

## The Effect of Binahong Leaves (*Anredera cordifolia*) Decoction on Perineal Wound Healing among Post-Partum Women

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### Abstract:

The puerperium is a period of recovery for the uterine organs as they were before pregnancy as well as physical and psychological changes in the mother. One of the problems during the puerperium is the perineal wound that occurs due to a spontaneous wound or episiotomy during delivery. The wound can be said to be healed if within 1 week the condition of the wound is dry, closed and there are no signs of infection. Delay in the healing time of perineal wounds can be a problem including bladder and birth canal infections. This study aims to determine the effect of water decoction of binahong leaves (*Anredera cordifolia*) on the healing of perineal wounds among postpartum women at PMB "M" Bogor Regency in 2022. This type of research uses a quasi-experimental research design with a posttest-only research design. The population and samples in this study were postpartum mothers with perineal injuries of degrees I-II as many as 30 respondents. The sampling technique in this study was total sampling and data collection was carried out by observation. Data analysis was performed using the Mann-Whitney U test to determine the effect of intervention in one intervention group compared to the control group. The results showed that there was an effect of boiled water from binahong leaves on the healing of perineal wounds with first- and second-degree wounds in postpartum women. The results of the Mann-Whitney U test obtained a p-value of 0.000 (<0.05). The use of boiled water from binahong leaves can accelerate the healing process of perineal wounds among postpartum women at BPM "M" Bogor Regency. It is hoped that the use of boiled water from binahong leaves can be recommended and applied by health workers to postpartum women who experience grades I and II perineal injuries.

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## INTRODUCTION

The postpartum period is the period after labor and birth of the baby, the placenta and membranes are needed to restore the uterine organs to the way they were before pregnancy in less than 6 weeks and there are physical and psychological changes in the mother. One of the problems during the postpartum period is an injury to the perineum which occurs due to a spontaneous injury or episiotomy during delivery. During the postpartum period, mothers need many needs, including rest, support, encouragement, and obtaining information and skills to adapt to the role and abilities of parents in postpartum maternal function (Thwin et al., 2023). According to WHO data (2019), vaginal deliveries throughout the world in 2009 averaged 2.7 million cases with perineal rupture. This figure is estimated to reach 6.3 million in 2050. According to the Ministry

of Health 2018, infection was the third leading cause of maternal death during 2010-2013 in Indonesia after bleeding and hypertension.

If perineal wounds are not treated properly, they will increase the risk of infection during the postpartum period which can hinder the wound healing process. Factors related to perineal wound healing based on previous studies are knowledge, personal hygiene, nutrition, and early mobilization (Suharja et al., 2022). Healing of perineal wounds varies from person to person, some experience normal healing (6-7 days) and others experience delayed healing (Indrayani & Julia Riviana, 2023).

One of the measures to prevent infection is by providing pharmacological and non-pharmacological therapy. Pharmacological therapy is the administration of antibiotics and antiseptic drugs, while non-pharmacological therapy uses herbal therapy. Some plants could be used to promote wound healing, for example, betel leaves. A study conducted by Darulis et al., (2021) found that betel leaves decoction improved perineal wound healing in postpartum women. One of the plants to help the wound healing process is the binahong plant. The binahong plant contains flavonoids, allenolic acid, protein, saponins, and ascorbic acid (Vitamin C) which can increase the body's resistance to infection, function in maintaining mucous membranes, accelerate wound healing, and act as an antioxidant (Hanum & Liesmayani, 2020; Nisa et al., 2014).

This research is supported by previous research related to healing perineal wounds using Binahong Leaves by Narsih, Zakiiyyah & Ermawati (2019) with the title "The Effect of Giving Binahong Leaves on the Healing Time of Perineal Wounds in PMB Nurhayatin Randu Jalak Village, Besuk District" states that the results of the research showed that the majority of postpartum mothers in the control group (57.1%) experienced perineal wound healing time of >7 days postpartum, while all postpartum mothers in the treatment group (100%) experienced perineal wound healing time of 6-7 days. It can be concluded that binahong leaves are effective in accelerating the healing of perineal wounds (Narsih et al., 2019). This study aims to determine the effect of water decoction of binahong leaves (*Anredera cordifolia*) on the healing of perineal wounds among postpartum women at PMB "M" Bogor Regency in 2022.

## METHOD

This type of research uses a quasi-experimental research design with a posttest-only research design. The sampling technique in this research was total sampling and data collection was carried out by observation using the REEDA scale. The population and sample in this study were postpartum mothers with grade I-II perineal wounds, 30 respondents who were divided into 2 groups, 15 respondents as the control group and 15 respondents as the intervention group who were given boiled water from binahong leaves. Processing of binahong leaves (*Anredera cordifolia*) is done by boiling 50 grams of binahong leaves and 800 ml of water until reduced to 400 ml. How to use it: divide the boiled water into 200 ml twice a day in the morning and evening for seven days, each time used for vulva hygiene or cleaning the stitched wound area. Data analysis was carried out using the Mann-Whitney U test to determine the effect of intervention in one intervention group compared with the control group.

## RESULT

### Univariate Analysis

Table 1. The Wound Healing in the Control Group Day-7

REEDA scores	f	(%)
1	2	13.3
2	4	26.7
3	5	33.3
4	2	13.3
5	2	13.3
Total	15	100.0

  

Variable	Min	Max	Mean	Median
REEDA score of control group	1	5	2.87	3.00

Based on Table 1, it is known that the lowest REEDA score in the control group was 1, the highest was 5, with a median score of 3.00 and an average score of 2.87.

Table 2. The Wound Healing in the Intervention Group Day-7

REEDA score	f	p
0	14	93.3
1	1	6.7
Total	15	100.0

  

Variable	Min	Max	Mean	Median
REEDA score	0	1	0.07	0.00

Based on Table 2, it is known that the lowest REEDA score in the intervention group is 0, the highest is 1, with a median value of 0.00 and an average value of 0.07.

### Bivariate Analysis

Table 3. Bivariat Analysis by Mann-Whitney Test

Group	N	Mean Rank	Sum of Rank	p-value
Control	30	22.93	344.00	0.000
Intervention		8.07	8.07	

Based on Table 3, the calculation of the difference in the mean rank value (average) in the control group is 22.93 and the mean rank value (average) in the intervention group is 8.07, so we get a difference in mean rank value of -14.86. The results of the Mann-Whitney p-value test reveal the Asymp value. Sig. (2-tailed) in this study is 0.000 where this value is smaller than the significance level value of 0.05 (Asymp. Sig. (2-tailed)  $0.001 < \alpha 0.05$ ), meaning that there is a difference between the intervention group and the control group, so it can be concluded that there was an effect of using boiled water from binahong leaves on healing perineal wounds in BPM "M" Bogor Regency" (Santoso, 2010).

## DISCUSSION

Based on the research results, it was found that the lowest REEDA score in the control group was 1 with a percentage of 13.3% and the highest was 5 with a percentage of 13.3%. These results show that a value of 1-5 indicates a greater degree of tissue trauma and indication (poor healing). Meanwhile, in the intervention group, the lowest result was 0 with a percentage of 93.3% and the highest was 1 with a percentage of 6.7%, indicating that the perineal trauma healing was complete (good healing).

The results obtained in the control group or group of postpartum mothers who were not given boiled water from binahong leaves were 86.7% who experienced delayed healing of perineal wounds and only 13.3% experienced a near normal (6-7 days) wound healing process. Based on observations of all respondents in the control group, it was found that the perineal wound was still red, felt painful when cleaned and the stitches had not joined completely.

Based on bivariate analysis using the Mann-Whitney test, Asymp results were obtained. Sig. (2-tailed) 0.000 where this value is smaller than the significance level value of 0.05 (Asymp. Sig. (2-tailed) 0.001 <  $\alpha$  0.05). These results indicate that there is an influence from using boiled water from binahong leaves on the healing of perineal wounds in postpartum mothers with wounds of degrees I and II.

The binahong plant is a non-pharmacological therapy that can help the wound healing process because binahong contains flavonoids, alkaloids, allenolic acid, protein, saponins and ascorbic acid (Vitamin C) which can increase the body's resistance to infection, function in maintaining mucous membranes, and accelerate wound healing. and as an antioxidant. The flavonoid content in binahong leaves as antioxidants is that one sheet of binahong leaves weighs 12.5 grams and contains 0.14 mg of flavonoids and 0.53 mmol of flavonols. Ascorbic acid in binahong leaves is very important for activating the enzyme prolyl hydroxylase which supports the hydroxylation stage in collagen formation. With the presence of ascorbic acid, the collagen formed will be stronger and speed up wound healing. Meanwhile, alkaloid compounds function to inhibit the growth of gram-positive and gram-negative bacteria. Saponin compounds play a role in the digestive process by increasing the absorption of food substances (Hanum & Liesmayani, 2020).

This research is supported by research by Gusnimar et al. (2021) regarding "The Effect of Binahong Leaf Decoction Water in Accelerating Healing of Perineal Wounds During the Postpartum Period" at the Langsa City Health Center showed that in the treatment group the test results were 11.83 lower compared to the control group, namely 21.8 (p-value = 0.001) which shows that there is an effect of giving the decoction Binahong leaves for healing perineal wounds in postpartum mothers.

According to the researchers' assumptions, by looking at the results of using boiled water from binahong leaves in healing perineal wounds, respondents or postpartum mothers who used boiled water from binahong leaves experienced acceleration and good and fast wound healing, this ability cannot be separated from the active compound content contained in the leaves. Binahong is able to reduce pain and accelerate the healing of perineal wounds in postpartum mothers. Meanwhile, mothers who did not use boiled water from binahong leaves experienced poor wound healing. This can be seen from the imperfect union of the wound on day 7.

The researcher's recommendation for future researchers is that they are expected to use the True-Experiment research method (real research) so that we can know clearly that giving boiled water from binahong leaves can influence the wound healing process more quickly without the influence of other variables such as nutritional patterns that contain high levels of protein. and can play a major role in wound healing.

## CONCLUSION

The wound healing process in the control group showed that the lowest REEDA score was 1 with a percentage of 13.3% and the highest was 5 with a percentage of 13.3%. These results indicate a greater degree of tissue trauma and indication (poor healing). Meanwhile, in the intervention group, the highest result was 1 with a percentage of 6.7% and the lowest was 0 with a percentage of 93.3%, indicating that the trauma healing of the perineum was full (good healing) characterized by dry wounds, no redness, no swelling, tissue fused and painless.

There was a significant difference in wound healing in the control and intervention groups using the Mann-Whitney test, the Asymp results were obtained. Sig. (2-tailed) 0.000 which means  $<0.05$  or the data is not normally distributed.  $H_0$  is rejected, so it can be concluded that there is an effect of using boiled water from binahong leaves on the healing of perineal wounds in postpartum mothers with grade I and II wounds.

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## CONFLICT OF INTEREST

There is no conflict of interest in conducting this research.

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