

The Effectiveness of Aloe Vera Compress on Changes in Breast Swelling of Breastfeeding Women in the Working Area of the Srengat Health Center

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ABSTRACT

Breast swelling occurs in mothers who have given birth for the first time. Significant breast care can affect the smoothness of breast milk. Breast swelling pain that is not followed up can lead to further complications. *Aloe vera* has many ingredients that are believed to reduce pain and swelling in the breast because it contains *aloin* and *emodin*. The purpose of the study was to determine the effectiveness of aloe vera compresses against breast swelling of breastfeeding mothers in the work area of the Srengat Health Center. This research method is a pre-experiment with a one group pretest-posttest design approach. The population in this study was all postpartum mothers in the working area of the Srengat Health Center. The sampling technique is by taking a large number of samples, which is as many as 22 people. Based on the results of the study, it shows that the value of $p = 0.000$ ($p < 0.05$) means that the administration of *aloe vera* compresses is effective against changes in breast swelling in breastfeeding mothers in the work area of the Srengat Health Center Office. The decrease in breast swelling scale after buying *aloe vera* compresses occurs due to the high content of amino acids, minerals, polysaccharides in *aloe vera* which is believed to reduce breast swelling and inflammation. And serves as an *anti-inflammatory* that localizes both damaged agents and damaged tissues. By doing *aloe vera* compresses on breast swelling, it can reduce swelling in the breast optimally.

Keywords: Breast Care, puffiness, Aloe Vera Compresses

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INTRODUCTION

During the puerperium there are various problems that can occur in mothers, namely breast swelling or breast milk dams (Lubis, 2018). The World Health Organization (WHO) reports the incidence of breast swelling ranging from 20% to 77% (Ariescha et al., 2020). In Indonesia, breast swelling reaches 16% (Munawaroh, & Herniyatun, 2019). The incidence of breast swelling is very influential on the unsucces in breastfeeding the baby (Juliani, 2019). So breast care is very necessary. Breast treatment significantly affects the smoothness of breast milk (Rofi'ah et al., 2020).

The breast has experienced swelling, so various ways can be done, including the application of warm, cold and aloe vera compresses effective in reducing discomfort in the breast when full and swollen (Rofi'ah et al., 2020). Based on research by Emilda (2017) that aloe vera compresses attached to the breast are useful for reducing pain in the breast. Allyprokatecol and carvokrol compounds will help stretch painful breast muscles due to too much milk. Aloe vera has many benefits, in addition to curing various disorders of diseases, food making and for beauty. This is supported by research by Sari et al. (2019) that aloe vera compresses can reduce pain in breast swelling. Aloe vera contains anthraquinone which contains aloin and emodin which can function as analgesics. Aloe vera can be used to compress painful breasts and efficacious as an anti-inflammatory serves to damage, destroy, reduce, or localize (secuster) both damaged agents and damaged tissues (Mukarromah, 2012).

Based on preliminary studies, out of 10 mothers as many as 6 people have experienced breast swelling and complained of pain and unable to breastfeed their babies. The purpose of this study was to determine the effectiveness of aloe vera compresses against breast swelling of breastfeeding mothers in the working area of the Srengat health center.

METHOD

Research Methods This type of research is pre-experimental research with a one group design approach (Sugiyono, 2017). This research was conducted in January 2022 in the working area of the East Kutai Health Office. The population in this study was all post partum in the puskesmas srengat area as many as 200 people. The sample was taken as much as 10% of the population, which is 20 people and the consideration of the drop out sample is 10%, which is 2 people, so that the total sample is 22 people. Applying Aloe vera compresses is carried out for 10-15 minutes. A total of 120-240 ml of aloe vera gel by attaching aloe vera gel around the breast. Carried out for 3 days, 1 day carried out as many as 2 giving, in the morning at 08.00 WIB and in the afternoon at 16.00 WIB. Measurement of breast swelling is done by insertion and palpation using the SPES instrument with ordinal data scale. Analysis data The one used is Wilcoxon.

FINDING AND DISCUSSION

Character Responden

Table 1. Distribution of Respondent Characteristics

Characteristics of Respondents	Frequency	Percentage (%)
Age		
Age (< 20 years)	0	0
Age (20-35 years)	20	90,9
Age (> 35 years old)	2	9,1
Sum	22	100,0
Education		
SD	5	22,7
SMP	5	22,7
SMA	9	40,9
College	3	13,6
Sum	26	100
Work		
IRT	14	63,6
PNS	2	9,1
Private	6	27,3
Sum	22	100
Parity Age		
1-3 hari	5	22,7
4-6 hari	11	50,0
7-14 hari	6	27,3
Sum	26	100
Son to		
1-3	19	86,4
4-6	3	13,6
Sum	22	100

Sumber : *Data Primer, 2023*

Based on the table above, it can be seen that the age of respondents is almost entirely aged 20-35 years as many as 20 people (90.9%) and a small number aged >35 years as many as 1 person (9.1%). By Some education has a high school education of 9 people (40.9%) and a small number of >35 years old as many as 1 person (9.1%). By education some have high school education as many as 9 people (40.9%) and that is 4-6 days as many as 11 people (50.0%) and a small part of parity age is 1-3 days as many as 5 people (22.7%). Based on the number of children, almost all children 1-3 as many as 19 people (86.9%) and a small number of children 4-6 as many as 3 people (13.6%)

Table 2. Distribution of Respondent Characteristics

Features Bayi Responden	Frequency	Percentage (%)
Age		
1-3 hari	5	22,7
4-6 hari	11	50,0
7-14 hari	6	27,3
Sum	22	100,0
Gender		
Woman	11	50,0
Man	11	50,0
Sum	22	100
Frequency of Feeding		
Infrequently	12	54,5
Keep	4	18,2
Often	6	27,3
Sum	22	100
Son to		
1-3	19	86,4
4-6	3	13,6
Sum	22	100

Sumber : *Data Primer 2023*

Based on table 2 above, it can be seen that the age of respondents' infants is partly 4-6 days old as many as 11 babies (50.0%) and a small part is 1-3 days as many as 5 babies (22.7%). In the sex of babies, the average male and female sex was obtained, namely as many as 11 female babies (50.0%) and 11 male babies (50.0%). Based on the number of children, almost all children 1-3 as many as 19 people (86.9%) and a small number of children 4-6 as many as 3 people (13.6%). Based on the frequency of breastfeeding, most babies rarely breastfeed, as many as 12 babies (54.5%) and a small percentage of babies breastfeeding moderately, as many as 4 babies (18.2%).

Table 3. Distribution of breast swelling in nursing mothers before and after aloe vera compresses

Swelling Breast	Before the intervention		After the intervention	
	n	%	n	%
Lightweight Scale (1-3)	7	31,8	22	100
Peel Sedan (4-5)	15	68,2	0	0
Scale Berat (6)	0	0	0	0
Sum	22	100	22	100

Sumber : *Data primer, 2023*

Based on table 3, the results of the study before the intervention were mostly medium-scale breast swelling as many as 15 people (68.2%) and a small part of mild scale

swelling 7 breasts (31.8%). After the intervention, all respondents stated a mild scale of breast swelling as many as 22 people (100%).

Uji Bivariate

Table 4. The effectiveness of giving *aloevera* compresses against changes in breast swelling in nursing mothers in the work area of Puskesmas Srengat

No	Breast Swelling	N	Mean	SD	Significant
1.	Before the Intervention	22	3.82	0.907	
2.	After the Intervention	22	1.32	0.477	0,000

Sumber: *Data Primer, 2023*

By Table 4 shows that value $p = 0.000$ ($p < 0.05$) means applying compresses *aloevera* Effectiveness against changes in breast swelling in nursing mothers in the working area of Puskesmas Srengat

Discussion of Age Characteristics

Based on the results of research conducted at the Pintu Padang Health Center, it was found that the majority of respondents aged 20-35 years were 20 people (90.9%) and the minority aged >35 years as many as 2 people (9.1%). Based on research by Syukur & Purwanti (2020), it is stated that mothers under 35 years old are able to produce a lot of milk compared to mothers aged < 20 years.

The results of this study are supported by research by Rutiani and Fitriana (2016) that the age of postpartum mothers affects the incidence breast swelling and mostly occurs at the age of 20-35 years, due to lack of experience, understanding and information about breast swelling. According to Mubasyiroh et al. (2016) there are < 20 years old (5.9%) and 35 years old > (20.6%). The age of < 20 years is considered physically immature, the reproductive organs have not functioned perfectly so that if there is pregnancy and childbirth will be more at risk of complications, while for the age of > 35 years is considered dangerous because there has been a decline in reproductive health due to degenerative processes, the reproductive and physical organs of the mother have been much reduced and decreased.

The researchers' assumption, mothers aged 25-30 years sometimes do not have breastfeeding experience, understanding of breastfeeding and breast care is very limited, causing The number of occurrences of breast swelling pain.

Work

Based on the results of the analysis for the distribution of work, it was found that the respondents were IRT as many as 14 people (63.6%). Mothers who do not work tend to have more time with their babies, so they are more flexible to do exclusive breastfeeding to their children because they have more flexibility of time and place to do it (Juliastuti, 2011).

The researchers' assumption about the mother's job is that IRT should be able to breastfeed her baby directly. Exclusively to avoid swelling of the breast, by continuing with the baby, the level of breast swelling in the mother can be reduced.

Education

Based on the results of research conducted in the working area of the Srengat Health Center, it was found that the majority of education had a high school education of 9 people (40.9%). Education is needed to get information, for example things that support health so that it can improve the quality of life (Prawirohardjo, 2018).

Ega et al. (2016) stated that the high level of education affects The incidence of breast swelling, someone with a high level of education will know more information, have broad insight, comprehension and a much better mindset, so that they have more opportunities to know information about breast swelling and how to deal with breast swelling, but a person's education level cannot be used as a guideline that someone will succeed in the breastfeeding process. This is supported by Wahyutri (2016) that providing education about breastfeeding can increase maternal knowledge and the success of the breastfeeding process.

Assumptions of researchers that in general, mothers who have moderate to higher education can accept new things and can accept changes to maintain health, especially about preventing breast milk dams.

Parity

In this study, it was found that parity has a significant relationship with breast swelling. This is supported by research conducted by Lestari et al. (2013), where exclusive breastfeeding is more commonly found in multiparous mothers compared to primipara. According to Mabud et al. (2014), multiparous mothers are closely related to the knowledge gained from experience previous breastfeeding. When a mother has previously experienced breastfeeding, it will be a knowledge for her when breastfeeding again in the future. When you have learned from previous experiences, it is possible that mothers can overcome problems that may be faced, namely breast swelling or mastitis.

The study (Somi, 2014) showed results that contradicted this study, namely that there was no relationship between parity and breast swelling. This is possible because primiparous mothers are considered to have more time that can be used to get access to health services and increase information and knowledge, especially about breastfeeding. Bai et al (2015) also added that mothers who previously had longer breastfeeding experience, will tend to have more duration of breastfeeding compared to mothers who previously breastfeeding experience was only short. The researcher's assumption is that parity is very influential on the occurrence of breast swelling, multiparous mothers should have experienced in the breastfeeding process so that there is no more breast swelling in breastfeeding mothers compared to primiparous mothers who are just starting parenting in the world of breastfeeding.

Frequency of Breastfeeding Baby

Based on the frequency of breastfeeding, the majority of babies rarely breastfeed, namely as many as 12 babies (54.5%) and the minority of the frequency of breastfeeding babies is medium breastfeeding which is as many as 4 babies (18.2%).

Based on research conducted by Oriza (2019) that less frequency of breastfeeding can result in breast swelling. 55 Factors that play a role in determining the frequency range of breastfeeding for breastfeeding babies are mothers who have different amounts of milk storage capacity in their breasts. The amount of storage capacity of breast milk can accumulate before giving cells or a message to reduce the amount of breast milk. A mother can have a storage capacity that allows breasts to store milk longer or shorter than other mothers (Cadwell & Maffei, 2011).

The researchers' assumption is that the more often the baby breastfeeds, the less likely to be swelling in the breast, if the frequency and duration of breastfeeding is optimal, then breast emptying can occur perfectly.

Swelling Breasts before and after applying compresses *Aloevera*

Based on the results of research conducted in the Srengat Health Center area, it was found that before the intervention, the majority of moderate-scale swelling pain was 15 people (68.2). After the intervention, the majority of mild breast swelling was 22 people (100%). And the results of the Wilcoxon test analysis with a value of $p = 0.000$. So it can be concluded that the administration of *aloevera* compresses is effective against changes breast swelling in nursing mothers in the area of the Srengat Health Center.

Aloevera is one of the plants that can be processed into a variety of foods and beverages. In the manufacture of these foods and drinks that are used is meat from *aloe vera*. Since this *aloevera* contains organic components that can be used as nutrients on our body, in addition in *aloe vera* it has a moisturizing, anti-inflammatory effect and can stimulate growth factors and fibroblasts. *Aloevera* compresses attached to painful breasts are useful for reducing pain in the breast. *Allyprokatecol* and *carvokrol* compounds will help stretch painful breast muscles due to too much milk (Emilda, 2017).

Aloevera contains lots of water and various substances that can reduce pain so that the pain felt will be reduced. *Aloevera* contains 47 *anthraquinone*, *aloe emodin*, *bradikinas enzyme*, *carboxypeptidase*, *salicylates*, *tannins* and *saponins* which each have anti-pain and anti-inflammatory abilities (Sari et al., 2019).

Compress *aloevera* It is cold and contains lignin substances that have a high absorption ability. The effect of cold on *aloevera* can increase comfort in mothers who experience swelling pain (Hariana, 2015). Sushen et al (2017) explain that *aloevera* Can be used to treat breast pain due to menstruation, breast tumor pain or as a result of cessation of breast milk. In addition, *aloe vera* can be used for joint pain, arthritis, and muscle pain.

The results of the study were supported by the research of Aini et al. (2016), showing that *aloe vera* compresses are effective in reducing discomfort in the breasts when full and swollen. This is in line with research conducted by Emilda (2017), which combines warm, cold compresses and *aloe vera* compresses to overcome breast swelling.

According to the researchers' assumptions, *aloevera* compresses can decrease swelling by stimulating the immune system to block *prostaglandin biosynthesis*.

CONCLUSION

Based on the results of research conducted in the Srengat Health Center area, it was found that before the intervention, the majority of moderate-scale swelling pain was 15 people (68.2). After the intervention, the majority of mild breast swelling was 22 people (100%). And the results of the Wilcoxon test analysis with a value of $p = 0.000$. So it can be concluded that the administration of aloevera compresses is effective against changes breast swelling in nursing mothers in the area of the Srengat Health Center.

Suggestion

It is recommended to health care institutions to be able to carry out health education or health promotion that can be given to breastfeeding mothers to prepare for smooth breastfeeding expenditure such as doing administration of aloe compresses. To research respondents and the public that this research can increase the insight and knowledge of respondents As well as in applying aloevera compresses against swelling pain.

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