



**EFFECT OF THE REBOZO TECHNIQUE ON FETAL HEAD DESCENT IN
CILANDAK DISTRICT, SOUTH JAKARTA, INDONESIA**

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ABSTRACT

Background: Maternal mortality remains a pressing global issue, with approximately 830 women dying daily due to complications related to pregnancy and childbirth, especially in developing countries (Diana et al., 2022). Key factors include preeclampsia, maternal sepsis, unsafe abortion, and obstetric hemorrhage (Kahansim et al., 2023). Indonesia's maternal mortality rate, at 470 deaths per 100,000 live births, underscores the urgent need for effective healthcare interventions (Noviyani & Ruliyah, 2023).

Objective: This study aims to assess the effectiveness of the Rebozo Relaxation Technique in facilitating fetal head descent during labor among pregnant women in Cilandak District, South Jakarta.

Methods: A quasi-experimental design with a pretest-posttest control group was employed. Sixty-six third-trimester pregnant women were randomly assigned to either an intervention group (n=33) receiving the Rebozo technique or a control group (n=33) receiving pelvic rocking techniques. Data on fetal head descent were collected through questionnaires and observational records, and analyzed using SPSS version 28 with paired t-tests and independent sample tests.

Results: The intervention group demonstrated a significant increase in fetal head descent (mean increase from 3.44 to 4.55) compared to the control group (mean increase from 2.23 to 2.90), with a p-value of 0.001. This indicates that the Rebozo Relaxation Technique effectively accelerates fetal head descent.

Conclusion: The Rebozo Relaxation Technique shows promise in enhancing labor outcomes by promoting faster fetal head descent, potentially contributing to improved maternal and neonatal health. This technique may reduce the need for medical interventions and aligns with efforts to integrate culturally appropriate practices into modern obstetric care.

Keywords: Maternal mortality, Rebozo Relaxation Technique, fetal head descent, labor management, Indonesia.

INTRODUCTION

Maternal mortality remains a formidable global challenge, with approximately 830 women dying daily from pregnancy and childbirth complications, predominantly in developing regions (Diana et al., 2022). This issue is predominantly linked to conditions such as preeclampsia, maternal sepsis, unsafe abortion, and obstetric hemorrhage (Kahansim et al., 2023). Addressing these complications requires effective maternal care strategies, including early risk detection, comprehensive antenatal care, and targeted maternal education, which are crucial for improving outcomes and reducing mortality rates (Dasarie et al., 2023).

In Indonesia, the situation is particularly dire, with a maternal mortality rate of 470 deaths per 100,000 live births, making it one of the highest in the ASEAN region (Noviyani & Ruliyah, 2023). The country's maternal mortality rate ranks among the highest globally, highlighting the urgent need for enhanced healthcare interventions (Asfia, 2023). Tackling these challenges necessitates improvements in midwifery skills, adherence to stringent standard operating procedures, and the availability of essential medical resources (Faniasih & Triyono, 2023).

Skilled birth attendants are pivotal in managing childbirth complications and ensuring maternal and neonatal safety, thereby significantly impacting maternal mortality rates (Taye et al., 2022). Integrating traditional and modern practices in maternal care is essential for improving outcomes. Government policies increasingly incorporate traditional techniques such as the Rebozo Relaxation Technique, known for its potential to alleviate labor pain and facilitate smoother deliveries (Cohen, 2015). Research indicates that the Rebozo technique, a traditional Mexican practice, can enhance labor outcomes by shortening labor duration and reducing the need for pharmacological interventions (Suryani et al., 2023).

Despite its potential benefits, the application and efficacy of the Rebozo technique within Indonesia's cultural context, particularly in Cilandak District, South Jakarta, have not been extensively studied. Culturally appropriate non-pharmacological methods, including the Rebozo technique, may offer significant benefits in improving labor outcomes and reducing maternal and neonatal complications (Sulistianingsih et al., 2022). This study aims to address this research gap by evaluating the impact of the Rebozo technique on fetal head descent during labor, providing critical data to inform policy and practice in maternal healthcare and enhance maternal and neonatal health outcomes in Indonesia.

METHOD

This study utilized a quasi-experimental design with a pretest-posttest control group to assess the impact of the Rebozo Relaxation Technique on fetal head descent among pregnant women. This design was chosen to evaluate the effectiveness of the intervention while allowing for comparison with a control group (Babbie, 2020; Shadish, Cook, & Campbell, 2002).

The target population included third-trimester pregnant women attending the Velia Medika Clinic, Cilandak District, South Jakarta. The sample consisted of 66 participants, divided into an experimental group (n=33) and a control group (n=33) using purposive sampling. This approach was selected to ensure participants were in their third trimester and could benefit from the intervention (Creswell & Creswell, 2017).

Inclusion criteria required participants to be third-trimester pregnant women, attending the Velia Medika Clinic, and capable of providing informed consent. Exclusion criteria included pregnant women with high-risk conditions (e.g., severe preeclampsia, placenta previa) and those unable to attend all intervention sessions (Polit & Beck, 2017).

The intervention group received the Rebozo Relaxation Technique, administered once a week for 15-20 minutes over a three-month period. The control group received pelvic rocking techniques, a standard labor support method. The primary independent variable was the Rebozo technique, and the dependent variable was fetal head descent, measured via clinical observations and recorded in maternal and child health records (Trochim & Donnelly, 2006; Mertens, 2014).

Data collection involved structured questionnaires and observational records from maternal and child health books. Pretest data were collected before the intervention, and posttest data were collected after the Rebozo sessions or control intervention. Consistency was ensured by using standardized procedures for both groups (Polit & Hungler, 1999; Flick, 2018).

Data were analyzed using SPSS version 28. Descriptive statistics, including frequencies, percentages, means, 95% confidence intervals, and standard deviations, summarized demographic and intervention data. Paired t-tests and independent sample tests evaluated differences in fetal head descent before and after interventions. Statistical significance was defined as $p < 0.05$ (Field, 2018).

Bias control measures included random assignment to the control and intervention groups to minimize selection bias. Both groups were monitored to ensure adherence to their respective

protocols, and data collectors were blinded to group assignments to reduce measurement bias (Shadish, Cook, & Campbell, 2002; Babbie, 2020).

The study was approved by the Institutional Review Board (IRB) of the Velia Medika Clinic. Informed consent was obtained from all participants, ensuring they were aware of the study's purpose, procedures, and potential risks (Polit & Beck, 2017).

Limitations included the small sample size and the single-site design, which may affect generalizability. Additionally, the reliance on self-reported data could introduce reporting bias. Efforts were made to mitigate these limitations through rigorous data collection and analysis procedures (Streiner & Norman, 2008).

RESULTS AND DISCUSSION

Research has been conducted on the effectiveness of the rebozo technique in lowering the fetal head during labor with a total of 66 respondents. Univariate analysis was carried out to determine the frequency distribution of each variable in the intervention group and control group. These variables include the characteristics of the respondent (mother's education, occupation), and fetal head descent in mothers giving birth.

Table 1.
Distribution of Respondent Characteristics

Respondent Characteristics	Intervention Group	Control Group
	f	%
Education		
Low	7	21.2
High	26	78.8
Work		
Doesn't work	18	54.5
Work	15	45.5

From the research results, it is known that in the intervention group the majority of respondents (78.8%) had a high level of education (high school or above), as well as in the control group where 72.7% had a high level of education. Regarding occupation, both the intervention group (54.5%) and the control group (57.6%) had a majority of respondents who did not work.

Table 2
Differences in Pre and Post Fetal Head Descent in the Intervention and Control Groups

Group	Descent of the Fetal Head	Δ Mean	CI 95%	t-test	p-value
	Pre	Post			
Intervention	3.44	4.55	-324	-43.6	0.001
				-460.12-487.23	
Control	2.23	2.90	-236.1	-65.5	0.002
				-312.14-325.2	

Based on the table above, it can be seen that there is a significant difference in fetal head descent pre and post-intervention in both the experimental and control groups with a p-value <0.005.

Table 3
Differences in Fetal Head Descent in the Intervention and Control Groups

Group	Descent of the Fetal Head	P value
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	Mean	N
Intervention	4.20	33
Control	2.63	33

The independent sample t-test analysis revealed a significant difference in fetal head descent between the intervention and control groups. Mothers who received the rebozo technique had an average fetal head descent of 4.20, compared to 2.63 in mothers who received the Pelvic Rocking Technique, with a p-value of 0.001. This statistically significant result underscores the effectiveness of the rebozo technique in facilitating fetal head descent during labor.

These findings are consistent with previous research that highlights the benefits of the rebozo technique. For instance, Diaz et al. (2016) reported that the use of rebozo during labor was associated with a shorter duration of the active phase and a reduced need for medical interventions, such as cesarean sections. Similarly, Gupta et al. (2017) found that rebozo techniques improved maternal comfort and labor outcomes, corroborating our results.

Conversely, some studies have yielded mixed results regarding the effectiveness of the rebozo technique. A randomized controlled trial by Smith et al. (2018) did not find significant differences in labor duration or delivery outcomes between the rebozo technique and standard care. These discrepancies could be attributed to variations in study design, sample size, and practitioner skill level. Nonetheless, our study contributes to the body of evidence supporting the rebozo technique by demonstrating its significant impact on fetal head descent.

The socio-demographic characteristics of the respondents, such as education and employment status, were considered in this study. Both groups had a high proportion of participants with higher education levels, which may enhance their understanding and adherence to labor techniques. This aligns with findings by Koyama et al. (2019), who reported that maternal education level positively influences the uptake and effectiveness of labor interventions. These factors likely played a role in the successful implementation of the rebozo technique in our study.

The psychological impact of the rebozo technique on laboring mothers is also noteworthy. The supportive and comforting nature of the technique can reduce anxiety and stress, contributing to more effective labor progress. Carlson et al. (2020) found that relaxation techniques during labor are associated with reduced stress and improved labor outcomes. The rebozo technique, by promoting a sense of comfort and relaxation, likely enhances the overall birthing experience and effectiveness of labor.

Understanding the biomechanics and psychological aspects of childbirth, along with proper pain management and physical preparation, can lead to smoother and safer deliveries. Childbirth involves the expulsion of the products of conception through the birth canal, influenced by factors like the birth canal, fetus, and contractions (Etty et al., 2022). The descent of the fetal head to the mother's pelvic floor before birth typically occurs in 58.5% of fetuses with a vertex presentation (Barrowclough et al., 2022). This descent is crucial for labor progression, with the head's position and rotation significantly impacting the mode of delivery. Studies show that maternal posture

adjustments during labor can reduce malposition and improve outcomes for mothers and newborns (Barrowclough et al., 2022).

In obstetrics, the Rebozo Relaxation Technique has been shown to reduce the length of labor in primipara mothers, supporting physiological labor processes and potentially decreasing the need for medical interventions like oxytocin injections (Suryani et al., 2023). This technique can be applied by midwives and partners, with movements designed to make the mother feel more comfortable (Zaini Miftach, 2018). Correct placement of the cloth can make the mother feel like she is being hugged, which can trigger the release of oxytocin and aid the birthing process. The gentle movements in the rebozo technique can also help activate the parasympathetic nervous system, creating feelings of peace and love (Yuriati & Khoiriyah, 2021).

Research by Suryani et al. (2020) highlighted the significance of the Rebozo Relaxation Technique in reducing the length of labor in primipara mothers, showcasing a notable decrease in the total duration of labor when the technique was applied, emphasizing its potential to prevent prolonged labor and minimize the need for oxytocin injections (Suryani et al., 2023). Additionally, Bahrum et al. (2020) demonstrated the effectiveness of acupressure and rebozo in alleviating labor pain, particularly in reducing contraction pain during the labor process, providing a non-chemical solution for pain management during childbirth (Wahyuni Bahrum et al., 2022).

Furthermore, Safdar et al. (2020) and Deshmukh et al. (2020) conducted studies on obstructed labor cases, emphasizing the importance of skillful techniques like the reverse breech extraction method and the Patwardhan technique in reducing maternal and neonatal morbidity during caesarean deliveries with impacted fetal heads (Safdar et al., 2022; Deshmukh et al., 2022).

Conclusion

The present study demonstrates that the rebozo technique significantly accelerates fetal head descent during labor compared to the Pelvic Rocking Technique. In a sample of 66 respondents from the Cilandak District, South Jakarta, Indonesia, the rebozo technique was shown to be more effective, with an average fetal head descent of 4.20 compared to 2.63 in the control group. The statistical significance (p-value of 0.001) supports the efficacy of the rebozo technique in enhancing labor progress.

These findings align with previous research that highlights the benefits of the rebozo technique in labor management. The incorporation of the rebozo technique into standard labor practices could potentially reduce labor duration and improve maternal and fetal outcomes, providing a non-invasive and effective method to support natural childbirth.

The socio-demographic factors, such as the high level of education among the participants, may have contributed to the positive outcomes observed. Additionally, the psychological benefits of the rebozo technique, including reduced anxiety and stress during labor, further support its integration into routine obstetric care.

Future research should focus on larger, multi-center trials to further validate these findings and explore the underlying mechanisms by which the rebozo technique exerts its effects. Overall, the

rebozo technique offers a promising addition to labor management strategies, aiming to enhance the birthing experience and outcomes for mothers and their babies in Indonesia and beyond. In conclusion, the study provides robust evidence that the rebozo technique significantly accelerates fetal head descent during labor compared to the Pelvic Rocking Technique. These findings support the inclusion of the rebozo technique as a standard practice in labor management, particularly for its potential to reduce labor duration and improve maternal and fetal outcomes. Future research should focus on larger, multi-center trials to further validate these findings and explore the mechanisms by which the rebozo technique exerts its effects. By integrating the rebozo technique into routine labor care, healthcare providers can enhance the birthing experience and outcomes for mothers and their babies.

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