



The Effect of the Rebozo Technique on the Length of the First Stage in Vaginal Labor

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Abstract

The first stage of labor is often associated with prolonged duration, pain, and maternal discomfort, which may increase the risk of obstetric interventions. Non-pharmacological approaches are increasingly promoted to support physiological labor. The Rebozo technique, a traditional method originating from Latin America, has gained attention for its potential to improve labor progress by enhancing pelvic mobility and fetal positioning. This study aimed to systematically review the effect of the Rebozo technique on the duration of the first stage of vaginal labor. A systematic literature review was conducted following PRISMA guidelines. Articles were retrieved from ProQuest, PubMed, SpringerLink, and ScienceDirect databases using the keywords "Rebozo technique," "vaginal delivery," and "first stage of labor." Inclusion criteria were based on the PICOS framework, focusing on primigravida women undergoing vaginal delivery. Only quantitative studies and randomized controlled trials published between 2020 and 2025 were included. Methodological quality was assessed using the Center for Evidence-Based Medicine (CEBM) critical appraisal tool. Five high-quality studies from four countries met the inclusion criteria. The findings consistently demonstrated that the Rebozo technique was associated with a shorter duration of the first stage of labor, improved cervical dilation, enhanced fetal head rotation, and increased maternal comfort. The Rebozo technique is a safe and effective non-pharmacological intervention that supports labor progression and maternal well-being. Its integration into midwifery practice may optimize the management of the first stage of vaginal labor.

Introduction

The rebozo technique is a non-pharmacological therapy to accelerate the first stage of labor in women (Wijayanti & Marfu'ah, 2023; Mujahidah et al., 2024; Farag et al., 2023). Research has demonstrated the effectiveness of the rebozo technique in the first stage of labor, accelerating labor progress (Widiatrilupi, 2023; Aprianti et al., 2025; Farag et al., 2024). Farag et al. (2024) said that, the rebozo technique optimizes fetal positioning because the ligaments in the pelvis and uterus are tense, leading to a suboptimal fetal position in the uterus. The rebozo technique is a labor therapy originating from Latin America. It is a non-invasive technique performed with the woman standing, lying, or on her hands and knees. It involves gentle hip movements and the use of a specially woven scarf. One of its functions is to reduce pain intensity in laboring mothers and the duration of labor during contractions (Sitorus et al., 2024; Asl et al., 2018; Direkvand-Moghadam et al., 2015).

One effort to facilitate labor can be achieved through complementary methods, one of which is the rebozo technique. The rebozo technique has been popularly used in developed countries by healthcare professionals as a non-pharmacological method for assisting labor. This study aimed to assess the effect of the rebozo technique on the duration of the active phase of the first stage of labor in primigravida women (Fitriyaningsih et al., 2023; Wahyuni & Tridiyawati, 2024; Uludağ & Kocatürk, 2024). The rebozo technique is a non-invasive, practical technique performed while the mother is laboring in a standing, lying, or kneeling position with both palms touching the floor. It involves gently controlled side-to-side movements of the mother's hips using a specially woven scarf, and is performed by a midwife or birth attendant (Bahrum et al., 2023; Bahrum et al., 2023; Sulistiowati et al., 2024).

Rebozos can be used during labor to help relax the muscles and muscle fibers in the uterine ligaments, thereby reducing pain during contractions (Suprihatin, 2024; Asry et al., 2024; Bahrum et al., 2023). Some researchers suggest that rebozos can create positive psychological effects, resulting from the feelings and support mothers receive from their birth support team, including midwives, husbands, and families, when using them. The researchers' interventions in the rebozo treatment group demonstrated a psychological and social approach, allowing mothers to relax while giving birth, and all layers of uterine muscle working together harmoniously, resulting in a smooth, easy, and comfortable delivery. (Afrilia & Suksesty, 2023).

Government policy, through the midwifery professional organization, aims to improve the quality of care and competence of healthcare workers, particularly midwives, in assisting with childbirth by advancing the latest knowledge in midwifery, namely gentle birth, one of which is the rebozo technique. According to Suprihatin (2024) the rebozo is a technique for creating space for the baby in a way that is comfortable for the mother. The rebozo can be used during labor to help relax the muscles and muscle fibers in the uterine ligaments, thereby reducing pain during contractions (Afrilia & Suksesty, 2023; Schwalm & Dubrauszky, 1996).

Labor is a physiological process that involves complex interactions between uterine contractions, cervical dilation, fetal positioning, and maternal physical and psychological conditions. Although childbirth is a natural event, the first stage of labor is often associated with intense pain, anxiety, and prolonged duration, which may affect maternal comfort and labor outcomes (Carlhäll et al., 2022). The length of the first stage of labor is a critical indicator of labor progress.

Prolonged labor during this stage can increase the risk of maternal exhaustion, higher intervention rates, and adverse neonatal outcomes (Altman & Lydon-Rochelle, 2006; Pergialiotis et al., 2020). Therefore, effective strategies that can shorten the duration of the first stage while maintaining maternal and fetal safety are essential in maternity care (Miller et al., 2016; Bullough et al., 2023; Shields et al., 2011). Non-pharmacological interventions have gained increasing attention as alternatives to pharmacological methods in supporting labor. These approaches aim to promote physiological childbirth, reduce pain perception, and enhance maternal comfort without medical intervention (Taheri et al., 2018; Garlock et al., 2017; Mrayan et al., 2024).

Such methods are considered safe, cost-effective, and compatible with woman-centered care models. Kawabata et al. (2010) said that, one important factor influencing labor progress is fetal positioning, particularly during the first stage of labor. Suboptimal fetal positions, such as persistent occiput posterior position, are associated with longer labor duration and increased maternal discomfort. Facilitating optimal fetal positioning is therefore crucial for improving labor efficiency (Desseauve et al., 2017).

Maternal mobility and the use of various labor positions have been shown to positively influence labor progress. Upright and dynamic positions support pelvic mobility, enhance

uterine efficiency, and facilitate fetal descent. These practices are widely recommended as part of evidence-based intrapartum care. In addition to maternal positioning, manual and movement-based techniques have been developed to support labor progress. These techniques focus on releasing tension in the pelvic structures and uterine ligaments, creating favorable conditions for cervical dilation and fetal descent.

The rebozo technique is a traditional, non-pharmacological method originating from Latin America that has gained popularity in modern midwifery practice. It involves the use of a specially woven scarf to gently massage or mobilize the mother's pelvis and uterus during labor. This technique can be performed in various maternal positions, including standing, lying, or hands-and-knees, using gentle side-to-side hip movements. The mechanical effect of the rebozo technique is believed to release tension in the uterine ligaments and pelvic floor muscles, thereby optimizing fetal positioning (Cohen & Thomas, 2015; Widiatrilupi, 2023).

By improving pelvic flexibility and fetal alignment, the rebozo technique may contribute to a shorter duration of the first stage of labor. Previous studies have reported that this technique can accelerate labor progress and support cervical dilation, particularly when applied during the active phase of labor (Neal et al., 2010). In addition to its mechanical benefits, the rebozo technique provides psychological and emotional support. The rhythmic movements and physical contact involved can reduce maternal anxiety, promote relaxation, and increase the mother's sense of control during labor (Fink et al., 2012).

Psychological relaxation plays an important role in labor progression, as stress and fear are known to intensify pain perception and potentially prolong labor (Mumtaz et al., 2024). By addressing both physical and emotional aspects of labor, the rebozo technique offers a holistic approach to intrapartum care. The rebozo technique is also consistent with gentle birth principles promoted by professional midwifery organizations and government health policies. These frameworks emphasize respectful, non-invasive, and evidence-based practices to improve the quality of maternity care.

Despite growing interest and positive findings related to the rebozo technique, existing evidence remains dispersed across studies with varying designs, populations, and outcomes. This variability highlights the need for a comprehensive synthesis of the available research. Therefore, this study aims to systematically review the scientific literature to examine the effect of the rebozo technique on the length of the first stage of vaginal labor. The findings of this review are expected to provide evidence-based insights for midwives and healthcare professionals in optimizing labor management and improving maternal outcomes.

Methods

Eligibility criteria

Article inclusion criteria for systematic reviews using PICOS include population, intervention, comparator, outcome, and study design (Amir-Behghadami & Janati, 2020). (P) The focus of this study is primigravida mothers giving birth with vaginal delivery in the first stage. Intervention (I) is the Rebozo Technique. Comparator (C) is a study conducted without the Rebozo Technique or other non-pharmacological interventions (e.g., massage, breath relaxation, hypnobirthing, rebozo). Outcomes (O) are the length of the first stage, vaginal delivery. The study design (S) chosen by the author is a randomized controlled trial (RCT) or a pre-experimental control study (with a satisfactory group comparison design approach). Exclusion criteria are as follows: language used other than English, open access, abstract only, articles published after 2020, research design using only qualitative and/or quantitative methods in randomized controlled trials, and systematic literature review design. Articles that do not meet the inclusion criteria are excluded.

Search Strategy

This study is a systematic literature review with a literature search in four electronic databases (ProQuest, PubMed, SpringerLink and Science Direct) published in the last 5 years from 2020 to 2025, in English, full articles with scholar journal type using the keywords "Rebozo technique" AND "vaginal delivery" AND "first stage of labor". All references found were managed using Mendeley software. Data extraction and analysis from each article were performed by the author. The result was 5 selected articles. Article quality assessment was assessed using standard criteria for the Center for Evidence-Based Medicine (CEBM) critical appraisal skills program tool that verifies misclassification, selection, and reporting by evaluating factors including: sampling strategy, sample adequacy, anticipated bias, intervention focus & comparison group, analysis, appropriateness of statistical tests, description of intervention procedures, determination of inclusion and exclusion criteria, study limitations, and reporting of data results. Study quality was classified as high quality (score 8 to 12), moderate quality (score 5 to 7), or low quality (score 4 to 0). Articles used a quality assessment > 8. Data analysis was conducted thematically and organized based on theme analysis and narrative writing. The article search results were presented using the Preferred Reporting Items for Systematic Review & Meta-Analysis (PRISMA) and a flowchart compiled based on the 2009 PRISMA checklist guidelines (Moher et al., 2009), sequentially eliminating irrelevant articles with identification criteria, screening, eligibility, and finally downloading relevant articles. Of the 16 identified articles, 5 articles were obtained, the article selection process is shown in Figure 1.

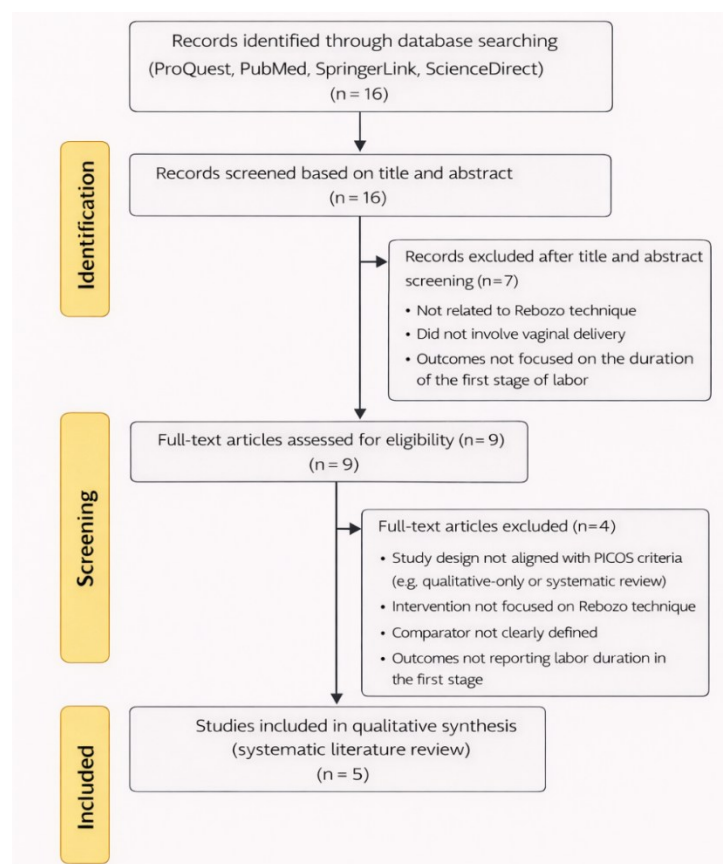


Figure 1. Preferred Reporting Items for Systematic Review

The study selection process followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Articles were identified through database searches in ProQuest, PubMed, SpringerLink, and ScienceDirect using keywords related to the rebozo technique, vaginal delivery, and the first stage of labor. The initial search identified 16 articles.

After removing duplicate records, titles and abstracts were screened for relevance. Articles were excluded if they were not related to the rebozo technique, did not involve vaginal delivery, or did not assess labor progress outcomes.

Full-text screening was then conducted based on predefined inclusion criteria, including publication within the last five years (2020–2025), availability of full text, use of English or Indonesian language, and relevance to the duration of the first stage of labor. Studies published before 2020 or lacking outcome relevance were excluded. Following this process, five articles met all inclusion criteria and were included in the final qualitative synthesis. The methodological quality of the included studies was assessed using the Center for Evidence-Based Medicine (CEBM) critical appraisal checklist.

Results and Discussion

The search results identified five articles from four countries: Italy, Turkey, Sweden, and Denmark. The study designs used cross-sectional, RCTs, and case-control methods. The results showed a positive correlation between the Rebozo technique and the duration of the first stage of vaginal delivery. The characteristics of the articles obtained are shown in Table 1.

Table 1. Summary of Articles Characteristics Vaginal Delivery and Systematic Review

No	Article	Location	Research Methods	Sampling	Number of Samples	Data Source	Quality Assessment (0-12 point)
1	Rebozo and advanced maternal postures: A promising set of intrapartum interventions to reduce persistent occiput posterior position of the fetal head (Fumagalli et al., 2024)	academic Obstetrics Unit of a maternity hospital in Northern Italy with approximately 2500 births/year.	cohort study prospektif dan retrospektif	Total population sampling	Women who were aged ≥ 18 years, in active phase of the first stage of labor, with a singleton term fetus (≥ 37 0/7)	European Journal of Midwifer	12 High Quality)
2	Rebozo and maternal postures to prevent persistent occiput posterior position of the fetal head: protocol for a randomised clinical trial ‘the ReMaP--POPP RCT’ (Ornaghi et al., 2025)	The study will be conducted at the labour and birth (L&B) unit, Fondazione IRCCS San Gerardo dei Tintori, Monza, Italy. The research centre is an academic maternity unit with approximately 2600 births per year.	randomised controlled trial	Random sampling	Women will be eligible if they are ≥ 18 years old, in labour (3 to 8 cm) and with a singleton term fetus (≥ 37 0/7 weeks) in an occiput posterior position confirmed by transabdominal sonography. Eligible women will be randomised into two groups:	Published by BMJ Group. 1Department of Obstetrics, Fondazione IRCCS San Gerardo dei Tintori, Monza, Italy 2University of Milan-Bicocca, Monza, Lombardy, Italy	12 (High Quality)
3	Pregnant Women's Opinions and Preferences Regarding Non-	turki	descriptive study	chi-square test.	was conducted with 220 pregnant women (110 primiparous and	International Journal of Caring Sciences	8 (High Quality)

	Pharmacological Interventions in Labor Pain Management: A Comparative Study (Gok, 2024)				110 multiparous) in the last trimester of pregnancy.		
4	Dynamic birth position, awareness and practice by midwives in Ethiopia: a parallel mixed-methods study (Mohammed et al., 2025)	Ethiopian	Quantitative data were analyzed using stepwise backward elimination logistic regression to identify key predictors, while qualitative data were examined through thematic analysis.	Probability sampling	483 midwives, with 473 participating in the quantitative survey and 10 in the qualitative interviews.	Mohammed et al. BMC Pregnancy and Childbirth	8 (High Quality)
5	The effect of Rebozo technique on perceived labour pain and childbirth experience A randomized controlled trial (Tandoğan & Oskay, 2024)	Istanbul	randomised controlled trial	Random sampling	Women between 37 and 41 weeks of gestation without complications who were admitted to the delivery room with a cervical dilation of 4 cm or more were chosen as participants	Health, Inc. This is an open access article distributed under the Creative Commons Attribution License 4.0 (CCBY),	9 (High Quality)

Effect of the Rebozo Technique on the Duration of the First Stage of Labor

The findings of this systematic review indicate that the Rebozo technique has a positive effect on reducing the duration of the first stage of vaginal labor. Evidence from quantitative studies and randomized controlled trials (RCTs) demonstrates that maternal pelvic mobilization facilitated by the Rebozo technique supports more efficient labor progress. The study by Tandoğan & Oskay (2024) showed a significant reduction in the duration of the transition phase and overall improvement in cervical dilation patterns among women who received the Rebozo intervention compared to the control group. These findings suggest that the controlled movements of the pelvis using a woven scarf help optimize uterine mechanics, thereby facilitating a more coordinated contraction pattern and reducing prolonged labor in the first stage.

Effect of the Rebozo Technique on Fetal Head Rotation

Several studies included in this review highlight the role of the Rebozo technique in promoting optimal fetal head rotation, particularly from occiput posterior to occiput anterior positions. Fumagalli et al. (2024) reported that the application of Rebozo techniques and advanced maternal postures significantly increased the likelihood of anterior fetal head rotation during the early active phase of labor. Similarly, the randomized clinical trial protocol by Ornaghi et al. (2025) supports the hypothesis that pelvic and uterine mobilization through Rebozo maneuvers creates favorable biomechanical conditions for fetal rotation. From a physiological perspective, releasing tension in the uterosacral ligaments and pelvic fascia allows the fetal

head to align more effectively with the birth canal, which is a key determinant of labor efficiency and progression during the first stage.

Effect of the Rebozo Technique on Cervical Dilation

The Rebozo technique also demonstrates a measurable effect on cervical dilation, which is a critical indicator of labor progress during the first stage. Quantitative findings from Tandoğan & Oskay (2024) revealed significant differences in cervical dilation between the intervention and control groups, particularly during the active and transition phases of labor. These results suggest that pelvic oscillation and soft tissue relaxation induced by the Rebozo technique enhance cervical responsiveness to uterine contractions. Improved dilation may be attributed to reduced mechanical resistance within the pelvic structures, allowing contractions to act more effectively on the cervix and accelerate labor progression without pharmacological intervention.

Effect of the Rebozo Technique on Maternal Comfort

Beyond its physiological benefits, the Rebozo technique contributes significantly to maternal comfort during labor. Quantitative and qualitative evidence indicates that women who received Rebozo interventions reported lower pain intensity, reduced anxiety, and higher satisfaction with their childbirth experience. The randomized controlled trial by Tandoğan & Oskay (2024) demonstrated significantly lower pain scores and higher birth satisfaction among women in the Rebozo group. This improvement in comfort may be explained by both physical and psychological mechanisms, including reduced musculoskeletal tension, enhanced sense of support, and increased maternal participation in the labor process. Increased comfort during the first stage of labor may indirectly contribute to shorter labor duration by reducing stress-related inhibition of uterine contractions.

Implications of Quantitative and RCT Evidence

The consistency of findings across quantitative studies and RCTs strengthens the evidence supporting the use of the Rebozo technique as a non-pharmacological intervention in labor management. These studies provide objective outcome measures, such as duration of labor, cervical dilation, and fetal head position, while also capturing maternal-reported outcomes related to comfort and satisfaction. The high methodological quality of the included RCTs enhances the reliability of these findings and supports the integration of the Rebozo technique into clinical midwifery practice. However, variations in intervention protocols and outcome measurements suggest a need for further large-scale RCTs with standardized Rebozo techniques to confirm its effectiveness across diverse clinical settings.

Conclusion

This systematic literature review demonstrates that the Rebozo technique has a beneficial effect on the first stage of vaginal labor. Findings from quantitative studies and randomized controlled trials indicate that the Rebozo technique is associated with a shorter duration of the first stage of labor, improved cervical dilation, and more effective fetal head rotation. These effects support smoother labor progression and reduce the risk of prolonged labor. Additionally, the Rebozo technique contributes to increased maternal comfort by reducing pain and anxiety and enhancing the overall childbirth experience. As a safe and non-pharmacological intervention, the Rebozo technique can be effectively integrated into midwifery care to support physiological labor, particularly during the active phase of the first stage. Further high-quality randomized controlled trials are recommended to strengthen the evidence and standardize its clinical application.

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