accepted and H_o was rejected, which means that the mean in the intervention group, namely the Rebozo technique, was more effective than the mean in the control group in reducing the scale of labor pain at PMB BD Itoh in 2023. Feelings of calm and peace are a sedative for stressful situations in life, one of which is when you are about to give birth. Guided and guided imagination is one of the relaxation and comfort techniques so that the benefits of this technique are very reliable. This is in accordance with Kirby's theory (2020) that comfort and relaxation techniques are believed to be able to increase the release of endorphins which block the transmission of pain stimuli and also stimulate large-diameter A-Beta nerve fibers thereby reducing the transmission of pain impulses through the small A-delta fibers and C nerve fibers. Providing relaxation techniques aims to provide an effective pain reduction effect, by diverting the client's attention to focus on the stimulus and ignoring pain sensations can ultimately reduce pain perception (Smith, 2018). The Rebozo technique performed by each respondent can also affect the effectiveness of the therapy, the respondent's ability to understand the directions given by the researcher, can determine the respondent's accuracy in carrying out this technique. Respondents who were given this technique correctly, namely not given excessive movements but with soft and rhythmic movements, mothers who were given this technique were in a calm and comfortable position, and mothers were really focused on doing this rebozo technique because mothers were asked to empower themselves and follow the directions given by researchers (Melisa, 2018).

This is also influenced by the environment in which the respondent is located, if the mother is in a quiet, comfortable and not noisy room, then the mother can really focus on doing this technique (Shannon, 2019). Respondents experienced a significant reduction in their pain scale after being given the intervention of the rebozo technique. It is also possible that they were influenced by external factors that could not be controlled by the researchers, namely the presence and attitude of the people closest to the respondent because this could reduce anxiety and increase the comfort of the respondent, thereby affecting the level of respondents' perception of pain after being given the intervention. Counter pressure massage is one of the gate-control theory application techniques, using massage techniques that can relieve pain by inhibiting pain signals, increasing blood flow and oxygenation to all tissues. Massage that is given to mothers in labor for twenty minutes/hour for each contraction will make the mother more free from pain. The massage will stimulate the body to release endorphins which function as pain relievers and create a feeling of comfort and the mother will feel fresher, relaxed and comfortable in labor. Massage gives neurotransmitter impulses to the limbic system, is forwarded to the amygdala, hypothalamus and then conveyed to the anterior pituitary. With

this massage, the anterior pituitary produces more endorphins. Endorphins besides helping reduce labor pain, it also enhances the work of endogenous oxytocin in helping stimulate contractions of the myometrium in the process of opening the cervix. This causes the first stage of the active phase to be shorter.

On the other hand, in the group that did not receive massage counter pressure, contractions throughout the first stage felt by the mother caused pain, fatigue as a result of emotional responses such as anxiety and tension experienced by the mother. Several studies have linked prolonged labor to psychological factors, such as worry, stress, or fear, which can weaken uterine contractions. Prolonged labor pain causes hyperventilation, has an impact on increasing the mother's carbon dioxide (CO₂) pressure, which can cause the fetal heart rate to slow down. In addition, the response to pain stimulates an increase in catecholamines which causes interference with uterine contractions in the form of irregular/inadequate contractions called uterine inertia which is the cause of prolonged labour. Based on the results of research and theory, the researchers concluded that giving massage counter pressure can accelerate the first stage of the active phase of normal labor, because massage increases and makes uterine contractions adequate and reduces labor pain, fear, fatigue experienced by mothers during labor. Giving proper massage can be taught to mothers, families especially those who will accompany the mother during the first stage of labor. In addition, techniques to reduce pain during labor need to be taught to mothers and families during ante-natal care visits so that mothers and families can prepare themselves for childbirth well.

IV. CONCLUSION

1. The intensity of labor pain before being given the rebozo technique averaged 7.33 and the intensity of labor pain before being given the massage counter technique averaged 7.13.
2. The intensity of labor pain after being given the rebozo technique has an average of 2.07 and the intensity of labor pain after being given a massage counter technique has an average of 6.00
3. The results of the t test obtained a p-value of 0.000 where the p-value <0.05 so that it can be concluded that the Rebozo technique was more effective than the mean in the control group in reducing the scale of labor pain at PMB BD Itoh in 2023.

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