

## EFFECT OF PINEAPPLE JUICE ON PERINEAL WOUND HEALING IN POSTPARTUM MOTHERS AT ANUGRAH CLINIC

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### ABSTRACT

One solution for postpartum mothers to accelerate the healing of perineal wounds is natural herbs with the application of pineapple juice to help accelerate the healing of perineal wounds. The purpose of this study was to determine the effect of pineapple juice on perineal wound healing at Anugrah Clinic. An experimental method with a post-test-only control group design approach. The subjects of this study were postpartum mothers with grades I and II perineal tears. The sample is 20 people with an accidental sampling technique. Data analysis used univariate analysis test and bivariate test with Mann-Whitney U. The data obtained from the results of the study showed that the healing of perineal wounds in the group that was not given pineapple juice was mostly (70%) healed within 7-10 days and none experienced faster healing. While in the group given pineapple juice as much as 60% experienced faster healing, which was less than 7 days, and 40% of respondents who consumed pineapple juice recovered within 7-10 days. The results of statistical data analysis using Mann-Whitney U obtained a Z value of -3.033 with a p-value of 0.002 ( $p < 0.05$ ), then  $H_0$  was rejected, which means that consumption of pineapple juice has a significant effect on perineal wound healing at Anugrah Clinic. Support from health workers, especially midwives, is expected to help mothers go through the postpartum period, especially for mothers who have injuries to the perineum. Giving pineapple juice can be an alternative to accelerate wound healing in the perineum.

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### 1. Introduction

Perineal tears occur in almost all first deliveries and are not uncommon in subsequent deliveries. However, this can be avoided or reduced by preventing the fetal head from passing through the pelvic floor quickly. Perineal tears can cause perineal infection not only experienced by mothers who gave birth by caesarean section. Mothers who give birth normally can also experience perineal infections. As many as 11% of mothers who gave birth vaginally (vaginal delivery) experienced perineal infection. One of the risk factors for perineal infection is long perineal wound healing (Erna, et al, 2015).

According to WHO (2011), almost 90% of the normal delivery process is torn either with or without an episiotomy. Perineal rupture cases in maternity women worldwide occurred 2.7 million in 2009. That figure is estimated to reach 6.3 million in 2020, along with the lack of knowledge of mothers about maternal self-care at home (Bascom, 2010).

In labor there will be a need for perineum both due to spontaneous tearing and episiotomy. In Indonesia perineal injuries are experienced by 75% of mothers giving birth to pervaginam. In 2013

it was found that out of a total of 1951 spontaneous vaginal births, 57% of mothers received perineal stitches (28% due to episiotomy and 29% due to spontaneous tears).

Perineal tear either naturally or episiotomy, can cause impaired pelvic floor muscle function, so it can reduce the quality of life of the mother after childbirth. The mother becomes unable to control urination and bowel movements because there are some nerves or even muscles that are severed. Stretching and tearing of the perineum during labor can weaken the pelvic floor muscles. Treatments for reducing discomfort, maintaining cleanliness, preventing infection and accelerating healing of perineal sutures. One of the solutions for postpartum mothers to accelerate the healing of perineal wounds in addition to using medical drugs is traditional medicine, which is obtained from the natural herbal world, namely the application of pineapple juice to help accelerate the healing of perineal wounds.

Pineapple juice for postpartum mothers or postpartum mothers who experience perineal rupture, this is a natural and simple alternative to accelerate wound healing other than using drugs. Pineapple contains the enzyme bromelain which acts as an anti-inflammatory. The bromelain in pineapple can reduce the average number of days to relieve post-surgery pain and sores that cause inflammation.

Research on women who had an episiotomy, showed that the bromelain contained in pineapple was effective in reducing swelling, bruising, and pain, in women who had an episiotomy (Gozelar, S. 2016).

## 2. Methods

This research belongs to the type of quantitative research with a quasi-experimental study design, namely the existence of a control group and an experimental group. This was done to determine the effect of pineapple juice on perineal wound healing at Anugrah Clinic.

### a. Population and Research Sample

The population in this study were all postpartum mothers who experienced perineal tear in Anugrah Clinic. The sampling technique used is accidental sampling.

### b. Data Collection

The type of data collected is primary data in the form of respondents' identities, along with the variables studied through questionnaires and secondary data from respondents' medical records.

### c. Processing and analysis of Data

The data will be processed using SPSS version 20 software. Data analysis will be carried out using quantitative analysis to obtain research result.

## 3. Research Results and Discussion

### 3.1 Univariate Analysis

**TABLE 1.**

CHARACTERISTICS OF RESPONDENTS

No	Demographic Data	Treatment Group		Control Group	
		Frequency	Percentage (%)	Frequency	Percentage (%)
<b>1.</b>	<b>Age</b>				
	<25 years	3	30,0	5	50,0
	25-35 years	5	50,0	4	40,0
	>35 years	2	20,0	1	10,0
	Jumlah	10	100	10	100
<b>2.</b>	<b>Education</b>				
	Junior High School	3	30,0	2	20,0
	Senior High School	5	50,0	6	60,0
	Collage	2	20,0	2	20,0
	Jumlah	10	100	10	100
<b>3.</b>	<b>Work</b>				
	Housewife	5	50,0	6	60,0
	Employee	4	40,0	3	30,0

No	Demographic Data	Treatment Group		Control Group	
		Frequency	Percentage (%)	Frequency	Percentage (%)
	Civil Servant	1	10,0	1	10,0
	Jumlah	10	100	10	100
<b>4.</b>	<b>Parity</b>				
	Primipara	6	60,0	6	60,0
	Multipara	4	40,0	4	40,0
	Jumlah	10	100	15	100

Based on table 1, Characteristics of respondents based on demographic data based on age in the majority treatment group aged 25-35 years as many as 5 people (50%), with the majority of high school education as many as 5 people (50%), and not working or housewives as many as 5 people (50%) with primiparous parity as many as 6 people (60%). While in the control group the majority aged <25 years as many as 5 people (50%), with the majority of high school education as many as 6 people (60%), and not working or housewives as many as 6 people (60%) with primiparous parity as many as 6 people (60%).

**TABLE 2.**

Perineal Wound Healing (no pineapple juice)	Frequency	%
Fast (<7 hari)	0	0,0
Normal (7-10 hari)	7	70,0
Long (>10 hari)	3	30,0
Total	10	100,0

Based on table 2, showed that of 10 postpartum mothers who did not consume pineapple juice, as many as 70% of respondents who consumed pineapple juice recovered in normal time (7-10 days), 30% of respondents recovered in a long time (>10 days), and none experienced recovery faster.

**TABLE 3.**

Perineal Wound Healing (given pineapple juice)	Frequency	%
Fast (<7 hari)	6	60,0
Normal (7-10 hari)	4	40,0
Long (>10 hari)	0	0,0
Total	10	100,0

Based on table 3, showed that of 10 postpartum mothers who consumed pineapple juice, 60% of respondents who consumed pineapple juice experienced faster perineal wound healing, which was less than 7 days, and 40% of respondents recovered in normal time (7-10 days).

### 3.2 The Effect of Pineapple Juice on Perineal Wound Healing at Anugrah Clinic

**TABLE 1**

Perineal Wound Healing	Giving Pineapple Juice		Z hitung	p value
	Not given	Given		
- Fast (<7 hari)				
- Normal(7-10 hari)	7 3	6 4	-3,033	0,014
- Long (>10 hari)				
Total	10	10		

Based on table 4, 60% of respondents who consumed pineapple juice experienced faster healing, which was less than 7 days and 40% recovered within 7-10 days. Meanwhile, for respondents who did not consume pineapple juice, most (70%) recovered within 7-10 days and none experienced faster healing. After analyzing the statistical test with Mann-Whitney U, the Z value was obtained with the number -3.033 with a p value of 0.002 ( $p < 0.05$ ), then  $H_0$  was rejected, which means that consumption of pineapple juice has a significant effect on perineal wound healing at Anugrah Clinic.

#### 4. Discussion

##### 4.1 Healing of Perineal Wounds Before Giving Pineapple Juice to Postpartum Mothers at Anugrah Clinic

The results of the study in the control group that did not consume pineapple juice, there were 70% of respondents recovered within the normal time limit, namely day 7 to day 10, and 30% of respondents recovered in a long time, which was more than 10 days, 4 respondents experienced a grade I perineal rupture. and 6 respondents experienced second degree perineal rupture, none experienced faster wound healing  $< 7$  days because the control group did not get additional vitamin C intake from pineapple juice so that collagen synthesis did not occur.

This is in line with the research of Fidatul and Yuli (2017) that the healing of perineal wounds in the control group was mostly unhealed as many as 12 respondents (75%) and a small portion of the perineum had healed as many as 4 respondents (25%).

From the results of research and theories that have been outlined above, it can be concluded that in the control group, the healing process of perineal wounds is still relatively normal (7-10 days) and not a few that take a long time ( $>10$  days). This happens due to the lack of vitamin and nutrient intake that the mother consumes during wound healing. So, it is expected that post partum mothers consume foods that have a balanced nutritional content, so that perineal wounds are healed more quickly.

##### 4.2 Healing of Perineal Wounds After Giving Pineapple Juice to Postpartum Mothers at Anugrah Clinic

The results of this study were 60% of respondents in the treatment group recovered more quickly  $< 7$  days, and as many as 40% of respondents recovered in a normal time, which is between the 7th day to the 10th day. Respondents who experienced grade I perineal rupture were 6 people, experienced faster wound healing that was  $< 7$  days, and there were 4 respondents who experienced grade II perineal rupture, recovered normally on days 7-10. The results showed that the degree of rupture also affected the perineal wound healing process. These data indicate that the consumption of pineapple juice can affect the healing of perineal wounds because the wound heals faster in  $< 7$  days.

From the results above, it can be concluded that giving pineapple juice to postpartum mothers who experience perineal injuries has a positive effect on perineal wound healing. This is because the content of pineapple is efficacious in accelerating the healing of perineal wounds. The results of the study between the group that was given pineapple juice and the control group who were not given pineapple juice had different results in the perineal wound healing process. The treatment group had faster wound healing compared to the control group. Good nutrition according to the needs of postpartum mothers also affects the perineal wound healing process.

Herdyastuti (in Rahayu, 2014) stated that the bromelain enzyme has the ability to decompose protein into amino acids. Bromelain is efficacious to help digestion of food, anti-inflammatory, remove dead skin cells and skin diseases such as itching, eczema and scabies. Pineapple juice contains pectin, vitamin C, and the enzyme bromelain which are efficacious for reducing pain and improving blood circulation and efficacious for the wound healing process. This means that consuming pineapple juice can accelerate the healing of perineal wounds.

Postpartum mothers should eat lots of foods that contain protein, lots of fluids, vegetables and fruits and fluids. Fruits contain various vitamins and minerals, which play a role in smoothing the functioning of the body's organs. The ability of pineapple juice in accelerating the healing of perineal wounds is due to the content of the enzyme bromelain in pineapple juice. This enzyme plays a role in the inflammatory phase of the wound healing process. This phase lasts from the occurrence of the injury until the fifth day. The potential of bromelain as an anti-pain, anti-edema,

debridement (removing skin debris) due to burns, accelerates wound healing, and increases the absorption of antibiotics, is very useful in wound healing (Mochter, 2012).

#### **4.3 The Effect of Pineapple Juice on Perineal Wound Healing at Anugrah Clinic**

60% of respondents who consumed pineapple juice experienced faster healing, which was less than 7 days and 40% recovered within 7-10 days. Meanwhile, for respondents who did not consume pineapple juice, most (70%) recovered within 7-10 days and none experienced faster healing.

After analyzing the statistical test with Mann-Whitney U, the Z value was obtained with the number -3.033 with a p value of 0.002 ( $p < 0.05$ ), then  $H_0$  was rejected, which means that consumption of pineapple juice had a significant effect on perineal wound healing at Anugrah Clinic in 2021.

This study is in line with research conducted by Yanti (2017) which stated that the healing of perineal wounds in the control group was that most of the perineal wounds had not healed (75%). Wound healing in the treatment group mostly healed perineal wounds (87.5%) with a significant value of 0.003. This study is also supported by research conducted by Sugita (2014) which showed that the speed of healing of perineal wounds in postpartum mothers in the control group who did not consume juice was 5.88 per day and 1.96 per day for 7 days. Speed average speed perineal wound healing in postpartum mothers in the treatment group who consumed 300 ml (2x150 ml) pineapple juice, namely 9.10 per day and 3.74 for 7 days.

The ability of pineapple juice in accelerating the healing of perineal wounds is due to the content of the enzyme bromelain in pineapple juice. This enzyme plays a role in the inflammatory phase of the wound healing process. This phase lasts from the occurrence of the injury until the fifth day. The potential of bromelain as painkiller, anti-edema, debridement (removing skin debris) due to burns, accelerates wound healing, and increases antibiotic absorption, is very useful in postoperative healing (Orsini, 2012).

Herdyastuti (2016) stated that the bromelain enzyme has the ability to decompose proteins into amino acids. Bromelain is efficacious to help digestion of food, anti-inflammatory, remove dead skin cells and skin diseases such as itching, eczema and scabies.

According to the researcher's assumptions, it can be concluded that giving pineapple juice to postpartum mothers who have perineal wounds has a positive effect on perineal wound healing. This is because the content of pineapple is efficacious in accelerating the healing of perineal wounds. The results of the study had different results in the perineal wound healing process. After administration has a faster wound healing than before. Good nutrition according to the needs of postpartum mothers also affects the perineal wound healing process.

## **5. Conclusions**

Based on the description of the results of research and discussion, it can be concluded is Perineal wound healing in the group not given pineapple juice mostly (70%) healed within 7-10 days and no one experienced faster healing. Perineal wound healing in the group given pineapple juice as much as 60% experienced faster healing that is less than 7 days and 40% of respondents who consumed pineapple juice recovered within 7-10 days. There is a significant influence between the administration of pineapple juice on the healing of perineal wounds in Anugrah Clinic in 2021, with a value of p value 0.002 ( $p < 0.05$ ). These results prove that the administration of pineapple juice can accelerate the healing of perineal wounds compared to without the administration of pineapple juice.

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