

GIVING CINNAMOMMUM VERUM TO PAIN AND HEALING OF PERINEUM STITCH WOUNDS IN PUERPERAL MOTHER

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ABSTRAK : PEMBERIAN SEDUHAN *CINNAMOMMUM VERUM* TERHADAP NYERI DAN PENYEMBUHAN LUKA JAHITAN PERINEUM.

Latar Belakang: Luka jahitan perineum merupakan keadaan yang normal terjadi pada ibu saat proses persalinan baik karena robekan spontan maupun episiotomy yang selanjutnya dilakukan tindakan penjahitan. Beberapa Ibu nifas di Puskesmas Harapan Kabupaten Jayapura mengalami rupture mengatakan nyeri pada luka perineum dan mengalami ketidaknyamanan pada saat duduk dan berjalan. Ada beberapa metode yang dapat mempercepat penyembuhan luka jahitan yaitu dengan obat farmakologi dan obat herbal, misalnya *Cinnamommmum Verum* (kayu manis). *Cinnamommmum Verum* mengandung senyawa eugenol dan bersifat analgesik sehingga mampu mengurangi nyeri dan mempercepat proses penyembuhan luka jahitan.

Tujuan: Untuk mengetahui pengaruh pemberian seduhan *Cinnamommmum Verum* terhadap nyeri dan penyembuhan luka jahitan perineum.

Metode: Design pre eksperimental, dengan pendekatan *two grub pretest-posttest disign*, Populasi dalam penelitian ini adalah ibu nifas yang mengalami luka jahitan perineum, teknik sampling yang di gunakan adalah *purposive sampling* Sampel penelitian sebanyak 30 responden. Sampel dibagi dalam dua kelompok yaitu kelompok intervensi sebanyak 15 orang dan kelompok kontrol sebanyak 15 orang. Seduhan *Cinnamommmum Verum* diberikan sebanyak 1,5 gram dengan 120 ml air panas per hari selama 3 hari kemudian dievaluasi. Instrumen penelitian ini menggunakan lembar observasi NRS (*Numeric Rattting scale*). Dalam penelitian ini Analisis yang digunakan *Uji T-test* untuk melihat perbedaan yang signifikan terhadap perubahan nyeri luka jahitan perineum. Selain itu juga digunakan uji statistic *Mann Whitney U* untuk membandingkan antara kelompok intervensi dan kontrol.

Hasil: Uji statistic *Mann Whitney U* menunjukkan terdapat Pengaruh Pemberian *Cinnamommmum Verum* Terhadap Penyembuhan Luka Jahitan Perineum Pada Ibu Nifas dengan nilai $p\text{-value} = 0.011 < 0.05$. Hasil uji statistik dengan uji statistic *Paired Sampel T-test* menunjukkan terdapat Pengaruh Pemberian *Cinnamommmum Verum* Terhadap Nyeri Luka Jahitan Perineum Pada Ibu Nifas dengan nilai $p\text{-value} = 0.002 < 0.05$.

Kesimpulan: Terdapat pengaruh Pemberian *Cinnamommmum Verum* terhadap penurunan nyeri dan penyembuhan luka jahitan perineum pada ibu nifas di Puskesmas Harapan Kabupaten Jayapura. Disarankan kepada peneliti selanjutnya agar dapat melakukan penelitian sejenis dengan membandingkan dengan metode yang lain untuk membantu proses penyembuhan dan pengurangan rasa nyeri.

Kata Kunci: *Cinnamommmum Verum*, luka jahitan perineum, Nifas, Nyeri, Penyembuhan.

ABSTRACT

Background: Perineal suture wounds are a normal condition that occurs in the mother during the delivery process either due to spontaneous tearing or episiotomy which is subsequently done suturing. Some puerperal mothers at the Harapan Health Center, Jayapura Regency, experienced ruptures, saying pain in the perineal wounds and experiencing comfortable typing while sitting and walking. There are several methods that can accelerate the healing of suture wounds, namely with pharmacological drugs and herbal medicines, for example *Cinnamommmum Verum* (cinnamon). *Cinnamommmum Verum* contains eugenol compounds and is analgesic so that it can reduce pain and speed up the healing process of suture wounds.

Purpose: To find out the effect of giving *cinnamommmum verum* steeping on pain and healing of perineum stitch wounds.

Methods: Design pre experimental, with a two grub pretest-posttest approach disigned, The population in this study was puerperal mothers who had perineal suture wounds, the sampling technique used was purposive sampling The research sample was 30 respondents. The sample was divided into two groups, namely the intervention group of 15 people and the control group of 15 people. *Cinnamommmum Verum* steeping is given as much as 1.5 grams with 120 ml of hot water per day for 3 days then evaluated. This research instrument used an

NRS (Numeric Rating scale) observation sheet. In this study, the analysis used the T-test to see significant differences in changes in perineal suture wound pain. In addition, the Mann Whitney U statistical test was also used to compare between intervention and control groups.

Results: Mann Whitney U's statistical test showed that there was an effect of Cinnamomum Verum on the healing of perineal stitch wounds in Mrs. Nifas with a value of $p\text{-value} = 0.011 < 0.05$. The results of statistical tests with statistical test Paired T-test samples showed there was an effect of Cinnamomum Verum on Perineum Stitch Wound Pain in Mrs. Nifas with a value of $p\text{-value} = 0.002 < 0.05$.

Conclusion: There is an effect of Cinnamomum Verum administration on reducing pain and healing of perineal suture wounds in puskesmas Harapan, Jayapura Regency. It is suggested to the next researcher to be able to conduct similar research by combining with other methods to help the healing process and reduce pain.

Keywords: Cinnamomum Verum, Healing, Nifas, Pain, Perineal Stitch wound.

INTRODUCTION

Health problems in postpartum mothers have an impact that can extend to various aspects of life and become one of the parameters of the nation's progress in health services. Childbirth is a process of dispensing the results of conception that can live from the inside of the uterus through the vagina to the outside world (Winkjosastro, 2007)

In childbirth there is often a need for the perineum either due to spontaneous tearing or episiotomy. In Indonesia, perineal lacerations are experienced by 75% of mothers giving birth to pervaginam. In 2013 it was found that out of a total of 1951 spontaneous births of pervaginam, 57% of mothers got perineal sutures (28% due to episiotomy and 29% due to spontaneous tearing) (Depkes RI, 2013)

Perineal rupture is a condition that occurs quite often in mothers who are giving birth for the first time, giving birth to a large fetus, undergoing a long labor process, or needing maternity assistance, such as forceps or vacuum.

Wounds on the perineum due to rupture or laceration are areas that are not easy to keep clean and dry. If the wound healing process is not handled properly, it can cause imperfect healing of the ruptured wound. This can cause bleeding to not stop properly or cause infections that can eventually cause death in the mother (Bahiyatun, 2009)

Due to improper care of the perineum, it can result in the condition of the perineum affected by lochia and moisture is very supportive for the proliferation of bacteria that can cause infection in the perineum. The appearance of infection in the perineum can propagate in the bladder canal or in the birth canal which can result in the appearance of complications of bladder infection or infection in the birth canal, but it is very unlikely that if the perineal wound is treated properly Nurrahmaton (2018)

The pain felt by the puerperal mother in the perineum is caused by a suture wound at the time of

delivery due to the presence of severed tissue. The pain response in each individual is unique and relatively different. It is influenced by many things such as experiences, perceptions, and others. The pain felt by the puerperal mother will affect mobilization, sleep patterns, mood, the ability to defecate or bake, and daily activities. Pain in puerperal mothers can result in dangerous risks. Immediate mobilization in stages is very useful for the wound healing process and preventing infections as well as venous thrombosis (thrombophlebitis). Immediate mobilization in stages is very useful for the wound healing process and preventing infections as well as venous thrombosis (thrombophlebitis). The condition can result in the death of East, C. E., et al (2012) in Wulandari (2017) mentioned that there are several methods that can reduce pain and accelerate the healing of suture wounds.

In the study of Bahiyatun (2009) and Fitri (2013) stated that wound healing in the birth canal will heal in 7-10 days (Fast) if it is not accompanied by infection and more than 10 days (slow) or if accompanied by infection. The wound is declared healed when the wound is dry, there is no redness, no swelling, the tissues are fused, and it is painless when sitting and walking. Prolonged healing of perineal wounds will increase the risk of infection in the puerperium (Sarwinanti, 2007).

Treatments that can be given to overcome the wound healing process in damaged tissues are medicines, both synthesis drugs and natural remedies. Natural remedies have advantages such as a more affordable price, their presence is easier to obtain and find, can be concocted on their own, as well as lower side effects compared to synthetic drugs (Khasanah et al., 2011). In the present time, natural medicines are more in demand by the public because natural medicines are believed that the side effects are smaller and the effect of resistance that is shed is not there (Sari et al., 2019). In addition, to avoid side effects that are not expected by most

synthesis drugs sold in the market, an alternative treatment in the form of natural or herbal medicines is chosen (Rosiana et al., 2013). Cinnamon plant is one of the plants that has many secondary metabolite compounds such as flavonoids, tannins, saponins, alkaloids, phenols which have benefits as a wound medicine. Afrilia (2021)

The use of nonsteroidal anti-inflammatory drugs (NSAIDs) is a commonly used drug to reduce pain and accelerate the healing of suture wounds, but some of these drugs can cause side effects such as peptic ulcers. Several studies examined the effect of 3 herbal remedies for treating suture wounds, for example lavender, turmeric, olive oil, and Cinnamommmum Verum (cinnamon).

Cinnamommmum Verum is one of the many herbal spices that have long been used by people around the world. Invivo and invitro studies show that the content of active compounds in Cinnamommmum Verum has pharmacological effects, including as antifungal, anticardial, anticancer, anti-inflammatory, antiulser, antidiabetic, antiviral, antihypertensive, antioxidant, fat and cholesterol lowering. Side effects of Cinnamommmum Verum include swollen gums, skin irritation, dizziness, and causing an excessively large drop in blood sugar. However, such side effects can occur if Cinnamommmum Verum is consumed more than the recommended dosage (Larasati, E.J. 2021)

Data from Puskesmas Harapan Jayapura Regency from the visit of puerperal mothers in January to July 2020 as many as 30 puerperal mothers. The mother who had a rupture said pain in the perineal wound and experienced discomfort when sitting and walking.

Based on the description above Because of the large number of mothers who feel pain after suturing perineal tear wounds and Cinnamommmum Verum has many positive benefits, one of which is analgesic (reducing pain), researchers are interested in testing "The effect of Cinnamommmum Verum administration on pain and healing of perineal suture wounds in puerperal mothers"

RESEARCH METHODS

The design of this study is a pre-experimental design, with a two-group pre-post test design approach, namely by taking measurements before and after treatment. The goal is to analyze the effect of cinnamommmum verum decoction on pain and healing of perineal suture wounds in puerperal mothers. The research was conducted at the Harapan Health Center, Jayapura Regency in May –

September 2021. The population in this study was puerperal mothers who suffered perineal suture wounds as many as 30 subjects so that the entire population was sampled with a sampling technique was Saturated Sampling. The subjects were divided into two groups consisting of 15 intervention samples and 15 control samples. Cinnamommmum Verum steeping is given as much as 1.5 grams with 120 ml of hot water per day for 3 days then evaluated.

The data were collected using questionnaires to assess the level of pain performed within 24 hours of delivery and observation sheets to assess wound healing. The data were analyzed using the T-test to see significant differences in changes in perineal suture wound pain. In addition, the Mann Whitney U statistical test was also used to compare the intervention and control groups with a significant level of 95% ($\alpha = 0.05$).

RESEARCH RESULTS

Univariate Analysis

Table 1
Frequency Distribution Based on Sample Characteristics

Variabel	N	%
Age		
>20	9	30%
20-35	20	67%
>35	1	3%
Parity		
Primipara	18	60%
Multipara	12	40%
BBL		
2500-3500	20	67%
>3500	10	33%
Rupture		
Level 2	27	90%
Level 3	3	10%

Source: Primary Data 2021

Table 1 shows the distribution of respondents based on the age of the most respondents, namely respondents with an age of 20-35 years as many as 20 respondents (67%). Based on the parity of respondents with primipara as many as 18 respondents (60%). Weight of Babies Born weighing 2500-3500 grams as many as 20 babies (67%). The most birth canal tears or perineal ruptures in level 2 ruptures were 27 respondents (90%).

Table 2
Frequency Distribution Based on Healing Variables

		Healing	
		7-10 Days	>10 Days
Cinnamomum Verum	Intervention	12	3
	Control	5	10

Source: Primary Data 2021

Table 2 shows the distribution of respondents based on the variables of healing with a time of 7-10 days as many as 12 respondents and healing with a time of >10 days as many as 3 respondents from 15

intervention groups, while healing with a time of 7-10 days as many as 5 respondents and >10 days as many as 10 respondents from 15 control groups.

Table 3
Frequency Distribution Based on Pain Variables

Cinnamomum Verum			Pain Before Intervention			Pain After Intervention		
			1	2	3	0	1	2
			Intervention	15	3	8	4	5
Control	15	2	8	5	1	8	6	

Source: Primary Data 2021

Table 3 shows the distribution of respondents based on the variables of pain before the intervention with mild pain of 3 respondents, moderate pain of 8 respondents and controlled severe pain of 4 respondents. Meanwhile, the level of pain after the

intervention with no pain was 5 respondents, mild pain was 10 respondents and moderate pain was 0 respondents from 15 respondents of the intervention group.

Bivariate Analysis

Table 4
The Effect of Cinnamomum Verum Administration on The Healing of Perineal Suture Wounds in Puskesmas Harapan

Cinnamomum Verum	Healing		mean Rank	P-Value
	7-10 Days	>10 DAys		
1	12	3	12,41	0,011
2	5	10	19,54	

Source: Primary Data 2021

Based on Table 4, it shows the distribution of respondents based on healing with a time of 7-10 days as many as 12 respondents and healing with a time of >10 days as many as 3 respondents from 15 respondents of the intervention group, while healing with a time of 7-10 days as many as 5 respondents and >10 days as many as 10 respondents from 15 respondents of the control group, while healing with a time of 7-10 days as many as 5 respondents and >10 days as many as 10 respondents from 15

respondents of the control group. The mean healing rank value of the intervention group was 12.41 while the mean rank value of the control group was 19.54, which means that wound healing in the intervention group was faster than in the control group. The results of statistical tests with the Mann Whitney U statistical test showed that there was an Effect of Cinnamomum Verum Administration on the Healing of Perineal Suture Wounds in Puerperal Mothers with a p-value = 0.011<0.05.

Table 5
Effect of Cinnamomum Verum Administration on Perineal Suture Wound Pain in Puskesmas Harapan

<i>Cinnamomum Verum</i>	Mean	N	P-Value
Pain (Pre-test)	2,13	30	0,002
Pain (Post-test)	1,00	30	

Source, Primary Data 2021

Based on Table 5 shows the distribution of respondents based on the level of pain before being given *Cinnamomum Verum* with a mean value of 2.13 while the level of pain after being given *Cinnamomum Verum* the mean value becomes 1.00 which means that there is a decrease in pain after being given *Cinnamomum Verum*. The results of statistical tests with the T-test Paired Sample statistical test showed that there was an Effect of *Cinnamomum Verum* Administration on Perineal Suture Wound Pain in Puerperal Mothers with a **p-value of =0.002<0.05**.

DISCUSSION

The Hardening of *Cinnamomum Verum* Administration against Healing Perineal Suture Wounds in Puerperal Mothers

Based on Table 4, the results of the analysis using the Mann Whitney U statistical test showed the Effect of *Cinnamomum Verum* Administration on the Healing of Perineal Suture Wounds in Postpartum Mothers with a p-value of = 0.011 which can be concluded that there is a Grumbling of *Cinnamomum Verum* Administration on the Healing of Perineal Suture Wounds in Puskesmas Harapan, Jayapura Regency.

The results of this study are in line with the research (Hartini, 2020) that in this study researchers used the T-test. The results of the study The results of the statistical test obtained a significant value of 0.000 ($p<0.05$) meaning that there is an influence of cinnamon decoction on the healing of perineal wounds in puerperal mothers.

Perineal wounds are wounds due to tearing of the birth canal either due to rupture or due to episiotomy at the time of giving birth to the fetus. A perineal rupture is a tear that occurs in the perineum during labor. A birth canal tear is an irregular tissue wound or tear (Elisabeth, 2015).

The wound healing process that occurs in tissue damage can be divided into four phases, namely hemostasis, inflammation, proliferation, and remodelling phase (Septia, 2021). The stage of hemostasis begins after the presence of wounds. Temporary reflex vasoconstriction can reduce or even stop the amount of bleeding. On the 1st to the 4th day after a wound occurs, the healing process enters an inflammatory phase characterized by the presence of PMN leukocytes mainly neutrophils and macrophages. The inflammatory phase occurs can

last up to 4 to 6 days (Velnar et al., 2009). Leukocytes enter the wound area within 24 –48 hours and a very fast cell response occurs (Gonzalez et al., 2016). The proliferation phase contains fibroblast cells that will proliferate in synthesizing collagen fibers, the formation of new blood vessels (angiogenesis), reconstruction of new tissues, and reduced inflammatory signs (Dewi, 2012). As the last phase of wound healing, the remodelling phase is responsible for the development of new epithelium and the formation of scar tissue. This phase can last up to 1 or 2 years or even more over a long period of time (Gonzalez et al., 2016).

Many factors affect the healing of perineal wounds include early mobilization, hygiene vulva, wound area, age, vascularity, stressors and also nutrition. The wound is said to heal if within 1 week the condition of the wound is dry, closes and there are no signs of infection (Mochtar, 2002).

Perineal wound healing is the beginning of the improvement of the perineal wound with the formation of new tissue covering the perineal wound within a period of 6-7 days post partum.

The wound can heal through the primary process (primary intention) that occurs when the edges of the wound are held together (approximated) by suturing it. If the wound is sutured, there is a closure of the joined tissues and no free space occurs. Therefore, it takes minimal granulation tissue and contractions play a slight role. The second healing is through a secondary process (secondary intention) there is a network deficit that takes a longer time (Boyle, 2008).

East, C, E, et al (2017) in Wulandari (2017) mentioned that there are several methods that can reduce pain and accelerate the healing of suture wounds. The use of anti-inflammatory steroid drugs (NSAIDs) is a commonly used drug to reduce pain and accelerate the healing of suture wounds. Some studies have also examined the effect of herbal remedies for treating suture wounds, for example *Cinnamomum Verum* (Cinnamon).

Cinnamomum Verum has an essential oil content of 9.5%, with the active compound eugenol 59.56%. Eugenol compounds have pharmacological activities as analgesics, anti-inflammatory, antimicrobial, antiviral, 62 antifungal, antiseptic, antispasmodic, antiemetic, stimulant, local anesthetic so that this compound is widely used in the pharmaceutical industry. Likewise with one of the

derivatives of eugenol compounds, namely isoeugenol which can be used as raw material for antiseptic and analgesic drugs (Wulandari, E.T., 2017).

In the book *Medicinal Plants & Their Properties* (Hariana, 2014) cinnamon therapy can be processed by brewing 1.5g cinnamon bark powder with one cup of hot water for one use. Drink 60 brewed water once a day at the same dosage.

Evaluation of the ulcer is indispensable to know the extent of the actual condition of the wound experienced and assess the extent of the improvement that has occurred from the therapy provided. Wound assessment aims to provide basic information that can be in the form of wound measurements, visual images of wounds, and assessing other aspects that exist in the wound such as the basic tissue of the wound, the edges of the wound, the attributes of the wound and signs of infection (Suriadi, 2015). The assessment of the wound can be done during the first visit or the first time the wound occurs, which is then carried out an evaluation of one week or according to the state of the wound.

Some of these theories strengthen researchers to assume that the administration of *Cinnamomum Verum* has an effect on the healing of perineal suture wounds in puerperal mothers because it has a variety of ingredients that are good for healing perineal suture wounds, so that puerperal mothers who have perineal suture wounds will experience healing and puerperal mothers are not anxious and afraid of the state of perineal suture wounds, in addition to consumption of analgesic pharmacology, antibiotics, the consumption of cinnamon decoction can accelerate the healing of perineal suture wounds.

In this study, it was found that the healing of perineal suture wounds in the intervention group was faster than in the control group. However, there are also puerperal mothers who are given Cinnamon Decoction but do not experience timely healing, because mothers do not pay attention to vulva hygiene, for example pads / internals that are not immediately replaced when feeling moist.

The Severity of *Cinnamomum Verum* Administration against Perineal Suture Wound Pain in Puerperal Mothers

Based on Table 5, the results of statistical tests using the Paired Sample T-test showed the Effect of *Cinnamomum Verum* Administration on Perineal Suture Wound Pain in Puskesmas In Puskesmas Harapan, Jayapura Regency.

In line with the research conducted by Romadhon et al, 2021 with the title Giving cinnamon extract to perineal wound pain in postpartum mothers, the results of the study showed the average maternal pain before being given cinnamon was 6.433 with maximum and minimum values of 9.0 and 4.0, the average pain after being given cinnamon was 0.267 with maximum and minimum values of 1.0 and 0.0. The results of the dependent T test were obtained p-value of $0.000 < 0.05$. The conclusion of this study is the effect of cinnamon administration on perineal wound pain in post partum mothers in PMB Gedong Air Village Working Area Bandar Lampung in 2020.

In general, pain is defined as an unpleasant condition due to physical stimulation and from nerve fibers in the body to the brain and followed by physical, physiological and emotional reactions. Every mother who has undergone the labor process by getting a perineal wound will feel pain, the pain felt in every mother with a perineal wound causes unpleasant impacts such as pain and fear of moving so that many mothers with perineal wounds rarely want to move postpartum so that it can cause many problems including uterine sub-involution, uneven lochea production, and postpartum hemorrhage. Maternity mothers with perineal wounds will experience pain and discomfort. As for the definition of Kozier and Erb, pain is introduced as an emotional experience whose management is not only in physical management, but it is also important to carry out psychological manipulations (actions) to overcome pain (Utami, 2016).

One of the factors affecting the excitatory pain threshold is age. The older a person is, the higher the excitatory threshold of pain than in people who are younger. In puerperal mothers with older age who experience perineal tears, the excitatory threshold of pain will be higher than in postpartum mothers with a younger age (Mulati, 2017). Age has an important role in perceiving the intensity of pain. The older a person is, the more complex it will be in perceiving the pain.

The onset of pain is closely related to receptors and the presence of stimuli. The pain receptor in question is a nociceptor. Pain receptors can provide a response due to the presence of stimuli. Such stimuli can be chemical, thermal, or mechanical. Stimulation by chemical substances such as histamine and prostaglandins, or stimulation that is released if there is damage to the tissues (Ariani, et al 2022). The pain caused by the perineal wound felt by each puerperal mother is different, especially in 2 hours post partum, it is a burden experienced by the mother. Therefore, as health

workers, we can distinguish or classify each pain felt by the mother, making it easier to provide proper care to the puerperal mother. Ramadan, Citra Shauma (2021).

Some of these theories strengthen researchers to assume that the administration of Cinnamomum Verum affects perineal suture wound pain in puerperal mothers because it has a variety of ingredients that are good for treating perineal suture wound pain, so that puerperal mothers are disturbed, not anxious and afraid of the state of the perineal suture wound. In addition to the consumption of analgesic pharmacology, antibiotics, the consumption of Cinnamomum Verum steeping can accelerate can overcome the pain of perineal suture wounds.

In this study, the level of pain was obtained before being given Cinnamomum Verum with a mean value of 2.13 while the level of pain after being given Cinnamomum Verum the mean value became 1.00 which means that there is a decrease in pain after being given Cinnamomum Verum.

CONCLUSION

The level of pain before being given Cinnamomum Verum with a mean value of 2.13 while the level of pain after being given Cinnamomum Verum the mean value becomes 1.00 which means there is a decrease in pain. And the average perineal suture wound healing from the intervention group was 7-10 days while the control group averaged >10 days. So it can be concluded that there is an influence of Cinnamomum Verum administration on reducing pain and healing of perineal suture wounds in puskesmas Harapan, Jayapura Regency.

SUGGESTION

It is hoped that subsequent researchers will be able to conduct similar studies by combining with other methods to help the healing process and reduce pain.

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