

Effectiveness of Perineal Suturing Wound Care Education in Reducing Pain Among Postpartum Mothers At Labuha Regional General Hospital

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Abstract. Perineal pain resulting from suturing after vaginal childbirth is one of the most common discomforts experienced by postpartum mothers and may interfere with daily activities, mobility, breastfeeding, and overall maternal well-being. Appropriate education regarding perineal suturing wound care is considered an essential nursing intervention to promote proper wound healing and reduce pain during the postpartum period. This study aimed to determine the effect of perineal suturing wound care education on reducing perineal pain among postpartum mothers. A quantitative study with a pre-experimental one-group pretest–posttest design was conducted involving postpartum mothers with perineal sutures who met the inclusion criteria. Participants received structured education on perineal wound care, and pain intensity was measured before and after the intervention using a standardized pain assessment scale. The findings demonstrated a significant reduction in perineal pain following the educational intervention, indicating that participants experienced lower pain scores after receiving wound care education compared to their baseline assessment. These results suggest that educational interventions can enhance mothers' understanding and self-care practices, thereby supporting faster recovery and improving postpartum comfort. The study highlights the importance of integrating evidence-based perineal wound care education into routine postpartum nursing services to improve maternal health outcomes and the quality of nursing care.

Keywords: Education; Pain Reduction; Perineal Suturing; Postpartum Mothers, Wound Care.

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1. INTRODUCTION

The postpartum period is a critical stage in maternal recovery following childbirth, during which women undergo various physical and psychological adaptations. One of the common health problems experienced during this period is perineal pain resulting from perineal tears or suturing wounds after vaginal delivery. Perineal pain may interfere with maternal mobility, breastfeeding activities, personal hygiene practices, and daily functioning. Therefore, proper perineal wound management is essential to support maternal recovery and prevent complications during the postpartum period (Girsang & Elfira, 2023).

Perineal wound healing is influenced by several factors, including personal hygiene, wound care practices, and maternal knowledge regarding self-care. Mothers who have adequate knowledge are more likely to perform proper wound care procedures and maintain cleanliness of the perineal area. Appropriate vulva hygiene practices have also been shown to contribute to the prevention of perineal wound infections among postpartum mothers. Furthermore, good perineal care practices are associated with faster wound healing and better postpartum recovery outcomes (Khasanah et al., 2022; Nuraliza et al., 2023; Agustina et al., 2024).

Health education is one of the strategies commonly used to improve mothers' knowledge and awareness regarding postpartum self-care. Educational interventions provide information about proper wound cleaning techniques, sanitary pad replacement, infection prevention, and monitoring of wound healing progress. Previous studies have demonstrated

that educational interventions significantly improve mothers' knowledge regarding postpartum perineal wound care. Similarly, education delivered through various media has been reported to enhance knowledge and compliance among postpartum mothers in performing perineal wound care (Samuel et al., 2021; Safitri et al., 2024; Syam & Retnaningsih, 2025).

Health education plays an important role in improving mothers' understanding of appropriate perineal wound care practices during the postpartum period. Increased knowledge may encourage mothers to perform wound care correctly, maintain personal hygiene, and comply with recommended postpartum care procedures. Previous studies have reported that educational interventions significantly improve maternal knowledge and compliance regarding perineal wound care practices. Better knowledge and compliance are expected to support the wound healing process and contribute to improved postpartum recovery outcomes (Samuel et al., 2021; Safitri et al., 2024; Syam & Retnaningsih, 2025).

A preliminary study was conducted at Labuha Regional General Hospital on April 15, 2026, involving 15 postpartum mothers who experienced perineal suturing wounds. The findings revealed that 11 mothers (73.3%) experienced moderate pain in the perineal wound area, while 4 mothers (26.7%) experienced mild pain. Among those who reported moderate pain, 8 mothers (72.7%) lacked knowledge regarding proper perineal wound care, including maintaining perineal hygiene, changing sanitary pads regularly, and cleaning the genital area appropriately. Meanwhile, 3 mothers (27.3%) had knowledge regarding perineal wound care but had not implemented it optimally because they felt afraid and uncomfortable when cleaning the sutured area.

Furthermore, most postpartum mothers reported that they had never received specific education regarding perineal wound care after childbirth. These findings indicate that perineal pain remains a common problem among postpartum mothers and is accompanied by inadequate knowledge regarding proper wound care practices. Although previous studies have reported the benefits of health education in improving knowledge and compliance related to perineal wound care, evidence regarding its effectiveness in reducing pain among postpartum mothers at Labuha Regional General Hospital is still limited. Therefore, this study aims to determine the effectiveness of perineal suturing wound care education in reducing pain among postpartum mothers at Labuha Regional General Hospital.

2. KAJIAN TEORITIS

Postpartum Mothers

The postpartum period, also known as the puerperium, is a transitional phase that begins immediately after childbirth and generally continues for approximately six weeks until the mother's reproductive organs return to their pre-pregnancy condition. During this period, mothers experience substantial physiological, psychological, and social adjustments that require comprehensive healthcare support to promote recovery and prevent complications. One of the most common postpartum complications is perineal trauma caused by spontaneous tears or episiotomy, which may interfere with maternal comfort, mobility, breastfeeding, and daily activities if not managed appropriately. Therefore, postpartum care should encompass not only routine physical assessments but also education that empowers mothers to perform appropriate self-care practices and recognize early signs of complications (Girsang & Elfira, 2023; Desti & Yanuarti, 2023).

The recovery process of postpartum mothers is influenced by multiple factors, including maternal age, nutritional status, hygiene practices, parity, educational background, and compliance with healthcare recommendations. Mothers with adequate knowledge regarding postpartum self-care are generally more capable of maintaining personal hygiene, preventing infection, and performing recommended interventions that facilitate wound healing. Conversely, insufficient knowledge may contribute to inappropriate wound care behaviors, delayed tissue repair, prolonged pain, and an increased risk of postpartum infection. These findings emphasize that maternal education is an essential component of postpartum healthcare because it directly affects mothers' ability to participate actively in their own recovery process (Pratiwi et al., 2024; Nurmaliza et al., 2023; Khasanah et al., 2022).

Healthcare professionals, particularly nurses and midwives, play a vital role in supporting postpartum mothers through continuous education, counseling, and follow-up care regarding perineal wound management. Effective education enables mothers to understand appropriate hygiene techniques, recognize symptoms that require medical attention, and adopt healthy behaviors that accelerate recovery while minimizing discomfort. Educational interventions may be delivered through face-to-face counseling, printed materials, audiovisual media, or practical demonstrations according to mothers' learning needs and healthcare settings. Consequently, strengthening postpartum education has become an important strategy for improving maternal knowledge, promoting self-care practices, and enhancing overall maternal health outcomes during the postpartum period (Fera et al., 2024; Safitri et al., 2024; Syam & Retnaningsih, 2025).

Perineal Suturing Wounds in Postpartum Mothers

Perineal suturing wounds are injuries that occur following spontaneous perineal tears or episiotomy during vaginal childbirth and require suturing to facilitate tissue approximation and healing. These wounds vary in severity depending on the degree of tissue damage and may involve the vaginal mucosa, perineal muscles, or anal sphincter, thereby influencing the duration and complexity of the healing process. During the early postpartum period, mothers frequently experience localized pain, swelling, tenderness, and discomfort around the sutured area, which may interfere with mobility, urination, defecation, breastfeeding, and routine maternal activities. If appropriate wound care is not implemented, perineal suturing wounds may become susceptible to infection, delayed healing, and persistent pain, leading to reduced maternal quality of life and increased healthcare needs (Girsang & Elfira, 2023; Desti & Yanuarti, 2023).

The healing of perineal suturing wounds is a dynamic biological process involving inflammatory, proliferative, and remodeling phases, each of which is influenced by maternal health conditions and environmental factors. Several studies have demonstrated that maternal age, nutritional intake, parity, personal hygiene, infection control, circulation, and adherence to recommended wound care practices significantly affect healing outcomes among postpartum mothers. Furthermore, mothers who consistently perform proper perineal hygiene and follow healthcare instructions tend to experience faster tissue regeneration, reduced inflammation, and fewer postoperative complications than mothers with inadequate self-care practices. These findings highlight that successful wound healing depends not only on physiological mechanisms but also on mothers' knowledge, attitudes, and behaviors regarding perineal wound management (Pratiwi et al., 2024; Agustina et al., 2024; Nurmaliza et al., 2023; Khasanah et al., 2022).

Various interventions have been introduced to accelerate perineal wound healing while reducing maternal discomfort, including structured health education, appropriate perineal hygiene practices, and pelvic floor muscle exercises such as Kegel exercises. Astutik et al. (2024) reported that educational programs incorporating Kegel exercises effectively supported the healing process by improving blood circulation to the pelvic floor, strengthening perineal muscles, and encouraging active maternal participation in postpartum recovery. In addition, continuous education provided by healthcare professionals enables postpartum mothers to understand correct wound care techniques, recognize early signs of infection, and maintain adherence to recommended self-care behaviors, ultimately contributing to more favorable healing outcomes and improved maternal well-being (Astutik et al., 2024; Fera et al., 2024; Safitri et al., 2024; Syam & Retnaningsih, 2025).

Perineal Wound Pain in Postpartum Mothers

Perineal wound pain is one of the most frequently reported complaints among postpartum mothers following vaginal delivery with perineal suturing. Pain commonly results from tissue trauma, inflammation, edema, and the healing response that occurs immediately after childbirth, with the intensity varying according to the degree of perineal injury and the mother's physiological condition. Although mild to moderate pain is considered a normal consequence of tissue repair, persistent or severe pain may negatively affect maternal mobility, sleep quality, breastfeeding practices, emotional well-being, and the ability to perform newborn care independently. Consequently, effective management of perineal wound pain is an essential component of comprehensive postpartum care because it contributes to faster recovery, greater maternal comfort, and improved quality of life (Girsang & Elfira, 2023; Pratiwi et al., 2024).

The severity and duration of perineal wound pain are influenced by numerous biological and behavioral factors, including the degree of perineal laceration, wound infection, nutritional status, circulation, personal hygiene, and adherence to recommended wound care practices. Mothers who do not maintain adequate perineal hygiene or fail to perform proper self-care are more likely to experience prolonged inflammation and delayed wound healing, which subsequently increase pain intensity during the postpartum period. In contrast, mothers who possess sufficient knowledge regarding perineal care are generally more capable of implementing appropriate hygiene measures, recognizing early signs of complications, and minimizing factors that aggravate wound pain. Previous studies have consistently demonstrated that appropriate perineal care is associated with improved wound healing and reduced discomfort among postpartum mothers (Agustina et al., 2024; Desti & Yanuarti, 2023; Nurmaliza et al., 2023; Khasanah et al., 2022).

In addition to clinical treatment, educational interventions have emerged as an important non-pharmacological strategy for reducing perineal wound pain by improving mothers' knowledge and self-care behaviors. Health education delivered through counseling, leaflets, instructional videos, demonstrations, and exercise-based programs enables mothers to understand evidence-based wound care techniques, thereby decreasing unnecessary manipulation of the wound and preventing complications that may intensify pain. Furthermore, educational approaches encourage greater adherence to hygiene practices, pelvic floor exercises, and routine postpartum care, all of which contribute to reduced inflammation and enhanced tissue recovery. Therefore, strengthening educational interventions for postpartum mothers is expected to reduce perineal wound pain while simultaneously improving wound healing outcomes and maternal confidence during the postpartum period (Astutik et al., 2024; Fera et al., 2024; Safitri et al., 2024; Syam & Retnaningsih, 2025).

Perineal Suturing Wound Care

Perineal suturing wound care refers to a series of interventions performed to maintain cleanliness, prevent infection, promote tissue regeneration, and reduce discomfort following vaginal childbirth with perineal sutures. Proper wound care generally includes regular cleansing of the perineal area using clean water, maintaining adequate vulvar hygiene, changing sanitary pads frequently, keeping the wound dry, consuming a balanced diet to support tissue repair, and avoiding behaviors that may increase pressure or contamination of the wound. Appropriate perineal care not only facilitates the physiological healing process but also minimizes the risk of postpartum complications such as infection, wound dehiscence, prolonged inflammation, and persistent pain. Therefore, comprehensive perineal wound care is recognized as an essential component of postpartum management that contributes to maternal recovery and overall well-being (Agustina et al., 2024; Girsang & Elfira, 2023).

Successful perineal wound healing depends not only on medical treatment but also on the mother's adherence to recommended self-care practices throughout the postpartum period. Studies have reported that mothers with adequate knowledge regarding wound hygiene and appropriate perineal care are more likely to demonstrate correct wound management behaviors, resulting in faster healing and fewer complications than mothers with limited knowledge. Conversely, poor hygiene practices, inadequate nutrition, and non-compliance with healthcare recommendations may delay tissue regeneration, increase susceptibility to infection, and prolong pain associated with perineal sutures. These findings emphasize that behavioral factors play an equally important role alongside physiological factors in determining postpartum wound healing outcomes (Pratiwi et al., 2024; Desti & Yanuarti, 2023; Nurmaliza et al., 2023; Khasanah et al., 2022).

Healthcare providers, particularly nurses and midwives, have an important responsibility to ensure that postpartum mothers understand appropriate perineal wound care before discharge from healthcare facilities. Education should include practical demonstrations regarding perineal hygiene techniques, correct handwashing procedures, recognition of infection symptoms, nutritional recommendations, and activities that support tissue recovery, including pelvic floor muscle exercises when indicated. Astutik et al. (2024) demonstrated that Kegel exercise education contributed positively to the acceleration of perineal wound healing by improving pelvic circulation and strengthening supporting muscles, while educational interventions using leaflets and audiovisual media have also been shown to enhance maternal understanding and adherence to proper wound care practices. Consequently, integrating evidence-based education into routine postpartum care may improve self-care behaviors,

accelerate wound healing, and reduce maternal discomfort associated with perineal sutures (Astutik et al., 2024; Fera et al., 2024; Safitri et al., 2024; Syam & Retnaningsih, 2025).

Health Education for Perineal Suturing Wound Care

Health education is a structured learning process designed to improve individuals' knowledge, attitudes, and behaviors toward maintaining and improving their health status. In postpartum care, health education regarding perineal suturing wound care aims to equip mothers with the necessary knowledge and practical skills to perform appropriate wound management independently after returning home. Effective educational interventions help postpartum mothers understand proper hygiene practices, recognize early signs of infection, manage discomfort appropriately, and adopt healthy behaviors that facilitate tissue repair. Consequently, health education has become an integral component of postpartum nursing and midwifery services because it empowers mothers to participate actively in their own recovery process (Syam & Retnaningsih, 2025; Fera et al., 2024).

Various educational methods have been developed to improve mothers' understanding of perineal wound care, including face-to-face counseling, printed educational materials, audiovisual media, practical demonstrations, and exercise-based interventions. Previous studies have shown that education delivered through leaflets and instructional videos significantly improves maternal knowledge because visual and written information enhances comprehension, retention, and confidence in implementing proper wound care procedures at home. Similarly, structured educational programs that include practical demonstrations and opportunities for discussion allow mothers to clarify misconceptions and strengthen their ability to perform recommended self-care practices consistently throughout the postpartum period. These educational approaches not only increase knowledge but also promote behavioral changes that support faster wound healing and reduce the likelihood of postpartum complications (Safitri et al., 2024; Fera et al., 2024; Astutik et al., 2024).

The effectiveness of health education is reflected not only in increased maternal knowledge but also in improved compliance with recommended wound care practices and better clinical outcomes. Mothers who receive comprehensive education are generally more likely to maintain perineal hygiene, perform appropriate self-care behaviors, comply with follow-up recommendations, and recognize early warning signs requiring medical attention, thereby reducing the risk of infection and persistent pain. Furthermore, improved knowledge and adherence contribute indirectly to accelerated wound healing by minimizing behaviors that delay tissue repair and increasing mothers' confidence in managing their postpartum recovery independently. Therefore, evaluating the effectiveness of perineal suturing wound care education in reducing pain among postpartum mothers is scientifically justified because educational interventions have consistently demonstrated positive effects on knowledge, compliance, wound healing, and overall maternal recovery (Syam & Retnaningsih, 2025; Agustina et al., 2024; Pratiwi et al., 2024; Girsang & Elfira, 2023).

3. RESEARCH METHOD

This study uses a quasi-experimental design with a One-Group Pretest-Posttest Design, in line with studies on perineal wound care education that employ a similar design to assess increases in knowledge and reductions in pain after the intervention (Samuel et al., 2021). This design aims to measure the effectiveness of providing education on perineal suture wound care in reducing pain levels in postpartum mothers by comparing the subjects' conditions before (pretest) and after (posttest) the intervention, where self-perineal care education has been shown to be effective in reducing episiotomy pain scores and improving wound healing during the postpartum period (Limbachiya & Parmar, 2022). The study was conducted at RSUD Labuha, Marabose Village. A preliminary study was carried out on April 15, 2026, followed by the main data collection in the same year. The population in this study consisted of postpartum mothers with perineal suture wounds at RSUD Labuha. Based on SPSS data processing results, the sample used in the final analysis consisted of 43 respondents (N=43).

Data collection techniques were carried out through interviews and observations using a respondent characteristic observation sheet and a pain scale sheet to measure the intensity of perineal pain, in line with postpartum studies that use questionnaires and pain assessment sheets such as the Numerical Rating Scale (NRS) or VAS repeatedly after the intervention (Ramadhan, 2021). Data analysis was performed computer-based using two levels of analysis:

1. Univariate Analysis: Used to describe the profile of respondents based on frequency distribution and percentages, including demographic characteristics (age, education level, occupation), clinical characteristics (parity and postpartum day), and an overview of pain scale before and after the intervention. This approach is consistent with perineal care education studies that report frequency distributions of demographic and clinical characteristics as well as summaries of pain scores prior to effectiveness analysis (Lazarus et al., 2022).
2. Bivariate Analysis: Used to test the hypothesis regarding the effectiveness of education on pain reduction. Since this study compares the mean of a single group at two different times (before and after), the statistical test used is the Paired Samples T-Test, with significance determined at a Sig. (2-tailed) value of $< \alpha = 0.05$ (Mankar et al., 2021).

4. RESULTS AND DISCUSSION

Results of Data Analysis

Univariate Analysis

Univariate analysis is a data analysis method used to examine or describe a single variable independently without relating it to other variables. This method is commonly reported in the form of frequency, percentage, or measures of central tendency and dispersion to describe sample characteristics (Kotronoulas et al., 2023). In this study, univariate analysis is used to provide an overview of respondent characteristics (age, education, occupation, parity, and postpartum day) as well as the distribution of pain levels before and after the intervention.

Table 1. Demographic Characteristics of Respondents (Age, Education, Occupation).

Variable	n	%
Age		
20–25 years	9	20,9
26–30 years	23	53,5
31–35 years	11	25,6
Education level		
Junior high school	4	9,3
Senior high school	20	46,5
University	18	41,9
Occupation		
Housewife	24	55,8
Civil servant	10	23,3
Entrepreneur	9	20,9
Total	43	100,0

The results showed that the majority of respondents were in the productive age group of 26–30 years (53.5%). Most had a senior high school educational background (46.5%) and worked as housewives (55.8%).

Table 2. Clinical Characteristics (Parity and Postpartum Day).

Variable	n	%
Parity		
Primipara	17	39,5
Multipara	26	60,5
Postpartum day		
Day 1	14	32,6
Day 2	14	32,6
Day 3	15	34,9
Total	43	100,0

Most respondents were in the multipara group (60.5%). The distribution of postpartum days was relatively even between day 1 and day 3, with the highest proportion on day 3 (34.9%).

Table 3. Distribution of Pain Scale Before and After Education.

Pain scale	Before		After	
	n	%	n	%
Mild pain	5	11,6	23	53,5
Moderate pain	15	34,9	20	46,5
Severe pain	23	53,5	—	—
Total	43	100,0	43	100,0

Before the education was provided, the majority of respondents (53.5%) experienced severe pain. However, after the wound care education was given, there was a significant reduction, where 53.5% of respondents shifted to the mild pain category and no respondents experienced severe pain anymore.

Bivariate Analysis

Bivariate analysis is used to test the relationship or significant difference between two variables simultaneously. In this study, bivariate analysis aims to determine the effectiveness of the intervention in reducing postpartum pain levels by comparing data before and after the treatment.

Table 4. Results of the Paired Samples T-Test.

			Paired Differences			95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
			Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	Pain Scale Before – Pain Scale After		3.279	1.141	.174	2.928	3.630	18.850	42	.000

Based on the statistical test results, a p-value of 0.000 (< 0.05) was obtained. This indicates that there is a significant difference in postpartum mothers' pain levels before and after the education intervention.

Discussion

The results of the study show that the provision of perineal suture wound care education is highly effective in reducing pain levels among postpartum mothers at RSUD Labuha. This is indicated by a reduction in the mean pain score of 3.279 points after the intervention was administered. These findings address the problem identified in the preliminary study, where 72.7% of postpartum mothers initially did not understand proper wound care practices, such as techniques for maintaining genital hygiene and regular replacement of sanitary pads. This lack of knowledge contributed to higher levels of moderate to severe pain, as mothers felt afraid and uncomfortable when cleaning the sutured area.

The education provided gave respondents new understanding, enabling them to become more confident and independent in managing wound care optimally. A good understanding of perineal hygiene from a medical perspective can help prevent infection, which in turn directly accelerates the healing process and reduces the intensity of pain experienced by postpartum mothers. Therefore, wound care education is an important intervention that should be routinely provided by healthcare workers at RSUD Labuha to optimize postpartum recovery.

5. CONCLUSION AND RECOMMENDATIONS

Conclusion

This study concludes that postpartum mothers commonly experience perineal wound pain following vaginal delivery with perineal suturing as a result of tissue trauma during childbirth. The intensity of pain may vary depending on the severity of the perineal injury, maternal health condition, and the quality of wound care provided during the postpartum period. If not managed appropriately, perineal wound pain can interfere with

maternal mobility, breastfeeding, self-care activities, and psychological well-being. Therefore, effective management of perineal wound pain is an essential component of comprehensive postpartum care.

The literature reviewed in this study indicates that appropriate education regarding perineal suturing wound care plays an important role in improving mothers' knowledge and self-care practices. Educational interventions enable postpartum mothers to understand proper hygiene techniques, recognize early signs of wound complications, and perform evidence-based wound care independently. Improved knowledge and adherence to recommended perineal care practices contribute to faster wound healing and help minimize pain during the recovery process. Consequently, health education serves as an important non-pharmacological strategy to support maternal recovery after childbirth.

Overall, this study concludes that perineal suturing wound care education has the potential to reduce perineal wound pain among postpartum mothers by promoting proper wound management and encouraging positive health behaviors. Educational interventions should therefore be integrated into routine postpartum nursing services to enhance maternal comfort and recovery. The findings of this study are expected to provide scientific evidence that supports the implementation of structured educational programs in maternity care settings. Furthermore, this study contributes to the development of nursing knowledge regarding evidence-based postpartum care, particularly in pain management through patient education.

Recommendations

Healthcare professionals, particularly nurses and midwives, are encouraged to provide structured and evidence-based education regarding perineal suturing wound care for postpartum mothers. Educational interventions should be integrated into routine postpartum nursing care and include practical demonstrations, written educational materials, and individualized counseling according to the mother's needs. Consistent education may improve mothers' knowledge and self-care practices, thereby reducing perineal wound pain, preventing wound complications, and promoting faster recovery during the postpartum period.

Healthcare institutions are recommended to develop standardized protocols and educational programs related to perineal wound care as part of comprehensive postpartum services. Hospitals and maternity clinics should ensure the availability of educational resources, such as brochures, videos, and digital media, to support effective patient education. In addition, regular training for healthcare providers should be conducted to improve their competence in delivering evidence-based postpartum education and maintaining the quality of maternal healthcare services.

Future researchers are encouraged to conduct studies using larger sample sizes, diverse populations, and more rigorous research designs to strengthen the evidence regarding the effectiveness of perineal suturing wound care education in reducing postpartum perineal pain. Further research may also examine additional factors that influence wound healing and pain reduction, such as maternal nutritional status, psychological conditions, family support, and different educational methods or technologies. Such studies are expected to contribute to the development of more effective nursing interventions and improve evidence-based postpartum care practices.

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