

EFFECTIVENESS OF GUAVA LEAVES ON PROLONGING THE HEALING TIME OF PERINEAL WOUNDS IN POSTPARTUM MOTHERS IN THE WORKING AREA OF BLANG MANGAT COMMUNITY HEALTH CENTER

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Abstract

Perineal wounds are one of the causes of postpartum infections that can slow the recovery process of postpartum mothers if not treated properly. This study aims to analyze the effectiveness of guava leaf decoction on the healing time of perineal wounds in postpartum mothers in the working area of Blang Mangat Community Health Center. The study used a quantitative approach with a quasi-experimental design through a two-group post-test only design. The study population was 68 postpartum mothers on the first day, while the sample was 30 respondents consisting of 15 respondents in the guava leaf group and 15 respondents in the binahong leaf group selected using accidental sampling. The research instruments included REEDA scale observation sheets, food recall, questionnaires, interview guidelines, SOPs, and checklists. Data analysis was carried out univariately and bivariately using the Mann Whitney test. The results showed that the average healing time of perineal wounds in the guava leaf group was 5.47 days and 5.63 days in the binahong leaf group, with a p-value of 0.003. It was concluded that giving boiled guava leaves was more effective than binahong leaves in accelerating the healing of perineal wounds in postpartum mothers, so it has the potential to be an alternative non-pharmacological treatment during the postpartum period.

Keywords: *Guava Leaves, Perineal Wound, Postpartum, Postpartum Care, Wound Healing*

INTRODUCTION

The postpartum period is the recovery period after childbirth, lasting from the delivery of the placenta until the reproductive organs return to their pre-pregnancy state. During this period, the mother is vulnerable to various complications, particularly postpartum hemorrhage and infection. One common cause of infection is perineal lacerations resulting from spontaneous rupture or episiotomy during delivery. Inadequate perineal wound care can increase the risk of infection, delay the healing process, and even contribute to complications that endanger the mother's safety. Therefore, perineal wound care is a crucial part of postpartum care to prevent infection and accelerate the healing process.

The magnitude of the perineal wound infection problem is reflected in various epidemiological data. The World Health Organization reports that the direct causes of maternal death are still dominated by hemorrhage (28%), eclampsia (24%), and postpartum infection (1%), while approximately 20–30% of postpartum infection cases are caused by birth canal infections or perineal ruptures. Globally, perineal laceration cases reach 2.7 million women and are expected to increase to 6.3 million by 2050. In Asia, approximately 50% of perineal laceration cases occur worldwide, making perineal wounds a maternal health problem that still requires serious attention (WHO, 2019).

In Indonesia, maternal mortality is still influenced by postpartum hemorrhage (30.3%) and hypertension (27.1%), while indirect causes include malaria (13.45%), anemia (11.9%), HIV/AIDS (3.2%), and cardiovascular disease (3.1%) (Ministry of Health of the Republic of Indonesia, 2019). Data from the Indonesian Demographic and Health Survey shows that approximately 75% of vaginal deliveries result in perineal lacerations or ruptures. The prevalence of perineal tears reaches 24% in mothers aged 25–35 years

and 62% in those aged 32–39 years. In addition, 28% of mothers experience stitches due to episiotomy and 29% due to spontaneous tears (SDKI, 2019).

Perineal wound care aims to prevent infection, increase comfort, and accelerate healing. Currently, treatment is carried out through a pharmacological approach using antibiotics and antiseptics such as povidone iodine, but their use can cause side effects, including iododerma, chemical burns, and anaphylactic reactions (Abshor, 2019). As an alternative, non-pharmacological therapy utilizes plants containing flavonoids, tannins, saponins, and alkaloids, such as guava leaves and binahong leaves, because they are more readily available and have a lower cost (Abshor, 2019). Research by Zuhana, Prafitri, and Erisila (2018) showed that administering boiled guava leaf water can accelerate perineal wound healing with an average healing time of five days and produced statistically significant results ($p < 0.05$). Research by Garcia et al. (2017) also reported that the use of guava leaf extract resulted in a significant improvement in REEDA scores on the fifth day after delivery ($p < 0.05$).

Based on a survey in the Blang Mangat Community Health Center (Puskesmas) working area, 58 deliveries were recorded from January to July 2021, with 38 mothers (65%) experiencing perineal wounds due to episiotomy. The average healing time for perineal wounds still reaches 7–10 days, and the treatment performed mostly only uses plain water, according to interviews. This condition indicates that there is still a gap between the potential use of non-pharmacological therapy and the practice of perineal wound care in the field. Based on this problem, this study aims to determine the effectiveness of guava leaves on the healing time of perineal wounds in postpartum mothers in the Blang Mangat Community Health Center working area. This research is important as an effort to provide an alternative perineal wound care that is easily accessible, economical, and has the potential to accelerate healing. The novelty of the study lies in testing the effectiveness of guava leaf decoction by comparing it with binahong leaves as a comparison group in postpartum mothers in the Blang Mangat Community Health Center working area.

RESEARCH METHODS

This study used a quantitative approach with a quasi-experimental design using a two-group post-test only design. The study involved two groups: an intervention group that received perineal wound care using guava leaf decoction and a comparison group that received treatment using binahong leaf decoction. After the intervention was administered, both groups were assessed for the duration of perineal wound healing to determine the effectiveness of each treatment. The study was conducted in the working area of the Blang Mangat Community Health Center, Lhokseumawe City from November 2025 to March 2026.

The research instruments consisted of a REEDA scale observation sheet to assess the perineal wound healing process, a food recall sheet, a questionnaire, an interview guide, a standard operating procedure (SOP) sheet, and an intervention implementation checklist sheet. The intervention was given from the first day postpartum until the perineal wound was declared healed based on the absence of signs of infection, no swelling, no redness, and the wound had healed. The data obtained were processed through the stages of editing, coding, tabulating, processing, and cleaning. Data analysis was performed univariately to describe the distribution of respondent characteristics and the average duration of perineal wound healing. Next, a bivariate analysis was performed to compare the duration of healing between the intervention group and the comparison group using an independent t-test if the data were normally distributed, while if the data were not normally distributed, the Mann Whitney test was used. Statistical decisions were determined based on a $p\text{-value} \leq 0.05$, which indicates the effectiveness of guava leaf decoction on perineal wound healing.

The study population was all 68 postpartum mothers in the first day of postpartum in the Blang Mangat Community Health Center working area. The study sample was postpartum mothers with first and second degree perineal wounds who met the research criteria. The sample size was calculated using the Lemeshow formula with reference to the average value of Zuhana's (2018) and Wijayanti's (2017) research, resulting in 15 respondents in the guava leaf group and 15 respondents in the binahong leaf group. The sampling technique used accidental sampling, with inclusion criteria including mothers who were willing to be respondents, underwent normal vaginal delivery, experienced first or second degree perineal wounds

due to spontaneous rupture or episiotomy, and were on the first day postpartum. The exclusion criteria included mothers who had diseases that could interfere with the wound healing process such as diabetes mellitus, blood clotting disorders, and postpartum edema.

The research procedure began with an explanation to potential respondents regarding the purpose, benefits, procedures, and rights of the research before signing the informed consent form. Respondents who met the criteria were then divided into an intervention group and a comparison group. The intervention group was given perineal wound care using guava leaf decoction, while the comparison group was given binahong leaf decoction according to established standard operating procedures. Treatment was carried out twice daily until the wound was declared healed. During the research process, wound healing observations were conducted using the REEDA scale to determine the duration of perineal wound healing. All respondent data was kept confidential by applying the principle of anonymity and was carried out in accordance with research ethics principles, which include respect for human dignity, the principle of doing good, justice, scientific integrity, responsibility, openness, and data confidentiality.

RESULTS AND DISCUSSION

Research Analysis

1. Univariate Analysis

Univariate analysis was conducted to obtain the frequency distribution of age characteristics, nutritional intake, mobilization, and in the intervention group (guava leaves) and comparison group (binahong leaves).

Table 1. Frequency Distribution of Age Characteristics, Nutritional Intake, Mobilization in the Blang Mangat Community Health Center work area (n=15)

No	Variables	Group			
		Intervention Leaf Guava (N=15)	Percent (%)	Comparator Leaf Binahong (N=15)	Percent (%)
1.	Age				
	<35 years	11	73.3	10	66.7
	>35 years	4	26.7	5	33.3
2.	Mobilization				
	- Fast	12	80.0	12	80.0
	- Slow	3	20.0	3	20.0
3.	Nutritional Intake				
	- Good	13	86.6	12	80.0
	- Not enough		13.4	3	20.0
	2				

Based on table 1, it is known that based on the intervention group, most (73.3%) were aged <35 years, In the comparison group, a small portion (33.3%) were aged >35 years. Mobilization variables that in the intervention group and the comparison group, most (80%) mothers mobilized quickly. Based on the nutritional intake variable, most (86.6%) postpartum mothers had received good nutrition, In the comparison group, a small portion (20.0%) of mothers were malnourished.

Table 2. Average Healing Time for Perineal Wounds in Postpartum Mothers in the Intervention Group (Guava Leaves) and the Comparison Group (Binahong Leaves) in the Blang Mangat Community Health Center Work Area

Variables	N	Mean	Mean Difference	Median	Min	Max	Elementary School
Guava Leaf Group	15	5.47	0.16	5	4	7	0.833
Group Binahong Leaves	15	5.63		6	4	7	0.990

Table 2 shows that the average healing time for perineal wounds in the intervention group was 5.47 days. The fastest healing time was 4 days and the longest was 7 days. Meanwhile, the average healing time for perineal wounds in the comparison group was 5.63 days.

Bivariate Analysis

This analysis is used to determine the effect of the independent variable (Guava Leaves) on the dependent variable (Healing time of perineal wounds). After conducting a normality test with Kolmogorov-Smirnov, the results showed that the data was not normally distributed. The analysis used was the Mann-Whitney U test.

Table 3. The Effect of Guava Leaves and Binahong Leaves on the Healing Time of Perineal Wounds in Postpartum Mothers in the Blang Mangat Community Health Center Work Area

Variables	N	Mean	Mean Difference	Elementary School	P Value
Guava leaf intervention	15	5.47	0.16	0.833	0.002
Binahong leaf comparison	15	5.63	0.990	0.004	

Wilcoxon test

Based on table 3 above, it can be concluded that there is an effect of guava leaves and binahong leaves on the duration of perineal wound healing with a p value of guava leaves of 0.002 and a p value of binahong leaves of 0.004.

Table 4. Effectiveness of Guava Leaves on the Healing Time of Perineal Wounds in Postpartum Mothers in the Blang Mangat Community Health Center Work Area

Variables	N	Mean	Mean Difference	Elementary School	P Value
Guava leaf intervention	15	5.47	0.16	0.833	0.003
Binahong leaf comparison	15	5.63		0.990	

Mann-Whitney test

Based on table 4 above, it can be concluded that there is effectiveness in guava leaves on the healing time of perineal wounds and there is a difference in the average healing time of perineal wounds in the intervention group of 5.47 days and the comparison group of 5.63 days with an average difference of 0.16 and a p value of 0.003.

DISCUSSION

Frequency distribution of characteristics on age, mobilization, nutritional intake

The results of the univariate analysis depicting the frequency distribution of respondents based on the intervention and comparison groups showed that the majority of mothers (70%) were of normal age.

Age is a factor that can influence perineal wound healing because the function of skin tissue integration in non-productive ages has experienced decreased skin elasticity and differences in collagen turnover (Sari, 2020).

It can be seen from the mobilization variable that in the intervention group and the comparison group, the majority (80%) of mothers mobilized quickly and (20%) of mothers mobilized slowly due to certain factors. Mobilization can improve blood circulation in mothers after giving birth, and is a prominent factor in accelerating postpartum recovery. Early mobilization is an important aspect of physiological function because it is essential to maintaining independence (Manuntung, 2019).

Based on the nutritional intake variables in the intervention and comparison groups, 93.3% of mothers received adequate nutrition. This good nutritional intake significantly impacts the perineal wound healing process. These study findings align with Natalie's (2021) finding that perineal wound healing, particularly during pregnancy, increases the need for protein, which is essential for inflammation and granulation tissue development.

The Effectiveness of Guava Leaves on the Healing Time of Perineal Wounds in Postpartum Mothers in the Working Area of the Blang Mangat Community Health Center, Lhokseumawe City

Based on the results of the analysis of the effect of guava leaves on the healing time of perineal wounds, it was found that the average wound healing was 5.47 days with a p value of $0.003 < 0.05$ so it can be concluded that there is effectiveness of guava leaves and binahong leaves on the healing time of perineal wounds. Guava leaf decoction is given 2x a day for cleaning in the morning and evening as much as 800ml until the wound healing is good with a total value of the Reeda scale of 0.

The results of this study support previous research conducted by Zuhana (2018), based on data analysis of the guava leaf treatment group with a p value of 0.000, there is an effect of guava leaves on accelerating the healing of perineal wounds in postpartum mothers.

This strengthens the research conducted by Garcia, et al in 2017 on "Comparison of the Efficacy of Guava Leaves Extract as Hot Steam and Wash versus Intake of Oral Antibiotic for Postpartum Wound Healing after a normal Spontaneous Vaginal Delivery With Episiotomy". The results of this study found that the average reeda score in the guava leaf group, antibiotic group, guava leaf group combined with antibiotics, was significant p-value < 0.05 with an average healing on the 5th day.

During the time the researcher collected respondent data, mothers who experienced perineal wounds felt anxious and uncomfortable if the stitches did not heal quickly, by being given boiled guava leaves which contain anti-bacterial properties to prevent infection and steroids can reduce inflammation (anti-inflammatory) thereby accelerating wound healing.

Guava leaves' ability to accelerate perineal wound healing is due to their flavonoid content, which has pharmacological activity as an anti-inflammatory. Tannins function as antiseptics and antibacterials on wounds, preventing infection. Saponins stimulate collagen formation. Alkaloids in guava help fight microbial infections. Steroids in guava leaves can reduce inflammation (Aziz, 2016).

The results of the study concluded that guava leaves can accelerate the healing of perineal wounds and are effective in reducing the healing time of perineal wounds in postpartum mothers, with an average wound healing on the 5th day postpartum with a mean difference of 0.16 and a p value of $0.03 < 0.05$.

Research Limitations

This study also had limitations, including the limited sample size due to time constraints, which resulted in less than optimal results. The researchers strongly hope that other researchers can expand this study over a longer period, employ more enumerators to obtain a larger sample size, and ensure that the guava and binahong leaves can be administered twice daily and distributed in a timely manner.

CONCLUSION

This study shows that the administration of guava leaf decoction is effective in accelerating the healing of perineal wounds in postpartum mothers in the working area of the Blang Mangat Community Health Center. The average healing time for perineal wounds in the guava leaf group was 5.47 days, faster than the binahong leaf group, which was 5.63 days, with a mean difference of 0.16 days. The results of the Mann Whitney test showed a p-value of 0.003 so that there was a significant difference between the two groups. These findings indicate that guava leaf decoction can be an alternative non-pharmacological treatment that helps accelerate the healing of perineal wounds in postpartum mothers.

This study is limited by its relatively small sample size and limited timeframe, which means the results cannot accurately reflect broader conditions. Future research is recommended to involve a larger sample size, a longer observation period, and the support of more enumerators to ensure more optimal and consistent intervention implementation. Practically, the results of this study can be utilized by healthcare professionals, particularly midwives, as an option for non-pharmacological interventions in perineal wound care, as they are readily available, relatively economical, and have the potential to improve the quality of postpartum care.

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