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## **Relationship between Knowledge Level and Food Menu Selection on Perineal Wound Healing Process.**

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### **ABSTRACT**

The postpartum period after childbirth is a critical time for women, where perineal wounds are common and can cause discomfort and risk of infection. Food choices play an important role in wound healing, however, some mothers avoid consuming meat, fish, and eggs, believing that these foods can slow down the healing process. In reality, tissue regeneration requires adequate nutrition, especially protein. This study explored the relationship between the level of knowledge of food choices and the duration of perineal wound healing. A quantitative approach using a descriptive correlation design with a cross-sectional method was used. The sample consisted of postpartum women with perineal wounds at Aura Syifa Kediri Hospital who were selected by purposive sampling. Data were collected through questionnaire and direct observation and analyzed using the chi-square test to identify the relationship between food choices and perineal wound healing. The results showed that respondents who consumed food rich in protein, vitamins, and minerals healed faster than those who adhered to dietary restrictions. A significant relationship was found between dietary choices and duration of perineal wound healing. A healthy diet is essential to accelerate perineal wound healing, with adequate protein intake helping tissue regeneration. At the same time, consumption of vitamin C and iron supports the healing process and boosts the immune system. Therefore, it is important to increase education on balanced nutrition for postpartum women to prevent complications that may hinder recovery.

**Keywords :** Dietary Choices, Perineal Wound, Postpartum

### **Background**

Postpartum is an important period in a woman's life. Postpartum comes from the Latin word *puer*, which means baby, and *paros*, which means giving birth. Postpartum (*puerperium*) is the period that begins after the birth of the placenta and ends when the reproductive organs return to their pre-pregnancy state. Postpartum lasts approximately 6-8 weeks (1). During postpartum, wounds in the birth canal are called perineal wounds. Perineal wounds are wounds found on the diaphragm, urogenitalis, and musculus lateralis ani, which occurs during normal delivery. In normal delivery, there are two types of tears that occur, the first is a tear. A tear is a wound in the perineum caused by natural tissue damage due to the process of pressure from the fetal head or shoulders during normal delivery. Healing of perineal wounds normally occurs within 6-7 days (2). While episiotomy is an incision of an object on the perineum to widen the vaginal mucosa which is done before the baby's head comes out. Episiotomy is a common

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obstetric procedure performed in the world, generally 43% to 100% in primiparous women in Asia.

According to World Health Organization (WHO), there are 27 million cases of perineal rupture in mothers worldwide. In America, around 26 million women experience it, with 40% of cases caused by midwife negligence. In Australia, 20,000 births were recorded from mothers who experienced perineal rupture. Meanwhile, in Asia, this problem is quite significant, reaching 50% of the total global cases. In Indonesia, 75% of mothers who give birth vaginally experience perineal lacerations. Of the total 1,951 spontaneous vaginal births, 57% of mothers required perineal stitches, with details of 28% due to episiotomy and 29% due to spontaneous tearing. Perineal wounds can cause various complications including increased pain, inability to comfort, risk of infection and difficulty in daily activities such as urination and sexual intercourse (3).

Postpartum infection is still the main cause of maternal death, especially in developing countries such as Indonesia. Maternal deaths that occur during the postpartum period are caused by postpartum infection due to lack of wound care 10%, due to bleeding 42%, eclampsia 13% and postpartum complications 11%. The form of this infection varies and is local in nature to cause sepsis and postpartum death. The low knowledge of postpartum mothers is still a problem that needs to be addressed in an effort to improve the healing process of perineal wounds. One of the risk factors for perineal infection is the long healing of perineal wounds. There are 2 causes of delayed healing of perineal wounds, namely internal factors and external factors. Internal factors include nutrition, personal hygiene, maternal condition, heredity, age, hemorrhage, hypovolemia, local edema factors, nutritional deficits, over-activity. While external factors include the environment, tradition, knowledge, social, economic, handling of officers, handling of tissue and drugs (4).

Indonesia is a developing country with various types of problems and obstacles in the development of public health. One of the obstacles that often occurs in society is the existence of food taboos after giving birth. Some postpartum mothers avoid certain foods such as meat, fish, chicken, and eggs on the assumption that these foods can cause itching in stitches, even though these nutritional intakes are very much needed, especially protein, which is very important to support the wound healing process, because protein helps cell regeneration and the formation of new tissue which is important in the recovery of perineal wounds(5).

Malnutrition in postpartum or breastfeeding mothers causes health problems for the mother and her baby. If the mother does not get food with balanced nutrition, it can cause the mother to be malnourished and anemic and the mother will provide breast milk in small amounts. The lack of nutritional fulfillment for postpartum or breastfeeding mothers is caused by many factors, including dietary restrictions for postpartum mothers according to Fitriyani in (6). Mothers who are in the postpartum period need to get optimal nutritional intake to support the baby's health and ensure that the mother's health remains optimal. However, in practice, many mothers undergo dietary restrictions during the postpartum period, a tradition adopted by many tribes in Indonesia. Postpartum mothers should not abstain from food because it can inhibit the recovery and healing process of wounds, even though the wound healing process really needs protein. Therefore, postpartum mothers are advised to follow a correct diet, according to its quality and quantity (7). Relationship between the level of knowledge related to the level of management knowledge hygiene and personal sanitation, food selection and behavior in the duration of perineal wound healing in postpartum mothers. The results of the study showed that most respondents had good knowledge (55.9%), did not have food restrictions (61.8%), had behavioral restrictions (64.7%) and fast perineal wound healing (55.9%). The results of the chi-square test square shows a significant relationship between the level of knowledge about vulva hygiene and taboos during postpartum with the duration of healing of perineal wounds in postpartum mothers with a value of ( $p<0.05$ ). The speed of

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healing of perineal wounds is also influenced by several knowledge factors related to nutrition and nutrition possessed by mothers who are experiencing postpartum. This nutritional factor is related to wound healing in the birth canal where nutritional deficiencies such as protein can have an impact on inhibiting the wound healing process(8).

Syifa Hospital is a hospital located in the sub-district ngasem, Kediri Regency. Aura Syifa Hospital is located in a densely populated area with a society that is still thick with its socio-culture. There are still many cultures that are inherent in society, one of which is the culture of abstaining from food in postpartum mothers. Therefore, it is important to further examine the relationship between food menu choices and perineal wound healing. Based on data from Aura Syifa Hospital, Kediri, in the period from April to June 2024, there were 120 physiological deliveries, with 50 mothers experiencing perineal wounds. Of these, 35 cases were caused by food taboos, which indicates an increase in perineal wound infections in postpartum mothers at the hospital.

Postpartum complications can be prevented with a minimum of 12-13 postpartum visits. With this minimum standard visit schedule, it is expected to prevent and detect as early as possible problems that may occur. The first postpartum visit schedule is 6-2 days postpartum, the second 3-7 days postpartum, the third 8-28 days postpartum and 29-42 days postpartum according to Saifuddin in (5). During the postpartum phase, mothers and families must also receive nutritional counseling and education. Appropriate advice can be obtained by working with a nutritionist. Increasing awareness of the risks of dietary restrictions and the importance of balanced nutrition for postpartum mothers can be done through socialization and education through seminars, workshops, counseling, and social media.

Based on the background description above, the researcher is interested in conducting research with the title "The Relationship between the Level of Knowledge of Food Menu Selection and the Perineal Wound Healing Process in Kediri Regency".

## Method

This study uses a quantitative approach with a descriptive correlation design and cross-sectional method. sectional, aims to determine the relationship between food menu selection and the healing process of perineal wounds in postpartum mothers. The population is all postpartum mothers with perineal wounds grade 1–4 (N = 45), with a sample of 40 respondents selected simply random sampling and met the inclusion and exclusion criteria. The research instrument was a closed questionnaire and REEDA observation sheet. Data were collected by filling out questionnaires and observing perineal wounds on days 2 to 7 of the postpartum period. The study was conducted at Aura Syifa Hospital, Kediri Regency, in February–March 2025 after obtaining permission and approval from the relevant parties.

Data processing includes editing, coding, scoring, tabulating, and data entry. Data analysis includes univariate analysis (frequency and percentage), bivariate analysis with Chi-Square test and contingency coefficient to measure the closeness of the relationship between variables. This study has met the principles of research ethics, including informed consent, consent, anonymity, data confidentiality, and obtaining ethical clearance from the Health Research Ethics Commission (KEPK) of the Ministry of Health Polytechnic of Malang.

## Results

This section will explain the results and discussion of the research data collection process in accordance with the research objectives to analyze the relationship between food menu selection and the perineal wound healing process at Aura Syifa Hospital, Kediri Regency. The research was conducted after the researcher obtained a research permit from the institution and a research permit from Aura Syifa Hospital, Kediri Regency.

### General Data

Based on the research that has been conducted, general data can be presented in the form of respondent characteristics consisting of age, parity, education and occupation.

*Table 1. Frequency Distribution Analysis and Percentage of Respondents*

		Frequency	Percentage
<b>Age</b>			
>20		2	5.0
21-35		37	92.5
>35		1	2.5
<b>Total</b>		<b>40</b>	<b>100.0</b>
<b>Education</b>			
SD		2	5.0
JUNIOR HIGH		3	7.5
SCHOOL			
SENIOR HIGH		15	37.5
SCHOOL			
College		20	50.0
<b>Total</b>		<b>40</b>	<b>100.0</b>
		Frequency	Percentage
<b>Work</b>			
Housewife		20	50.0
Self-employed		7	17.5
civil servant		4	10.0
Laborer		1	2.5
Private employees		8	20.0
<b>Total</b>		<b>40</b>	<b>100.0</b>

Based on the data in table 1, the distribution of respondent characteristics by age shows that the majority of respondents are aged 21-35 years, namely 37 people or (92.5%), aged <20 years, namely 2 people or (5%), and aged > 35 years, namely 1 person or around 2.5%. Based on the parity characteristic category, it shows that the majority of respondents are primigravida, namely 32 people or (80%) of respondents, while multigravida respondents are 8 people or (20%) of respondents. In terms of education, most respondents have a college education level, namely 20 people with a percentage of (50%), high school as many as 15 people or (37.5%), while 5 people each (around 12.5%) have elementary and junior high school education. The characteristics of the respondents' jobs show that the majority of respondents are housewives, namely 20 people (50%), while the others are mothers who work every day.

### Special Data

This section will present the results of the research data used to clarify the discussion. This study will analyze variables descriptively using calculations based on categories.

*Table 2. Respondents' Parity History*

Parity	Frequency	Percentage
Primigravida	32	80.0
Multigravida	8	20.0
<b>Total</b>	<b>40</b>	<b>100.0</b>

Primigravida mothers giving birth were obtained as many as 32 respondents (80%). While having a history of perinatal more than once there were 8 respondents (20%).

## Food Menu Selection

Table 3. Frequency Distribution of Postpartum Mothers' Food Menu Selection at Aura Syifa Hospital

Category	Frequency	Percentage
Not enough	14	35.0
Enough	14	35.0
Good	12	30.0
Total	40	100.0

Based on table 3 regarding the frequency distribution of postpartum mothers' food menu selection at Aura Syifa Hospital, most respondents have insufficient and sufficient knowledge of menu selection, which is the same as 14 people (35%). Furthermore, 12 respondents (30%) have a good level of knowledge. From a total of 40 respondents, these results show that the majority of postpartum mothers have a fairly supportive understanding, although there are still a small number who need attention to improve their knowledge of related topics.

## Perineal Wound Healing

Table 4. Frequency Distribution of Perineal Wound Healing Process at Aura Syifa Hospital

Category	Frequency	Percentage
Slow	17	42.5
Fast	23	57.5
Total	40	100

Based on table 4 regarding the frequency distribution of the wound healing process at Aura Syifa Hospital, 23 (57.5%) or the majority of respondents experienced a fast wound healing process. As many as 17 (42.5%) experienced a slow healing process. With a total of 40 respondents, these results indicate that most postpartum mothers experienced fast wound healing.

## The Relationship Between Food Menu Selection and the Perineal Wound Healing Process at Aura Syifa Hospital

Table 5. Cross Tabulation of Food Menu Selection on the Perineal Wound Healing Process at Aura Syifa Hospital

Factor	Characteristics						Sig. (2 tailed)	X <sup>2</sup>		
	Good		Enough		Not enough					
	N	%	N	%	N	%				
Fast	7	83.3	8	78.6	8	78.6	23	57.5		
Slow	5	16.7	6	21.4	6	21.4	17	42.5		

The crosstab analysis in table 5, it is known that of the 14 respondents who had the category of poor food menu selection, 78.6% of them experienced a fast wound healing process, while 21.4% experienced slow wound healing. In the group with sufficient food menu selection, 71.4% experienced fast healing and 28.6% slow. Meanwhile, in the group with good food menu selection, there were striking results, namely 83.3% of respondents experienced fast wound healing, and only 16.7% experienced slow healing. Based on table 16, it is known that

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the better the food menu selection made by postpartum mothers, the greater the interval value of the wound healing process. This shows that the better the food menu selection made by postpartum mothers, the faster the perineal wound healing process. This also shows a relationship between menu selection and the perineal wound healing process.

Based on the results of the Pearson correlation test, the correlation value obtained was  $r = -0.447$  with a significance of  $p = 0.003$ , so it can be concluded that there is a significant and moderate negative relationship between the selection of food menus and the wound healing process. The better the selection of food, the faster the wound healing process tends to be. The results of the chi-square test square in table 4.4 shows a significant relationship between the selection of food menus and the healing process of perineal wounds at Aura Syifa Hospital with a significance value of (0.003). The ratio value shows a significance result of 0.002. And the linear value of 0.002, then  $H_0$  is rejected and  $H_1$  is accepted so that it can be concluded that there is a relationship between knowledge of choosing a food menu and the healing process of perineal wounds.

## Discussion

### Knowledge of Food Menu Selection for Postpartum Mothers at Aura Syifa Hospital

Frequency distribution of postpartum mothers' food menu selection at Aura Syifa Hospital shows that 14 out of 40 postpartum mothers' respondents at Aura Syifa Hospital or around 35% are in the less category, 14 respondents (35%) are in the sufficient category, and the remaining 12 respondents (30%) show a good category in choosing a food menu. These data show that almost half of the respondents have less and sufficient knowledge.

Everyone's awareness of the importance of eating nutritious food can affect their attitude in choosing food. In addition, a person's characteristics such as age, education level, gender can also affect their choice of food menu (9). The mother's knowledge of nutrition can provide accurate information, especially in choosing the right food ingredients, processing food ingredients and serving them as nutritious and healthy food. Mothers with high knowledge will also be better in choosing food ingredients. In addition, this study found that there is an important role of knowledge in achieving balanced nutrition with statistical test results of  $p > 0.05$  ( $p = 0.038$ )(10).

The selection of side dishes itself is divided into 2, namely vegetable side dishes and animal side dishes which will later fill 1/3 of 1/2 of the contents of my plate for one meal. The selection of vegetable and animal side dishes must be balanced and alternated so that the nutrition obtained will also be balanced. In addition, it must be supplemented by consuming staple foods, vegetables and fruits. Almost all mothers choose vegetable protein such as tempeh and tofu because the price is affordable and easy to find(11). The lack of protein consumption, especially vegetable protein, is more due to the low economic level of the Indonesian population(12).

The results of the study at Aura Syifa Hospital showed that postpartum mothers' knowledge of balanced nutrition greatly influences their food menu choices. Unfortunately, many postpartum mothers still tend to choose menus that are not optimal, often consuming more vegetable protein than animal protein. This is inseparable from economic factors and the affordability of food ingredients. For this reason, it is important for mothers to know affordable and nutritious sources of animal protein, such as eggs, chicken liver, anchovies, or local small fish that are rich in protein but cheaper than red meat. In addition, processed legume products such as tofu, tempeh, and green beans are known as sources of complete vegetable protein. By adding creativity, such as adding an egg to stir-fried tofu and tempeh or anchovies when cooking sour vegetables, the nutritional value of food can be increased without having to drain your wallet. This practical approach is expected to help mothers choose a balanced menu even

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with a limited budget.

### Perineal Wound Healing Process at Aura Syifa Hospital

Frequency distribution of the perineal wound healing process at Aura Syifa Hospital, the results showed that out of 40 postpartum mothers who were respondents, 23 people (57.5%) experienced a fast perineal wound healing process, while 17 people (42.5%) experienced slow healing. This shows that the majority of postpartum mothers at Aura Syifa Hospital experienced a fairly good perineal wound healing and recovery process. This can occur due to the good perineal wound care that has been carried out by health workers at Aura Syifa Hospital after the delivery assistance was completed. That there are several external factors that can affect the wound healing process, one of which is the health worker factor. During childbirth, cleaning must be done properly by health workers because this is one of the factors that affects the duration of perineal wound healing (1). Therefore, health workers need to provide quality and appropriate services in handling each stage and complaints of postpartum mothers, which will affect the speed of the recovery process and healing of perineal wounds. This is also in line with which states the importance of the role of health workers, especially nurses, in preventing infection in perineal wounds (13). Based on the data in table 1 regarding the distribution of respondent characteristics by age, it shows that the majority of respondents in the study were respondents aged 21-35 years, namely 37 people or around 92.5%, aged <20 years, namely 2 people or (5%), and aged > 35 years, namely 1 person or around 2.5%. This certainly also supports the rapid healing period of postpartum perineal wounds. That age factors can affect the healing process of perineal wounds, where younger postpartum mothers tend to experience faster healing compared to older postpartum mothers. Generally, wound healing occurs faster in young individuals compared to those who are elderly because elderly people are less able to tolerate stress such as tissue trauma or infection (14). The postpartum period is a crucial time in the recovery of reproductive organ function and if perineal wounds are not treated, it can increase the risk of complications, infections and psychological disorders such as postpartum depression (15).

It is very important for postpartum mothers to maintain perineal wound care so that recovery after giving birth goes smoothly. Midwives and nurses provide comprehensive education before mothers are allowed to go home. This education includes how to keep wounds clean, frequency of care, and the importance of keeping the wound area dry. In addition, mothers are also taught to recognize signs of infection such as swelling, severe pain, or fever, and the importance of changing dressings regularly to prevent bacterial growth. The mother's age also affects the speed of tissue healing. If more postpartum mothers receive routine education, the healing process is likely to be faster. As a follow-up step to ensure optimal recovery, there are home visits or long-distance communication in the first week after giving birth. This aims to allow health workers to monitor wound conditions, address emerging problems, and detect infections early, which will ultimately reduce the risk of complications, provide a sense of security, and improve the recovery experience for postpartum mothers.

### Analysis of the Relationship between Food Menu Selection and the Perineal Wound Healing Process at Aura Syifa Hospital

Based on the results of statistical tests using Chi- Square, the Pearson Chi- Square value was obtained at -447 with a significance of 0.003 ( $p < 0.05$ ). This value indicates that there is a significant and moderate negative relationship between the selection of food menus and the healing process of perineal wounds in postpartum mothers at Aura Syifa Hospital. This means that the better the selection of food menus during the postpartum period, the faster the healing process of perineal wounds experienced.

Choosing foods high in protein, iron, and vitamin C plays an important role in

accelerating the wound healing process, especially in postpartum mothers. Protein helps tissue regeneration, while iron and vitamin C accelerate collagen formation and increase immune response(16). The study found that 90% of respondents who lacked nutrition experienced a long healing time for perineal wounds that were not in accordance with the phase. The results showed that the p- value of the study was 0.000 so it can be concluded that there is a relationship between nutrition and healing of perineal suture wounds (17).

Perineal wound healing itself is a complex biological process involving tissue repair, immune response, and hormonal balance. The speed of this healing process is greatly influenced by several factors both internally and externally. External factors that can affect the wound healing process are nutrition, environment, culture, knowledge and socio-economics (1). However, mothers must pay attention to age and parity status during pregnancy to avoid complications during delivery (18). The results showed that 62.9% of respondents had normal hemoglobin levels and 79.77% of respondents showed good wound healing processes. The results of the statistical test analysis showed a p value of 0.000 which was smaller than  $\alpha$  of 0.05 with an R-square of 0.196. This means that there is an effect of hemoglobin levels on the wound healing process post sectio caesarea. So it is expected that pregnant women and their families pay attention to the value of hemoglobin levels during pregnancy and after delivery to ensure health and wound healing post sectio caesarea (19). While internal factors that can affect the wound healing process are age, hypovolemia, personal hygiene, excessive activity and the presence of comorbidities (20).

Healing of perineal wounds after childbirth is greatly influenced by the nutrition consumed. This is because nutritious food plays an important role in maintaining the immune system to be strong against infection and accelerate tissue repair. During the postpartum period, the body needs sufficient nutrition for the metabolism process and wound healing. Healthy food can help accelerate the healing of perineal wounds, especially rich in protein, iron, and vitamin C. All three are very important for tissue regeneration and the immunological response needed during postpartum recovery. For example, mothers can consume eggs, fish, chicken, tempeh, tofu as sources of protein; chicken liver or spinach for iron; and oranges or guava for vitamin C. Many mothers may not realize how big an impact food choices have on the speed of wound healing. Therefore, it is important to always pay attention to nutritional intake during the postpartum period.

## Conclusions and Recommendations

Based on the results of the study "The Relationship between the Level of Knowledge of Food Menu Selection and the Perineal Wound Healing Process at Aura Syifa Hospital" that has been conducted, the following conclusions can be drawn ; most mothers have sufficient nutritional knowledge regarding food menu selection, most postpartum mothers experience a relatively fast wound healing process which indicates that postpartum mothers are recovering well, avoiding health problems, there is a significant relationship between food menu selection and the perineal wound healing process in postpartum mothers.

Here are some suggestions that can be given, namely; for Postpartum Mothers It is recommended to pay more attention to the consumption of balanced nutritious foods, especially foods that are high in protein, iron, vitamin C, and fluids, because they play an important role in accelerating tissue regeneration and wound healing, for health institutions hospitals and health service centers are expected to integrate nutritional counseling services as part of the postpartum care program, including providing brochures, educational media, or special nutrition classes for postpartum mothers, for further researchers It is recommended to conduct research with a quantitative-qualitative approach or add other variables that affect wound healing, such as wound cleanliness, physical activity, and family support.

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