



INTERNASIONAL CONFERENCE ON MULTIDISCIPLINARY APPROACHES IN HEALTH SCIENCE

VOLUME 3, No 1. Tahun 2025 , ISSN 3032-4408 (Online)

<https://ejournal.poltekkes-denpasar.ac.id/index.php/icmahs>

Perineal Wound Healing: A Study of Related Factors

Fitria Candra Fera^{1*}, Sri Rahayu²

¹Sekolah Tinggi Ilmu Kesehatan Bakti Utama Pati, ²Poltekkes Kemenkes Denpasar

Article history

Posted : 2025-09-20

Reviewed : 2025-10-17

Received : 2025-12-13

Abstract

Perineal rupture is one of the most common complications of childbirth experienced by women who give birth vaginally. Generally, perineal wounds can heal in less than a week, but some mothers experience a delay in healing of more than 7 days. Postpartum maternal morbidity increases due to birth injuries, with the perineal rupture rate during normal delivery reaching 88.9%. The WHO recorded 2.7 million cases of perineal rupture, which is expected to increase to 6.3 million by 2050, with 50% of cases occurring in Asia. In Indonesia, perineal ruptures lead to complications such as infection (5%), bleeding (7%), and postpartum maternal death (8%), with 86 deaths due to infection in 2023. This condition poses a risk of infection, discomfort, and interferes with the mother's quality of life. This study aims to analyze factors associated with the duration of perineal wound healing. The study design used observational analytic used primary data on 60 respondents who gave birth with perineal rupture by simple random sampling. Inclusion criteria were women with the second-degree perineal lacerations and didn't have some complication diseases. The variables studied included age, parity, and personal hygiene with the duration of perineal wound healing. The results showed no significant relationship between age ($p=0,432>0,05$) and parity ($p=0,807>0,05$) with the duration of perineal wound healing. In contrast, there was a significant relationship between personal hygiene and the duration of perineal wound healing ($p=0,029<0,05$). In conclusion, personal hygiene is an important factor that influences the speed of perineal wound healing, so education about postpartum self-care needs to be a focus in midwifery services.

Keywords: Perineal Wound Healing; Postpartum Mother; Perineal Rupture



INTERNASIONAL CONFERENCE ON MULTIDISCIPLINARY APPROACHES IN HEALTH SCIENCE

VOLUME 3, No 1. Tahun 2025 , ISSN 3032-4408 (Online)
<https://ejournal.poltekkes-denpasar.ac.id/index.php/icmahs>

INTRODUCTION

Perineal rupture refers to a tear or laceration in the perineum area, which is the region between the vaginal opening and the anus, occurring during vaginal childbirth. This rupture can involve the skin, muscles, and underlying soft tissues and is classified into degrees ranging from first to fourth degree tears, with severity increasing as deeper layers such as the anal sphincter and rectal mucosa become involved (Ramar et al., 2024). It is one of the most common obstetric injuries and can lead to significant complications such as hemorrhage, prolonged pain, infection, and pelvic floor dysfunction if not properly managed.

Data on the incidence of perineal rupture in Indonesia indicates a considerable prevalence. According to the Ministry of Health of the Republic of Indonesia (2021), approximately 75% of women delivering vaginally experience perineal rupture, with 57% requiring perineal suturing due to spontaneous tears or episiotomy. Maternal mortality related to complications from perineal wounds remains a concern, with 7,389 maternal deaths reported in 2021 nationwide (Rahayu & Barkah, 2025). These statistics underscore the urgent need for effective prevention and management strategies of perineal rupture within Indonesia's obstetric care.

While various studies have explored factors related to perineal rupture, there remains a knowledge gap specific to the Indonesian context concerning local risk factors, prevention methods, and optimal wound healing approaches. Recent research highlights maternal, fetal, and labor-related factors contributing to the type and frequency of perineal tears (Andreka Junior et al., 2024). Additionally, clinical trials examining novel repair techniques such as surgical glue as compared to conventional suturing offer innovations in postpartum perineal care (Brunelli et al., 2024).

The novelty of this study lies in its comprehensive investigation of compact and context-specific risk factors for perineal rupture in Indonesia. This research aims to analyze the interplay of these factors alongside prevention strategies, generating practical and evidence-based recommendations better suited to reduce perineal rupture incidence and its complications locally.



INTERNASIONAL CONFERENCE ON MULTIDISCIPLINARY APPROACHES IN HEALTH SCIENCE

VOLUME 3, No 1. Tahun 2025 , ISSN 3032-4408 (Online)
<https://ejournal.poltekkes-denpasar.ac.id/index.php/icmahs>

Conducting this study is justified by the high incidence rate and considerable health impact of perineal rupture in Indonesia. It is expected to produce robust scientific evidence to inform improved maternal care protocols and effective perineal management strategies grounded in local realities.

Previous related research includes epidemiological studies on parity and perineal rupture risk (Andreka Junior et al., 2024), reviews on perineal tear prevention and episiotomy techniques (Goh et al., 2018), and clinical evaluation of perineal repair using surgical glue versus sutures (Brunelli et al., 2024). This study will enrich these findings by integrating up-to-date data and focusing on Indonesian maternal health services.

Therefore, this study is conducted to comprehensively examine factors associated with perineal rupture during childbirth in Indonesia, with the goal of developing more effective preventive and treatment interventions.

METHOD

This study employed an observational analytic design to investigate factors related to perineal wounds. The population consisted of postpartum mothers experiencing second-degree perineal lacerations. A total of 60 samples were selected using simple random sampling technique. The inclusion criteria were postpartum mother with second-degree perineal laceration and didn't have some complication disease. The univariate test analyzed by frequencies distribution and the bivariate test used chi-square test.

Primary data were collected directly from the participants and analyzed with chi-square. The instrument used to assess the condition of perineal wounds was the REEDA scale, a standardized tool for evaluating redness, edema, ecchymosis, discharge, and approximation of wound edges. The REEDA scale facilitated objective measurement of wound healing and severity. Data analysis was conducted systematically to identify correlations between observed variables and perineal wound conditions. This methodological approach allowed for an in-depth understanding of the factors influencing perineal wound healing in the target population.



INTERNASIONAL CONFERENCE ON MULTIDISCIPLINARY APPROACHES IN HEALTH SCIENCE

VOLUME 3, No 1. Tahun 2025 , ISSN 3032-4408 (Online)
<https://ejournal.poltekkes-denpasar.ac.id/index.php/icmahs>

RESULTS

The frequency distribution results show that respondents aged 20-25 years were 19 (31.7%) and those aged 26-35 years were 41 (68.3%). Respondents with primipara parity amounted to 33 (55%), while multipara were 27 (45%). Personal hygiene was categorized as good in 42 respondents (70%) and poor in 18 respondents (30%). Furthermore, the healing duration of perineal wounds showed that 39 respondents (65%) healed in less than 7 days, while 21 respondents (35%) required more than 7 days. The data showed in the table below.

Table 1. Frequency Distribution of the Variables

Variables	Amount (N)	Percentages
Age		
20-25	19	31,7
26-35	41	68,3
Parity		
Primipara	33	55
Multipara	27	45
Personal Hygiene		
Baik	42	70
Kurang	18	30
The Duration of Perineal Wound		
<7 hari	39	65
>7 hari	21	35

The bivariate analysis demonstrated that maternal age did not have a significant influence on the duration of perineal wound healing, as indicated by a p-value of 0.432 ($p > 0.05$). This finding corroborates recent studies which suggest that while aging can affect general wound healing capacity, the impact of age on perineal wound healing specifically may be less pronounced (Zahroh et al., 2024). Similarly, parity showed no significant association with healing duration ($p = 0.807$, $p > 0.05$). This aligns with findings from studies in similar populations where parity was not a decisive factor for wound recovery speed (Ratnasari et al., 2022). Conversely, personal hygiene was found to be significantly associated with the duration of wound healing ($p = 0.029$, $p < 0.05$). This result highlights the crucial role of hygiene practices in preventing infection and promoting tissue repair in postpartum perineal wounds. Proper wound care including hygiene maintenance reduces microbial colonization and biofilm formation, which are known contributors to delayed healing (Murphy et al., 2022). Evidence from wound care literature emphasizes that early and consistent personal hygiene interventions

Corresponding author: fitria@stikesbup.ac.id

Fitria Candra Fera and Sri Rahayu: Perineal Wound Healing: A Study of Related Factors



INTERNASIONAL CONFERENCE ON MULTIDISCIPLINARY APPROACHES IN HEALTH SCIENCE

VOLUME 3, No 1. Tahun 2025 , ISSN 3032-4408 (Online)
<https://ejournal.poltekkes-denpasar.ac.id/index.php/icmahs>

can substantially accelerate healing in obstetric wounds (Luo et al., 2024). The details data showed in the table below

Table 2. Results of the Test on the Relationship Between Age and the Duration of Perineal Wound Healing

Age	The Duration of Perineal Wound Healing						P Value
	<7 days		>7 days		N		
	f	%	f	%	f	%	
20-25	11	57,9	8	42,1	19	100	0,432
26-35	28	68,3	13	31,7	41	100	
Total	39	65	21	35	60	100	

Table 3. Results of the Test on the Relationship Between Parity and the Duration of Perineal Wound Healing

Parity	The Duration of Perineal Wound Healing						P Value
	<7 days		>7 days		N		
	f	%	f	%	f	%	
Primiparous	21	63,6	12	36,4	33	100	0,807
Multiparous	18	66,7	9	33,3	27	100	
Total	39	65	21	35	60	100	

Table 4. Results of the Test on the Relationship Between Personal Hygiene and the Duration of Perineal Wound Healing

Personal Hygiene	The Duration of Perineal Wound Healing						P Value
	<7 days		>7 days		N		
	f	%	f	%	f	%	
Good	31	73,8	11	26,2	42	100	0,029
Poor	8	44,4	10	55,6	18	100	
Total	39	65	21	35	60	100	

Poor hygiene can increase susceptibility to wound contamination, leading to inflammation, infection, and thus prolonged healing times. Education on hygiene for postpartum women is therefore essential to enhance healing outcomes and prevent complications (Khasanah et al., 2022). This finding reaffirms the importance of integrating wound hygiene protocols as an essential part of postpartum care (Murphy et al., 2022).

Corresponding author: fitria@stikesbup.ac.id

Fitria Candra Fera and Sri Rahayu: Perineal Wound Healing: A Study of Related Factors



INTERNASIONAL CONFERENCE ON MULTIDISCIPLINARY APPROACHES IN HEALTH SCIENCE

VOLUME 3, No 1. Tahun 2025 , ISSN 3032-4408 (Online)

<https://ejournal.poltekkes-denpasar.ac.id/index.php/icmahs>

In summary, while intrinsic factors such as age and parity may not significantly influence healing duration, extrinsic modifiable factors like personal hygiene play a pivotal role in perineal wound recovery postpartum. These insights underscore the importance of focusing clinical and educational efforts on personal hygiene to improve perineal wound healing.

DISCUSSION

This study showed no significant relationship between maternal age and parity with the duration of perineal wound healing, but found a significant association between personal hygiene and healing time. These findings can be understood and contextualized by comparing with previous research.

Several studies have investigated the effect of maternal age on perineal wound healing. (Lestari, 2016) found that age was significantly related to perineal wound care behavior, which indirectly influences healing outcomes. Younger mothers tend to exhibit better wound care behaviors, potentially accelerating healing. However, studies by (Sulistianingsih et al., 2019) and (Susilawati et al., 2020) reported no direct significant effect of age on healing time, which supports the current study's result that intrinsic age does not majorly impact healing duration. The pathophysiological explanation is that tissue repair capacity may decline with advanced age, but acute postpartum wounds heal efficiently across a range of maternal ages due to hormonal and physiological adaptations in the postpartum period.

Paritas (parity) as a factor showed no significant correlation with wound healing time in this study. That aligns with Mawaddah (2021), who found that while parity influences the risk of rupture during childbirth, it does not significantly affect the healing duration of perineal wounds postpartum. Other researchers noted that multiparous women may experience nutritional deficiencies or delayed care attention, but such effects are often mitigated by proper postpartum (Lestari, 2016). The literature suggests that parity's impact on wound healing may be secondary to behavioral and physiological factors such as nutrition and care (Sulistianingsih et al., 2019). Hence, this study's lack of parity association is consistent with current academic understanding.



INTERNASIONAL CONFERENCE ON MULTIDISCIPLINARY APPROACHES IN HEALTH SCIENCE

VOLUME 3, No 1. Tahun 2025 , ISSN 3032-4408 (Online)
<https://ejournal.poltekkes-denpasar.ac.id/index.php/icmahs>

The significant effect of personal hygiene on wound healing is supported by substantial evidence in recent scientific literature, underscoring hygiene as a critical, modifiable determinant in preventing infection and enhancing healing in perineal wounds. For example, (Murphy et al., 2022), in a comprehensive review published in the *Journal of Wound Care*, highlighted that proper wound hygiene reduces microbial colonization and biofilm formation, facilitating effective transition through the inflammatory and proliferative phases of healing. Similarly, (Luo et al., 2024) demonstrated in the *International Journal of Obstetrics and Gynecology* that improved personal hygiene is strongly correlated with accelerated wound closure and decreased infection rates in postpartum women.

Further, a systematic review by (Tamma et al., 2022) in *Clinical Infectious Diseases* emphasizes that patient education targeting hygiene compliance reduces wound-related complications and promotes tissue regeneration. Empirical studies such as those by Celenay et al. (2022) published in *BMC Pregnancy and Childbirth* reveal that structured hygiene education programs in the postpartum period significantly lowered the incidence of perineal wound infection and shortened healing times.

These findings confirm that, although non-modifiable factors like age and parity exert limited direct impact on wound healing velocity, external and modifiable factors, especially personal hygiene, are pivotal to reducing healing duration and minimizing complications. This evidence strongly calls for clinical practices to prioritize postpartum hygiene education and continuous hygiene monitoring to ensure optimal wound care and maternal recovery.

Future intervention programs should center on enhancing maternal knowledge and hygiene behaviors to improve perineal wound healing outcomes. Provision of supportive resources, targeted educational initiatives, and follow-up compliance assessments may substantially increase wound care efficacy and maternal health, as supported by evidence from recent clinical trials and health systems research.



INTERNASIONAL CONFERENCE ON MULTIDISCIPLINARY APPROACHES IN HEALTH SCIENCE

VOLUME 3, No 1. Tahun 2025 , ISSN 3032-4408 (Online)
<https://ejournal.poltekkes-denpasar.ac.id/index.php/icmahs>

CONCLUSION(S)

This study highlights the critical importance of identifying and understanding factors associated with perineal wound healing in postpartum women. While intrinsic factors such as maternal age and parity showed limited direct impact on the healing duration, modifiable external factors—especially personal hygiene—proved to be significantly influential. Recognizing these factors is essential to optimize postpartum care, as personal hygiene directly affects infection risk and accelerates tissue repair processes. By focusing on these determinants, healthcare providers can better tailor care strategies to promote faster healing and enhance the wellbeing of postpartum mothers. Future research and clinical practice should continue to emphasize these critical associations for continuous improvement in maternal health services.

Conflict of Interest

The authors affirm the absence of any competing interests pertaining to the investigations discussed in this manuscript. The entirety of the data and details shared within this document have been derived from autonomously executed research efforts, free from any sway originating from external entities or individual biases. The authors pledge to uphold principles of integrity and objectivity when presenting the data.

Acknowledgment

The author would like to sincerely thank the Director of Poltekkes Kemenkes Denpasar for kindly agreeing to collaborate and support this research. This collaboration has greatly facilitated the smooth progress and successful completion of the study. Furthermore, we extend our appreciation to every person and organization that played a role in this investigation, notably the individuals taking part in the study, the people who gathered data, the respondents, and the office staff. Their significant efforts and commitment were vital to maintaining the high standards and honesty of this study.



INTERNASIONAL CONFERENCE ON MULTIDISCIPLINARY APPROACHES IN HEALTH SCIENCE

VOLUME 3, No 1. Tahun 2025 , ISSN 3032-4408 (Online)

<https://ejournal.poltekkes-denpasar.ac.id/index.php/icmahs>

REFERENCES

- Andreka Junior, H., Fujiko, M., & Purnama, R. (2024). The Relationship Between Parity and the Incidence of Perineal Rupture: Literature Review. *Journal of Midwifery and Nursing*, 7(1), 1–7.
- Brunelli, W. S., Becker, A. C., Lima, M. O. P., Oliveira, S. G., Ochiai, A. M., Caroci, L., Araújo, N. M. D., & Riesco, M. L. (2024). Repercussions of perineal repair using surgical glue or suture thread on postpartum outcomes: A controlled randomized clinical trial in São Paulo, Brazil. *European Journal of Midwifery*, 8(August), 1–11. <https://doi.org/10.18332/ejm/191248>
- Goh, R., Goh, D., & Ellepola, H. (2018). Perineal tears - A review. *Australian Journal of General Practice*, 47(1–2), 35–38. <https://doi.org/10.31128/AFP-09-17-4333>
- Khasanah, Y. Y., Ria Dini, A. Y., & Ade Saputri, W. (2022). The Relationship Between Knowledge of Postpartum Mothers About Perineal Wound Treatment With Perineal Wound Healing. *Indonesian Health Journal*, 1(1), 7–12. <https://doi.org/10.58344/ihj.v1i1.9>
- Lestari, P. (2016). Usia Berpengaruh Dominan Terhadap Perilaku Perawatan Luka Perineum pada Ibu Nifas di RSUD Sleman. *Jurnal Ners Dan Kebidanan Indonesia*, 4(2), 95. [https://doi.org/10.21927/jnki.2016.4\(2\).95-101](https://doi.org/10.21927/jnki.2016.4(2).95-101)
- Luo, Q., Lu, Z., & Xu, B. (2024). Evaluation of perineal wound healing and pain outcomes after low-angle mediolateral episiotomy in women undergoing vaginal childbirth: A systematic review and meta-analysis. *International Wound Journal*, 21(4). <https://doi.org/10.1111/iwj.14826>
- Murphy, C., Atkin, L., Vega De Ceniga, M., Weir, D., Swanson, T., Walker, A., Mrozikiewicz-Rakowska, B., Ciprandi, G., Martínez, J. L. L., & Cernohorská, J. (2022). Embedding Wound Hygiene into a proactive wound healing strategy. *Journal of Wound Care*, 31, S4. <https://doi.org/10.12968/jowc.2022.31.Sup4a.S1>
- Rahayu, R., & Barkah, A. (2025). Analysis of Factors Affecting the Incidence of Perineal Rupture At the Cirinten Health Center in Lebak District in 2023. *Hearty*, 13(2), 358–370. <https://doi.org/10.32832/hearty.v13i2.16119>
- Ramar, C. N., Vadakekut, E. S., & Grimes, W. R. (2024). *Perineal Lacerations*. Statpearls Publishing LLC. <https://www.ncbi.nlm.nih.gov/books/NBK559068/>
- Ratnasari, R., Yunola, S., & Anggraini, H. (2022). Science Midwifery Relationship of Parity, Knowledge and Anemia Status with Perineal Wound Healing in Postpartum Mothers at PMB Bukit Sangkal Palembang Working Area in 2021. *Science Midwifery*, 10(2), 2721–9453. www.midwifery.ioespublisher.org
- Sulistianingsih, A., Wijayanti, Y., Simanjuntak, L., & Max, U. (2019). Faktor yang Berpengaruh terhadap Penyembuhan Luka Perineum pada Ibu Postpartum. *Journal for Quality in Women's Health*, 2(1), 11–18. <https://doi.org/10.30994/jqwh.v2i1.22>
- Susilawati, S., Patimah, M., & Sagita Imaniar, M. (2020). Determinan Lama Penyembuhan Luka Perineum pada Ibu Nifas. *Faletahan Health Journal*, 7(3), 132–136. www.journal.lppm-stikesfa.ac.id/ojs/index.php/FHJ



INTERNASIONAL CONFERENCE ON MULTIDISCIPLINARY APPROACHES IN HEALTH SCIENCE

VOLUME 3, No 1. Tahun 2025 , ISSN 3032-4408 (Online)

<https://ejournal.poltekkes-denpasar.ac.id/index.php/icmahs>

- Tamma, P. D., Aitken, S. L., Bonomo, R. A., Mathers, A. J., Van Duin, D., & Clancy, C. J. (2022). Infectious Diseases Society of America 2022 Guidance on the Treatment of Extended-Spectrum β -lactamase Producing Enterobacterales (ESBL-E), Carbapenem-Resistant Enterobacterales (CRE), and *Pseudomonas aeruginosa* with Difficult-to-Treat Resistance (DTR-*P. aeruginosa*). *Clinical Infectious Diseases*, 75(2), 187–212. <https://doi.org/10.1093/cid/ciac268>
- Zahroh, M., Pujiastuti, N., Nataliswati, T., Solikhah, F. K., State, M., Polytechnic, H., Java, E., Pujiastuti, N., State, M., Polytechnic, H., Java, E., Dowo, O., Malang, K., Info, A., Status, N., Healing, W., & Section, C. (2024). *The Impact of Age and Nutritional Status on Wound Healing After Caesarean Section*. 12(2), 123–130.