



## EFFECT OF THE ADMINISTRATION OF ALOE VERA GEL EXTRACT ON THE HEALING TIME OF NIPPLE WOUND IN BREASTFEEDING MOTHERS

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ABSTRACT	Keywords
<p>There has been a significant and continuous increase in the number of people suffering from hypertension worldwide, particularly in Indonesia. Many families with hypertensive members do not recognize hypertension or control their hypertension. This study aims to determine the correlation of family knowledge and behavior in controlling hypertension in patients at the outpatient department of a private hospital in Jakarta. The method was a quantitative methodology with a cross-sectional design approach. The population was the patients' families in outpatient department. The sample was 94 respondents who were selected using the purposive sampling technique. The instrument was a previous study's questionnaire. The univariate analysis showed that 64.9% of respondents have good knowledge, and 53.3% have good behavior. The bivariate analysis, which used the Pearson Chi-Square test showed a p-value of 0.001 (CI 95%). There was a correlation between family knowledge and behavior in controlling hypertension in patients at the outpatient department. Hospitals and nurses can further optimize family education, socialization, and collaboration in controlling hypertension.</p>	<p><b>Breastfeeding mothers; aloe vera gel; nipple wound healing</b></p>

### INTRODUCTION

During the postpartum period, there is an activity that can bring happiness to the mother, namely breastfeeding. Breastfeeding is something a way to provide nutrition to babies according to the needs of the baby's growth and development by sucking breast milk directly from the mother's breast. Breast milk has all the nutrients a baby needs. (Marmi, 2012; Proverawati & Eni, 2010).

The benefits of breastfeeding are so great, but not many mothers are willing or willing to provide exclusive breastfeeding

for 6 months as recommended by the world health organization. Several reasons cited by mothers who do not breastfeed their babies, among others, do not produce enough milk, their babies do not want to suckle, which means that breast milk is not enough or not good, so a decision is made to stop breastfeeding. There are also bad and incorrect ways to breastfeed (Utari, 2012; Widiasih, 2008; Marmi, 2012).

The problem that often occurs in breastfeeding mothers is improper breastfeeding technique which results in nipple blisters, where the baby does not feed

up to the breast areola. About 57% of breastfeeding mothers reported having suffered from blisters on their nipples (Soetjningsih, 2012).

United Nations Children's Fund (UNICEF) states that in the world there are around 17,230,142 million mothers who experience breastfeeding, consisting of 56.4% blistered nipples, 36.12% breast dams, and 7.5% mastitis. Based on a report from the Indonesian Demographic and Health Survey (IDHS) in 2009, it was shown that 55% of breastfeeding mothers had mastitis and blistered nipples. In West Java in 2017, the postpartum coverage rate was 927,301 people. Based on data obtained from the Health Office of the City of Tasikmalaya, the total coverage of postpartum mothers is 11,727 people. Cibereum Health Center has the most postpartum coverage, namely 943 people (Rohmi, 2015; Pusdatin, 2017; Tasikmalaya City Health Office, 2017).

Data obtained from the Cibereum Health Center from January to November 2018 for the total coverage of postpartum mothers of 1,071 people and the total coverage of exclusive breastfeeding 789 people. Based on the results of a preliminary study conducted at the Midwives Independent Practice, the incidence of nipple blisters in the Cibereum Health Center work area, namely 3 breastfeeding mothers who had just given birth for 3 - 7 days. Midwives at Cibereum Health Center usually use ointments to cure sore nipples.

Blistered nipples are one of the obstacles for a breastfeeding postpartum mother. The problem of chafed nipples will make it easier for germs to enter and the occurrence of swollen breasts, swollen breasts that are not adequately fed will eventually result in mastitis. With conditions like this, breast milk does not come out optimally, which affects milk production (Soetjningsih, 2012).

Management for the healing of sore nipples can be done with pharmacological and non-pharmacological therapies. Many non-pharmacological remedies that have been found to help heal sore nipples include traditional herbs, cold and warm compresses, relaxation, and so on. One of the natural resources that can be utilized in non-pharmacological therapy is aloe vera (aloe vera). This plant has been known as a healing plant. Aloe vera has been used for traditional medical purposes in several cultures for thousands of years. In vitro, extracts or components of aloe vera stimulate the proliferation of several types of cells (Khan, 2013; Emilda, 2017).

Many studies have shown that treatment with pure aloe vera gel and its extracts promotes faster wound healing. In a study entitled "Aloe Vera for Wound Healing", the results show that the use of aloe vera, especially its mucus, is effective in accelerating wound healing and reducing pain in wounds (Novyana and Susianti, 2016).

## METHOD

The tools and materials used in this research are DTT water, towels and aloe vera gel products.

The research design used was a quasi-experimental research design with a post test only non equivalent control group. This research was conducted in the work area of the Cibereum Health Center, Tasikmalaya City, from January to March 2019.

The sampling method used accidental sampling. The population in this study, namely Breastfeeding mothers during the postpartum period of 0-7 days who experience blistered nipples. The number of samples as many as 50 people who were divided into 2 groups, namely 25 people in the control group were given standard care (providing health education and teaching

proper and correct breastfeeding techniques) while 25 people in the experimental group were given aloe vera gel.

In this study, there were two variables studied, namely the administration of aloe vera gel extract (independent variable) and the healing time for sore nipples (dependent variable). The instrument used in this study was an observation sheet. Data were analyzed using non-parametric statistical tests, namely Chi Square.

At the time of the study, the researchers conducted a breast examination and then gave aloe vera gel a thin layer on the affected nipple, let it sit for 3 minutes, then cleaned using DTT water. This therapy is given twice a day and observations are made until the respondent is cured.

In conducting the research, researchers involved cadres and midwives. Researcher conducted data collection of prospective respondents who have given birth from the postpartum period of 0 - 7 days at the Independent Practice Midwives, village midwives and Cibereum Health Center. Researchers collaborate with midwives and cadres to determine the whereabouts of potential respondents.

## RESULTS

**Table 1. Respondents' Frequency Distribution Based on the Healing Time of Blisters on Breastfeeding Mothers who were not given Aloe Vera Gel**

variable	F	%
Fast	2	8,0
Normal	23	92,0

Based on Table 1 above, shows that the healing time for nipple blisters in breastfeeding mothers who were not given aloe vera gel was mostly in the normal category, namely 23 people (92.0%) and a small proportion was in the fast category, namely 2 people (8.0 %).

**Table 2. Frequency Distribution of Respondents Based on the Healing Time of Blisters on Breastfeeding Mothers who were given Aloe Vera Gel**

variable	F	%
Fast	22	88,0
Normal	3	12,0

Table 2 above shows that the healing time for nipple blisters in breastfeeding mothers who are given aloe vera gel is mostly in the fast category, namely as many as 22 people (88.0%) and a small proportion has the normal category, namely as many as 3 people (12.0% ).

Wound healing is a form of an effort to repair the damage. The main principle of treatment is to cool the burned area or reduce inflammation, prevent infection and allow the remaining epithelial cells to proliferate and close the wound. The wound healing process consists of 3 phases, namely inflammation, proliferation and maturation (Wirastuty, 2016; Nurani, 2015).

**Table 3. The Effect of Giving Aloe Vera Gel Extract on the Healing Time of Nipple Blisters in Breastfeeding Mothers in the Experiment Group and the Control Group**

Variable	Experiment		Control		Amount		$\chi^2$	p value
	F	%	F	%	F	%		
	Fast	2	91	2	8.	2		
	2	.7	3	4	0	0	92	00
							0	6
Normal	3	11	2	8	2	1		
		.5	3	8.	6	0		
				5	0			
Amount	2	48	2	5	5	1		
	4	.0	6	2.	0	0		
				0	0			

Based on table 3 above, it is known that the healing time for nipple blisters in

breastfeeding mothers with the fast category, the largest percentage was in the experimental group given aloe vera gel, namely as many as 22 people (91.7%), and in the normal category the largest percentage was in the experimental group. Controls who were not given aloe vera gel were 23 people (88.5%).

The results of statistical tests using the Chi Square test obtained a value of  $\chi^2$  count of 28.926 with a p-value of 0,000, where the p-value is less than  $\alpha$  (0,000 < 0.005), this indicates that there is an effect of aloe vera gel on the healing time of blistered nipples in breastfeeding mothers in the region. The Work of the Tasikmalaya City Cibereum Health Center in 2019.

Similar research conducted by Nurul Aqidah et al, stated that Skin Care and Aloe Vera Gel can heal Scabies Wounds in Adolescents. This study was conducted on 36 students who had scabies. This study was divided into 2 groups, namely the control group and the experimental group. This study shows that skin care and aloe vera gel can accelerate the healing of scabies wounds (Aqidah et al, 2017).

The results showed that aloe vera gel can provide faster wound healing, where the normal wound healing process usually occurs 7-14 days. This is because aloe vera contains amino acids and enzymes, each of which functions to help the development of new cells at an extraordinary rate and remove dead cells from the epidermis. The positive effect of boosting the immune system in reducing inflammation, aloe vera has an inhibitor system that blocks pain and a stimulation system that promotes wound healing. Aloe vera stimulates the growth of fibroblasts to improve wound healing and prevent the spread of infection (Emilda, 2017).

## DISCUSSION

There is an effect of giving aloe vera gel on the healing time of blistered nipples in nursing mothers. Normal wound healing is a complex and dynamic process, but has a predictable pattern. The wound healing process usually occurs within 7-14 days. The wound healing process can be divided into three main phases starting from the inflammatory phase, occurring at the beginning of wound formation until the third or fifth day. In this phase, there are two main activities, namely the vascular response and the inflammatory response. The vascular response begins with a homeostatic response (capillaries contract and platelets leave) in the body for 5 seconds after the wound is formed, then the tissue around the wound will experience ischemia to stimulate the release of histamine and vasoactive substances which will result in vasodilation, platelet release, vasodilation reactions and vasoconstriction. , as well as the formation of a fibrin layer which functions to form a scab or scab on the wound surface to protect the wound from contamination by microorganisms, both bacteria and fungi.

After that proliferation occurs, this phase consists of a destructive or cleansing process, a process of proliferation (granulation) or the release of new cells for growth, and epithelialization or migration of cells for wound closure. Then there is maturation and remodeling, this phase serves to strengthen the newly formed tissue in the scar. In this phase the body will try to normalize all scar tissue due to the healing process, edema and inflammatory cells will be absorbed, young cells will mature, new capillaries will close and be reabsorbed, excess collagen will also be absorbed and the rest will shrink accordingly. the existing strain. These phases occur overlapping each other (overlapping), and last from the time the injury occurred, until the wound resolution was reached (Atik and Januarsih,

2009; Han, 2016; Arisanty, 2013; Dewi, 2010).

Blistered nipple is a condition in which blisters occur on the nipple which is characterized by pain, cracks and the formation of cracks in the nipple. Nipple blisters due to trauma to the nipples during breastfeeding, in addition to that, cracks and the formation of cracks can occur. In this situation a mother often stops the breastfeeding process because her nipples are sore. Nipple blisters during breastfeeding often occur in young mothers who are breastfeeding for the first time. Generally, this is due to the wrong breastfeeding position, imperfect attachment between the baby's mouth and the mother's nipple or when the baby starts teething. When teething, usually the baby will bite the nipple, causing cuts or abrasions (Dewi, 2011; Sulistyawati, 2009; Kompas, 2015).

Jatnika and Saptoningsih's research states that aloe vera has pharmacological effects, namely laxative and parasiticide. In addition, aloe vera also has other benefits, namely as an antiseptic: a natural cleanser and treats wounds quickly; antipruritic: relieving itching; anesthetics: pain reliever; aphrodisiac: sexual arousal generator; antipyretic: heat reliever; antifungal, antiviral, and antibacterial derived from saponins; and anti-inflammatory: derived from fatty acids. Aloe vera also contains lignin and polysaccharide compounds which are useful as a medium for carrying nutrients needed by the skin. Polysaccharides play a role in stimulating wound healing and skin growth. Aloe vera also includes several compounds such as vitamin E and vitamin C and some amino acids, which can play an important role in the acceleration of wound healing to such an extent that experiments have shown that vitamin C can play a role in increased collagen production and prevention of the synthesis of DNA strands, as well as vitamin E as powerful

antioxidants in wound healing. It is also supported by the characteristics of aloe vera which has a normal acidity level (pH), almost the same as the pH of human skin so that it provides the ability to penetrate the skin well (Emilda, 2017; Novyana & Susanti, 2016).

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## CONCLUSIONS

There is an effect of giving aloe vera gel on the healing time of blistered nipples in nursing mothers.

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