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Article

THE INFLUENCE OF COCONUT OIL (COCOS NUCIFERA L) WITH Lime (CITRUS AURANTUFOLIA L) TOWARDS REDUCTION FEVER ON POST IMMUNIZATION BABIES

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A B S T R A C T

Based on the World Health Organization (WHO) the number of cases of fever worldwide reaches 16-33 million with 500-600 thousand deaths each year. The purpose of this study was to determine the effect of coconut oil (Cocos nucifera) immunization L) with lime juice (Citrusaurantufolia L) to reduce fever in infants after DPT Immunization in the Work Area of Lubuk Basung Health Center in 2019. This is Quasi Experiment with Pretest-Postest approach. The study population was all babies after DPT immunization at the Lubuk Basung Health Center. The sampling technique is done by using Purposive Sampling technique. This research was conducted in SLubuk Basung Public Health Center. Data analysis using statistical tests Paired Samples TTest. The results showed that there was a significant difference that was 12.584> 2.306. This means that the Ha hypothesis is accepted because the value of Tcount> T table. Statistical test results obtained a p value of 0,000 <0.05, because <0.05, the difference is statistically significant or significant at a probability of 0.05. In conclusion there is a significant influence in the use of coconut oil with lime juice in reducing fever in infants after DPT immunization. It is hoped that the community will carry out initial treatment to reduce children's body temperature by non-pharmacological means by giving coconut oil (Cocosnucifera L) with lime juice (Citrus aurantufolia L).

I. INTRODUCTION

Immunization in the national health system is one form of health intervention that is very effective in efforts to reduce mortality babies and toddlers. The main basis Preventive health services are a top priority, by immunizing a child and toddler, not only providing protection to other children, due to the level of general immunity and reducing the spread of infection (Ranuh et al, 2011).

Basic immunization is the provision of initial immunization in infants to achieve Immune level threshold protection (MOH, 2012) Basic immunization types, namely: BCG, which is the basic immunization given to prevent tuberculosis. Then basic hepatitis B immunization, which is given to prevent hepatitis B. Furthermore DPT, which is basic immunization given to prevent diphtheria, pertussis, and tetanus.

Then measles immunization is given to prevent measles and basic polio immunization is given to prevent polio (IDAI, 2014). One of the eight MDG goals in point four is reduce infant mortality by increasing immunization status, especially complete basic immunization in infants because immunization is mandatory to protect babies from diseases that often attack (Priono 2010).

Immunization services can be obtained in government-owned health service units, such as hospitals, health centers and even Posyandu which are spread throughout the country. DPT Immunization is one of the immunizations that must be given to babies. DPT stands for Tetanus Pertussis Diphtheria, a vaccine made from diphtheria toxoid and purified tetanus, and attenuated pertussis bacteria. This immunization is useful to prevent diphtheria and pertussis infection or cough for 100 days (Lisnawati, 2011: 58).

Febrile cases are very common in children this year as evidenced by the American Academy of Pediarics which states that fever often occurs in children aged due to viral infections such as cough, flu, sore throat, common cold (colds) and diarrhea.

Management consists of two principles, namely the provision of pharmacological and non-pharmacological therapies. The principles of non-pharmacological therapy include giving enough fluids to prevent dehydration, wearing clothes that are easy to absorb sweat, give warm compresses to cause vasodilation of blood vessels so that the set point will be reached and return to the normal core body temperature limit. The action that is often done by parents when a child has a fever is to immediately bring it to health workers in the hope that heat-lowering drugs will be given. Giving antipyretics can disguise the symptoms of a disease, then one of the best ways to reduce children's fever is by compressing (Kania, 2013).

To overcome the fever there are various ways that can be done, among others, by giving antipyretics, compresses, and wearing thin clothing on children. There is an opinion that expresses giving Antipyretics can disguise the symptoms of an illness, so one of the best ways to reduce a child's fever is by compressing it. Compress is one method to reduce body temperature when a child fever. During this cold or ice compress becomes a habit that is applied by mothers when their children have a fever. In addition, alcohol compresses are also known to mothers as ingredients for compressing. Literature search in a study said that the content of pure virgin coconut oil contained lauric acid which functions as a precursor of monolaurin which can modulate immune cell proliferation. Proliferation of immune cells This, it can be said that it is capable suppress inflammatory processes that occur in the body. This inflammatory process can be in the form of pain and fever (Intahphuak, et al. 2010).

Coconut oil makes the peripheral blood vessels widen so that the content the chemistry of coconut oil that can kill fungi, bacteria and viruses that cause body temperature to rise, enter the body more easily (Rini, 2013). The heat travels from the blood, through the walls of blood vessels, to the surface of the skin and is lost to the environment through the mechanism of heat loss. By giving a compress on axillary and groin, venous blood vessels will change size, which is regulated by the anterior hypothalamus to control heat expenditure, resulting in vasodilation (dilation) of blood vessels and heat production barriers. Blood is distributed to the surface veins to increase heat dissipation. Vasodilation occurs this causes heat dissipation through increased skin (Potter, 2012).

Research conducted by Endah Susilo Rini states that the effect of giving coconut oil and lime scrubs to reduce fever is a significant difference. This means that the hypothesis is accepted because the value of t calculated temperature after giving is greater than t table value (4,262> 2,101).

According to research conducted by Puji Lestari (2016) as for curing orange mixed fever lime, onion, eucalyptus oil, and coconut oil. Prepare two to four cloves of crushed onion, then add half a spoon of eucalyptus oil and also a half spoon of coconut oil and add the lime juice. After all the ingredients are mixed, use the potion to compress your family members who has a fever. According to research conducted by Inde Herluti (2018) as for the influence giving coconut oil with lemon juice lime to decline in children there is a significant difference T count it > T table with 21.60> 2.306, Thitung value is greater than Table. Statistical test results obtained Pvalue value of 0,000 where <0.05, because <0.05 then the meaningful difference statistically significant at probability 0.05. With the development of research revealed the presence of active chemicals and nutrients contained in the fruit called phytochemicals and

phytonutrients associated with various health benefits, such as disease prevention, treatment, until healing (Budiana, 2013).

According to the National Institute for Health and Clinical Excellence (NICE) guidelines, antipyretics cannot be used routinely in the treatment of children with fever, although it can be used in children who show symptoms of discomfort, including prolonged crying, irritability, reduced activity, decreased appetite, and sleep disturbance. Instead the WHO guidelines recommend the use of paracetamolapabila body temperature> 39ºC. And the latest document from WHO does not recommend routine use antipyretic in children, especially in situations families must bear the costs of treatment and also because the role of antipyretic drugs in children with malaria, sepsis or chronic malnutrition is still not established. The use of ibuprofen in patients with dehydration should be careful because of the increased risk kidney failure.

It was reported that some parents brought their children aged <10 years to the emergency department within 24 hours after giving paracetamol or ibuprofen at a dosage known to parents as an antipyretic dose, but turned out to be too high a dose. Children aged <1 year have a greater risk of getting the wrong dosage. (Pediarti, 2011).

II. METHODS

This type of research was a quantitative study that used Pre-Experimental Design method with the pretest-posttest control group design. The populations in this study were the babies who got immunization. The total sample was 7 respondents, sampling using non-probability techniques, purposive sampling. Breast engorgements were observed by using six-point engorgement scale 3221(SPES) questionnaires before and after intervention.

Cabbages Leaves were given after whole cabbage leaves in the freezer for 20 minutes then attach to the breast that experienced engorgement by putting it in the bra for 30 minutes.

Data collection tools used in this study were six-point engorgement scale 3221(SPES) questionnaires. The analysis was done by univariate and bivariate using SPSS for Windows applications. Data were normally distributed based on the normality test with Saphiro Wilk, so the data was processed by Paired T-Test to see the difference in the mean difference between the two paired samples.

III. RESULT

Table 1. Average of SPES Score before Intervention

SPES Score	Mean	SD	Min-Max
Pretest	**3.86**	**0.690**	**3-5**

Based on Table 1 we know that the average SPES Score before intervention were 3.86 with 0.690 deviation standard. Minimal volume was 3 and maximal volume was 5.

Table 2 Average of SPES Score before Intervention

SPES Score	Mean	SD	Min-Max
Posttest	**1.57**	**0.787**	**1-3**

Based on Table 2 we know that the average SPES Score after intervention were 1.57 with 0.787 deviation standard. Minimal volume was 1 and maximal volume was 3.

Table 3. The Effect of Cabbage Leaves on Breast Engorgement

			Paired T-Test		
	Ranks	**N**	**Sum of Ranks**	**z**	**P value**
PostTest	**Negative Ranks**	**6**	**3.50**	**-**	**0,023**
Pretest	**Positive Ranks**	**0**	**0.00**	**2.271**	
	Ties	**1**	**21.00**		
	Total	**7**	**0.00**		

Based on Table 3, we know that The scale of breast engorgement in 6 respondents experienced a decrease in the scale from pre-test to post-test with a mean decrease in the scale of 3.50 and the pretest and post-test scores for 1 respondent had the same value. Due to the p value <0.05 (P = 0.023) it can be concluded that the hypothesis is accepted, meaning that there is an effect of cold cabbage leaves compresses to breast engorgement on postpartum mothers.

IV. DISCUSSION

Based on research conducted by Miftakhur, et al. (2019) regarding the effectiveness of cold cabbage leaf compresses on the scale of breast engorgement in postpartum mothers in Kediri, the results showed that the scale of breast engorgement in postpartum mothers before being given a cabbage leaf compression (Brassica Oleracea) was a scale of 4 , after being given a cabbage leaf compression (Brassica Oleracea), the breast swelling became a scale of 1 which means that a cabbage leaf compression (Brassica Oleracea)

can be used as a therapy to reduce the scale of swelling and prevent and prevent breast engorgement in postpartum mothers(4).

Masoud in 2018 revealed that the most of majority of breast engorgement in control group of the mothers whereas in the study group it is more than half knows that breast engorgement is considered one of the most serious problems which interfere with breast feeding. Less than half from study & control group do not know about the causes of it. The majority of study & control group reported correct but incomplete answer regarding signs & symptoms of breast engorgement. While comparing the results that of the (PadmasreeSR .,et al., 2012).added that the findings were more or less consistent in nature; it may be due to influence of extraneous variables. Comparing the incidence of breast engorgement, less than quarter of mothers only reported breast engorgement in study group where asthe half of mother in the Control group, which shows remarkable decrease in the incidence of breast engorgement in the former group. Concerning symptoms of breast engorgement, the current study illustrated that more than twenty percent of each group were suffered from firm and tender breasts (Level four of engorgement). Also, there was a statistically significant difference between the control and study symptoms and levels of breast engorgement for the two groups ($p < .05$*). The methods of nursing care (cabbage leaves compresses) for the management of breast engorgement was effective. This agree with(1).They mentioned that each treatment was applied for 30 minutes for three times daily for two days. Treatment was effective in reducing pain and engorgement(3).

Masoud reported that, pain score for the cabbage group reduced more than half. While the group who use routine care, their pain score reduced less than third during the post-intervention. This agree with (Snowden HM et al., 2011) who reviewed research

Studies to determine the effects of several interventions to relieve symptoms of breast engorgement among breastfeeding women and found that cabbage leaves were effective in the treatment of this painful condition. Cabbage leaves were preferred by the mothers. The advantage of using cabbage leaves is its low cost and convenience as compared to other medical regimens. Also,(Roberts KL et al., 2013) mention that when compared the efficiency of cabbage leaf extract with the treatment of breast engorgement in lactating women; they concluded that both the groups received equal relief from the discomfort and the hardness in breast tissue decreased substantially(3).

(Hill PD &Humenick S., 2014) who reported that 3the use of cabbage leaves for engorgement is not effective. The study involved 120 mothers, who took part in the research during their post-partum hospital stay. 60 of the women applied cabbage leaves after a feed,

leaving them in place until they had reached body temperature. This process was repeated for a total of four feeds, and after each application the women were asked to report whether they felt their breasts were engorged. A control group of 60 women, who did not use cabbage leaves, were also asked to report whether their breasts were engorged. These differences between the two groups is very small indeed, and it is not statistically significant, so the only appropriate conclusion is that there is no support for the hypothesis that cabbage leaves prevent engorgement (3).

Masoud showed that there was a statistically significant difference between the pretest and posttest of the pain score and engorgement score for the cabbage group and the routine care group was highly significant ($p < .001$*).That is agree with (Wong P ., 2011) there are several approaches for the treatments of breast engorgement have been explored as; cabbage compresses that is highly significant ($p < .001$). In Taiwan a Randomized Controlled Trial .According to his colleges, they stated that, cabbage leaf treatment used on women with breast engorgement to reduce pain, the firmness of the engorged breasts and increased the duration of breastfeeding(3).

A systematic review of Siregar in 2018, stated that Herbal compresses, leaf compresses hollyhock, cabbage compresses and gua sha can be used to reduced breast engorgement during lactating, but there is no strong evidence to recommend which method is most effective because all studies still have a high risk of bias, more rigorous follow-up studies are needed to see which interventions are most effective(5).

Cabbage leaves has both anti-irritant and antibiotic properties, which help to relieve tissue congestion and improve the flow of blood in and out of the area, allowing the body to reabsorb the fluid surrounding the breast, and also help to enhance venous and lymphatic drainage and alleviate engorgement symptoms(6).

Application of green cabbage leaves to the breasts helps to reduce swelling. It should be kept inside the brassiere for 15–20 minutes in the engorged breast and should not be used more than three times per day. Discontinue the application of cabbage leaves as soon as engorgement begins to subside. Gentle massage in the breast can also help the milk flow more readily. If the nipple and areola are swollen, the mother is not supposed to feed without softening the breast. Manual expression or breast pump can be used to remove little amount of milk from the breast which in turn helps to soften the nipple and areola before feeding(6).

Astuti in 2019 also concluded that there was significant effect of cabbage compress to decrease postpartum sectio caesarea with breast engorgement after compresses cabbage. This

intervention is recommended to increase the comfort of postpartum sectio caesarea with breast engorgement(7).

V. CONCLUSION

Mothers often suffered breast engorgement at the beginning of postpartum, and this is one of the causes of early breastfeeding cessation. It causes hard breasts, pain, overall redness and increases body temperature. Application of green cabbage leaves to the breasts helps to reduce swelling and pain. It is recommended for postpartum mothers to use this intervention to treat breast engorgement.

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