

*THE EFFECT OF RED BETEL LEAF (Piper Crocatum) DECOCTION TOWARD ON
THE HEALING OF PERINEAL WOUNDS FOR POSTPARTUM MOTHERS IN THE
WORKING AREA OF GISTING PUBLIC HEALTH CENTER*

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ABSTRACT

The incidence of perineal rupture in Indonesia is 4-5%. The cause of death for postpartum women is perineal wound infection that occurs during the delivery process. Piper Crocatum is known to have ingredients that have antibiotic and antiseptic effects in the process of healing perineal wounds. The study aimed to determine the effect of red betel leaf (Piper Crocatum) decoction on the healing of perineal wounds in postpartum mothers in the Work Area of the the working area in Gisting Public Health Center 2022. The design in this research was a quasi-experiment with the Posttest Only Control Group Design approach. The research was conducted in September-October 2022 at the Gisting Public Health Center, Tanggamus Regency. The population in this study was postpartum mothers. The sample of this study was 32 respondents consisting of 16 respondents in the intervention group and 16 respondents in the control group using a purposive sampling technique. The instruments used were the SOP and the REEDA scale observation sheet. The data were analyzed using the Mann-Whitney test with a significance value of <0.05. The results of the univariate analysis in the intervention group obtained an average value of wound healing for 5.00 days and the control group for 6.63 days. With a significance value of 0.001, there is an effect of boiled red betel leaves (Piper Crocatum) on the healing of perineal wounds in postpartum mothers. It is recommended for postpartum mothers who treat perineal wounds with non-pharmacological techniques to use red betel leaf (piper crocatum) decoction to accelerate perineal wound healing.

Keywords : Perineum Wounds, Puerperal, Piper Crocatum

INTRODUCTION

Every mother who has finished giving birth must get services that are in accordance with the service standards for postpartum mothers. The standard of service for postpartum mothers is at least 3 (three) times, namely six hours after delivery to three days, on the fourth day until the 28th day, then on the 29th day until the 42nd day after the delivery period is over. The purpose of the postpartum examination is to monitor the health conditions of mothers who are in the puerperium after giving birth (Samura & Azrianti, 2021).

While receiving postpartum services, one of the things that must be monitored is the condition of the perineum due to rupture. Perineal rupture is a perineal wound due to a tear in the birth canal either due to spontaneous rupture or due to an episiotomy during the delivery of the fetus (Walyani E. S, 2015). Perineal tears often occur when the baby is born spontaneously or by using equipment or other actions. This tear occurs in the midline and usually will also expand if the process of removing the fetal head is too fast, so sometimes the process of removing the fetal head must also be done with an episiotomy (Samura & Azrianti, 2021).

According to the World Health Organization (WHO), most maternal deaths occur in developing countries compared to developed countries, namely 99%. The maternal mortality ratio in developing countries is 239 per 100,000 live births and 12 per 100,000 live births in developed countries. There are 2.7 million cases of perineal rupture in women giving birth, where this figure is expected to reach 6.3 million in 2050 (WHO, 2017). The prevalence of women giving birth who experience perineal rupture in Indonesia is in the age group of 25-30 years, which is 24%, while in women giving birth with ages 31-39 years, it is 62% (WHO, 2018).

The incidence of women giving birth who experience perineal tears in Indonesia is in the 25-30 year group, namely 24% and in the 32-39 year age group, 62%. This is reinforced by the results of a study from the West Java Research and Development Center (Puslitbang), which conducted research in several provinces in Indonesia and found that one in five birth mothers who experience perineal rupture will die with a proportion of 21.74% (Susilawati Sri et al, 2020). The cause of high MMR is bleeding and the causes of bleeding are uterine atony, perineal

rupture, and retained placenta (Ariani, 2018)

In Lampung province, cases of maternal death in 2020 have increased compared to 2019, from 110 cases to 115 cases. The causes of maternal death cases in Lampung Province in 2020 were caused by 44 cases of bleeding, 24 cases of hypertension, 2 cases of infection, system disturbances. blood circulation in 9 cases, metabolic disorders in 1 case and others in 35 cases (Lampung Provincial Health Office, 2020).

The direct cause of maternal deaths related to childbirth, especially postpartum hemorrhage, is the main cause, 41% of maternal deaths in Indonesia. The incidence of postpartum hemorrhage ranges from 5% to 15% where the frequency of postpartum hemorrhage according to the cause is uterine atony 50-60%, retained placenta 16-17%, retained placenta 23-24%, perineal rupture 4-5% and abnormalities blood 0.5-0.8% (Sigalingging Muslimah, 2018). Perineal rupture can cause infection if perineal care is not carried out properly characterized by symptoms of pain or pain in the perineal area. Efforts to accelerate the healing of perineal wounds can be carried out pharmacologically and non-pharmacologically. Pharmacological therapy uses antibiotics to treat perineal ruptures, but these drugs have side effects such as allergies, inhibiting the production of collagen which functions for wound healing (Nurrahmaton, 2019). One of the non-pharmacological therapies that can be given to accelerate perineal wound healing is red betel leaf (*piper crocatum*), aloe vera and calendula (Nuraini Indria, 2017).

Treatment of the perineum using red betel leaf (*piper crocatum*) is carried out by the community for generations, apart from the ease of obtaining it, the content of phytochemical compounds in red betel leaf (*piper crocatum*) can accelerate perineal wound healing (Kurniarum, et al 2015). The content of phytochemical compounds in *piper crocatum* are flavonoids, saponins, tannins and essential oils. In addition, there are chemical compounds in the *crocotum piper* including hydroxychavicol, cavicol, cavibetol, allylprocatechol, carvacol, eugenol, p-cymene, cineole, caryophyllene, estragol kadimen, terpenema, and phenylpropene. The chemical constituents of karvakol, eugenol and essential oils are useful for antiseptic and antibacterial properties. *Piper crocatum* has antiseptic properties twice as great as green betel leaf and its antibacterial properties can kill gram positive and gram negative bacteria.

Microorganisms that infect wounds will cause delayed wound healing through several different mechanisms. In addition, piper crocatum also contains flavonoids and tannins which have the ability to accelerate the epithelialization period of the wound area, so that it can accelerate wound healing (Hidayat Taufik, 2019).

Based on the results of the pre-survey data conducted by researchers at the Gisting Health Center on March 13, 2022, data were obtained from 14 normal birth mothers experiencing perineal lacerations as many as 9 people (64.3%). the results of interviews with postpartum mothers found that 9 postpartum mothers cleaned the perineal wound with clean water 2 times a day with the condition that the wound felt moist and healed for 10 days. Postpartum mothers do not yet know about the treatment of perineal wounds using red betel leaf decoction. The incidence of cases of perineal infection in the working area of the Gisting Public Health Center 2021 is 1 person.

Judging from the phenomenon that occurs to help prevent infection in postpartum mothers due to perineal wounds and considering the many benefits of Red Betel Leaf (piper crocatum), one of which is as a natural antibiotic and antiseptic and is a local plant that is found in abundance, especially in Gisting District, then researchers are interested in conducting research entitled "The Effect of Decoction of Red Betel Leaves (Piper Crocotum) on Perineal Wound Healing in Postpartum Mothers in the Work Area of Gisting Public Health Center 2022".

RESEARCH METHODOLOGY

The type of research used in this study is quantitative. This type of research is a type of research to get an accurate description of a problem characteristic that classifies a data and retrieves data related to numbers, whether it is obtained from measurement results or the value of a data that is obtained. The design used in This research is a quasi-experimental with the Posttest Only Control Group Design approach where in this study there are two study/case groups to be carried out, the treatment group and the control group.

The population in this study were all postpartum mothers who had normal births who experienced perineal lacerations in the Gisting Public Health Center from September to October.

There were 40 people with samples in the experimental and control groups each amounting to 16 people. the sampling technique used was purposive sampling. The independent variable in this study was giving red betel leaf decoction and the dependent variable was perineal wound healing. This research was conducted from September to October 2022 in the working area of the Gisting Public Health Center in 2022.

RESEARCH RESULT

Univariate analysis

a. Characteristics of Respondents

In this study, the average respondent's characteristics were 20-35 years old, namely 21 people (65.6%). Most of the respondents have high school education, namely as many as 25 people (78.1%). Regarding parity characteristics, the majority of respondents had two children, P2A0, namely 17 people (53.1%). In terms of job characteristics, it was found that most of the respondents were housewives, namely 18 people (56.3%).

a. Average Perineal Wound Healing

Group	N	Average Perineal Wound Healing (day)			
		Mean	Min	Max	Std. Deviasi
Intervention Group	16	5.00	4	6	0.516
Control Group	16	6.63	5	7	0.619

The average perineum wound healing in the intervention group was 5.00 days with fast wound healing for 4 days and slow wound healing for 6 days while in the control group the mean value was 6.63 days with fast wound healing for 5 days and slow wound healing for 7 days.

b. Result of Normality test used Shapiro-Wilk

Variabel REEDA scale	Df	Statistic	Nilai-Sig
Intervention	16	0,697	0.000
Control	16	0,648	0.000

The data distribution is said to be normal if the p value > 0.05. Table 4.3 shows that the p-value of the REEDA scale for intervention and REEDA scale for control is <0.05. This means that the data distribution is not normal. Due to the non-normal distribution of the data, this study used a non-parametric bivariate correlation test, namely the

Mann Whitney test.

Bivariate Analysis

The Effect of Decoction of Red Betel Leaves (*Piper Crocatum*) on Perineal Wound Healing in Postpartum Mothers in the Work Area of the Gisting Public Health Center 2022

Group	N	Mean Rank	P value
Intervention	16	9.25	0.001
Control	16	23.75	

The table above shows a p-value = 0.001 < 0.05, this statistically means that there is an effect of Red Betel Leaf Decoction (*Piper Crocatum*) on Perineal Wound Healing in Postpartum Mothers in the Work Area of the Gisting Public Health Center in 2022.

DISCUSSION

Univariate Analysis

a. Respondent Characteristics

Characteristics of the respondents, the average age of the respondents was in the range of 20-35 years, namely 21 people (65.6%). The age factor is one of the factors that can affect wound healing faster at a young age than older people. This is because the union of tissues in the skin of postpartum mothers who are no longer of productive age has decreased due to the age factor (Afandi et al, 2014).

In terms of educational characteristics, most of the respondents had high school education, namely 25 people (78.1%). The level of education influences the mother's perineal care, Postpartum mothers with a good level of education will have greater knowledge, when compared to postpartum mothers with low education. Mother's knowledge about postpartum care greatly determines the duration of perineal wound healing. If the mother's knowledge is lacking, especially about hygiene, the wound healing will take a long time (Novila Hardiana Utami, 2017).

Regarding parity characteristics, the majority of respondents had two children, P2A0, namely 17 people (53.1%). According to Winkjosastro (2018) parity is the number of children born to a mother, both alive and dead. Parity has an influence on the treatment of perineal suture wounds. Mothers with parity ≥ 3 have a high

level of knowledge in treating perineal suture wounds than mothers with parity < 3. This is because the mother or someone can remember her experiences during the previous postpartum period as a reference in taking better care of herself and her baby. So the number of children is very influential in gaining postpartum experience, especially in the process of healing perineal wounds. Mothers with high parity (often pregnant and giving birth) can make mothers experience problems with nutritional needs and nutritional status, so they can often affect wound healing (Rohmin et al, 2017).

In terms of job characteristics, it was found that most of the respondents were housewives, namely 18 people (56.3%). The level of employment affects income, which determines the quality and quantity of food consumed. The family's ability to buy food depends on the size of the income, families with limited income will most likely not be able to meet their food needs, especially to meet the body's nutritional needs (Ministry of Health RI, 2000 in Fatimah & Nuryaningsih, 2019). Heavy and excessive activity inhibits wound edge preparations, thereby interfering with the desired healing (Fatimah & Nuryaningsih, 2019).

a. Intervention Group

Based on the univariate analysis data in table 4.2, the average perineal wound healing in the intervention group was 5.00 days. This research is in line with Gultom O Futri (2018) the time needed for kinetic and metabolic processes in an effort to restore tissue integrity from the inflammatory, proliferation and maturation phases. Normally the healing time is around < 7 days postpartum.

The perineum is the part of the pelvic opening between the vulva and anus. The perineum consists of the urogenital muscles and fascia, as well as the pelvic diaphragm (Fatimah & Nuryaningsih, 2017). Perineal wounds are wounds caused by tears in the birth canal. Due to tearing or episiotomy during delivery of the fetus (Walyani E. S, 2015).

In the wound healing process there is an inflammatory phase which is a resistance to infection and a bridge between injured tissue and for the growth of new cells. So that if the perineal wound becomes infected because it is not treated properly, the inflammatory phase will elongate and inhibit the proliferative phase, so that the wound will heal longer (Kurniarum, 2016).

Another study conducted by (Rostika et al, 2020) entitled "The Effect of Giving Red Betel Leaf

Decoction on Perineal Wound Healing Time at the Aster Clinic, Karawang Regency, West Java". The results of this study show that the average perineal wound healing after being given red betel leaf decoction is 5.80 days. There is an effect of giving red betel leaf decoction to the healing time of perineal wounds at the Aster Clinic, Karawang Regency, West Java.

b. Control Group

Based on univariate analysis data in table 4.2, the average perineal wound healing in the control group was 6.63 days. This is in line with Siagian et al's research (2020) entitled "The Effect of Giving Red Betel Leaf Decoction (Piper Crocatum) on the Healing of Perineal Wounds in Postpartum Mothers in Tanjung Jati Village, Binjai District, Langkat Regency". The results of the study showed that the healing time in the control group was 5.28 ± 0.958 with a Min-Max of 3-6 days. Perineal lacerations that occur during vaginal delivery will require suturing. After sewing examination of the perineal wound needs to be done to assess the results of sutures that might cause problems during the postpartum period. The wound healing criterion used is the REEDA scale. The REEDA scale (Redness, Odema, Ecchymosis, Discharge, Approximation) is a wound healing assessment instrument that contains five factors, namely redness, edema, ecchymosis, discharge, and approximation of the two edges of the wound (Molazem et al, 2014). Wound healing is a quality of tissue life, this is also related to tissue regeneration (Kurniarum & Kurniawati, 2015).

Bivariate Analysis

The table above shows the effect of red betel leaf decoction (Piper Crocatum) on perineal wound healing in postpartum mothers with a significance value of $0.001 < 0.05$, so it can be concluded that there is an effect of red betel leaf decoction (piper crocatum) on perineal wound healing in postpartum mothers in Gisting Public Health Center 2022. This is in line with Siagian et al's research (2020) entitled "The Effect of Giving Red Betel Leaf Decoction (Piper Crocatum) on Perineal Wound Healing in Postpartum Mothers in Tanjung Jati Village, Binjai District, Langkat Regency". The results showed that there was a significant difference (p-value 0.001) in the healing time between the control group and the experimental group.

Caring for wounds is something that cannot be underestimated and cannot be separated from midwifery practice which includes cleaning

wounds, closing and dressing wounds, so that they can help the healing process. Wound healing is a quality of tissue life, this is also related to tissue regeneration (Kurniarum & Kurniawati, 2015).

Red Betel Leaf (Piper Crocatum) is a native Indonesian plant, Piper Crocotum is a plant that is known to grow in various regions in Indonesia, such as in the Yogyakarta Palace and on the eastern slopes of Merapi, as well as in Papua and West Java. Red betel can grow well in the shade and not too much sun. The content in the decoction of red betel leaves (piper crocatum) has the benefit of being antimicrobial as an antibiotic, is disinfectant and anti-fungal as a natural antiseptic drug so that the wound healing process is faster. It is recommended for postpartum mothers who experience perineal wounds to treat perineal wounds by one of the herbal ingredients is through using a decoction of red betel leaves (piper crocatum) in accelerating the healing of perineal wounds (Hidayat, 2019).

According to Anggeriani Rini's research (2018) in a multi-scientific health scientific journal, red betel leaf extract (piper crocatum) is known to have ingredients that have antiseptic and antibacterial effects. Piper Crocatum has antiseptic properties twice as high as green betel leaves. The chemical constituents in the piper crocatum extract include essential oils, hydroxychavicol, cavicol, cavibetol, allylprocatecol, carvacrol, eugenol, p-cymene, cineole, cariofelen, kadimen estragol, terpenes and phenylpropanate. Carvacrol is a disinfectant and anti-fungal as an antiseptic drug. Piper crocatum extract contains flavonoids, alkaloids, tannins and essential oils which are primarily antimicrobial.

CONCLUSION

1. The mean value of perineal wound healing in the intervention group was 5.91 days.
2. The average value of perineal wound healing in the control group is 6.82 days.
3. There is an effect of red betel leaf (piper crocatum) decoction on the healing of perineal wounds in postpartum mothers in the Working Area of the Gisting Public Health Center in 2022 with a p-value of 0.001.

SUGGESTION

1. For Postpartum Mothers

It is recommended for postpartum women who experience perineal wounds to treat perineal wounds with herbal ingredients, one of which is by using a decoction of red betel leaves (piper crocatum) to accelerate perineal wound healing. This new knowledge must be applied by postpartum mothers.

2. For the Gisting Public Health Center

It is recommended for the public health center that this information and input material can improve midwifery care services for postpartum mothers to utilize boiled red betel leaves (*piper crocatum*) decoction as a non-pharmacological therapy in accelerating the healing of perineal wounds in postpartum mothers.

3. For Aisyah University of Pringsewu

It is suggested that this research can increase students' knowledge and can be used as material and information in further research, so that they can conduct better and broader research related to the effect of red betel leaf (*piper crocatum*) decoction in accelerating the healing of perineal wounds in postpartum mothers.

4. For Further Researchers

It is suggested to future researchers that this research will become a reference material for future researchers to continue research related to the effect of red betel leaf (*piper crocatum*) decoction by connecting with the characteristics of the respondents and with different variables in the field of obstetrics and adding samples to the study.

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