



Literature Review: Utilization of Binahong Leaves and Red Betel Leaves for Healing Perineal Wounds

Yulina Dwi Hastuty¹, Mawar Ariska²

¹²Department of Midwifery, Poltekkes Kemenkes Medan, Jl. Jamin Ginting No.13,5, Lau Cih, Kota Medan, Sumatera Utara 20137, Indonesia

ARTICLE INFO	ABSTRACT
<p>Article history:</p> <p>Received March 11, 2022 Revised April 20, 2022 Accepted May 30, 2022</p> <hr/> <p>Keywords:</p> <p>Binahong Leaves Decoction Red Betel Leaves Perineal Wound</p>	<p>Perineal wounds is an injury to the perineum that occurs when the baby is born either spontaneously or using tools or procedures. Perineal wound care aims to prevent infection, increase comfort and prepare for healing. The use of traditional methods is still carried out by the Indonesian people in the treatment of perineal wounds by making antiseptic decoctions such as binahong leaves and red betel leaves. Several studies have stated that the active content in binahong leaves can accelerate the wound healing process. Likewise with betel leaf. However, it is not known which one is more effective between the two. This literature study aims to determine the effectiveness of binahong leaf decoction and red betel leaf decoction on the perineal wound healing process in postpartum mothers. Based on the data used to collect information, Mendelay, PubMed, Science Direct and Google Scholar with the keywords Binahong Leaf Perineal Wound Healing, Red Betel Leaf and Postpartum Perineal Wounds. The results showed that presenting red betel leaf was more effective for healing perineal wounds with binahong leaves. Perineal wound healing time using red betel leaf decoction is 4-5 days on average, while binahong leaves are 6-7 days on average.</p> <p style="text-align: right;"><i>This is an open access article under the CC BY-NC license.</i></p>



Corresponding Author:

Yulina Dwi Hastuty,
Department of Midwifery,
Poltekkes Kemenkes Medan,
Jl. Jamin Ginting No.13,5, Lau Cih, Kota Medan, Sumatera Utara 20137, Indonesia
Email: yulinadwihastuty@gmail.com

1. Introduction

Infection is one of the causes of maternal mortality where perineal tears are the cause. Perineal rupture is a wound in the perineal area that occurs due to natural tissue damage either due to the pressure of the fetal head or shoulders during the delivery process (Rukiah & Yulianti, 2017). This can occur when the baby is born either spontaneously or by using a tool or action for indications such as a large baby, a stiff perineum, an abnormally positioned delivery, a delivery that uses either forceps or a vacuum. .almost all first deliveries as well as in subsequent deliveries can experience perineal tears. Perineal wound healing time lasts about 7-10 days and no more than 14 days (Fatimah & Prasetya Lestari, 2019).

According to the World Health Organization (WHO), about 830 women die every day due to complications during pregnancy or childbirth. According to data from the Ministry of Health, the causes of maternal death in Indonesia are still dominated by three main factors, namely bleeding, hypertension in pregnancy and infection (Hanum & Liesmayani, 2019).

Improper perineal wound care can cause the perineal condition to become moist and support the proliferation of bacteria so that it can cause infection in the perineal wound. The emergence of infection in the perineum can spread to the urinary tract or even in the birth canal which is at risk of causing infectious complications in the birth canal (Divini et al., 2017). The purpose of perineal wound care is to prevent infection, increase comfort and accelerate healing. One method used is a bathseat, which is squatting or sitting, then washing the perineal scar with antiseptic liquid (Damarini et al., 2013). Treatment with antiseptic liquid which is still widely carried out by Indonesian people using traditional or non-pharmacological methods, including using boiled betel leaf and binahong leaves. Previous research has found that the substances contained in betel leaf can kill or inhibit the growth of microorganisms on living tissue such as the skin surface and inflammation in the form of chemical compounds used to eliminate inflammation, so that betel leaf can be used for the healing process of perineal wounds in postpartum mothers (Anggreiani & Lamdayani, 2018).

Another study found that binahong leaves contain several active compounds that act directly as antibiotics by interfering with the function of microorganisms such as bacteria and viruses. Binahong leaves contain active substances in the form of flavonoids. The pharmacological activity of flavonoids is as an anti-inflammatory, analgesic, and antioxidant, which is believed to be able to heal perineal wounds in postpartum mothers (Eviyanti, 2018). Several researchers have seen differences in the effectiveness of the two, therefore it is necessary to conduct a literature review to determine the extent of the effectiveness between binahong leaves and red betel leaves in healing perineal wounds.

2. Research Methods

This article uses a systematic literature search, with the method of collecting library data through searching the Mendelay, PubMed, Science Direct and Google Scholar databases. The article comes from Original Research, with the keywords :Binahong Leaves, Perineal Wound Healing, Red Bethel Leaves and Perineal Wound In Postpartum, which was published between 2016 and 2020.

The inclusion criteria in this literature study were articles originating from quantitative research results, published in the 2016 - 2020 timeframe, and fully accessible articles. while the exclusion criteria in this study were non-experimental research, not using binahong leaves and betel leaves in post partum care. After the articles are collected according to the keywords in the database, then the articles that do not meet the inclusion criteria are removed, then a screening is carried out to read all the content of the collected articles. Articles that do not have the same concept will not be analyzed in detail. All articles that are in accordance with the research concept will be poured into a study tracing table which shows the author's name, year and title of the article, research location, research object, research method, and p-value to

indicate how much influence or relationship the variables have independent of the dependent variable..

Furthermore, all articles that have gone through the selection stage are analyzed to determine the effect of each variable and see a comparison between these variables which is more effective as shown in the following chart.

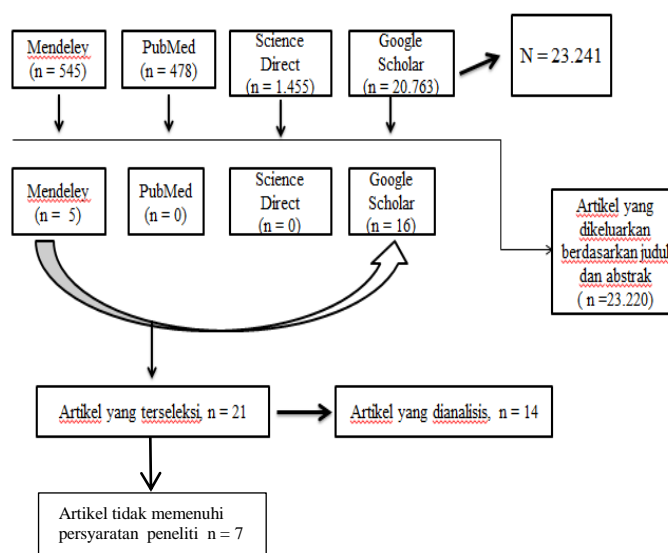


Figure 1. Article selection chart

3. Result and Discussion

Result

Based on the results of the analysis of 14 articles that meet the research criteria where most of the (12 articles) use a quasi-experimental design, the results are in the form of a summary which is included in the following table:

Table 1
Summary of the effectiveness of binahong leaves and red betel leaf in post partum care

Efek	Hasil Kajian
Binahong leaves against perineal wounds	Perineal wound healing in the group given binahong leaves was faster than the control group The duration of wound healing using binahong leaf decoction is an average of 6-7 days The group that did not use binahong leaves experienced longer healing over 7 days
Betel leaf for perineal wounds	Perineal wound healing in the betel leaf group was faster than the control group The duration of wound healing by using boiled betel leaf ranges from 4-5 days The group that did not use betel leaf experienced longer healing over 7 days
Comparison of binahong leaves and betel leaves on perineal wounds	The results showed that postpartum mothers who used red betel leaf boiled water healed their perineal wounds faster than those who used binahong leaf decoction. .the perineal wound that was given boiled red betel leaf healed on day 4, while in postpartum mothers who were given boiled water of binahong leaves the perineal wound healed on day 6.

Analysis

Effectiveness of Binahong Leaf Decoction on the Healing Process of Perineal Wounds in Postpartum Mothers

Based on the articles that have been analyzed, several research results were found which state that the decoction of binahong leaves is effective for healing perineal wounds in postpartum mothers. The duration of the perineal wound healing process using binahong leaves is an average of 6-7 days. (Surjantini & Siregar, 2018; Narsih et al., 2019; (Yuliana et al., 2019); Hanum & Liesmayani, 2019; (Herliman et al., 2020); Indrayani et al., 2020; Zulmi et al., 2019).

Binahong's ability to cure various types of diseases is closely related to the active compounds contained in it such as saponins, alkaloids and polyphenols. Saponins are known as surface active compounds that have soap-like properties. The liquefaction of saponin compounds will give better results as anti-bacterial when using polar solvents such as 70% content in binahong leaves, namely, flavonoids which are phenolic compounds consisting of 15 carbon atoms which are generally the largest in the plant world, these compounds are dyes. red, blue, purple are also yellow dyes found in plants. Oleanolic acid has anti-inflammatory properties and can reduce pain in wounds. Oleanolic acid which is an anti-inflammatory agent will inhibit swelling and prevent tissue damage in gout by inhibiting the reduction of nitric oxide. Proteins that have large molecular weights have the potential to become antigens that will stimulate the formation of antibodies. Then the antibody will activate complement. The protein is also able to stimulate the production of nitric oxide.

Ascorbic acid can increase the body's resistance to infection, function in the maintenance of mucous membranes, accelerate healing and as an antioxidant, ascorbic acid is important for activating the prolyl hydroxylase enzyme which supports the hydroxylase stage in the formation of collagen. Collagen which is formed in the presence of ascorbic acid, will be stronger so as to accelerate wound healing. flavonoids, alkaloids, terpenoids and saponins (Eviyanti, 2018).

Some literature states that binahong leaves contain various contents, namely saponins, flavonoids, alkaloids, polyphenols, ascorbic acid, oleanolic acid which have anti-bacterial properties where infection is one of the inhibitors of burn healing.

Effects of Decoction of Red Betel Leaf on the Healing Process of Perineal Wounds in Postpartum Mothers.

Based on the articles that have been analyzed, several research results have been found which state that red betel leaf decoction is effectively used for healing perineal wounds in postpartum mothers. The length of the perineal wound healing process using red betel leaf is 4-5 days on average. (Saridewi et al., 2018; Stianto et al., 2018; Siagian et al., 2020; Rostika et al., 2020; Siregar et al., 2020).

According to research, piper crocatum (red betel) leaves have an anti-septic effect twice as high as green betel leaves. The content of essential oil (Betlephenol) in red betel one-third consists of phenol and partly consists of kavikol which functions as an antiseptic which is closely related to inhibiting bacterial growth in wounds and has a bacteria-killing power five times that of ordinary phenol.

With its antiseptic properties, red betel is often also used to heal injured feet because it contains styptic to stop bleeding and vulnerary, which can heal wounds on the skin. It is also used by postpartum mothers to treat perineal wounds by rubbing, or even drinking. Betel also contains saponins which are able to stimulate the formation of collagen, which is a structural protein that plays a role in the wound healing process (Siagian et al., 2020)

The tannin content in piper crocatum leaves (red betel) is useful for reducing fluid secretion in the vagina so that the perineal wound becomes dry quickly. (Saridewi et al., 2018). In addition, red betel contains arecoline in all parts of the plant. Arecoline has benefits in stimulating the central nervous and thinking power, so as to increase peristalsis. Because of that, blood circulation in the wound area becomes smoother, so that there is more oxygen, and this can affect the wound to heal faster (Rostika et al., 2020)

Differences in Perineal Wound Healing Process in Postpartum Mothers Using Binahong Leaf Decoction And Red Betel Leaf Decoction.

Based on several articles that have been analyzed, the results show that both types of decoction have the same effectiveness in the healing process of perineal wounds in postpartum mothers, only with different healing times. Where the administration of red betel leaf decoction is faster than the administration of binahong leaf decoction, namely the healing time of perineal wounds with the use of red betel leaf stew on average heals on 4-5 days. Even in a study conducted by Siagian, et al, in 2020, the results obtained in the red betel leaf decoction group, the healing time was around 2-5 days. (Siagian et al., 2020).

Karimah et al, 2019, conducted a study that looked at the comparison between binahong leaves and red betel leaves. Postpartum mothers who used red betel leaf boiled water healed their perineal wounds on day 4, while postpartum mothers who used binahong leaf boiled water healed their perineal wounds on day 6. (Karimah et al., 2019).

This difference is possible from the mechanism of action of the substances contained between the two plants, when a wound occurs due to a spontaneous incision or tear in the perineum, there will be several effects such as loss of all or part of organ function, sympathetic stress response, bleeding and blood clotting, occurrence of bacterial contamination and cell death. Moreover, the wound occurs in the moist vaginal area, which if the wound care is not carried out properly and does not maintain cleanliness in the wound area, it will cause unpleasant odors, pain and can cause infection. So the euganol content in red betel is able to eradicate the candida albicans fungus, and with its analgesic properties it can relieve pain in wounds. Then the tannin content in red betel reduces the secretion of fluid in the vagina so it is not moist and can accelerate the dryness of the perineal wound. Betel leaf also contains Arecoline which is useful for stimulating the central nervous system to increase peristalsis so that blood circulation in the wound becomes smooth, oxygen becomes more abundant, thus affecting faster wound healing. (Rostika et al., 2020). Some of the substances contained in the betel leaf are not found in the binahong leaf, although in both leaves there are several substances that are almost the same.

The mechanism of action of these substances makes the difference so that the length of the healing process using betel leaf is faster than binahong leaves.

4. Conclusion

This literature review found that both binahong leaves and red betel leaf were effective in accelerating the healing of perineal wounds, the difference between the two lies in the length of healing days where perineal wounds treated with red betel leaf healed faster than perineal wounds treated with binahong leaves. It is necessary to conduct a more extensive and in-depth study regarding the factors that can cause the difference in the length of the healing day. Research Limitations is this literature review has several limitations or shortcomings,

where the researcher did not conduct a study on the quality of the study, the number of articles was not maximized because the articles accessed were only complete in text and the lack of articles from international journals.

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