

Effectiveness Of Sidaguri Extract (*Sida Rhombifolia*) On Postpartum Perineum Wound Healing

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Abstract.

Perineal trauma which is a common complication that occurs after childbirth is in 55%-85% of vaginal births. Infection in the postpartum period if not treated properly will be a complication of 1% - 4%. So it is very important in providing care for perineal tears in postpartum mothers, the purpose of this study was to see the Effectiveness of Sidaguri Extract (*Sida Rhombifolia*) Against Perineal Wound Healing in Postpartum. The research method used a True Experimental design with a Control Group. This research was carried out at the UPTD Puskesmas Watampone Kab. Bone. The sample of this study was postpartum mothers who came to visit and received postpartum services from June 29 - August 29, sampling using an accidental sampling technique obtained 24 samples, and data analysis using the Mann-Whitney U test. The results of the application of *Sida Rhombifolia* extract on postpartum maternal perineal wounds showed a significant p-value (0.00) which means that *Sida Rhombifolia* extract was able to accelerate the healing of perineal tears. So *Sida Rhombifolia* extract can be an alternative in providing care, prevention, and accelerating the healing of perineal tears in postpartum mothers.

Keywords: Extract, *Sida Rhombifolia* and postpartum.

I. INTRODUCTION

Perineal trauma which is a common complication that occurs after childbirth is in 55%-85% of vaginal births. Complications of perineal trauma include pain, infection, and perineal injury. Infection is a contributor to postpartum maternal mortality and morbidity worldwide, every woman dies from infection, and an estimated 50 women experience severe infections every day. Infection in the postpartum period is a common problem, but many of these events occur after the mother leaves the health facility. Infection in the postpartum period if not treated properly will be a complication of 1% - 4% of the vagina, and 5% - 20% of cesarean deliveries.[1] Many actions are taken to prevent and treat postpartum infections such as perineal care, vulvar hygiene, vaginal toilets, and antibiotics. However, the incidence of infection is still high, especially after 10 days postpartum because it has shown the emergence of antimicrobial resistance which is very dangerous for the continuation of routine use of antibiotics, because of the resistance mechanism developed by pathogenic bacteria, so it is important to explore other options to treat infections caused by pathogens. caused by the pathogen.

[2] Species of *Sida* are widely accepted as medicinal plants throughout the world because of their therapeutic effect which is very beneficial among *Sida* species namely *Sida Rhombifolia* which is used to cure fever, heart disease, burning sensation, and all kinds of inflammations. This plant also has antibacterial, anti-inflammatory, antipyretic, anti-asthmatic, hypotensive, free radical, anti-cancer, antimalarial, and cytotoxic effects.[3]–[6] The development of science has developed a variety of extracts that have been synthesized from various plants ranging from primitive forms to angiosperms and have been widely used in various physical, ch, chemical, and biological properties. So the specific purpose of this study was to see the effect of rhombifolia sida extract on perineal wound healing. A study of *Sida Rhombifolia* leaf extract on wound healing was carried out (Kustianingrum et al, 2021) where hydrogel plaster from sidaguri leaf extract (*Sida Rhombifolia*) accelerated the healing of gangrene wounds in people with diabetes mellitus where 45% *Sida Rhombifolia* extract had high antibacterial activity by providing healing. more effective wound[7], [8] This study is expected to be an alternative treatment for perineal wounds to prevent and treat perineal wound infections in postpartum mothers to improve and accelerate the healing of perineal tears.

II. METHODS

The research method I used is a True Experimental Design with a Control Group. Where postpartum with vaginal delivery criteria with a perineal tear was divided into 2 groups, namely the intervention group which was given Sida Rhombifolia extract, and the control group which was not given intervention. This research was carried out at the UPTD Puskesmas Watampone Kab. Bone. The sample of this study were postpartum mothers who came to visit and received postpartum services from June 29 to August 29, sampling with accidental sampling technique obtained 24 samples which were divided into two groups, namely 12 postpartum mothers who were given intervention with Sida Rhombifolia extract and 12 postpartum mothers who were not given Sida Rhombifolia extract where the control group and intervention group were then measured perineal wound healing using Perineal wound healing observation sheet saw changes in ecchymosis, erythema, and edema. Healing a perineal tear on Sida Rhombifolia extract given Sida Rhombifolia extract making Sida Rhombifolia extract by collecting looking for plants Sida Rhombifolia extract getting 1000 grams then cleaning, dried under the sun by coating a black cloth after drying in a blender then the fine powder was obtained and then macerated with ethanol solution for 3x24 with a ratio of 1: 10 carried out by distillation to obtain Sida Rhombifolia extract. The extract which was sprayed on the perineal wound of the postpartum mother was given Sida Rhombifolia extract by giving 3 times a day in the morning (07.00-08.00) and afternoon (15.00-16.00) and evening (20.00-21.00), the intervention was carried out on the first day until the second day seven.

So that the research by dance with the objectives, it is necessary to have inclusion, exclusion, and withdrawal criteria

Inclusion criteria:

1. Primiparous and multiparous mothers
2. Mother's normal postpartum day 1

Exclusion criteria:

1. The mother who refuses to be a respondent
2. The mother smokes and consumes alcohol
3. Unhealthy maternal condition in emergency cases

Withdrawal Criteria

1. Moving house and hard to reach
2. Not willing to continue to be a sample
3. Postpartum stress occurs
4. Allergy

The observation sheet is an instrument used to determine the implementation of rhombifolia sida extract on perineal wound healing. Data processing is done manually (by filling in the observation format that has been provided) then using the SPSS computer program with the following stages: (1) Editing is done after the respondent meets the specified number and all data is obtained from each postpartum mother. (2) Coding is coding made according to the categorization of the independent and dependent variables on the operational definition. (3) Data entry is the activity of entering data that has been collected into a master table or computer-based data, then making a simple frequency distribution or making a contingency table. (4) perform analysis, especially for research data will use applied statistics by using the SPSS application that is tailored to the purpose to be analyzed. (5) Data cleaning (Cleaning). The analysis used in this research is univariate and bivariate. Univariate analysis was used to identify rhombifolia sida extract on the healing of perineal wounds in the intervention group, and identification of rhombifolia sida extract in the control group. In addition, the researchers also included a descriptive description of the respondent's characteristics, namely age, education, occupation, and the number of children to support the existing data. Bivariate analysis was carried out to determine whether there was a difference between sida rhombifolia extract on perineal wound healing that was not given an intervention by looking at the effectiveness of sida rhombifolia extract on perineal wound healing by looking at changes in ecchymosis, erythema, and edema. A statistical test that can be used Mann – Whitney U

III. RESULTS AND DISCUSSION

RESULTS

1. Univariate Analysis

Table 1. Distribution of respondent characteristics based on age, education, occupation, parity, BMI, mobilization, antibiotic consumption, and nutrition.

Category	Control		Intervention Total			
	f	%	f	%	f	%
Age						
20 - 35	12	100	10	83.33	22	91.66
>35	0	0	2	16.66	2	8.33
Education						
Low (SD and SMP)	3	25	5	41.66	8	33.33
High (high school and university)	9	75	7	58.33	16	66.66
Work						
Doesn't work	6	50	7	58.33	13	54.16
work	6	50	5	41.66	11	45.83
parity						
Primipara	2	16.66	1	8.33	3	12.5
Multipara	10	83.33	11	91.66	21	87.5
Type of tear						
Degree 1	9	75	8	66.66	17	70.83
Degree 2	3	25	4	33.33	7	29.16
BMI (Body Mass Index)						
Normal	12	100	12	100	24	100
Not	0	0	0	0	0	0
Mobility						
<7 hours	12	100	12	100	24	100
>7 hours	0	0	0	0	0	0
Take antibiotics						
Yes	12	100	9	75	21	87.5
Not	0	0	3	25	3	12.5
Nutrition						
Well	12	100	12	100	24	100
not enough	0	0	0	0	0	0

The data above shows that the comparison between the control group and the age group related to age was 16.66% in the intervention group with age > 35, for the use of antibiotics there was 25% of the intervention sample did not take antibiotics while for education, work, parity, type of tear, BMI (Body Mass Index), mobility, and nutrition of the average sample.

Table 2. Distribution of perineal wound healing in postpartum mothers who were given leaf extract of sida rhombifolia extract and those who were not given sida rhombifolia extract)

Perineal wound healing category	f	%
Get it	11	45.83
Normal	4	16.66
Slow	9	37.5
Total	24	100

The data above shows that the wound healing categories of the two samples are fast 45.83%, normal 16.66%, and slow 37.5%.



Fig 1. Healing of postpartum maternal perineal wounds to the administration of sidaguri extract (sida rhombifolia) from day 3 to day 14

The chart above shows that wound healing for postpartum mothers who were given sidaguri extract (sida rhombifolia) experienced the fastest wound healing on the 5th day postpartum and the latest on the 7th postpartum day, while for postpartum mothers who were not given sidaguri extract (sida rhombifolia) the fastest wound healing on the 7th day and the latest on the 14th day postpartum mothers.

2. Bivariate Analysis

Table 4. The effectiveness of sidaguri extract (sida rhombifolia) on the healing of postpartum maternal perineal wounds

The effectiveness of sidaguri (sida rhombifolia)	Perineal Wound Healing						P-value
	Fast <6 days		Normal 7-8 days		Slow >8		
	f	%	f	%	f	%	
Control (not given)	0	0	3	25	9	75	0.00
Intervention (given)	11	91.66	1	8.33	0	0	
Total	11	45.83	4	16.66	9	37.5	

The results of Mann-Whitney U data processing showed that the P-value (0.00) which means that there is an effect of giving sidaguri extract (sida rhombifolia) on the healing of postpartum maternal perineal wounds

Table 5. Distribution of differences in the effectiveness of sidaguri extract (sida rhombifolia) on the healing of postpartum maternal perineal wounds in the group given sidaguri extract (sida rhombifolia) and those not given sidaguri extract (sida rhombifolia)

Group	f	mean	SD	P-Value
Not given sidaguri extract (sida rhombifolia)	12	18.38	0.45227	0.00
Given extract sidaguri (sida rhombifolia)	12	6.63	0.28868	

The data above shows that the difference in the average wound healing between the two groups Not given sidaguri extract (sida rhombifolia) was 18.38 days while for the group given sidaguri extract (sida rhombifolia) healing was 6.63 days

DISCUSSION

Postpartum is a period of body recovery in pregnant women which is much influenced by physical and psychological, healing in postpartum mothers can be done in various ways such as postpartum massage, breast massage, and exercise for pregnant women also has an indirect effect on wound healing but does not have a direct effect. on wound healing.[9]–[11]Perineal wound healing in postpartum mothers is a process or method of healing from wounds caused by damage to perineal tissue components where in the event there is

damaged or missing tissue. The process of wound healing in the perineum due to birth trauma or due to episiotomy takes time in the recovery process. The healing process of the perineal sutures for postpartum mothers is normally on the 7th day with indicators of wound healing if it is not red, the wound is closed, dry, and does not ooze pus and there is no infection in the perineal wound with the criteria of normal time if it heals 7 days and abnormal time if it heals >7 days. Perineal injuries that occur in postpartum mothers are one of the obstacles for postpartum mothers in carrying out their activities in caring for their babies, The wound healing process starts from the inflammatory phase, the proliferative phase, and the remodeling phase. If care is not given to the perineal wound, it will result in prolonged wound healing or even infection in the postpartum mother. The incidence of perineal trauma or perineal tear has a major influence on the condition of the mother after giving birth. Wiseman O et al (2018) revealed that 76.8% vaginal births experienced second-degree perineal trauma where the incidence of infection was 1.9% where in this incident it was because postpartum mothers were dependent on health workers that it affected the incidence of infection. If care is not given to the perineal wound, it will result in prolonged wound healing or even infection in the postpartum mother.

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The results of the Mann-Whitney test in this study showed that the administration of sidaguri extract (*Sida rhombifolia*) had a significant effect on the healing of perineal tears with a sing value (0.00).[2] Many studies have been conducted by other researchers related to perineal wound healing, such as the study conducted by Yuliana (2019) which saw the effect the effectiveness of giving bin along leaves (*Anredera cordifolia* (tenore steen)) on perineal wound healing from 38 samples 9 people experienced fast healing and 29 people healing normal wounds.[12]This research on binohang leaves is also in line with research conducted by Surjantini (2018) where from 20 samples, 6 people experienced rapid healing of lacerations, 6 60% and 4 40%.[13]when compared to the results of the study, the use of binahong leaf extract (*Anredera cordifolia* (tenore steen)) with accelerated perineal wound healing using sidaguri extract (*Sida rhombifolia*) healing perineal lacerations healed faster than the administration of binahong leaf extract (*Anredera cordifolia* (tenore)) steen). This is caused by antimicrobial activity in medicinal plants sidaguri extract (*Sida rhombifolia*)are flavonoids, alkaloids, tannins, triterpenoids, essential oils, saponins, glycosides, and phenols which are very high compared to other plants or similar plants. [14], [15]Perineal wound healing is also influenced by several factors such as age, nutritional status, mobilization, care, socioeconomic, environment, traditions, maternal condition, weight, and previous illnesses. Sidaguri extract (*Sida rhombifolia*) which is applied to postpartum mothers by spraying on the wound area can have a direct effect on the wound where the sidaguri extract (*Sida rhombifolia*) has a significant antibacterial content against pathogens with a MIC size of 0.25 Mg ML-1 with *E. coli* and 0.5 mg ml-1 in *B. subtilis* and *S. Typhi*. which also contains

antioxidants, genotoxic IC50 974.5 G ML-1 0.97 and 548.4g ML-1 which have the same effect as existing standardized drugs.

[7] Administration of antibiotics by local provides a great advantage or benefits that are more significant than the administration of antibiotics by mouth.[16]So that the treatment of perineal wounds is better in the injured perineal area, treatment of perineal wounds directly by providing direct contamination to the wound area, in this study researchers directly applied sidaguri extract (sida rhombifolia) to perineal tears. The phenolic compounds present in sidaguri have very high activity and have a direct effect on their high antioxidant capacity, which is also a source of high polyphenols and antioxidants, making them good for wound healing.[4] There are 8 active substances in sidaguri, in general, there are two substances such as scopoletin and eskoporon. Which has great therapeutic effects such as anti-bacterial, antiviral, and anti-tumor has a good synergistic effect with other compounds.[5] Antimalarial, antiplasmodial, antimicrobial, analgesic, anti-inflammatory, antibacterial, antioxidant, vasorelaxant, wound healing, antifungal, antidiabetic, toxicity, ecdysteroids, triterpenes, tocopherols*santiarthritic*, alkaloids, flavonoids, coumarins, and other compounds that have good biological activity in the wound healing process so that they are widely used as external medicine, especially wounds and those consumed by boiled water. strongest anti-inflammatory activity with IC50 of 52.16 Nitric oxide (NO) inhibition test,[14]Anti-microbial which is a compound present in sidaguri extract (sida rhombifolia) inhibits growth or causes microbial death. So that the use of sidaguri extract (Sida rhombifolia) can be an alternative for preventing and healing perineal tears in postpartum mothers.

IV. CONCLUSION

Sidaguri extract (sida rhombifolia) is significant for accelerating the healing of perineal tears in postpartum mothers so it can be an alternative treatment for perineal tears to prevent and accelerate wound healing to prevent infection in postpartum mothers.

V. ACKNOWLEDGMENTS

I express my deepest gratitude to all my friends who have helped me in completing this research. I also convey the same words to the Ministry of Research, Technology and Higher Education of LLDIKTI Region IX Sultan Batara which has given me the second opportunity to hone my knowledge and abilities in carrying out and compiling the latest research, thank you for entrusting me to be funded in the implementation of this research. God willing, we can all continue to develop science and provide innovations and updates for the development of science.

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