

## The Effectiveness of Infusa Leaf of Binahong (*Anredera Cordifolia*) in Healing Perineal Wound

Halimatus Saidah, Dewi  
Kartika Sari, Cristina Sri  
Healthyni, Mira Zoraya

Faculty of Health, Kadir  
University

**Email:**

halimatus.saidah@unik-  
kediri.ac.id

### ABSTRACT

Perineal wound is a tear in the birth canal (perineum) that occurs both in spontaneous labor and episiotomy. Perineal wounds that take a long time to heal can cause infection and contribute to maternal death. Binahong leaf (*Anredera cordifolia*) can be used as an alternative for perineal wound healing because it contains several chemical compounds, namely flavonoids, oleanolic acid, protein, saponins and ascorbic acid. The content of ascorbic acid in this plant is important for activating the enzyme prolyl hydroxylase which supports the hydroxylation stage in the formation of collagen, so that it can accelerate the wound healing process. The purpose of this study was to determine the effectiveness of Binahong Leaf Infusion (*Anredera Cordifolia*) on perineal wound healing in postpartum mothers at Balowerti Health Center in 2022.

The design in this research is Quasi Experiment. The population of this study were all post partum mothers at Puksemas Balowerti in April 2022 . The sample from this study amounted to 32 respondents divided into 16 respondents in the control group and 16 respondents in the intervention group using the purposive sampling technique. Data were taken using an observation sheet and analyzed using the Man-Whitney test.

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### INTRODUCTION

The *postpartum* period is a critical period for both mother and baby (Elisabeth, 2014). So that a *postpartum* mother requires special care to restore her body's health condition, including perineal wound care. Perineal wounds are injuries to the perineal area due to a tear in the birth canal either due to rupture or due to an *episiotomy* during delivery of the fetus (Elisabeth, 2014).

The success of maternal health programs can be assessed through the main indicators

of the Maternal Mortality Rate (MMR). Maternal mortality in this indicator is defined as all deaths during the period of pregnancy, childbirth, and the puerperium caused by pregnancy, childbirth and the puerperium or their management but not due to other causes such as accidents or incidents. In general, there was a decrease in maternal mortality during the period 1991-2015 from 390 to 305 per 100,000 live births. The number of maternal deaths compiled from the recording of family health programs at the Ministry of Health in 2020 shows 4,627 deaths in Indonesia. This number shows an increase compared to 2019 of 4,221 deaths. Based on the causes, the majority of maternal deaths in 2020 were caused by bleeding as many as 1,330 cases, hypertension in pregnancy as many as 1,110 cases, and circulatory system disorders as many as 230 cases. (Indonesia Health Profile, 2020).

Based on the causes, the majority of maternal deaths in 2020 were caused by bleeding as many as 1,330 cases, hypertension in pregnancy as many as 1,110 cases, and disorders of the circulatory system as many as 230 cases, one of the other causes is infection. (Indonesia Health Profile, 2020).

Previous research conducted by Yeyen dwi NY in the working area of the Bojonegoro Health Center in 2014 on the effect of giving control group leaves (*piper betel*) for *vulvar hygiene* on the healing process of episiotomy wounds in *postpartum mothers* on days 1-7. *Postpartum* (70%) treated experienced fast wound healing, 2 *postpartum mothers* (20%) experienced normal wound healing speed, and 1 *postpartum mother* (10%) experienced delayed wound healing.

Physiologically the perineal wound will begin to heal within 6-7 days *postpartum*. There are several factors that affect the speed of perineal wound healing, namely age, heredity, infrastructure, culture and beliefs, early mobilization, nutrition and drug use (Harsono, 2014).

The main impact if there is a delay in perineal wound healing is the occurrence of infection in *postpartum mothers*, the condition of the perineum that is exposed to lochia and humidity will greatly support the development of bacteria that cause infection. If this condition is not handled properly, it will result in complications of infection that spread to the urinary tract or birth canal which can result in urinary tract infections and birth canal infections. A more fatal consequence is the death of *postpartum mothers*, caused by slow handling of complications considering the condition of *postpartum mothers* is still weak (Ambarwati, 2010).

Along with the times, the use and utilization of traditional medicine in Indonesia has progressed very rapidly. Various kinds of traditional medicines are reused by the community as an alternative treatment, in addition to modern medicine which is growing rapidly in the traditional medicine market derived from plants and pure natural ingredients which have side effects, the level of danger and risk is much lower than chemical drugs (Rochani, 2010). 2019).

Binahong leaves (*Anredera cordifolia*) to heal wounds. As a wound medicine, Binahong Leaf (*Anredera cordifolia*) contains several chemical compounds, namely flavonoids, oleanolic acid, protein, saponins and ascorbic acid. The content of ascorbic acid in this plant is important for activating the enzyme prolyl hydroxylase which supports the hydroxylation stage in the formation of collagen, so that it can accelerate the wound healing process. Saponins also have antiseptic and cleansing activity and increase immunity. Polyphenols are phenolic derivatives that have antioxidant activity that has an effect on reducing excess oxidants released by cells in phase I of wound healing. While flavonoids have an antioxidant effect (Umar, 2012).

Based on a preliminary study conducted by researchers at the Balowerti Health Center In March 2022, out of 22 normal mothers, 15 respondents (68.18%) experienced a perineal tear and the results of observations on the 7th day *postpartum* visit found 9 people

(60%) healing speed perineal wound in the slow category, so the potential for infection in the perineum.

Based on the above phenomenon, the researchers are interested in conducting research on perineal wound care with non-fatmacological efforts, namely about " Effectiveness of Binahong Leaf Infusion ( *Anr edera C o r difolia* ) on perineal wound healing *to postpartum* mothers at the Balowerti Health Center in 2022.

## MATERIALS AND METHODS

### Design and Samples

The design in this study is a *Quasy Experiment type of research* which is divided into two groups one intervention group was given amoxicillin 500 mg and infusion of binahong leaves and the control group was given amoxicillin 500 mg at a dose of 3 times 1 and perineal wound care as usual . The population in this study were all *postpartum* mothers on day 1-7 who experienced a grade t perineal rupture . 1 and 2 at the Baowerti Health Center, Kediri City in April 2022, the samples in this study were some postpartum mothers who had perineal injuries totaling 32 respondents, 16 respondents as the intervention group and 16 respondents as the control group. The sampling technique used *purposive sampling* with the inclusion criteria of postpartum mothers on days 1-7 who experienced perineal tears grades 1 and 2 and were willing to be respondents and the exclusion criteria were postpartum mothers who experienced bleeding, postpartum mothers with anemia, postpartum mothers experienced infection in perineal wounds, postpartum mothers have diabetes mellitus. Binahong Leaf the old ones are dark green , after that sorting is done to get the leaves of the bihanong plant that are not physically disabled then washed thoroughly, the binahong leaves are made infusion, namely the binahong leaves that have been picked and washed, weighed 100 grams, put in 100 mL of distilled water. I then heated over a water heater for 15 minutes starting from the temperature starting to reach 90 ° C on the thermometer while stirring occasionally. Serkai still hot with flannel. If the volume of the infusion is reduced, sufficient hot aquadest is added through the dregs to obtain an infusion volume of 100 mL.

### Data Collection

Leaf infusion of the Intervention Group (Daun Binahong) was given on the first postpartum day to day 7, once a day for 7 days and then observed for 7 days.

### Data analysis

*Analysis data used Man Whitney test.*

## RESULTS

### A. General Data

#### 1. Age of Respondent

**Table 1 Distribution of Respondents by Age of Postpartum Mothers**

	Age	Group		Total
		Control	Intervention	
	<20	1 6.3%	1 6.3%	2 6.3%
	20-35	10 62.5%	8 50.0%	18 56.3%
	>35	5 31.3%	7 43.8%	12 37.5%
Total		16 100.0%	16 100.0%	32 100.0%

Based on table 1, it is known that most postpartum mothers belong to the age group of 20-35 years, namely there are 10 (62.5%) from the control group and half include the age group 20-35 years, namely there are 10 (50%) from the intervention group giving leaf infusion. Intervention (Leaf Binahong).

## 2. Respondent's Weight

**Table 2** Distribution of Respondents Based on Respondents Weight of Postpartum Mothers

		Group		Total
		Control	Intervention	
Weight	Normal	10	7	17
		62.5%	43.8%	53.1%
	Fat	6	9	15
		37.5%	56.3%	46.9%
Total		16	16	32
		100.0%	100.0%	100.0%

Based on table 2, it is known that some postpartum women have normal body weight, namely 10 (62.5%) from the control group and more than half of them are obese, namely 9 (56.3%) from the leaf infusion intervention group (Leaf Binahong).

## 3. Respondent's Education

**Table 3** Distribution of Respondents Based on Education of Postpartum Mothers

		Group		Total
		Control Group	Intervention Group	
Education	Intermediate	10	7	17
		62.5%	43.8%	53.1%
	Tall	6	9	15
		37.5%	56.3%	46.9%
Total		16	16	32
		100.0%	100.0%	100.0%

Based on table 3, it is known that most of the postpartum mothers have secondary education, namely 10 (62.5%) from the control group and more than half of the postpartum mothers have higher education, namely 9 (56.3%) from the leaf infusion intervention group. .

#### 4. Parity

**Table 4** Distribution of Respondents Based on Parity of Postpartum Mothers

Parity	Group	Group		Total
		Control Group	Intervention Group	
Primipara		11	4	15
		68.8%	25.0%	46.9%
	Multipara	5	11	16
		31.3%	68.8%	50.0%
Grandemultipara		0	1	1
		0.0%	6.3%	3.1%
Total		16	16	32
		100.0%	100.0%	100.0%

Based on table 4, it is known that most of the postpartum mothers are multiparous, namely 11 (68.8%) from the control group and most of the postpartum mothers are at the Ngletih Nursing Health Center, Kec. The parity of Islamic Boarding Schools is multipara, namely there are 11 (68.8%) Intervention Groups (Leaf Binahong)

#### B. Special Data

**Table 5** The Effectiveness of Binahong Leaf Infusion ( *Anredera Codifolia* ) Against Perineal Wound Healing Speed in Postpartum Mothers

Wound Healing Category	Control Group		Intervention Group (Binahong Leaf Infusion)		Total	
	f	%	F	%	F	%
Slow	6	37.50	0	0.00	6	18.75
Normal	6	37.50	3	18.75	9	28.13
Fast	4	25.00	13	81.25	17	53.13
<b>Amount</b>	<b>16</b>	<b>100.00</b>	<b>16</b>	<b>100.00</b>	<b>32</b>	<b>100.00</b>
<b>P Value : 0.001</b>	<b><math>\alpha</math>: 0.05</b>					

Based on table 5, it is known that from almost half (37.5%) of respondents in the control group wound healing in the slow and normal categories, namely 6 respondents, all respondents and in the intervention group, namely by giving binahong leaf infusion, almost all (81.25%) were obtained. ) perineal wound healing in the fast category as many as 13 respondents.

Based on the Mann Whitney statistical test, it was obtained that the *p value* was  $0.001 < (\alpha = 0.05)$ , then  $H_0$  was rejected and  $H_1$  was accepted, meaning that there was a difference in the effectiveness of perineal wound healing in the control group and the intervention group, namely the administration of binahong leaf infusion.

#### DISCUSSION

The characteristics of the respondents used in this study were postpartum mothers or post partum mothers who had perineal injuries of grades 1 and 2, caused by spontaneous delivery regardless of age and parotid with a total of 32 respondents who were divided into 16 respondents in the control group and 16 respondents in the intervention group. , respondents were selected using several sample criteria, including postpartum mothers on days 1-7 who experienced perineal tears grades 1 and 2 and were willing to be respondents and the exclusion

criteria were postpartum mothers who experienced bleeding, postpartum mothers with anemia, postpartum mothers experienced infection in the perineal wound. , postpartum mothers have diabetes mellitus.

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Plant (*Anredera cordifolia*) is a potential medicinal plant that can treat various types of diseases. This plant, known as Madeira Vine, is believed to have high antioxidant and anti-viral properties. Binahong plants are useful for postnatal recovery, heal all wounds, launch and normalize blood circulation and blood pressure, etc.

In a study conducted by Soliha and Hasanuddin about the differences in the effectiveness of the use of binahong leaves (*Andredera cordifolia*) and 0.9% NaCl in accelerating incisional wound healing (inflammatory phase) in white rats (*Rattus norvegicus*) wistar strain. Where as many as 9 or (100%) respondents who were sampled experienced rapid inflammation (inflammatory wounds were not visible) by using binahong leaves to treat wounds. Meanwhile, in the treatment using 0.9% NaCl only 5 of the 9 respondents or 55.6% experienced accelerated inflammation on the 3rd day.

According to Budianto (2014), the use of binahong in accelerating wound healing can be done by pounding binahong leaves and attaching them directly to the wound or it can also be done by washing the wound with boiled water of binahong leaves. To make a decoction of binahong leaves (infusion) is quite easy, namely by boiling 7 binahong leaves using 720 cc of clean water for 15-20 minutes at a temperature of 90°C to 95°C. Binahong leaf decoction is used to wash the perineal wound 2 times a day.

This is in line with the Pebri research in 2017 which stated that binahong leaf extract at a concentration of 15% could heal and accelerate the healing process of incisional wounds in mice (Pebri IG, 2017). This is also in line with the research of Gusminar et al in 2021 which stated that there was an effect of giving binahong leaf decoction to accelerate the healing of perineal wounds (Gusminar, 2021).

This is in line with the statement that binahong leaf decoction also has an effect on wound healing. This is presumably due to the presence of flavonoids which act directly as antibiotics and anti-inflammatory, alkaloids which have hypoglycemic properties, terpenoids play a role in the process of organic synthesis and restoration of body cells, saponins as disinfectants, antivirals and function to stimulate collagen, oleanolic acid as anti-inflammatory and can reduce taste. pain relief, as well as polyphenols which are phenol derivatives that function as antioxidants and maintain body cells. Due to the presence of some of these ingredients, binahong leaves are very effective for healing perineal wounds (Soliha, 2012).

According to researchers, the flavonoid content of binahong is one of the substances used as an antibiotic and anti-inflammatory so that it makes the wound less prone to infection so that the wound becomes dry and heals quickly. Then in the study of Dita Selvia Aditia, et al., researchers intervened by giving 10 drops of binahong leaf extract to sterile gauze and then applied to the perineal wound of postpartum mothers. The intervention in this study was carried out for 6-7 days, after being given the intervention, the average results of perineal wound healing were 6 days. Apart from treating perineal wounds with boiled water, extracts, and ointments from binahong leaves, another study was found in the form of a gel which was investigated by Adevia Maulidya Chikmah, et al., (2019) with the title "Effectiveness of

Binahong Gel Spray on Perineum Laseration in Post- Partum The results obtained after the intervention was given binahong spray gel, there were 23 respondents from 34 respondents (33.8%) whose perineal wounds healed quickly (< 7 days) in the intervention group.

By looking at this research, binahong leaves can be used as an alternative in accelerating the healing of perineal wounds.

## CONCLUSION

Based on the Mann Whitney statistical test conducted on postpartum mothers at the Balowerti Health Center in April 2022 , it was obtained that the *p value was*  $0.001 < (\alpha = 0.05)$  , then  $H_0$  was rejected and  $H_1$  was accepted, meaning that there was a difference in the effectiveness of the perineal wound healing time in the group. control and intervention groups, namely giving binahong leaf infusion, so that the binahong plant can be used as an alternative in accelerating the healing of perineal wounds and reducing the risk of infection in postpartum mothers.

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## CONFLICTS OF INTEREST

There is no conflict of interest in this research

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