

THE EFFECT OF BOILED BETEL LEAVES AND BINAHONG BOILED WATER ON PERINEUM WOUND HEALING ON POSTPARTUM

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ABSTRACT

Betel leaves (*Piperbetlelinn*) contain biochemical compounds that can kill bacteria and fungi and act as antioxidants to speed up the healing process. These substances include bethephenol, chavicol, sesquiterpene, hydroxivaikal, capitol, estrogen, eugenol, and carvarool. Binahong leaves are reported to contain active components of flavonoids, alkaloids, terpenoids, and saponins based on the results of research conducted. The active components of flavonoids work directly as antibiotics. The pharmacological properties of flavonoids include anti-inflammatory, analgesic, and antioxidant properties. The ascorbic acid contained in binahong can increase the body's defense against infection and help preserve mucous membranes. This research uses a quasi-experimental design with a post-test. The population in this study were postpartum mothers who gave birth between 0 and 7 days ago experiencing second-degree birth canal tears in the Karanganyar Community Health Center area. The sample for this study was 32 people, with one intervention group including 16 participants. The T-test using the Independent T-Test was used to analyze the data. After boiling the average perineal wound yield was 4.1250; The lowest and maximum levels of perineal injuries were 3 and 6 respectively. After consuming binahong boiled water, postpartum mothers in the Karanganyar Community Health Center area experienced an average of 2,750 perineal injuries, with 1 being the lowest and 4 being the highest. There was a difference in the effectiveness of drinking betel boiled water and binahong boiled water on the degree of perineal injury in postpartum women in the Karanganyar Community Health Center area after carrying out the Paired T-Test (p -value = 0.011). It is hoped that this research can help overcome postpartum mothers' complaints regarding perineal wounds.

Keywords: Betel, Binahong, Perineal Wound



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INTRODUCTION

The postpartum period or puerperium is the period starting from 1 hour of birth of the placenta to 6 weeks or around 42 days. These lacerations must be repaired carefully. Injuries to the birth canal can cause infection in the area between the vaginal opening and the anus, the outside of the genitals, vagina, and cervix, and usually, symptoms will arise such as pain and heat at the infected site, sometimes a painful feeling appears when urinating because it has spread to the urinary

tract and is often accompanied by fever (Lely, 2020).

According to the World Health Organization (WHO), every day in 2021 around 810 women died, and by the end of the year reaching 295,000 people, 94% of whom are in developing countries. (WHO, 2021). In 2021, the newborn mortality rate was around 18 deaths per 1,000 live births. The high maternal mortality rate (MMR) and infant mortality rate (IMR) are caused by complications during pregnancy and childbirth. Obstetric complications generally occur during labor,

which is short, namely around 8 hours. In 2020, there were 2.7 million cases of perineal laceration or rupture in mothers giving birth worldwide. This figure is estimated to reach 6.3 million in 2050. In America, 26 million mothers in labor experienced perineal lacerations, 40% of whom experienced perineal lacerations due to midwife negligence, and, this would result in costs of approximately 10 million dollars per year. In Australia, there are 20,000 women giving birth who experience perineal lacerations, while in Asia perineal lacerations are problems with longer wound healing in society, 50% of them occur in Asia in the world (Indrayani, 2020).

The number of maternal perineal infections from Indonesia's health profile in 2020-2021 saw a decrease from 4,226 to 4,221 maternal deaths in Indonesia based on reports. In 2022, the most common causes of maternal death were bleeding (1,280 cases), hypertension in pregnancy (1,066 cases), and infection (207 cases). 64.18 percent of maternal deaths (Hardana, 2020). MMR data in Central Java in 2021 reached 88.58 per 100 thousand live births, which data decreased compared to the previous year and even exceeded the SDG's target of 90 per 100 thousand live births. Meanwhile, data from the health profile of the city of Demak in 2021 showed 13 maternal deaths, the city of Demak experienced a decrease in the maternal mortality rate compared to the previous year (Prabowo, 2020). At the Karanganyar I Community Health Center, maternal deaths in 2021 were 1 maternal death, namely a pregnant woman with suspected heart disease.

The results of Widyastuti's research (2021) at the University of Muhammadiyah Malang, prove that scientifically the benefit of binahong is that it can treat wounds. Based on the results of research that has been carried out, it is known that binahong leaves contain active compounds of flavonoids, alkaloids, terpenoids, and saponins. Active flavonoid compounds act directly as antibiotics by interfering with the function of microorganisms such as bacteria and viruses. The pharmacological activity of flavonoids is as anti-

inflammatory, analgesic, and antioxidant, and in binahong, there is ascorbic acid which can increase the body's resistance to infection, function in maintaining mucous membranes, accelerate healing, and as an antioxidant which is important for activating the enzyme prolyl hydroxylase which supports collagen formation. , with the presence of ascorbic acid, the collagen formed accelerates wound healing (Heliman, 2020).

From the results of research by Maria Ulfa and Lely Candra (2021), data was obtained that in the treatment group, the majority of respondents (62.5%) recovered on the 5th day. Using betel leaves twice a day is intended so that perineal wounds come into contact with boiled betel leaf water more often. Betel leaves contain essential oils consisting of bethephenol, chavicol, sesquiterpene, hydroxivaikal, capitol, estrogen, eugenol, and carvacrol whereas the biochemical substances in betel leaves (Piperbetelinn) have the power to kill germs and fungi, and are also antioxidants that speed up the wound healing process (Lely, 2020).

Perineal wound care is one way to prevent birth canal wound infections. Perineal care consists of 2 techniques, namely pharmacological and non-pharmacological techniques (Sitanggang, 2021). Based on the treatment carried out at the Karanganyar Health Center, postpartum mothers or postpartum mothers use pharmacological techniques with betadine compresses, where some postpartum mothers experience delays during healing (Indrayani, 2020). This is the reason why midwives advise postpartum mothers to use boiled water from betel leaves and boiled water from binahong leaves as medicines that speed up the healing of perineal wounds (Indrayani, 2020). The dependent variable in this research is postpartum mothers with perineal wounds, namely postpartum mothers 0-7 days with a tear in the birth canal, while the independent variables in this study were drinking water boiled with betel leaves and drinking water boiled with binahong leaves.

Based on the initial survey conducted in the Karanganyar Community Health Center

area starting June-August 2022, it is known that the number of postpartum mothers with normal deliveries with perineal wounds was 120, in a survey conducted by 24 people, 6 of them knew about postpartum perineal care with boiled betel leaves and binahong leaves, 4 of them knew about perineal care with betel leaves and 4 people knew about treating the perineum using boiled water from binahong leaves and the other 10 postpartum mothers did not know at all about caring for the perineum either with boiled water from betel leaves or boiled binahong leaves. They only used plain water when doing perineal care.

Based on the results of the initial survey conducted, the author is interested in conducting research regarding. The effect of drinking boiled water betel leaves and binahong leaf water drink on the healing time of perineal wounds in postpartum mothers in the Karanganyar Community Health Center area

METHOD

This research is a quasi-experimental quantitative research with the research design used as a post-test design. The researchers divided into two groups, namely group one, post-partum mothers who were given boiled water from betel leaves and binahong leaves who were given the binahong leaf boiled drink intervention. Both groups will be measured using the REEDA scale to measure the level of wound healing in the perineum of postpartum mothers after the intervention. SOP for boiling binahong leaf drinks, SOP for boiling betel leaf drinks.

This research will be carried out in the working area of the Karanganyar Community Health Center in March-April 2023. Each group contains a minimum of 16 samples. The researcher chose to use 16 samples for each group with a total of two groups so that the total number of research subjects was 32 samples. The sampling technique uses accidental sampling.

The instruments include questionnaires, observation forms, other forms related to data recording, etc. 27 wound healing observation

examination sheets using the Reeda scale, Reeda scale assessment guide, SOP for boiled binahong leaf drinks, and SOP for boiled betel leaf drinks.

To determine the bivariate analysis of this research, the researcher carried out a normality test first. The normality test used was Shapiro Wilk. Because there were two groups of respondents. If the data is normally distributed (P value ≥ 0.05) then the bivariate test is the independent T-Test. If the data is not normally distributed (P value < 0.05) then the bivariate test uses the Mann-Whitney test.

RESULTS

Based on research that has been conducted on the effectiveness of wound healing after being given boiled water from betel leaves and binahong leaves to postpartum mothers in the Karanganyar Community Health Center area.

Table 1 Statistical Analysis of Healing of Perineal Wounds After the Intervention of Drinking Betel Leaf Boil in Perineal Wounds of Post-Partum Mothers in the Karanganyar Community Health Center Area 1

Characteristics of respondents	n	Min	Max	Mean	Std.Deviation
Wounds after boiling betel water	16	3	6	4,123	1.02470

Table 1 showed that the average perineal wound after betel decoction was 4.1250 with the lowest perineal wound healing rate being 3 and the highest being 6.

Table 2 Healing of Perineal Wounds After Giving Intervention Drinking Boiled Water from Binahong Leaves to Perineal Wounds of Post Partum Mothers in the Karanganyar Community Health Center Area

Characteristics of respondents	n	Min	Max	Mean	Std.Deviation
Perineal wounds after drinking boiled binahong water	16	1	4	2,75	0,85635

Table 2 showed that the average perineal wound for postpartum mothers in the Karanganyar Community Health Center area after drinking boiled binahong water was 2,750 with the lowest perineal wound healing rate being 1 and the highest being 4.

Table 3 Differences in the effectiveness of drinking boiled betel water and drinking boiled binahong water on the level of perineal wounds in post-partum mothers in the Karanganyar Community Health Center area

Characteristics of respondents	t	Df	P value
Perineal wounds after drinking boiled binahong water	5,056	15	0,011

Table 3 shows that after carrying out the Paired T-Test, a p-value of 0.011 is obtained, there is a difference in the effectiveness of drinking boiled betel water and drinking boiled binahong water on the rate of healing of perineal wounds in postpartum mothers in the Karanganyar Community Health Center area.

DISCUSSION

The average perineal wound after betel decoction was 4.1250 with the lowest perineal wound level being 3 and the highest being 6. Wounds can heal through the main process that occurs when the edges of the wound are brought together by sewing them. If the wound is stitched, the tissue is closed together and there is no space. Therefore minimal granulation tissue is required and little contraction plays a role. The second healing is through a secondary process, there is a tissue deficit which requires a long time (Thaddeus, 2020)

Scar maturation of granulation tissue is the most important contributing factor in the development of scar problems. After healing, this tissue is thicker than normal skin but not as thick as a freshly closed wound. Hair follicles and sebaceous or sweat glands no longer grow in scar tissue (Wahyuningsih, 2019). From the results of research by Maria Ulfa and Lely Candra (2019), data was obtained that in the

treatment group, most of the respondents (62.5%) recovered on the 5th day. Using betel leaves twice a day is intended so that perineal wounds come into contact with boiled betel leaf water more often. Betel leaves contain essential oils consisting of bethephenol, chavicol, sesquiterpene, hydroxivaikal, capitol, estrogen, eugenol, and carvacrol whereas the biochemical substances in betel leaves (*Piperbetlelinn*) have the power to kill germs and fungi, and are also antioxidants that speed up the wound healing process (Lely, 2020).

The research results showed that the average perineal injury rate for post-partum mothers in the Karanganyar Community Health Center area after drinking boiled binahong water was 2,750 with the lowest perineal injury rate being 1 and the highest being 4. Binahong is a medicinal plant that grows in the lowlands and highlands. Other names for Binahong are *Bassela rubra linn* (Latin), Heartleaf maderavine (English), and Deng san chi (Chinese). These vines need to be developed and researched further. Especially to reveal the efficacy of the active ingredients it contains. Various experiences in the bin along the plant community can be utilized to help the healing process of serious illnesses. The results of Widyastuti's research (2019) at the University of Muhammadiyah Malang, prove that scientifically the benefit of binahong is that it can treat wounds. Based on the results of research that has been carried out, it is known that binahong leaves contain active compounds of flavonoids, alkaloids, terpenoids, and saponins. Active flavonoid compounds act directly as antibiotics by interfering with the function of microorganisms such as bacteria and viruses. The pharmacological activity of flavonoids is as anti-inflammatory, analgesic, and antioxidant, and in binahong, there is ascorbic acid which can increase the body's resistance to infection, function in maintaining mucous membranes, accelerate healing, and as an antioxidant which is important for activating the prolyl hydroxylase enzyme which supports collagen formation, with the presence

of ascorbic acid, the collagen formed accelerates wound healing (Putri, 2021).

After carrying out the Paired T-Test, it was obtained that the p-value was 0.011, there was a difference in the effectiveness of drinking boiled betel water and drinking boiled binahong water on the level of perineal injuries for postpartum mothers in the Karanganyar Community Health Center area. In general, postpartum wound healing tends to be related to the process of returning the body to its pre-pregnancy condition and processes including those related to the process of uterine involution accompanied by the healing of wounds at the placental site (extensive wounds) including ischa and autolis. The stages of the wound healing process run overlapping, meaning that without having to wait for one stage to finish, the next stage has started. Previous research.

The average healing time for a perineal rupture with treatment using boiled binahong leaves was 6.33 days with a standard deviation of 0.724, where the minimum healing time was 5 days and the maximum was 7 days. The average healing time for perineal rupture with treatment using boiled betel leaf water was 8.27 days with a standard deviation of 0.704 where the minimum healing time was 7 days and the maximum was 9 days. The average difference in healing time for perineal rupture between those treated using boiled water from binahong leaves and those treated using boiled water from betel leaves was 1.933 days with a standard deviation of 0.704.

CONCLUSION

Drinking boiled betel water is effective on the level of perineal injuries for post-partum mothers in the Karanganyar Community Health Center area. Drinking boiled binahong water is effective in reducing the level of perineal injuries in post-partum mothers in the Karanganyar Community Health Center area. There is a difference in the effectiveness of drinking boiled betel water for 7 days and drinking boiled binahong water on the level 9 days of perineal injuries for post-partum

mothers in the Karanganyar Community Health Center area.

REFERENCE

- Anik K. Keefektifan Penyembuhan Luka Perineum Pada Ibu Nifas Menggunakan Daun Sirih. *J Ilmu Kesehatan* Volume 4 No.2, <http://jurnal.poltekkes-solo.ac.id/index.php/Int/article/view/141> (2020).
- Bari SA. *Buku Acuan Nasional Pelayanan Kesehatan Maternal Dan Neonatal*. Jakarta: YBP-SP, 2020.
- Cunningham G. *Obstetri Williams*. Jakarta: EGC, 2020.
- Hardana, Boga, Sibuea F dan wudiantini W. *Profil Kesehatan Indonesia Tahun 2019*. Jakarta: Kementrian Kesehatan RI, 2019.
- Herliman FY, Indrayani T, Suralaga C, et al. *Asian Research Midwifery and Basic Science Journal*. 2020; 85–95.
- Indrayani T, Solehah FM, Widowati R. Efektivitas Air Rebusan Daun Binahong Terhadap Penyembuhan Ruptur Perineum Pada Ibu Bersalin Di Puskesmas Menes Kabupaten Pandeglang. 2020; 3: 177–184.
- Kesehatan K. *Ibu, Pelayanan Kesehatan Kesehatan, Di Fasilitas Dasar Dan Rujukan*. 1st ed. Jakarta: Kementrian Kesehatan RI, 2020.
- Lely S, Kurniawati C. (The Differences Of The Using Of Betel Leaves To The Perineum Wound Recovery). 2020; 2: 227–231.
- Mardiana L. *Daun Ajaib Tumpas Penyakit*. Jakarta: PenebarSwadaya, 2018.
- Mochtar R. *Sinopsis Obstetri*. Jakarta: EGC, 2021.
- Permana A. Ragam Khasiat Tanaman Binahong menurut Guru Besar Farmasi ITB. (2019).
- Prabowo Y. *Profil Kesehatan Provinsi Jawa Tengah Tahun 2019*. Semarang, 2019.
- Prawirohardjo S. *Ilmu Kebidanan*. Jakarta: YBP-SP, 2021.
- Putri A. Berbagai Manfaat Daun Sirih Merah untuk Kesehatan. *Fakultas Kedokteran UNAIR* <http://ners.unair.ac.id/site/index.php/news-fkp-unair/30-lihat/871-berbagai-manfaat-daun-sirih-merah-untuk-kesehatan> (2021).
- Putri M, Manurung MH. Efektivitas Air Rebusan Daun Binahong (Anredera Cordifolia (Tenore) Steen) Terhadap Penyembuhan Luka Perineum Pada Ibu Nifas Di Klinik Murniati Kecamatan Kisaran Barat Tahun 2021. 2021; VII: 70–77.
- Sitanggang, Weny, dan Wanti D. Pengaruh Penggunaan Rebusan Air Daun Sirih Terhadap Lama Penyembuhan Luka Perineum Pada Ibu Postpartum. 2020; II: 169–173.
- Sulistiyowati A. *Buku Ajar Asuhan Kebidanan Pada Ibu Nifas*. Yogyakarta: Andi, 2020.
- Suseno M. *Sehat Dengan Daun*. Yogyakarta: Buku Pintar, 2020.
- Tjitrosomo G. *Morfologi Tumbuhan*. Jogyakarta: Gadjah Mada University press, 2025.

Varney H. *Buku Ajar Asuhan Kebidanan*. Jakarta: EGC, 2020.
Wahyuningsih HP. *Asuhan Kebidanan dan Menyusui*. Jakarta: Kementria Kesehatan RI, 2021..