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THE RELATIONSHIP BETWEEN THE FULFILLMENT OF THE NUTRITIONAL STATUS OF POSTPARTUM MOTHERS AND THE PROCESS OF HEALING WOUNDS IN THE PERINEUM AT BPM AYANG LESTARI, SIMALUNGUN REGENCY, UJUNG PADANG DISTRICT NORTH SUMATRA PROVINCE IN 2024

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ABSTRACT

Background: The puerperium represents a critical phase of maternal recovery, necessitating specialized oversight—particularly regarding the repair of perineal lacerations. It is hypothesized that a mother's nutritional profile serves as a primary determinant in either accelerating or obstructing the physiological healing of such wounds. Objective: This research was designed to evaluate the correlation between maternal nutritional intake and the recovery rate of perineal wounds at BPM Ayang Lestari, Simalungun Regency, North Sumatra, in 2024.Methods: Adopting a quantitative framework with a cross-sectional design, the study focused on a population of postpartum women presenting with perineal lesions at the facility. Participants were selected via a purposive sampling technique. Data acquisition involved a combination of structured interviews and clinical observations, with the subsequent analysis utilizing the Chi-square statistical test to identify inter-variable relationships.Results: The findings demonstrated that mothers with optimal nutritional standing exhibited significantly faster wound closure compared to those with poor nutritional status. Statistical analysis confirmed a significant association between these variables ($p < 0.05$). Conclusion: There is a definitive link between nutritional fulfillment and the efficacy of perineal wound healing. Consequently, prioritizing nutritional surveillance during the postpartum period is essential for enhancing midwifery care quality and mitigating the risk of long-term obstetric complications.

Keywords: Nutritional Status, Postpartum, Perineum

Introduction

Commencing immediately upon the delivery of the placenta, the puerperium represents a vital six-week recovery window for the mother. During this time, the mother's body undergoes a recovery process from pregnancy and childbirth, including healing perineal wounds due to spontaneous tears and episiotomy. The wound healing process is influenced by various factors. Good nutrition accelerates tissue regeneration and boosts immunity, thereby lowering the risk of infections and other complications

Data from the World Health Organization (WHO) in 2023 states that around 40% of women experience perineal injuries during childbirth, either spontaneously or with an episiotomy. In Indonesia, according to the 2023 Indonesian Health Survey (SKI) reported by the Indonesian Ministry of Health, around 48.6% of mothers give birth experience perineal tears, and 32% of them experience wound healing disorders due to suboptimal nutritional status. This shows the importance of the role of nutritional status as a determinant of health in the postpartum period (Badan Kebijakan Pembangunan Kesehatan, 2023).

Inadequate nutrition during the postpartum period can slow down the wound healing process, increase the risk of infection, and worsen the quality of life of the mother after childbirth. Adequate intake of macro and micronutrients, such as protein, vitamin C, zinc, and iron, plays an important role in the formation of new tissues and healthy inflammatory processes. Previous research by (Hayu, R. A., Hayu, R. A., Putri, N. D., 2022) showed that postpartum mothers with good nutrition had a shorter healing time for perineal wounds compared to mothers who were malnourished.

The problem in Indonesia is still a concern. Based on the 2023 Indonesian Health Profile report, as many as 33.1% of postpartum mothers are in poor nutritional conditions, and this has an impact on the high cases of hampered wound healing. This condition is exacerbated by a culture of abstinence and lack of nutrition education during the postpartum period (Kementerian Kesehatan Republik Indonesia, 2024). Simalungun Regency, especially in Ujung Padang District, is one of the areas that has challenges in improving the quality of maternal health services. Based on data from the Simalungun Health Office in 2024, it was recorded that of the 65 postpartum mothers who experienced perineal injuries, 40% experienced a slow healing process, and 70% of them had a LILA (upper arm circumference) <23.5 cm, which is an indicator of poor nutritional status. These findings indicate the importance of attention to maternal nutritional status in supporting the postpartum recovery process.

Nutritional deficiencies in postpartum or lactating mothers lead to significant health complications for both the mother and the infant. In neonates, malnutrition increases vulnerability to infections and illnesses; furthermore, a deficit in essential micronutrients can result in developmental delays and impairments in ocular and skeletal health. For the mother, inadequate nutrition severely hampers the physiological repair of perineal lacerations. A diet lacking in balanced nutrients often leads to maternal malnutrition and anemia, which subsequently diminishes the volume of breast milk produced. These nutritional gaps in the postpartum phase are typically (Lasria Simamora, et all, 2022).

Efforts to improve the nutrition of postpartum mothers need to be an integral part of midwifery services, especially at the primary service level such as at BPM (Independent Practice Midwives). Education about the importance of balanced nutrition, iron supplementation, and regular monitoring of wound conditions can help speed recovery and prevent serious complications. In addition, midwives as health workers closest to mothers must be able to provide female-centered care, including evidence-based perineal wound care (Ayu, P.,Suiraoka, 2019).

Based on this background, the researcher is interested in conducting

research on the relationship between the fulfillment of the nutritional status of postpartum mothers and the healing process of perineal wounds at BPM Ayang Lestari, Simalungun Regency, Ujung Padang District. This research is expected to make a scientific and practical contribution in improving the quality of services midwifery and strengthening nutrition-based interventions during postpartum periods.

Research Method

Adopting a quantitative framework, this investigation utilizes an analytical observational method combined with a cross-sectional design. This specific methodology was implemented as it enables the simultaneous evaluation of both independent and dependent variables within a singular timeframe (Sugiyono, 2021). The primary objective of this research is to analyze the potential correlation between maternal nutritional status during the puerperium and the rate of perineal wound recovery.

This research activity was carried out at BPM Ayang Lestari, located in Ujung Padang District, Simalungun Regency, North Sumatra Province. results of an initial survey that showed that there were quite high cases of postpartum perineal injuries and variations in the healing process. The research was carried out from February to April 2024.

The population in this study was all postpartum mothers who experienced perineal injuries, both spontaneous tears and episiotomy, and visited BPM Ayang Lestari during the research period. Samples were selected using *purposive sampling techniques*, with inclusion criteria, namely postpartum mothers who experienced perineal injuries, willing to be respondents, and were in the postpartum period for a maximum of 14 days. Respondents who had comorbidities such as diabetes mellitus or blood clotting disorders were excluded from the study. The number of samples used in this study was 30 people.

Data were collected through a combination of interviews, observations, and anthropometric measurements. Interviews were conducted using structured questionnaires to dig up information about diet and food taboos during the postpartum period. Observations were carried out to assess the condition of healing perineal wounds using the REEDA observation sheet which included five indicators, namely Redness (redness), Edema (swelling), Ecchymosis (bruising), Discharge (secretion), and Approximation (wound closure). In addition, nutritional status was measured using two methods, namely Upper Arm Circumference (LILA) and Body Mass Index (BMI), using LILA bands, digital scales, and height measurements (Fauzianty, A. *et al.* 2025).

The statistical evaluation was executed in two distinct phases. Initially, univariate analysis was applied to delineate the frequency distribution for each individual research variable. This was followed by a bivariate analysis aimed at assessing the correlation between maternal nutritional status and the recovery of perineal lacerations. To determine the significance of these relationships, the Chi-Square test was utilized, with a threshold for statistical significance set at a p-value of less than 0.05 ($p < 0.05$).

This research was carried out by paying attention to the ethical aspects of research. Respondents were given an explanation in advance about the objectives and benefits of the research, and were given an informed consent form as a form of consent to participate. The

confidentiality of respondents' identities and data is fully maintained, and participation is voluntary without any coercion.

Results

This study involved 30 postpartum mothers who experienced postpartum perineal injuries at BPM Ayang Lestari, Ujung Padang District, Simalungun Regency. Based on the results of nutritional status measurement using Upper Arm Circumference (LILA), as many as 18 respondents (60%) had good nutritional status (LILA ≥ 23.5 cm), and 12 respondents (40%) had poor nutritional status (LILA < 23.5 cm). The healing process of perineal wounds was assessed using the REEDA (Redness, Edema, Ecchymosis, Discharge, Approximation) score. The results showed that of 18 mothers with good nutritional status, 15 people (83.3%) experienced rapid wound healing (within ≤7 days), while 3 people (16.7%) experienced slow healing (>7 days). Meanwhile, of the 12 mothers with undernourished status, only 2 people (16.7%) experienced rapid healing, while 10 people (83.3%) experienced slow healing. Data analysis using the Chi-Square test showed a significant relationship between the nutritional status of postpartum mothers and the healing process of perineal wounds (p = 0.002). These results indicate that postpartum mothers with good nutritional status tend to have a higher wound healing speed compared to mothers with poor nutritional status.

Discussions

The results showed that there was a significant relationship between the nutritional status of postpartum mothers and the healing process of perineal wounds. These findings support the theory that nutrition plays an important role in the process of tissue and immune system regeneration during the postpartum period. Postpartum mothers who have sufficient intake of macro and micronutrients, especially protein, vitamin C, and zinc, experience tissue regeneration and wound closure faster. This study is in line with research conducted by Hayu, R. A., Hayu, R. A., Putri, N. D., (2022) which found that postpartum mothers with good nutritional status had a shorter healing time for perineal wounds compared to mothers who were malnourished. In addition, (Khodir, 2021) also stated that poor nutrition can slow down collagen formation, inhibit epithelialization, and increase the risk of infection, all of which have an impact on delayed wound healing (Manurung, H. R *et al.* 2024).

In terms of midwifery practice, the results This indicates that monitoring nutritional status should be an important part of postpartum midwifery care. Midwives are not only tasked with caring for physical wounds, but also need to provide education about the importance of consuming nutritious food, iron supplements, and sufficient fluids during the postpartum period. With the right nutritional interventions, the healing of perineal wounds can take place more optimally and the risk of complications can be reduced. Cultural factors such as dietary restrictions also affect the healing process (Sinaga, S. N. *et al.* 2022). In interviews, some respondents admitted to avoiding high-protein foods such as eggs and fish because the myth will aggravate wounds. This shows the importance of a culture-based educational approach and effective communication between midwives and postpartum mothers (Prawirohardjo, 2020) (Rahmawati, A. I., 2019)

The limitation of this study lies in the relatively small number of samples and covering only one work area, so the results

cannot be generalized to a wider population. Further research is recommended to involve a larger sample and consider other factors such as the type of wound, history of anemia, as well as wound care practices at home.

Overall, the results of this activity reinforce the importance of nutritional status as a key determinant in the healing process of perineal wounds. Nutrition-based interventions carried out from the beginning of the postpartum period are highly recommended to reduce the risk of infection, accelerate recovery, and support the overall well-being of the mother.

Conclusion

Analysis of the data collected from 30 postpartum participants at BPM Ayang Lestari confirms a significant correlation between maternal nutritional adequacy and the trajectory of perineal wound recovery. The findings indicate that mothers with an optimal nutritional profile undergo a more rapid and successful tissue repair process than those with nutritional deficits. Specifically, a healthy status—defined by a Mid-Upper Arm Circumference 23.5 cm and a Body Mass Index (BMI) within the normal range—is instrumental in facilitating cellular regeneration and accelerating the epithelialization phase. Conversely, suboptimal nutrition not only impedes the recovery timeline but also heightens susceptibility to post-surgical infections and other obstetric complications.

These findings confirm that meeting nutritional needs during the postpartum period is very important as part of comprehensive obstetric services. Therefore, nutrition education and nutrition monitoring must be an integral part of postpartum care, especially for mothers who have perineal injuries.

Thus, obstetric interventions that focus not only on physical care but also on improving nutritional status are expected to speed up the healing process, reduce the risk of infection, and improve the quality of life of postpartum mothers.

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