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Rebozo technique to decrease pain intensity and length of labor

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A B S T R A C T

Background: Pain and length of labor impact the mother physically and psychologically. Both of these factors must be minimized to avoid complications during labor. In Indonesia, the rebozo technique is still rarely performed by health workers such as midwives, especially in West Sumatra.

Objective: This study aims to determine the effect of the rebozo technique on reducing pain intensity and duration of labor in primiparas.

Method: This is a quasi-experimental study with a two-group design. Sixty primiparous mothers were randomly divided into two groups (intervention and control groups). The intervention group received the rebozo technique, and the control group received standard treatment. The pain intensity and duration of labor were observed throughout the study. Data analysis used the independent t-test.

Results: The study showed that the average pain intensity in the intervention group was lower than the control group (6.423 vs 7.562, p <0.05). The average duration of labor was faster in the intervention group than in the control group (3.643 vs 4.815, p <0.0001).

Conclusion: The rebozo technique is effective in reducing pain and accelerating labor.

INTRODUCTION

The use of cesarean sections continues to increase worldwide. One of the reasons is the fear of pain during normal childbirth.[1] It often makes a woman worried and anxious when undergoing it. As a result, to eliminate it, they think about giving birth through cesarean section.[2] Previous research found a relationship between the perception of labor pain, the intensity of pain, and the length of labor.[3] The study found that a mother's poor perception of labor pain would increase the intensity of pain and the length of labor.[4] A study of 2,700 obstetricians at 121 obstetric centers in 36 countries found that only 15% of births experienced mild pain, while the rest experienced moderate to severe pain.[5] Primiparous mothers tend to experience higher pain than multiparas.[6] Another study found that 35% of mothers experienced prolonged labor.[7]

Treatment of labor pain and prolonged labor varies, both pharmacological and non-pharmacological.[8] Pharmacologically, patients are given non-steroidal anti-inflammatory drugs (NSAIDs) to relieve mild and moderate pain, analgesics for moderate to severe pain as well as additional medications such as sedatives to improve pain control or relieve other pain-related symptoms such as nausea and anxiety.[9] As for non-pharmacological therapies, which have been previously researched, such as massage, acupressure, acupuncture, relaxation techniques, counterpressure techniques, and other techniques,[10] however, researchers want to develop a new alternative therapy to other non-pharmacological therapy, the Mexican technique called the Rebozo technique.[11] In Indonesia, rebozo techniques are still rarely performed by providers like midwives, especially in Western Sumatra.

Based on a preliminary survey in 10 maternity clinics in Padang City, it was found that 100% of mothers did not know the rebozo technique and had never done it. The importance of using nonpharmacological techniques to reduce the intensity of pain and the length of labor in mothers giving birth and the fact that the Rebozo technique has not been implemented in the community, especially in the city of Padang city, this study aims to determine the effect of the Rebozo technique on the intensity of pain during the active and length of labor in primary mothers.

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METHOD

Study Design

This research is a quasi-experiment with a two-group design: an intervention group and a control group.[12]

Setting and Respondents

The research was carried out at the Maternity Clinic in Padang City which was conducted for six months. The research population was a mother who gave birth during the first active phase of primipara, with a sample of 30 people in the intervention group and 30 in the control group. The sampling technique is purposive sampling that meets the inclusion criteria: primipara mothers and pregnant mothers are not at high risk, and they have no obstetric complications.[13]

Variables, Instruments, and Measurements

The variables in this study were pain intensity and labor duration. The numeric rating scale was used to measure labor pain intensity and length of labor observed using a partograph.[3,14]

Experimental Procedure

In this study, pressure is placed on the lumbar, sacral, and lumbosacral bones with shaking or shock in the pelvic part during contractions. The Rebozo technique takes five to ten minutes.[15] Furthermore, it was observed during the active phase to measure pain intensity and childbirth duration.[16] This will be done four times during contractions, every thirty minutes.[17] The control group was given standard therapy, namely deep breathing techniques.

Statistical Analysis

The data in this study were analyzed using independent t-test analysis to determine the differences in pain intensity and length of labor between the two groups.[18]

Ethical Consideration

This research has received ethical approval from the ethical commission of the STIKes Alifah Padang, No. 001456/KEP STIKes Alifah Padang/2024.

RESULTS

Based on Table 1, it can be seen that the ages of respondents in both groups were mainly in the healthy reproductive age range, while most of them were homemakers. This study found that most respondents were in the healthy reproductive period; only a small number of respondents were <20 years old. Age really influences a woman. Most mothers in labor have a history of regular antenatal care. Table 2 shows that the intervention group experienced lower pain intensity than the control group, with a mean pain difference of 1.139. The intervention group also experienced a faster labor time than the control group, with a difference of 1.172 hours. The rebozo technique affects pain intensity and length of labor, $p<0.05$.

Table 1. Characteristics of Respondents (n=60)

Characteristics	Result
Age, years old	
<20	12 (20%)
20-35	48 (80%)
Occupation	
Housewife	32 (53%)
Employed	28 (47%)
Prenatal Care	
Regular	36 (60%)
Irregular	24 (40%)

DISCUSSION

Based on the result of the research, the rebozo technique affects pain intensity and length of labor ($p<0.05$). The pressure is placed directly on the mother's lumbar, sacrum, and coccyx (lumbosacral) in the Rebozo technique;[19] it can connect the uterine and cervical sensory nerves with the uterine sympathetic nerves to the spinal cord via thoracic nerves 10, 11, 12, and lumbar 1.[20] Pain impulses can be stopped by stimulating large-diameter nerves so that pain impulses can't travel from the uterus along the c-fiber nerve fibers to the spinal column.[21] Then, these cells send the opposite pain message to the a-delta nerve fibers, which causes the gate control to close so that the pain message cannot be transmitted to the cerebral cortex, reducing the perception of pain.[22]

The results of this research are in line with previous research, it was proven that there was a significant difference between the pre-post-interventions of the rebozo shaking the apple tree technique and the rebozo shifting while lying down technique.[23] A rebozo is a scarf or cloth worn around a pregnant woman's pelvis to help her move her hips or sway them slightly from side to side.[24] During contractions, pressure is placed on the patient's lumbar spine, sacrum, and coccyx (lumbosacral) with a rebozo cloth. This movement applies pressure by continuously rocking or shaking the pelvis.[25] This is a rebozo mechanism that can help divert labor pain.[26] The previous research results showed that women's experiences related to the rebozo technique created bodily sensations and reduced their pain.[27] This technique was interrelated with the birth process and resulted in mutual involvement and psychological support from the midwife and partner.[28]

Prolonged labor in primiparous mothers occurs when labor lasts more than 8 hours for the latent phase, more than 6-

Table 2. Differences in Pain Intensity and Length of Labor (n=60)

Variable	Groups	Mean±SD	Mean diff	p-value	Effect size
Pain Intensity	Intervention	6.423±1.341	1.139	0.021	0.73
	Control	7.562±1.753			
Length of Labor	Intervention	3.643±0.164	1.172	0.0001	0.82
	Control	4.815±0.273			

hours for the active phase, and more than 2 hours for phase II.[29] The average opening in primiparas is 1 cm per hour.[3] Uterine solid contractions occur three times every ten minutes and last more than forty seconds in one contraction.[30] In this study, three criteria were used to assess the length of labor: uterine contractions, cervical dilatation, and the active phase of the first stage of labor.

The rebozo technique functions to optimize the position of the fetus because the ligament muscles in the pelvis and uterus are in a tense position.[31] Hence, the fetus in the uterus is not in an optimal position. The Rebozo technique helps the ligament muscles in the uterus.[11] If the mother's ligaments are tense and the birth position is not good, it will result in the uterus being tilted so that it is difficult for the baby to descend into the pelvis. At 36 weeks of gestation, the fetus should have descended into the pelvis.[32] So, the rebozo technique helps mothers during the birthing process. Previous research found that the Rebozo technique was effective in opening the cervix of mothers in active phase I labor.[11,19,24]

One of the techniques used in Rebozo is to ask the mother to get on all fours, lay down her body by hugging the birthing ball, or stand by holding a chair.[27] When the mother experiences contractions, the birth attendant will pull the cloth and gently shake the mother's stomach in a sifting motion.[30] Because this movement relaxes the lower abdomen, it can reduce pain in the first stage. Proper twisting will make the mother feel hugged and trigger the happy hormone, also known as oxytocin, which will increase uterine contractions.[33]

CONCLUSIONS AND RECOMMENDATION

This study concludes that applying the Rebozo technique reduces labor discomfort and accelerates labor during the initial stage of the active phase. Midwives and nurses should provide Rebozo technique care during labor to accelerate labor and reduce labor pain intensity.

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