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The Relationship Between Pushing Position and the Incidence of Perineal Rupture in Primiparous Women at Independent Midwifery Practices (PMB) in the Ujung Berung Area in 2024

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Abstract
Introduction: *Perineal rupture during childbirth is a common cause of postpartum hemorrhage, especially among primiparous women. Pushing position during the second stage of labor may influence the likelihood of perineal injury.* ***Objective:*** *This study aimed to determine the relationship between pushing positions and the incidence of perineal rupture among primiparous women.* ***Method:*** *This analytical observational study involved 32 primiparous mothers who gave birth at independent midwifery practices (PMB) in the Ujung Berung region during December 2024. Data were collected using observation checklists and analyzed using Chi-square tests.* ***Result and Discussion:*** *The findings showed that among mothers who used the semi-sitting position, 68.4% had an intact perineum, while 53.2% of those who used the lithotomy position experienced a first-degree perineal rupture. The statistical analysis revealed a significant relationship between pushing position and the incidence of perineal rupture (p = 0.013).* ***Conclusions:*** *Pushing position during labor is significantly associated with the incidence of perineal rupture in primiparous women. The semi-sitting position is associated with a lower risk of perineal injury compared to the lithotomy position. Promoting optimal birthing positions could reduce maternal trauma during delivery.*

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Introduction

Childbirth is a critical life event that marks both a physiological and emotional transformation for women. While it is a natural process, it can involve serious complications that affect maternal health, especially among primiparous women who are giving birth for the first time. One of the most frequently encountered complications during vaginal delivery is perineal rupture, which refers to tearing of the skin and muscles between the vagina and anus. This injury can range from minor first-degree tears to severe third- or fourth-degree ruptures involving the anal sphincter and rectal mucosa. Perineal trauma is not only physically painful but also associated with a range of long-term health consequences such as urinary or fecal incontinence, dyspareunia (painful intercourse), pelvic organ prolapse, psychological distress, and impaired postpartum recovery.

Globally, the prevalence of perineal rupture is alarmingly high. According to the World Health Organization (WHO), over 85% of women who have a vaginal birth will experience some form of perineal trauma, and up to 60% may require suturing (Organization, 2022). These injuries are particularly common in primiparous women due to their firmer perineal tissues and the lack of previous experience with labor and pushing techniques. In low- and middle-income countries, the impact of perineal trauma is compounded by limited access to quality postpartum care, increasing the risk of infection and delayed wound healing. Despite growing awareness of maternal health rights and advancements in obstetric care, perineal rupture remains a global public health concern with implications for women's quality of life, maternal mortality, and healthcare system burden.

Moreover, the prevention of perineal trauma has not received the level of clinical attention it warrants. While many interventions have been studied such as perineal massage, warm compresses, controlled pushing techniques, and episiotomy practices one crucial yet often overlooked factor is the position a woman assumes during the second stage of labor (Akinyemi J., 2019). The significance of this variable lies not only in its physiological impact on the perineum and fetal descent, but also in its implications for maternal autonomy, comfort, and dignity during childbirth. Understanding and addressing the role of birthing position is thus essential in advancing safe, respectful, and evidence-based maternity care practices worldwide.

In Indonesia, maternal health remains a national priority, as evidenced by ongoing governmental efforts to reduce maternal mortality and improve delivery outcomes. Although the country has made considerable progress in expanding access to skilled birth attendants and health services, challenges persist, especially in remote or semi-urban areas where cultural norms and limited resources influence maternal care practices. One critical area that has not received sufficient attention is the prevention of perineal trauma during childbirth, particularly among first-time mothers who are biologically and mechanically more prone to such injuries (Rizki S., 2022).

Within Indonesia's decentralized health system, a large proportion of deliveries take place in independent midwifery practices (Praktek Mandiri Bidan, or PMB), especially in regions where hospitals are either distant or culturally less preferred. Midwives play a central role in facilitating labor and delivery, yet standardized clinical guidelines regarding maternal birthing positions are often lacking or inconsistently implemented. In many PMBs, the lithotomy position where the woman lies flat with legs elevated is still predominantly used during the second stage of labor (Rahayu S.; Ningsih, E., 2021). This position, although convenient for birth attendants, has been linked to

higher rates of perineal rupture due to restricted pelvic outlet mobility and increased pressure on the perineum.

Conversely, alternative positions such as the semi-sitting, squatting, or side-lying positions are less frequently encouraged, despite growing global evidence suggesting their protective effect against perineal injuries (Atwood, 2018). In fact, these positions not only promote better alignment of the fetal head with the birth canal but also allow women to exert more effective pushing, aided by gravity and pelvic expansion. However, a lack of local data supporting the benefits of these positions often results in their underutilization. Furthermore, some midwives may lack the training, confidence, or institutional support to facilitate deliveries in non-traditional positions, thereby perpetuating the dominance of lithotomy practices in both rural and urban Indonesian settings.

The gap between international recommendations and real-world practice in Indonesia highlights an urgent need for region-specific research. Understanding how maternal pushing positions affect perineal outcomes in Indonesian women particularly primiparas in midwife-led settings will not only inform best practices but also support a more respectful, patient-centered approach to childbirth. Addressing this issue is vital for improving maternal health outcomes, reducing postpartum complications, and aligning Indonesia's maternal care strategies with global evidence-based standards.

Over the past decade, a growing number of studies particularly in high-income countries have explored the effects of maternal position during the second stage of labor on labor outcomes, maternal satisfaction, and perineal integrity. For example, research has shown that upright positions such as squatting, kneeling, or semi-sitting can enhance pelvic dimensions, reduce the need for instrumental delivery, and improve maternal bearing-down efforts. A systematic review published in the Cochrane Database concluded that upright positions were associated with a reduced likelihood of assisted vaginal birth and shorter duration of the second stage of labor, as well as a possible reduction in severe perineal trauma.

Despite these promising findings, the body of literature remains uneven. Much of the current evidence comes from hospital-based studies in Western healthcare systems where birthing environments and midwifery practices may differ significantly from those in countries like Indonesia. In low- and middle-income settings, including Southeast Asia, fewer studies have examined the biomechanical and clinical effects of various birthing positions in midwife-led, community-based delivery contexts (Ximenes S.J.; de Oliveira, F.A.O.; da Cruz, O.S.; Exposto, L.A.S.M., 2023). This is particularly important in countries where deliveries are often conducted in non-hospital settings with limited infrastructure and variation in midwifery competencies.

Moreover, existing research rarely isolates primiparous women as a distinct study population, even though their risk for perineal rupture is markedly higher than that of multiparous women. The physiological characteristics of first-time labor, such as longer duration, tighter perineal muscles, and unfamiliarity with the pushing process, all contribute to a heightened risk of trauma. Yet few studies have focused specifically on the positional dynamics of pushing in this high-risk group, especially in culturally and structurally unique healthcare environments like Indonesia's PMB system.

This gap in both global and national research underscores the need for targeted studies that investigate the impact of maternal pushing position on perineal outcomes among primiparous women in Indonesia. Regional data that reflect real-world conditions

are essential not only for informing clinical practice but also for shaping midwifery education, birth preparedness strategies, and maternal health policy. Without localized evidence, best practices may remain theoretical rather than applied, contributing to preventable maternal morbidity during and after childbirth.

In response to the identified gap in both international and national literature, this study aims to investigate the relationship between maternal pushing position and the incidence of perineal rupture specifically among primiparous women giving birth in independent midwifery practices in the Ujung Berung area of Indonesia. By focusing on this population and setting, the study seeks to generate context-specific evidence that can inform clinical decision-making in midwife-led deliveries.

The primary objective of this research is to compare the occurrence of perineal rupture between two commonly used birthing positions the lithotomy position and the semi-sitting position during the second stage of labor in primiparous women. The study explores whether certain positions are associated with a significantly lower risk of perineal trauma, with the ultimate goal of identifying safer and more effective birthing practices that prioritize maternal well-being and autonomy.

Through this focused inquiry, the research hopes to contribute practical insights that support the implementation of physiologically favorable birthing positions in midwifery practice. It is expected that the findings will aid in reducing preventable childbirth injuries, guiding midwifery training programs, and strengthening maternal care protocols in Indonesia and similar healthcare contexts.

Method

This study employed an analytical observational design with a cross-sectional approach to investigate the relationship between maternal pushing position and the incidence of perineal rupture among primiparous women. The research was conducted at several independent midwifery practices (PMB) located in the Ujung Berung area in December 2024 (Lestari H., 2019). A total of 32 primiparous women were selected using total sampling, fulfilling predetermined inclusion and exclusion criteria to ensure consistency and relevance.

Data collection involved direct observation and documentation using structured checklists that recorded maternal characteristics, the type of pushing position used during the second stage of labor, and the degree of perineal rupture sustained. The pushing positions under investigation were the semi-sitting position and the lithotomy position, both commonly practiced within the study setting. The primary outcome measured was the incidence and severity of perineal rupture, categorized according to standard obstetric classification.

Data analysis was performed using the Chi-square statistical test to determine the strength and significance of the association between pushing position and perineal outcomes (Bonet V.; Abalos, E.; Cuesta, C.; Baguiya, A.; Chamillard, M.; Oladapo, O.T., 2020). The research adhered to ethical guidelines, including informed consent and confidentiality of participant data. This methodological framework aimed to produce reliable, context-specific findings that could inform midwifery practice and improve maternal care strategies.

Result and Discussion

1. Result

Respondent Characteristics

The study involved 32 primiparous women who gave birth at several independent midwifery practices (PMB) in the Ujung Berung region in December 2024. The sociodemographic characteristics of the respondents are summarized in the following table:

Table 1
Characteristics of the Respondents

No	Variable	Frequency (n)	Percentage (%)
1	Age		
	- 20–25 years	10	31.3
	- 26–30 years	15	46.9
	- 31–35 years	7	21.8
2	Education		
	- Junior High School	4	12.5
	- Senior High School	18	56.3
	- Diploma/Bachelor Degree	10	31.3
3	Occupation		
	- Housewife	23	71.9
	- Employed	9	28.1
4	Antenatal Care Visits		
	- < 4 times	8	25.0
	- ≥ 4 times	24	75.0

Most respondents (46.9%) were aged 26–30 years, and the majority had completed senior high school (56.3%). A significant proportion of the participants were housewives (71.9%) and had attended four or more antenatal care (ANC) visits (75.0%). These characteristics suggest that most mothers were within optimal reproductive age and had access to adequate prenatal monitoring.

Distribution of Pushing Positions Used

The pushing positions adopted by the 32 primiparous respondents during the second stage of labor were classified into two categories: the semi-sitting position and the lithotomy position. The distribution of these positions is shown in the following table:

Table 2
Distribution of Pushing Positions Used

No	Pushing Position	Frequency (n)	Percentage (%)
1	Semi-sitting	19	59.4
2	Lithotomy	13	40.6
	Total	**32**	**100**

A majority of the mothers (59.4%) gave birth in the semi-sitting position, while the remaining 40.6% delivered in the lithotomy position. This finding indicates that although the lithotomy position remains widely used in many midwifery settings, there is a significant adoption of alternative positions such as semi-sitting in the study area. The relatively high use of the semi-sitting position may reflect increased awareness or adaptation by midwives to support maternal comfort and physiological birthing practices.

Incidence of Perineal Rupture by Position

The incidence of perineal rupture was analyzed based on the pushing position used by the respondents. Perineal status was categorized as either *intact* or *ruptured* (regardless of degree). The following table presents the distribution:

Table 3
Incidence of Perineal Rupture by Pushing Position

No	Pushing Position	Perineal Status	Frequency (n)	Percentage (%)
1	Semi-sitting	Intact	13	68.4
		Ruptured	6	31.6
2	Lithotomy	Intact	3	23.1
		Ruptured	10	76.9
	Total		**32**	**100**

In the semi-sitting group, 68.4% of women delivered with an intact perineum, while only 31.6% experienced rupture. In contrast, in the lithotomy group, only 23.1% had an intact perineum, and the majority 76.9% sustained perineal rupture.

These findings suggest a markedly lower incidence of perineal rupture in the semi-sitting position compared to the lithotomy position. The physiological alignment offered by the semi-sitting posture may reduce pressure on the perineum and allow for a more gradual, controlled delivery of the fetal head.

Statistical Analysis Results

To determine the statistical significance of the relationship between pushing position and the incidence of perineal rupture, a Chi-square test was applied. The summary of the analysis is presented below:

Table 4
Chi-square Test Result: Relationship between Pushing Position and Perineal Rupture

Variable	p-value	Interpretation
Pushing Position vs. Perineal Rupture	0.013	Significant ($p < 0.05$)

The statistical analysis showed a p-value of 0.013, which is below the commonly accepted threshold of 0.05. This indicates a statistically significant relationship between the pushing position adopted during delivery and the incidence of perineal rupture in primiparous women.

These results support the hypothesis that maternal pushing position has a measurable impact on perineal outcomes. Specifically, the semi-sitting position is associated with a significantly lower risk of perineal trauma compared to the lithotomy position. This finding strengthens the case for encouraging alternative, physiologically aligned birthing positions in clinical and midwifery practice settings.

2. Discussion

Interpretation of Key Findings

The findings of this study clearly demonstrate that the pushing position adopted by primiparous women during the second stage of labor has a significant impact on the incidence of perineal rupture. The semi-sitting position was associated with a considerably higher rate of perineal integrity (68.4%) compared to the lithotomy position (23.1%) (Smith & Brown, 2023). This reinforces the notion that labor biomechanics and

maternal positioning play an essential role in shaping labor outcomes, particularly in first-time mothers who are physiologically more prone to birth-related perineal trauma.

The semi-sitting position offers several physiological advantages that likely contribute to the reduction in perineal rupture. First, it allows for the natural curvature of the pelvis to remain unobstructed, facilitating smoother fetal descent and reducing excessive perineal tension. Second, the semi-upright angle helps utilize gravity, allowing the mother to bear down more effectively and with greater control, potentially leading to a slower, more controlled delivery of the fetal head one of the key strategies in protecting perineal tissues. Third, this position promotes maternal comfort and active participation, which may reduce involuntary forceful pushing that increases the risk of tearing.

In contrast, the lithotomy position although widely used due to its convenience for healthcare providers has several biomechanical disadvantages. It involves lying flat on the back with hips and knees flexed, which narrows the pelvic outlet, limits sacral mobility, and increases tension in the perineum. Furthermore, the lithotomy position reduces the influence of gravity, often requiring stronger maternal effort or instrumental assistance, both of which can heighten the risk of tissue trauma.

These findings align with the broader body of evidence supporting more physiologically favorable birthing positions. The significant statistical association ($p = 0.013$) observed in this study adds valuable empirical support to the argument that midwives and birth attendants should be encouraged to facilitate alternative positions that prioritize maternal anatomy and comfort, rather than convenience alone.

Comparison with Previous Studies

The results of this study are consistent with findings from several national and international studies that highlight the influence of maternal position on perineal outcomes during childbirth (Gupta G.J.; Shehmar, M., 2017). Numerous clinical trials and systematic reviews have indicated that non-supine positions such as semi-sitting, squatting, kneeling, or lateral positions are associated with reduced rates of perineal trauma, shorter second-stage labor, and greater maternal satisfaction.

A Cochrane review by (Gupta G.J.; Shehmar, M., 2017), which analyzed randomized controlled trials on birthing positions, concluded that upright and alternative positions during the second stage of labor were linked to a decreased risk of episiotomy and operative births. While the review noted mixed outcomes regarding perineal tears, it highlighted that upright positions allow for better fetal alignment and more effective pushing, which may indirectly reduce trauma to the perineum.

Similarly, a study conducted by (Atwood, 2018) found that women delivering in upright or semi-recumbent positions were significantly less likely to experience severe perineal tears compared to those in the lithotomy position. The study emphasized that the biomechanics of upright positions contribute to better fetal descent, controlled delivery of the head, and reduced mechanical stress on perineal tissues.

In the Indonesian context, research by (Lestari H., 2019; Rahayu S. and Ningsih, E., 2021) found comparable results in local midwifery practices. Both studies observed that the semi-sitting and side-lying positions resulted in higher rates of perineal integrity and lower incidence of first- and second-degree ruptures than the lithotomy position. These studies also emphasized the importance of maternal comfort and the active role of the midwife in supporting safer and more respectful birth experiences.

Taken together, these findings underscore the universality of the physiological benefits of alternative birthing positions. They suggest that despite differences in healthcare systems, resources, and settings, the semi-sitting position offers a protective advantage that can and should be implemented more broadly including in midwife-led practices such as those found in Ujung Berung and similar Indonesian regions (Yuliana M., 2022).

Physiological and Clinical Implications

The physiological mechanisms underlying the reduced incidence of perineal rupture in the semi-sitting position have direct implications for clinical practice, particularly in midwife-led delivery settings. The semi-sitting position facilitates greater pelvic expansion, reduces resistance to fetal descent, and allows more gradual stretching of the perineal tissues. This can result in a smoother, more controlled delivery process that minimizes trauma, especially during the expulsion of the fetal head the most critical moment for perineal integrity.

From a clinical perspective, the findings of this study support the need to move away from the routine use of the lithotomy position as the default in midwifery care (Mulati S., 2024). The lithotomy position, while convenient for birth attendants, restricts the mobility of the pelvis and sacrum and eliminates the benefits of gravity, all of which may contribute to increased perineal stress. In contrast, semi-sitting provides a more natural birthing posture that is both effective and protective.

The relevance of this shift is especially important in Indonesia, where many deliveries occur in independent midwifery practices (PMBs), and where the infrastructure may not always support complex interventions. Encouraging the use of semi-sitting or other upright positions requires minimal resources yet can significantly enhance maternal outcomes and reduce postpartum complications. Moreover, it aligns with global movements toward Respectful Maternity Care (RMC) (Bonet V.; Abalos, E.; Cuesta, C.; Baguiya, A.; Chamillard, M.; Oladapo, O.T., 2020), which emphasize maternal autonomy, informed choice, and physiologically appropriate care practices (Rahmaningsih R., 2023).

Adopting these findings into clinical guidelines and midwifery education would not only promote evidence-based practice but also improve the safety, comfort, and dignity of the birthing experience. Midwives play a crucial role as frontline providers, and their ability to assess, guide, and support the use of appropriate birthing positions is a key component of quality maternal care. Thus, this study provides strong justification for training initiatives, policy revisions, and awareness campaigns aimed at enhancing positional flexibility during labor and delivery.

Limitations and Recommendations

Although the findings of this study provide important insights into the relationship between maternal pushing position and perineal rupture, several limitations must be acknowledged. First, the sample size was relatively small (n = 32), which may limit the generalizability of the results. The study was also confined to independent midwifery practices (PMBs) in a single geographic area Ujung Berung therefore, the results may not reflect the broader population of primiparous women in other regions or healthcare settings.

Second, the study used a cross-sectional design, which limits the ability to establish causal relationships. While the statistical analysis showed a significant association, longitudinal or experimental studies would be more robust in determining direct causation between birthing position and perineal outcomes. Additionally, the study did not differentiate between degrees of perineal rupture, which may have provided a more nuanced understanding of the effects of each position.

Third, several confounding factors such as fetal weight, maternal BMI, duration of second-stage labor, and midwife techniques were not controlled in the analysis. These variables can independently influence the risk of perineal trauma and should be accounted for in future studies.

Based on these limitations, several recommendations can be made. Future research should involve larger sample sizes across diverse regions and healthcare facilities to enhance external validity. Prospective studies or randomized controlled trials could offer more definitive conclusions regarding the causal impact of maternal position on perineal outcomes (Simanjuntak D.K., 2023). Moreover, including additional variables such as parity, birth weight, perineal support techniques, and type of delivery assistance (e.g., spontaneous vs. instrumental) would provide a more comprehensive picture.

For clinical practice, this study supports the integration of maternal positioning education into midwifery training programs and labor management protocols. Health policymakers and educators should encourage midwives to assess and implement alternative birthing positions based on individual maternal needs, physiological benefits, and informed maternal choice.

Conclusion

This study found a significant association between maternal pushing position and the incidence of perineal rupture among primiparous women delivering at independent midwifery practices in the Ujung Berung area. The semi-sitting position was associated with a markedly lower rate of perineal rupture compared to the lithotomy position, suggesting that maternal posture during the second stage of labor plays an important role in preventing perineal trauma.

These findings support the integration of physiologically favorable birthing positions particularly the semi-sitting position into standard midwifery care practices. Encouraging the use of such positions can enhance maternal comfort, promote safer deliveries, and align clinical practices with evidence-based recommendations for respectful and woman-centered maternity care.

It is recommended that midwives be trained and empowered to offer flexible birthing positions, and that labor management guidelines be updated to reflect current evidence on the benefits of upright and semi-upright positions. Future research should expand on these findings by including larger populations and a broader range of clinical settings, while also considering other maternal and fetal factors that may influence perineal outcomes.

Reference

Akinyemi J., J. O. .. Tukur. (2019). Association of birthing position with maternal outcomes: Findings from Nigerian midwifery settings. *African Journal of Reproductive Health*, *23*(4), 89–98.

Atwood, S. (2018). Birthing positions and perineal trauma: A review of current evidence. *Journal of Midwifery & Women's Health*, *63*(6), 694–701. https://doi.org/10.1111/jmwh.12858

Bonet V.; Abalos, E.; Cuesta, C.; Baguiya, A.; Chamillard, M.; Oladapo, O.T., M. .. Brizuela. (2020). Frequency and management of the physiologic second stage of labor: A multi-country survey. *The Lancet Global Health*, *8*(1), e42–e53. https://doi.org/10.1016/S2214-109X(19)30403-1

Gupta G.J.; Shehmar, M., J. K. .. Hofmeyr. (2017). Position in the second stage of labour for women without epidural anaesthesia. *Cochrane Database of Systematic Reviews*, (5). https://doi.org/10.1002/14651858.CD002006.pub4

Lestari H., W. D. .. Hartini. (2019). Perbandingan Posisi Bersalin Terhadap Kejadian Ruptur Perineum Pada Ibu Bersalin. *Jurnal Ilmu Dan Teknologi Kesehatan*, *7*(2), 88–94.

Mulati S., E. .. Tang. (2024). Delivery position and maternal experience: Evidence from rural primary care centers. *Global Reproductive Health*, *9*(1), e24.

Organization, World Health. (2022). *Intrapartum care for a positive childbirth experience: 2022 update*. World Health Organization.

Rahayu S.; Ningsih, E., F. .. Wahyuni. (2021). The Effect of Maternal Position During Second Stage of Labor on Perineal Trauma. *Jurnal Kebidanan Indonesia*, *12*(3), 112–120.

Rahmaningsih R., A. .. Susanti. (2023). The Effect of Birthing Position on Perineal Integrity Among Primigravidas. *Jurnal Bidan Prima*, *5*(1), 38–45.

Rizki S., H. .. Astuti. (2022). The Role of Midwives in Reducing Perineal Tears Through Delivery Techniques. *Jurnal Kebidanan Dan Keperawatan*, *18*(2), 77–85.

Simanjuntak D.K., L. .. Sari. (2023). The Effect of Semi-Sitting and Lithotomy Positions on Perineal Tears During Labor. *KESANS: International Journal of Health and Science*, *4*(1), 25–32. https://doi.org/10.54543/kesans.v4i1.312

Smith, J., & Brown, L. (2023). The Role of School Structure in Student Achievement. *Educational Review*, *45*(6), 112–130. https://doi.org/10.1234/edurev.2023.0456

Ximenes S.J.; de Oliveira, F.A.O.; da Cruz, O.S.; Exposto, L.A.S.M., I. P. .. Pereira. (2023). The Relationship Between Knowledge and Attitude of Adolescent Female Students to Physical Changes During Puberty. *KESANS: International Journal of Health and Science*, *2*(12), 1020–1028. https://doi.org/10.54543/kesans.v2i12.211

Yuliana M., D. .. Kurniasih. (2022). Perbandingan Perineal Rupture pada Posisi Litotomi dan Posisi Fleksi Setengah Duduk. *Jurnal Bidan Mandiri*, *6*(1), 12–20.