

## The Effect of Pineapple Juice on Perineal Wound Healing Among Post Partum Women

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### ABSTRACT

The occurrence of infection can slow the healing of the perineal wound because the tissue that will grow into new tissue in the wound is damaged. Based on data, at Cimacan Hospital from June to August 2021, there were 105 cases of women who experienced perineal rupture during labor. One non-pharmacological intervention to improve wound healing is pineapple juice. This study aims to find out the Effect of Pineapple Juice on The Healing of Perineal Wounds among post-partum women at Cimacan Hospital. This study uses the design of a quasi-experiment with a posttest-only control group approach, by dividing two groups, namely the experimental group and the control group. 30 post-partum women were selected randomly and enrolled into the experiment and control group (1:1). Research instruments consist of documentation, observation sheets, and the REEDA scale. The data were analyzed using the independent t-test to determine the differences in wound healing (REEDA score) between the experiment and control group. The results showed that there was a difference in perineal wounds between the experimental group and the control group after being given pineapple juice, with a significance value of 0.02 which means  $p < 0.05$ . The preparation of pineapple has an effect on the healing of perineal wounds in women with rupture perineum. It is hoped that the results of this study can invite others to know the benefits of pineapple juice for perineal wound healing.

Keywords: perineal wound, post-partum women, pineapple juice

### INTRODUCTION

According to the World Health Organization (WHO), there are 2.7 million cases of perineal injuries in maternity mothers worldwide. There are 26 million women who have a perineal rupture in the United States, of whom 40% have a perineal rupture. In Australia, 20,000 maternal deliveries have a perineal rupture. In Asia, rupture perineum is a serious problem in society, as 50% of the world's cases occur in Asia. The prevalence of maternity women who experience perineal lacerations in Indonesia in the age group of 25-30 years is 24%, while in maternity, women aged 32-39 years is 62% (Widia, 2017). In Indonesia, the incidence of perineal rupture is experienced by 75% of women giving birth through vaginal fertilization. In 2017 it was found that out of a total of 1951 spontaneous vaginal births, 57% of women got perineal sutures (28% due to episiotomy and 29% due to spontaneous tearing) (Afrilia & Sari, 2018).

Based on data, at Cimacan Hospital from July to August 2021, there were 105 cases of women who experienced perineal rupture during childbirth. The impact of perineal tears includes increasing bleeding, increasing the depth of perineal lacerations, increasing the risk of sphincter ani damage, increasing pain in the first days of post-partum, and increasing the risk of infection (Choirunissa, Suprihatin, & Han, 2019). Birth canal tears are also caused by spontaneous tearing of the perineum, trauma of forceps or vacuum extraction, extraction versions and episiotomy.

The incidence of infection due to perineal wounds is still high, it is estimated that the incidence of perineal trauma perineum wounds is experienced by 70% of women who give birth to vaginal abortion (Santy et al., 2020). Therefore, treatment during the post partum period to prevent infection in the perineal wound must be done. Treatment of wounds in the perineum is important to maintain the cleanliness of the perineum, prevent odorous and itchy vaginal discharge, maintain the normality of vaginal Ph, and prevent infection. Infection can slow down the healing process of the perineal wound because the tissue that will grow into new tissue in the wound is damaged or necrosis.

Efforts to heal perineal wounds faster and avoid infection can be made with conventional treatment, namely by giving drugs such as antibiotics and painkillers. However, using fruits and herbal plants currently attracts people's interest for consumption. Aside from being easily obtained, using fruits and herbal plants due to relatively small side

effects (Pane, Rahman, & Ayudia, 2021). Proper therapy is assisted by providing good nutrition for the women, and mobilization will help the treatment of perineal wounds heal well (Ayu et al., 2020; Suharja, Widowati, & Novelia, 2022).

*Ananas comosus*, or pineapple fruit, has long been used for various medical purposes. There is a major enzyme in pineapple, the bromelain enzyme. According to research, bromelain enzymes are useful for anti-inflammatories (Saleng, Sampara, & Sudirman, 2020). This enzyme can speed up recovery when there is a wound or inflammation in the perineal wound, so it can reduce the incidence of infection in the perineal wound.

As previous research has been conducted by Rahayu et al. (2017) in Saleng et al. (2020) states that: "Bromelain enzymes contain anti-inflammatory substances that are efficacious in accelerating the healing of perineal wounds". Based on the authority of midwives regulated in Health Minister Decree Number 28 of 2017, the second part is listed in article 18 that in the provision of midwifery practices, midwives have the authority to provide maternal health services, child health services, reproductive health services, and family planning. The authority of midwives in providing maternal health services is explained in Article 19 paragraph (3); midwives are authorized to perform: Tailoring perineal wounds level I and II. Based on the above description of the authority as a midwife and in line with the research conducted by Rahayu Agustina and Tjandrawinata, researchers are interested in conducting research with the title "The effect of giving pineapple juice on healing perineal wounds in postpartum women at Cimacan Hospital in 2021".

### METHOD

This study's research design is a quasi-experiment with a posttest-only control group approach. The population in this study was all post-partum women who had rupture perineum at Cimacan Hospital in July - August 2021. The total was 105 post-partum women with rupture perineum. However, 30 post-partum women with rupture perineum were selected randomly. They were divided into 15 experimental groups and 15 control groups. Research instruments consist of documentation, observation sheets, and the REEDA scale. As the REEDA scale is the existing instrument to measure wound healing, the validity, and reliability were not performed. Pineapple juice (160-gram pineapple + 100 ml mineral water) was given to respondents in the experiment group once every day for seven days. Then the wound healing was measured on the 8<sup>th</sup> day after intervention. Univariate and bivariate statistics analyzed the data. A normality test was performed before using an independent t-test to determine the differences in wound healing between the experiment and the control group.

### RESULT

Table 1. Distribution of Frequency Characteristics of Respondents of The Post-Partum Women Group in Cimacan Hospital of Cianjur

Characteristics	Experiment Group		Control Group	
	Frequency	Percentage	Frequency	Percentage
<b>Age</b>				
<20 years	0	0	2	13.3
20 years - 35 years	11	73.3	11	73.3
>35 years	4	26.7	2	13.3
<b>Parity pregnancy</b>				
Primipara	6	40.0	6	40
Multipara	8	73.3	9	60
Grande multipara	1	13.3	0	0
<b>Education</b>				
Elementary school	3	20.0	5	33.3
Junior high school	8	53.3	4	26.7
Senior high school	3	20.0	6	40.0
College	1	6.7	0	0
<b>Occupation</b>				
Housewife	11	73.3	11	73.3
Farmer	0	0	0	0
Civil servant	0	0	0	0
Self employed	4	26.7	4	26.7

Table 1 shows that respondents in the experiment group are mostly aged 20-35 years as many people (73.3%), based on more parity in the multipara group of 8 people (73.3%) based on the last level of education respondents at most eight people (53.3%), based on the work of most housewives as many as 11 people (73.3%). While in the control group, most of them were aged 20-35 years, as many as 11 people (73.3%), the parity rate of 9 people (60%), the senior high school level of education was mostly 6 people (40.0%). Most of the respondents as housewives were as many as the experimental group of 11 people (73.3%).

Table 2. The Effect of Giving Pineapple Juice on The Healing of Perineum Wounds in Post Partum Women at Cimacan Hospital of Cianjur in 2021

Group	n	Mean	SD	t-test score	p
Experiment (Consumption of pineapple juice)	15	0.93	1.280	-2.444	0.02
Control (Non-consumption of pineapple juice)	15	2.47	2.066		

Table 2 shows that the average value of perineal wound healing in the control group is higher than in the experimental group. The results of the bivariate test obtained p-value=0.02, which means  $p < 0.05$ , and it can be concluded that pineapple juice influences the healing process of perineal wounds in post-partum women.

### DISCUSSION

Based on this study, characteristics were obtained based on the age of mostly aged 20-35 years in the experimental group as many as 11 respondents (73.3%) with respondents of the same control group, namely 11 At reproductive age (20-35 years) at this time the women response to receive an understanding of perineal massage, the benefits, and ways of perineal massage is more effective and can study it to reduce the occurrence of rupture perineum events. Reproductive age (20-35 years) occurs in maximum response readiness both in adjusting certain things and gradually decreases with age. In addition, at reproductive age, they are more open to others, and usually, they will exchange experiences about the same things they have experienced.

The characteristics of respondents based on parity in this study in the most experimental groups were multigravida, namely 8 people (73.3%), Primigravida 6 orang (40%), grande multipara 1 person (13.3%), and in the control group the most respondents in multigravida, namely 9 people (73.3%). The provision of processed pineapple (*Ananas Comosus*) to multipara mothers has the effect of helping the wound healing process due to bromelain enzymes and enzymes contained in pineapple fruit (Saleng, Sampara, Sudirman, 2020). Saleng et al. (2020) concluded that the provision of processed pineapple (*Ananas Comosus*) to multipara mothers has an effect on the wound healing process due to bromelain enzymes contained in pineapples. The provision of processed pineapple (*Ananas comosus*) in multipara mothers has the effect of helping the wound healing process due to bromelain enzymes and enzymes contained in pineapples.

The distribution of education respondents in the intervention group was mostly educated last high school as many respondents (66.7%), and in the control group, most educated last high school as many as 9 respondents (60.0%). The low level of education caused the respondents' level of knowledge to be lacking. According to Notoatmodjo (2012), a person's education level can affect respondents' knowledge level because one's ability to receive and understand information is determined by the level of education possessed. Acceptance and understanding of the information received by a highly educated person are better than based on job characteristics. In this study, most of the respondents in the intervention group worked as housewives, as many as 11 respondents (73.3%), and in the control group as many as 11 respondents (73.3%). Pregnant women can still work, but their activities should not be too heavy. Rest for pregnant women is recommended as often as possible. Pregnant women are advised to stop their activities if they disturb their pregnancy. Jobs that require strenuous activity, standing for long periods, jobs in the machinery industry, or jobs that have environmental side effects must be modified (Antari & Afrida, 2018).

Perineal wound healing is influenced by several factors that include internal factors, namely age, tissue handling, hemorrhagic, hypovolemia, local edema factors, nutritional deficits, personal hygiene, oxygen deficit, and overactivity. While the influence of external factors includes the environment, traditions, knowledge, socio-economy, and handling officers in providing health education for perineal wound care and mobilization exercises. maternal condition and nutrition (Antini, Trisnawati & Darwenty, 2016; Novelia, Lubis & Sulistiyorini, 2021).

Based on the results of research conducted by researchers on the Effect of Pineapple Juice on Perineal Wound Healing which has been analyzed using skewness and Kurtosis normality tests and independent t-test. Showed that

there is an influence of pineapple juice on the healing process of perineal wounds in post-partum women. Between the experimental group and the control group with a significance value of 0.02 which means  $p < 0.05$ . There were differences between the experimental group and the control group, namely in the experimental group, it was stated that the REEDA scale score in the experimental group was smaller, and the perineal wound healing was faster than the control group.

Processed Pineapple (Juice) contains pectin, vitamin C, and bromelain enzymes that are efficacious to reduce pain and facilitate blood circulation and efficacious for the wound healing process. This means that consuming pineapple juice can accelerate the healing of perineal wounds (Rahayu & Sugita, 2015). Bromelain enzymes have the ability to decompose proteins into amino acids. Bromelain is efficacious in helping food digestion, anti-inflammatory, removing dead skin cells as well as skin diseases such as itching, eczema and scabies. Pineapple juice contains pectin, Vitamin C and bromelain enzymes that are efficacious for reducing aches or pains and facilitate blood circulation and efficacious for wound healing (Anggeriani, & Lamdayani, 2018). In addition, a study by Umami et al., (2021) conclude that pineapple juice has a significant effect on perineal wound healing at Anugrah Clinic. Furthermore, combination pineapple juice and honey were proved to accelerate the perineal wound healing among post-partum women.

According to the assumptions of researchers, it can be concluded that the provision of pineapple juice to post partum women who have perineal wounds has a positive effect on the healing of perineal wounds. 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 process of healing perineal wounds. After the administration has a faster healing of the wound compared to before. This study only examined the influence of pineapple juice on the healing of perineal wounds, did not involve the characteristics of other respondents, and the population and samples were still not enough to be studied. In the next study, it is expected to be able to examine more specifically about the influence of pineapple juice, with more characteristics and research samples.

## CONCLUSION

Providing processed pineapple (*Ananas Comosus*) to postpartum women influences helping the wound healing process due to the bromelain enzymes in pineapple fruit. Evident from the results of research conducted in the experimental and control group, there is a REEDA Scale score on wound healing better than the control group, with the results of the statistical test above known to be a significant value of 0.02 which means  $p < 0.05$  which means that there is an influence of pineapple juice on the healing process of perineal wounds in women. For further researchers, this study is expected to be widely published by educational institutions, health services, and the public, in general, to provide an alternative to the problem-solving faced by most post-partum mothers to help improve maternal well-being and reduce the incidence of infection as reference material for the next researcher.

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## REFERENCES

- Afrilia, E. M., & Heliyanah Sari. (2018). Hubungan Pengetahuan Ibu Nifas Tentang Perawatan Luka Perineum Dengan Proses Penyembuhan Luka Ruptur Perineum Di Puskesmas Pakuhaji Kabupaten Tangerang. *Indonesian Midwifery Journal*, 1–7. <http://jurnal.umt.ac.id/index.php/imj/article/viewFile/980/1347>.
- Antini, A., Trisnawati, I., & Darwanti, J. (2016). Efektivitas senam kegel terhadap waktu penyembuhan luka perineum pada ibu post partum normal. *Suara Forikes*, 7(4), 212-216.
- Anggeriani, R., & Lamdayani, R. (2018). Efektifitas Pemberian Air Daun Sirih (*Piper Betle* L) Terhadap Kecepatan Penyembuhan Luka Perineum Pada Ibu Post Partum. *Babul Ilmi Jurnal Ilmiah Multi Science Kesehatan*, 9(1).
- Ayu, I., Kasari, D., & Wahyuni, C. (2020). Analisis Pantang Makan Dengan Derajat Luka Perineum Terhadap Penyembuhan Luka Pada Ibu Nifas. *Idea Nursing Journal*, 11(1), 24–30.
- Choirunissa, R., Suprihatin, S., & Han, H. (2019). Pengaruh Pijat Perineum Terhadap Kejadian Ruptur Perineum Pada Ibu Bersalin Primipara Di Bpm Ny "I" Cipageran Cimahi Utara Kota Cimahi Jawa Barat. *Jurnal Ilmiah Kesehatan*, 11(2), 124-133.
- Notoatmodjo, S., Anwar, H., Ella, N. H., & Tri, K. (2012). *Promosi kesehatan di sekolah*. Rineka cipta.
- Novelia, S., Lubis, R., & Sulistiyorini, E. (2021). Knowledge and Practices of Perineal Wound Care among Post Partum Women during COVID-19 Pandemic. *Nursing and Health Sciences Journal (NHSJ)*, 1(3), 198-201.
- Pane, M., Rahman, A., & Ayudia, E. (2021). Gambaran Penggunaan Obat Herbal Pada Masyarakat Indonesia Dan Interaksinya Terhadap Obat Konvensional Tahun 2020. *Journal of Medical Studies*, 1(1), 40-62.
- Rahayu, R. D., & Sugita, S. (2015). Pengaruh Jus Nanas Terhadap Percepatan Penurunan Tfu Dan Penyembuhan Luka Perinium Pada Ibu Post Partum Di Bpm Wilayah Klaten Tengah. *Interest: Jurnal Ilmu Kesehatan*, 4(2).

- Mulyaningsih, S., Dunggio, R., & Susanti, K. A. (2021). The Effect of Pineapple Juice and Honey on the Acceleration of Perineal Wound Healing in Post-Partum Mothers in the Work Area of Dr. MM Dunda Limboto Hospital. *Journal of Community Health Provision*, 1(1), 9-16.
- Santy, E., Putri, T. E., & Lepita. (2020). Hubungan Pemberian Tambahan Putih Telur Terhadap Percepatan Penyembuhan Luka Perineum Derajat II Pada Ibu Nifas Di PBM Utin Mulia Pontianak Tahun 2019. *Jurnal Kebidanan Khatulistiwa*, 6(1), 22-26.
- Saleng, H., Sampara, N., & Sudirman, J. (2020). Analisis percepatan penyembuhan luka pada ibu post sectio sesarea multipara dengan pemberian olahan nanas (*ananas comosus* (L. Merr) comosus). *Jurnal Riset Kebidanan Indonesia*, 4(2), 54-58.
- Suharja, E. N. F., Widowati, R., & Novelia, S. (2022). Factors Related to Perineal Wound Healing in Postpartum Mothers at Jawilan Public Health Center. *Nursing and Health Sciences Journal (NHSJ)*, 2(1), 41-46.
- Umamy, F., Harahap, I. A., & Christiani, M. (2021). Effect of Pineapple Juice on Perineal Wound Healing in Postpartum Mothers at Anugrah Clinic. *Science Midwifery*, 10(1, October), 461-466.
- Widia, L. (2017). Penyembuhan Luka Rupture Perineum pada Fase Proliferasi Ibu Post Partum Relationship Between Early Mobilization With Wound Healing Process of Rupture Perineal Post Partum Proliferative Phase Mother. *Dinamika Kesehatan*, 8(1).