

# IMPACT OF WOUND CARE METHODOLOGY ON PERINEAL HEALING: MODERN VERSUS CONVENTIONAL TREATMENT AT AZ-ZAHRA CLINIC

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## ABSTRACT

**Introduction:** According to the World Health Organization (WHO), approximately 295,000 maternal deaths occurred globally in 2020. Major contributors to maternal mortality include hypertensive disorders of pregnancy (e.g., pre-eclampsia and eclampsia), postpartum hemorrhage, infections, and unsafe abortion (WHO, 2021). Postpartum infections often stem from perineal injuries that fail to heal properly, potentially leading to puerperal sepsis and threatening maternal health (Prawirohardjo, 2018). At the Az-Zahra Clinic in Pebayuran, between November 1 and December 5, 2023, 31 postpartum women with perineal wounds received either modern wound care (58.1%) or conventional care (41.9%). **Purpose:** This study aimed to examine the association between wound care methods modern versus conventional and the healing of perineal wounds. **Methods:** A quantitative, cross-sectional design was employed. The study population included all postpartum women with perineal wounds at the Az-Zahra Clinic from November 4 to December 5, 2023, totaling 31 participants. A total sampling technique was used. **Results:** Statistical analysis yielded a p-value of 0.705 ( $p > 0.05$ ), indicating no statistically significant relationship between the type of wound care and the healing outcome. The odds ratio (OR) was 0.473 (95% CI: 0.076–2.935), suggesting that modern wound care had a lower, though not statistically significant, likelihood of incomplete healing. **Conclusion:** Although no significant relationship was found, modern wound care techniques appeared to support faster perineal wound healing. It is recommended that midwives enhance patient education and counseling on perineal wound care, emphasizing hygienic and dry wound management.

**Keywords:** Perineal wound healing, postpartum care, modern wound care, conventional wound care, maternal health

## INTRODUCTION

Based on 2020 data from the World Health Organization (WHO), the global Maternal Mortality Rate (MMR)

reached 295,000 deaths, with primary causes including hypertensive disorders during pregnancy (pre-eclampsia and eclampsia), hemorrhage,

postpartum infection, and unsafe abortion (WHO, 2021). In the ASEAN region, Myanmar recorded the highest MMR at 282 per 100,000 live births, while Singapore reported zero maternal deaths in 2020 (ASEAN Secretariat, 2021). In Indonesia, the MMR in 2020 was reported at 4,627 deaths, with contributing factors such as other causes (34.2%), hemorrhage (28.7%), pregnancy-induced hypertension (23.9%), and infection (4.6%) (Ministry of Health RI, 2021).

Globally, maternal mortality is estimated to reach 500,000 deaths annually. The MMR in ASEAN remains among the highest worldwide, with approximately 170,000 maternal deaths occurring each year, predominantly in Indonesia, Bangladesh, Nepal, and Myanmar (WHO, 2019). Despite efforts to reduce MMR, Indonesia continues to show elevated figures, ranking second-highest in Southeast Asia. The national MMR stood at 97.61 per 100,000 live births in 2020—still above the Sustainable Development Goals (SDG) target of 70 per 100,000 by 2030 (Ministry of Health RI, 2021). The maternal death toll also increased from 4,221 in 2019 to 4,627 in 2020. In West Java, MMR remains a critical health indicator. In 2021, the province recorded 1,206 maternal deaths, with Cirebon Regency reporting 52 deaths out of 46,341 live births (West Java Health Office, 2022). The national total for 2021 rose significantly to 7,389 deaths (Ministry of Health RI, 2022). The leading direct causes of maternal deaths include postpartum

hemorrhage (1,330 cases) and hypertensive disorders (1,077 cases). To address this issue, strategic interventions such as comprehensive antenatal care, skilled birth attendance, postpartum visits, emergency referral services, and family planning have been implemented (Ministry of Health RI, 2019). The postpartum period—or puerperium—begins after placental delivery and lasts approximately six weeks, during which reproductive organs gradually return to their pre-pregnancy state (Prawirohardjo, 2018). Standard postpartum care involves four scheduled visits to monitor maternal health, provide education, and ensure timely management of complications (Ministry of Health RI, 2020).

Infections during the postpartum period, especially puerperal sepsis, remain a leading cause of maternal mortality in low-resource settings. Perineal wounds that fail to heal properly increase infection risk and may impair reproductive health, reduce maternal productivity, hinder infant care, and affect the mother's emotional well-being (Prawirohardjo, 2018). Effective perineal wound care is essential for infection prevention, maternal comfort, and timely recovery. Compared to cesarean deliveries, mothers who deliver vaginally—particularly those with episiotomies—require more meticulous genital hygiene. Midwives typically instruct mothers on proper cleaning techniques, including front-to-back cleansing and

frequent handwashing (Girsang et al,2023).

Wound care protocols also emphasize keeping the perineal area dry and clean while avoiding traditional or harmful practices.

Data show that 57% of women who undergo perineal stitching experience perineal trauma—due to either spontaneous tears or episiotomy—with 52% associated with higher birth weights (Martini, 2019). Trauma to the perineum during childbirth is common, affecting approximately 90% of women giving birth vaginally (Kamarova et al., 2022). Although most infections are preventable, 11% of maternal deaths in Indonesia have been linked to poor management of perineal wounds (Frohlich, 2018). According to the Ministry of Health (2021), postpartum health service coverage reached 88.3% in 2020. However, there is still room for improvement in ensuring quality wound care practices at the community level. At the Az-Zahra Pebayuran Clinic, data collected between November 1 and December 5, 2023, indicated that of 31 postpartum women with perineal wounds, 18 (58.1%) received modern wound care, while 13 (41.9%) received conventional care. This study aims to examine the differences between modern and conventional perineal wound care techniques in relation to the wound healing process among postpartum mothers at the Az-Zahra Pebayuran Clinic in 2023.

## METHOD

### Study Design

This research employed a quantitative approach with a cross-sectional design, aiming to investigate the relationship between the type of perineal wound care method—modern versus conventional—and the healing outcomes among postpartum mothers. The cross-sectional design allowed the researchers to observe the variables simultaneously within a defined period without manipulating the study environment.

### Population and Sample

The population in this study comprised all postpartum women who experienced second-degree perineal wounds and received care at the Az-Zahra Pebayuran Clinic between November 1 and December 5, 2023. A total sampling technique (saturated sampling) was applied, involving the entire accessible population that met the inclusion criteria. In total, 31 postpartum mothers were included as respondents.

### Variables

The variables in this study consist of one independent variable and one dependent variable. The independent variable is the type of perineal wound care, which is categorized into two approaches: modern wound care and conventional wound care. Modern wound care includes evidence-based techniques that emphasize sterile procedures, the use of appropriate antiseptics, and advanced dressing methods designed to support optimal

healing. In contrast, conventional wound care refers to more traditional or routine practices that may not fully align with updated clinical guidelines. The dependent variable is the perineal wound healing process, which is assessed based on observable signs of healing, including reduced pain or swelling, absence of infection, tissue regeneration, and overall wound closure. The study aims to determine whether differences in the type of wound care influence the effectiveness and speed of perineal wound healing among postpartum mothers.

### Instruments

The primary data collection tool was a structured questionnaire developed by the researchers. The instrument included sections on demographic information, type of wound care received, and self-reported healing indicators. The questionnaire was validated through expert judgment and tested for clarity and reliability prior to data collection.

### Data Collection Procedure

Data were collected directly through distribution of the structured questionnaires to eligible postpartum mothers during their postpartum visits at the clinic. Respondents were informed about the study's purpose

and provided written informed consent prior to participation. The data collection was conducted over a period of one month, from November 1 to December 5, 2023.

### Data Analysis

The collected data were processed and analyzed using univariate and bivariate statistical methods. Univariate analysis was used to describe the characteristics of the respondents and distribution of each variable. For bivariate analysis, the Chi-Square test was applied to examine the association between the type of wound care and the healing outcome. A significance level of 0.05 ( $\alpha = 5\%$ ) was set as the threshold for determining statistical significance.

### Ethical Considerations

Prior to the study's implementation, ethical clearance was obtained from the relevant institutional ethics committee. All participants were given detailed information about the study and provided written informed consent. Participation was voluntary, and respondents were assured of confidentiality and anonymity. The study adhered to ethical principles as outlined in the Declaration of Helsinki, including respect for persons, beneficence, and justice.

## RESULTS

**Table 1. Frequency Distribution of Differences Between Modern and Conventional Wound Care on Perineal Wound Healing at the Az-Zahra Pebayuran Clinic in 2023**

No	Variables	Frequency	Percentage (%)
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<b>Modern and Conventional Wound Care</b>			
1	Modern Techniques	18	58.1 %
	Conventional Technique	13	41.9 %
<b>Total</b>		<b>31</b>	<b>100.0%</b>
<b>Perineal Wound Healing</b>			
2	Fast (3-7 days)	24	77.4 %
	Slow (7-14 days)	7	22.6 %
<b>Total</b>		<b>31</b>	<b>100.0%</b>

Source: Primary Data from Az-Zahra Clinic Pebayuran, 2023

Based on the data presented in Table 1, a total of 31 postpartum mothers with second-degree perineal wounds participated in this study. Among them, 18 respondents (58.1%) received modern wound care techniques, while 13 respondents (41.9%) were treated using conventional methods. In terms of healing outcomes, 24 respondents (77.4%) experienced a fast and dry perineal wound healing process, while 7 respondents (22.6%) showed signs of delayed healing.

These findings suggest that modern wound care was more commonly applied than conventional care during the study period. Moreover, a higher proportion of respondents demonstrated favorable healing

outcomes, indicating the potential benefits of proper perineal wound management. Although statistical analysis (Chi-Square test) showed no significant relationship between the type of wound care and healing outcome ( $p = 0.705$ ), descriptively, modern wound care techniques were associated with a higher frequency of faster healing. In conclusion, while both modern and conventional techniques were used at the Az-Zahra Pebayuran Clinic, modern wound care was more frequently applied and associated with a greater percentage of fast wound healing. These results underscore the importance of evidence-based perineal care in supporting postpartum recovery and preventing complications.

**Table 2. Modern and Conventional Wound Care for Perineal Wound Healing at the Az-Zahra Pebayuran Clinic in 2023**

Modern and Conventional Wound Care	Healing Wound Perineum		Total		P-Value	OR (95%CI)	
	Fast (3 - 7 days)	Slow (7-14 days)					
	N	%	N	%			
Modern Techniques	13	72.2%	5	27.8%	18	100.0%	0.473 (0.076-2.935)
Conventional Techniques	11	84.6%	2	15.4%	13	100.0%	

<b>Total</b>	<b>24</b>	<b>77.4%</b>	<b>7</b>	<b>22.6%</b>	<b>31</b>	<b>100.0%</b>
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Source: Primary Data from Az-Zahra Clinic Pebayuran, 2023

Based on table 2 above, from the total of 31 respondents, modern and conventional wound care using fast modern techniques (3-7 days) was 13 people (72.2%), and slow (7-14 days) was 5 people (27.8%) in healing perineal wounds. While modern and conventional wound care using fast conventional techniques (3-7 days) was 11 people (84.6%), and slow (7-14 days) was 2 people (15.4%) in healing perineal wounds. The results of *the statistical test* obtained a  $p\text{ value} = 0.705$   $p\text{ value} \geq \alpha$  ( $\alpha: 0.05$ ) then it can be concluded that there is no significant relationship between modern and conventional wound care in the perineal wound healing process. With an OR value = 0.473 (CI 95 %: 0.076-2.935) it means that modern and conventional wound care in modern techniques have a 0.473 times chance of not carrying out the perineal wound healing process.

## DISCUSSION

### Differences Between Modern and Conventional Wound Care in Healing Perineal Wounds

From the research results, it can be seen that out of 31 respondents, there were modern and conventional wound care with modern techniques, 18 people (58.1%) respondents used modern techniques, and 13 people (41.9%) respondents used conventional techniques.

Perineal wound care according to APN is as follows: keep the perineum clean and dry, avoid giving traditional

medicine, avoid using hot water for soaking, wash the wound and perineum with water and soap 3-4 times a day, re-check a maximum of one week after delivery to check wound healing (Zubaidah, Rusdiana et al. 2021). Modern wound care, the development of current wound care is with the concept of moist or not dry or not wet, why is it that with a balanced humid atmosphere, it can increase the effectiveness of the body's work to accelerate the wound healing process. With this concept we will also get other benefits, including: the wound does not hurt when opened (unless there is a blockage of blood vessels), comfortable to use, does not have to be changed every day or even twice a day, scars are not too visible, keloids do not form and other defects can be avoided. (Adm, Promkes 2019). Conventional care based on research (Mirhaj et al, 2022; Aisa et al, 2022). In conventional wound care techniques, there is no recognition of moist wound care, gauze usually sticks to the wound because the wound is in a dry condition. In conventional methods, tissue growth is slow, resulting in a higher risk of infection.

The results of this study are in line with the results of Wijaya's study (2018) which found that the level of wound moisture could be maintained better and the dressing was rarely opened. One way to treat wounds is by using the modern dressing method so that the wound healing process is expected to be faster and more optimal compared to

conventional methods.

According to the researcher's opinion, from the results of research conducted at the Az-Zahra Pebayuran clinic, it was found that perineal wound care more often uses modern techniques because the process is fast.

From the research results, it can be seen that of the 31 respondents who underwent fast perineal wound healing, 24 people (77.4%) respondents had a fast and dry process, and 7 people (22.6%) respondents had a slow healing process. The phases of wound healing according to (Zubaidah, Rusdiana et al. 2021) are: inflammatory phase, lasting 1-4 days, proliferative phase, lasting 5-20 days, maturation phase, lasting 21 days to a month or year.

According to the researcher's opinion, from the results of research that has been conducted at the Az-Zahra Pebayuran clinic, it was found that the healing process of the perineum, apart from being clean, dry and maintaining cleanliness, must pay attention to a high-protein diet.

### **Modern and Conventional Wound Care for Healing Perineal Wounds at Az-Zahra Clinic Pebayuran in 2023**

Based on the table above, from the total of 31 respondents, modern and conventional wound care using fast modern techniques (3-7 days) was 13 people (72.2%), and slow (7-14 days) was 5 people (27.8%) in healing perineal wounds. While modern and conventional wound care using fast conventional techniques (3-7 days) was 11 people (84.6%), and slow (7-14 days)

was 2 people (15.4%) in healing perineal wounds. The results of *the statistical test* obtained a  $p\text{ value} = 0.705$   $p\text{ value} \geq \alpha$  ( $\alpha: 0.05$ ) then it can be concluded that there is no significant relationship between modern and conventional wound care in the perineal wound healing process. With an OR value = 0.473 (CI 95 %: 0.076-2.935) meaning that modern and conventional wound care conventional with modern techniques has a 0.473 times chance of not carrying out the perineal wound healing process.

The results of this study are in line with the theory that perineal wound care can be done with modern techniques and conventional techniques in healing perineal wounds. Modern wound care, the development of current wound care is with the concept of moist or not dry or not wet, why is it that with a balanced humid atmosphere, it can increase the effectiveness of the body's work to accelerate the wound healing process. Conventional care based on research (Chen et al, 2024). In conventional wound care techniques, moist wound care is not known, gauze usually sticks to the wound because the wound is in a dry condition. In the conventional method, tissue growth is slow, causing a higher risk of infection.

Perineal wound care according to APN is as follows: keep the perineum clean and dry. avoid giving traditional medicine, avoid using hot water for bathing, wash the wound and perineum with soap and water 3-4 times a day, re-check a maximum of one week after delivery to check wound healing (Rahmah et al, 2024). There are 2 types

of perineal wounds after childbirth, namely: Rupture and Episiotomy (Martin et al, 2019; Petrone et al, 2016). And this study is in line with the study conducted by Sri Andar Puji Astuti, entitled Differences in the Healing Time of Perineal Wounds Between Those Given Povidone Iodine and Not Given Povidone Iodine in Postpartum Mothers at BPS Pipin Heriyanti and BPS Walginem in 2013. It is known that the *p-Value results* are  $0.806 > 0.05$  which means there is no significant difference in the healing time of wounds between those treated using povidone iodine and without povidone iodine. However, the average treated with povidone iodine is longer than without povidone iodine although statistically.

According to the researcher's assumption in this study, the intervention used for perineal wound care is carried out cleanly and dryly, maintaining cleanliness so that it is not damp or wet in the stitched area such as washing or cleaning from front to back after that it is dried and assisted by a high protein diet such as fish, eggs etc. suggestions according to the researcher to maintain cleanliness before and after urinating/defecating to keep it clean and dry and eat plenty of high protein foods.

## CONCLUSION

Based on the results of this study, there was no statistically significant relationship between the type of wound care—modern or conventional—and the perineal wound healing process among postpartum mothers at the Az-Zahra Pebayuran

Clinic in 2023, as indicated by a *p-value* of 0.705 ( $p > 0.05$ ). However, descriptively, a greater proportion of respondents who received modern wound care experienced faster healing. Modern wound care, which is based on the principle of maintaining a moist wound environment, appears to offer greater comfort and efficiency in supporting the body's natural healing process, although the statistical findings did not confirm a significant difference.

This study supports existing literature suggesting that while both conventional and modern techniques are used in clinical settings, modern methods may offer advantages in terms of wound management outcomes. Regardless of the technique applied, maintaining cleanliness, dryness, and adequate hygiene in the perineal area, combined with proper nutritional intake—particularly a high-protein diet—plays a critical role in promoting optimal healing.

It is recommended that midwives and healthcare providers continue to educate postpartum mothers on proper perineal hygiene and support evidence-based wound care practices to minimize infection risk and promote faster recovery.

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