Vol. 7, No. 1, Januari 2026
E-ISSN:2723 – 6692
P-ISSN:2723– 6595
http://jiss.publikasiindonesia.id/

The Impact of Parity on Pariental Rupture Incidence Among Delivering Mothers at Clinic Alya Medica

Maulidianingtiyas* , Nila Widya Keswara
Institut Teknologi Sains dan Kesehatan RS dr. Soepraoen Malang, Indonesia
Email: maulidianingtiyas@gmail.com*

KEYWORDS
Childbirth; parity; perineal rupture; vaginal delivery

ABSTRACT
Childbirth is the process of expelling the products of conception through the birth canal or with medical assistance. Vaginal delivery may result in perineal rupture due to tearing of the birth canal tissues, which can contribute to maternal morbidity and increase the risk of maternal mortality. Several factors are associated with the occurrence of perineal rupture, including neonatal birth weight, maternal age, and parity. This study aimed to determine the relationship between parity and the incidence of perineal rupture. This study employed a quantitative approach with a correlational research design. The results showed that there was no significant relationship between parity and the incidence of perineal rupture. In conclusion, parity is not a significant determinant of perineal rupture incidence in vaginal delivery. These findings indicate that parity alone may not be a determining factor in the occurrence of perineal rupture during vaginal delivery and that other factors may play a more important role.

INTRODUCTION

Childbirth is a physiological process experienced by women to remove the fetus and placenta through the birth canal or with the help of certain measures. In normal childbirth, this process consists of four stages: period I (cervical opening from 1–10 cm), period II (from complete opening until the baby is born), period III (from birth to placenta birth), and period IV (observation period for two hours after delivery). Although childbirth is a natural process, it is not uncommon for it to be accompanied by various complications, one of which is perineal rupture (Heriani et al., 2025).

A perineal rupture is a tear in the perineal tissue that occurs during vaginal labor. This condition is often found in maternity mothers and can have serious impacts if not handled properly (Brooks et al., 2020; Hinton et al., 2015; Miller et al., 2016). Globally, cases of perineal rupture remain relatively high. World data from 2016 show around 2.7 million cases of perineal rupture, and if proper prevention and treatment efforts are not taken, this number is expected to increase to 6.3 million cases per year by 2050 (Heriani et al., 2025).

In Indonesia, the incidence of perineal tears in vaginal delivery remains very high. It is reported that about 75% of vaginal deliveries experience perineal rupture. This figure shows that perineal rupture is a problem that still occurs frequently in childbirth services and requires special attention from health workers, especially midwives (Heriani et al., 2025).

Rupture of the perineum has serious consequences for the mother's health, especially during the postpartum period. A perineal rupture can lead to postpartum bleeding, which is one

of the leading causes of maternal death. In addition, perineal rupture that does not receive adequate wound care is at risk of infection, which also contributes to an increase in maternal mortality (Nurul et al., 2025; Rini et al., 2023).

The Maternal Mortality Rate (*Angka Kematian Ibu* or AKI) is one of the main indicators used to assess the health status of a country. The high AKI reflects ongoing problems in the equitable distribution and quality of health services, especially maternal health services (Berhe et al., 2024; Elrggal et al., 2023; Li et al., 2020; Mohottige & Boulware, 2023; Roder-DeWan et al., 2020). Therefore, prevention of childbirth complications such as perineal rupture is an important part of efforts to reduce AKI (Natasha et al., 2022).

Perineal rupture is a tear that occurs during vaginal delivery due to pressure from the baby. It is common in the midline and can extend due to delivery that is too quick, babies with large weight, or other medical interventions such as episiotomy (Childs et al., 2020; Das et al., 2014; Garner et al., 2021; Hersh & Emeis, 2020; Musie et al., 2019). Rupture of the perineum also includes obstetric perineal trauma, which has the potential to cause bleeding and complications during postpartum delivery (Astuti, 2024).

Rupture of the perineum in clinical research has also been described as the inability of the muscles and soft tissues of the perineum to withstand the immense pressure that occurs when the baby's head or body emerges during the second stage of labor. This inability of the tissue to stretch adequately causes lesions of varying extent (Kau et al., 2023).

The occurrence of perineal rupture is influenced by various factors, both maternal and fetal. Maternal factors include the mother's age, birth spacing, parity, and improper straining. Meanwhile, fetal factors include the baby's weight, abnormal fetal position, and the presence of shoulder dystocia (Putri et al., 2025). One of the maternal factors often associated with perineal rupture is parity.

Parity is one of the important variables in obstetric research because it reflects the female reproductive experience, which includes previous physical changes in pelvic tissue and perineum in multiparous mothers compared to primiparous mothers. *Primipara* is a woman who gives birth for the first time, while *multipara* is a woman who has given birth more than once. In multiparous mothers, the perineum has experienced stretching and can adapt better during subsequent deliveries (Indah et al., 2022).

Parity is the number of children that have been born to a woman. Parity influences the elasticity and readiness of the birth canal. *Primipara* mothers tend to have a higher risk of perineal rupture compared to *multipara* mothers because the perineal tissue and birth canal in *primipara* are passed by the baby for the first time, making them relatively stiff and less elastic (Heriani et al., 2025). On the other hand, in *multipara* mothers, the perineal tissue has generally been stretched in previous deliveries, so the risk of perineal rupture is relatively lower.

Parity influences perineal tears in maternity mothers. In mothers with *primipara* status, there is a high possibility of perineal rupture because the birth canal is passed by the baby's head for the first time, and the perineal muscles have not yet stretched, which can cause rupture (Indah et al., 2023).

Based on data obtained at the Alya Medika Bekasi Clinic from October to December 2025, there were 35 women who gave birth vaginally. This number shows that cases of vaginal delivery at the clinic are quite significant and potentially accompanied by perineal rupture.

Therefore, the researcher is interested in conducting a study on the relationship between parity and the incidence of perineal rupture in vaginal delivery mothers at the Alya Medika Bekasi Clinic, as an effort to identify risk factors for perineal rupture and support improvements in the quality of obstetric services, especially in prevention and treatment. This study aims to examine the relationship between parity and the incidence of perineal rupture among delivering mothers at the Alya Medika Clinic. The findings are expected to provide evidence-based insights for healthcare providers, particularly midwives, in assessing perineal rupture risks more accurately and implementing targeted preventive measures during childbirth, ultimately supporting efforts to reduce maternal complications and improve obstetric care quality.

METHOD

This research employed a quantitative approach with a correlational design to examine the relationship between two or more variables without attempting to influence them, focusing on quantifiable data.

The population consisted of all childbirth data at the Alya Medika Clinic from October to December 2025. The sample comprised the entire population, as the researcher directly studied it. The sampling technique was total sampling (or saturated sampling), using all available childbirth data from the Alya Medika Clinic during that period.

Data collection relied on secondary data obtained by reviewing patient medical records, followed by processing steps including editing, coding, transferring, and tabulating.

The researcher then conducted a bivariate analysis using the Chi-Square test, which examined the relationship between two nominal variables. This analysis determined the relationship between parity and the incidence of perineal rupture in vaginal deliveries at the Alya Medika Clinic.

RESULTS AND DISCUSSIONS

1. Univariate Analysis

A univariate analysis was conducted to describe the distribution of respondents based on maternal parity at Alya Medika Clinic in the October–December 2025 period. Parity in this study is grouped into *primipara* and *multipara*, as presented in Table 1.

Table 1. Distribution of Respondents Based on Parity of Maternity at Alya Medika Clinic in 2025

PARITY	Frequency	Percentage
Primipara	15	42.9%
Multipara	20	57.1%
Total	100	100%

Source: Medical Records Data of Alyn Medika Clinic, October–December 2025 (n=35)

Based on the results of the univariate analysis, it is known that most of the respondents are *multipara* mothers, namely 20 people (57.1%), while *primipara* mothers are 15 people (42.9%). These findings show that the majority of vaginal deliveries at the Alya Medika Clinic during the October-December 2025 period occurred to mothers who had previous childbirth

experiences. This condition reflects that the childbirth services at the clinic are widely used by mothers with a history of giving birth more than once.

Univariate analysis on the incidence variables of perineal rupture aims to determine the proportion of maternal mothers who experience and do not experience perineal rupture in vaginal delivery. The distribution of perineal rupture events can be seen in Table 2.

Table 2. Distribution of Respondents Based on the Incidence of Perineal Rupture at Alya Medika Clinic in 2025

Rupture Incident	Frequency	Percentage
Rupture	26	74.3%
No Rupture	9	25.7%
Total	35	100%

Source: Medical Records Data of Alyn Medika Clinic, October–December 2025 (n=35)

The results of univariate analysis on the incidence variable of perineal rupture showed that most of the maternity mothers experienced perineal rupture, namely 26 people (74.3%), while mothers who did not experience perineal rupture were only 9 people (25.7%). The high incidence of perineal rupture indicates that perineal rupture is still a frequent problem in vaginal delivery and requires special attention in obstetric practice.

2. Bivariate Analysis

Parity relationship with the incidence of perineal rupture at Alya Medika Clinic October-December 2025.

Table 3. Parity relationship table with the incidence of perineal rupture at the Alya Medika clinic October-December 2025.

INDICATOR	Break up	No Rupture	Total Proportions
Primipara	60%	40%	42,9%
Multipara	85%	15%	57.1%
Total	74.3%	25.7%	100.0%

Source: Analysis Results of Medical Records Data, Alyn Medika Clinic, October–December 2025

In a bivariate analysis that examined the relationship between parity and the incidence of perineal rupture, the results were obtained that in the *primipara* group, as many as 60% experienced perineal rupture and 40% did not experience rupture. Meanwhile, in the *multipara* group, the proportion of mothers who experienced perineal rupture was higher, at 85%, while those who did not experience rupture were only 15%. Descriptively, this data shows that the incidence of perineal rupture is more common in *multipara* mothers than in *primipara*.

However, based on the results of the Chi-Square statistical test, a value of $p = 0.096$ ($p > 0.05$) was obtained, which showed that statistically there was no statistically significant relationship between parity and the incidence of perineal rupture in vaginal delivery mothers at Alya Medika Clinic. Thus, the zero (H_0) hypothesis is accepted, which means that parity is not a factor significantly related to the incidence of perineal rupture in this study.

These results suggest that although the proportion of perineal rupture events appears to be higher in the *multipara* group, the differences are not statistically strong enough to warrant

a relationship between parity and perineal rupture events. These findings indicate that the incidence of perineal rupture is multifactorial and cannot be explained based solely on maternal parity.

Discussion

The results of the study showed that most of the women who gave birth vaginally experienced a rupture of the perineum. Based on the distribution table, it is known that 74.3% of respondents experienced perineal rupture, while 25.7% did not experience perineal rupture. These findings indicate that the incidence of perineal rupture is still relatively high in vaginal delivery, in line with various reports stating that perineal rupture is a complication that often occurs in normal labor.

Judging from parity, the results showed that *multipara* mothers had a higher proportion of perineal rupture (85%) than *primipara* mothers (60%). In theory, parity is one of the maternal factors that affect the incidence of perineal rupture. Parity is related to the condition of the perineal tissue and the elasticity of the birth canal. In *primipara* mothers, the perineal tissue is generally still stiff and has never been stretched, so in theory there is a higher risk of perineal rupture. However, the results of this study show that the incidence of perineal rupture is actually higher in *multipara* mothers. This can be explained by the existence of other factors that also affect the occurrence of perineal rupture in addition to parity.

Some studies have shown that in *multipara* mothers, although the perineal tissue has been stretched in previous births, the condition is not always protective. Repeated stretching can cause the perineal tissue to be less than optimal in resisting the pressure of the fetal head, especially when accompanied by other risk factors such as large birth weight, rapid delivery process, uncontrolled straining methods, or less than optimal perineal protection by delivery assistants. This condition can increase the risk of perineal rupture in *multipara* mothers (Putri et al., 2025).

In addition, perineal rupture is also influenced by fetal factors and other obstetric factors, such as the baby's birth weight, fetal position and presentation, shoulder dystocia, and the length of the second period of labor. Previous research has shown that *multipara* mothers tend to experience shorter period II and stronger contractions, so that the decline of the fetal head occurs quickly and has the potential to increase the risk of perineal tears if not balanced with proper pressure techniques and perineal handling (Heriani et al., 2025).

The high proportion of perineal rupture in this study is also in line with national data which states that around 70-75% of vaginal deliveries experience perineal tears, either spontaneously or with episiotomy. This shows that perineal rupture is still a significant problem in obstetric services and requires more optimal prevention efforts, such as education on correct pressure techniques, monitoring the progress of childbirth, and the proper application of perineal protection by health workers (Natasha et al., 2022).

Rupture of the perineum that occurs in vaginal delivery needs serious attention because it can have an impact on the postpartum period. A perineal tear risks causing postpartum bleeding and increases the risk of infection if the wound is not done properly. Postpartum infections due to perineal lesions that are not optimally handled are one of the contributors to maternal mortality, especially in developing countries (Rini et al., 2023).

Another factor that also affects the incidence of perineal rupture is the length of labor, when labor lasts for a long time, it can cause maternal fatigue and the ability of perineal tissue to stretch optimally, increasing the occurrence of tears in the perineum, where prolonged rupture is also one of the predictors of perineal rupture regardless of maternal parity (Kau, et al, 2023).

Based on the results of this study, it can be concluded that parity is not related to the incidence of perineal rupture in vaginal delivery mothers, because the incidence of rupture is not only influenced by parity, but also by other factors that are multifactorial. Therefore, health workers, especially midwives, are expected to conduct a comprehensive risk assessment on every maternity mother, both *primipara* and *multipara*, as well as implement safe childbirth care and focus on preventing perineal rupture.

CONCLUSION

This study concluded that perineal rupture during vaginal delivery is not solely caused by parity but by multiple factors, including improper childbirth positions, perineal inelasticity, macrosomia (large babies), and suboptimal assistance techniques. To minimize its occurrence, mothers should prepare antenatally through perineal massage, *senam hamil* (pregnancy gymnastics), and proper breathing exercises, while health workers play a crucial role by guiding safe delivery positions and correct straining methods. Maternal education on these risks and preventive strategies is essential, emphasizing a comprehensive, collaborative approach between mothers and providers to reduce perineal rupture effectively. For future research, a prospective cohort study incorporating multivariate analysis could explore the interplay of these factors (e.g., parity combined with birth position and fetal weight) in diverse clinical settings, such as larger hospitals, to develop targeted intervention protocols.

REFERENCES

Astuti, A. (2024). Karakteristik kejadian ruptur perineum pada ibu bersalin di Rumah Sakit Umum Dewi Sartika Kota Kendari. *Jurnal Ilmiah Ilmu Kesehatan dan Kedokteran, 4*(2), 432–433.

Berhe, E., Teka, H., Abraha, H. E., Abera, B. T., Gebru, M. A., Gebremariam, T., Yahya, M., Amare, B., Tadesse, H., & Gidey, H. (2024). Characteristics and outcome of pregnancy-related acute kidney injury in a teaching hospital in a low-resource setting: A five-year retrospective review. *BMC Nephrology, 25*(1), 182.

Brooks, S. K., Weston, D., & Greenberg, N. (2020). Psychological impact of infectious disease outbreaks on pregnant women: Rapid evidence review. *Public Health, 189*, 26–36.

Childs, C., Sandy-Hodgetts, K., Broad, C., Cooper, R., Manresa, M., & Verdú-Soriano, J. (2020). Birth-related wounds: Risk, prevention and management of complications after vaginal and caesarean section birth. *Journal of Wound Care, 29*(Sup11a), S1–S48.

Das, C., Mukhopadhyay, M., Ghosh, T., Saha, A. K., & Sengupta, M. (2014). Correlation of cytohistological expression and serum level of CA125 in ovarian neoplasm. *Journal of Clinical and Diagnostic Research, 8*(3), 41–43. https://doi.org/10.7860/JCDR/2014/6689.4101

Elrggal, M. E., Bajpai, D., Tannor, E. K., Azmat, R., Bashir, A. M., Banda, J., Nlandu, Y. M., Waziri, B., Baah, W., & Dahwa, R. (2023). Access to nephrology care for pregnancy-related acute kidney injury in low- and lower-middle-income countries: A perspective. *Kidney Medicine, 5*(9), 100695.

Garner, D. K., Patel, A. B., Hung, J., Castro, M., Segev, T. G., Plochocki, J. H., & Hall, M. I. (2021). Midline and mediolateral episiotomy: Risk assessment based on clinical anatomy. *Diagnostics, 11*(2), 221.

Heriani, H., Sari, M., & Lestari, D. (2025). Faktor maternal dan obstetri yang berhubungan dengan kejadian ruptur perineum pada persalinan pervaginam. *Jurnal Kebidanan Indonesia, 14*(1), 45–53.

Hersh, S. R., & Emeis, C. L. (2020). Mediolateral episiotomy: Technique, practice, and training. *Journal of Midwifery & Women's Health, 65*(3), 404–409.

Hinton, L., Locock, L., & Knight, M. (2015). Support for mothers and their families after life-threatening illness in pregnancy and childbirth: A qualitative study in primary care. *British Journal of General Practice, 65*(638), e563–e569.

Indah, S., Suprida, Yulizar, & Titin. (2023). Analisis faktor penyebab terjadinya ruptur perineum pada ibu bersalin. *13*(25), 219–220.

Kau, M., Harisnayanti, & Retni, A. (2023). Analisis faktor kejadian ruptur perineum pada ibu inpartu kala II di RSIA Siti Khadijah Kota Gorontalo. *Jurnal Ilmiah Ilmu Kesehatan dan Kedokteran, 1*(2), 22–25.

Li, P., Garcia-Garcia, G., Lui, S.-F., Andreoli, S., Fung, W., Hradsky, A., Kumaraswami, L., Liakopoulos, V., Rakhimova, Z., & Saadi, G. (2020). Kidney health for everyone everywhere: From prevention to detection and equitable access to care. *Brazilian Journal of Medical and Biological Research, 53*, e9614.

Miller, S., Abalos, E., Chamillard, M., Ciapponi, A., Colaci, D., Comandé, D., Diaz, V., Geller, S., Hanson, C., & Langer, A. (2016). Beyond too little, too late and too much, too soon: A pathway towards evidence-based, respectful maternity care worldwide. *The Lancet, 388*(10056), 2176–2192.

Mohottige, D., & Boulware, L. E. (2023). Uncovering the role of kidney disease and its care in the US maternal health equity crisis. *JAMA Network Open, 6*(12), e2346239.

Musie, M. R., Peu, M. D., & Bhana-Pema, V. (2019). Factors hindering midwives' utilisation of alternative birth positions during labour in a selected public hospital. *African Journal of Primary Health Care & Family Medicine, 11*(1), 1–8.

Natasha, A., Widodo, S., & Rahmawati, I. (2022). Ruptur perineum sebagai determinan angka kematian ibu pada masa nifas. *Jurnal Kesehatan Ibu dan Anak, 11*(2), 89–97.

Nurul, N., Handayani, T., & Pratiwi, R. (2025). Hubungan ruptur perineum dengan perdarahan postpartum pada ibu bersalin. *Jurnal Keperawatan Maternitas, 9*(1), 12–20.

Rini, S., Lestari, P., & Andayani, E. (2023). Infeksi masa nifas akibat perawatan luka perineum yang tidak adekuat. *Jurnal Kesehatan Reproduksi, 14*(2), 101–109.

Roder-DeWan, S., Nimako, K., Twum-Danso, N. A. Y., Amatya, A., Langer, A., & Kruk, M. (2020). Health system redesign for maternal and newborn survival: Rethinking care models to close the global equity gap. *BMJ Global Health, 5*(10).