



GIVING OLIVE OIL TO DIAPER RASH IN INFANTS AGED 6-12 MONTHS IN THE WORK AREA OF THE NAMBO HEALTH CENTER

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ABSTRACT

Background: Diaper rash is one of the most common skin diseases experienced by infants and toddlers with a high incidence and prevalence. Diaper rash occurs because the cause of diaper rash is fungus and bacteria. Treatment of diaper rash can be done in a non-pharmacological way, one of which is by using olive oil. **Objective:** The purpose of this study was to determine the effect of giving Olive Oil on diaper rash in infants aged 6-12 months in the working area of the Nambo Health Center. **Method:** This type of research is a quasi-experimental design with one group pretest-posttest on 16 respondents through total sampling. **Result:** The results of this study indicate that before administration of olive oil, the most diaper rash in infants was moderate, namely 8 respondents (50%) while after administration of olive oil, diaper rash in infants recovered the most (no diaper rash). Namely 6 respondents (37.5%). Wilcoxon test shows the P value = 0.001 (≤ 0.05). **Conclusion:** So it can be concluded that there is an effect of giving olive oil to reduce the degree of baby diaper rash.

Keywords: Ruam Popok, Bayi, Minyak Zaitun.

INTRODUCTION

Diapers and babies are two things that cannot be separated. Among a number of skin disorders in infants, diaper rash is the most common in newborns. Skin disorders that often occur in babies are prickly heat, irritation, diaper rash or diaper eczema.¹

Based on data released by the World Health Organization (WHO) in 2017, the prevalence of diaper rash in infants is quite high, namely 25% of babies born in the world mostly suffer from diaper rash due to diaper use. The highest number is found in babies aged 6-12 months. The prevalence of diaper dermatitis in the general population is between 7% - 35%, the prevalence of hospitalized infants and children ranges from 17% - 43%, in the United States about 1 million health care visits for diaper rash occur per year, with 25% of children at risk are diagnosed with diaper rash. Diaper rash is found most commonly among children under 2 years of age, with the majority of cases being found in children under 1 year of age.²

Expert from the Minister of Health for Capacity Building and Decentralization, estimates that the number of children under five (under five years) in Indonesia reaches 10 percent of the population. If the population is 220-240 million people, then there are at least 22 million toddlers in Indonesia, and 1/3 of the number of babies in Indonesia experience diaper rash.³

Based on data from the Southeast Sulawesi Central Statistics Agency (BPS), the total number of babies born in 2021 will reach 51 thousand in 2021. From the data at the Nambo Health Center, births were recorded to reach 197 babies born from January 2021 to December 2021.⁴

In the working area of the Nambo Health Center there are 5 Villages, while each posyandu has 1 for each village, so there are 5 Posyandu places. Each Posyandu has a different number of children under five, but the highest number of children under five is in Posyandu in Petoaha village and a small number of children under five in Posyandu in Nambo village. whereas if you add up all the number of toddlers in each posyandu it is 209 and the number of babies aged 6 - 12 is 86.⁵

The causes of diaper rash are fungi and bacteria. Diaper rash is a skin disorder caused by disposable diapers on the buttocks and genitals. A sign of diaper rash is redness of the skin area covered by the diaper due to urine and feces that have accumulated for too long. This keeps the skin moist and the presence of friction is also a cause of diaper rash.⁶

The impact of diaper rash besides disturbing the health of the skin in the baby's perineal area, can also interfere with the development and growth of the baby. Babies who experience diaper rash will experience disturbances such as fussiness and difficulty sleeping, especially when urinating or



defecating, therefore to prevent diaper rash, perianal care needs to be done properly. Perianal care for babies, namely cleaning the perianal area in the genitalia, the area around the anus, the baby's buttocks and the groin. Perianal care is very important to maintain the health of the baby's skin, especially in the area of the baby's genitalia which is very sensitive and avoid using powder in the baby's buttocks area to prevent infection.⁷

There are 2 ways to treat diaper rash, namely pharmacological and non-pharmacological. One of the non-pharmacological administration is by using natural processed ingredients, one of the natural preparations that can be considered as an alternative topical therapy that can be used for skin care in babies who experience diaper rash, namely Olive Oil.⁸

Olive Oil has a high therapeutic value for health. This statement was again confirmed by a food and nutrition biochemist at the Jakarta State University, Alsuhendra, who said that olive oil is widely used in the health sector because of its high content of unsaturated fatty acids, especially unsaturated fatty acids with single double bonds which contain oleic acid. (Omega 9) and also linoleic acid (Omega 6) with levels of 65-85%. Olive Oil can relieve irritation, redness, dryness, or other skin disorders due to environmental factors.⁹

Vitamin E in olive oil will help fight free radicals, skin aging, and damage caused by exposure to pollution and sunlight. In addition, the ability of Olive Oil as an anti-fungal is the effect of the fatty acids contained in it. Fatty acids can be used as acids instead of chemical compounds, due to the ability of fatty acids to inhibit fungi without affecting the host organism, the fatty acids in Olive Oil can directly act on the fungal membrane thereby preventing resistance and shortening the life of the fungus. One of the fatty acids contained in Olive Oil is caproic acid which is effective in inhibiting the growth of candida albicans, caproic acid causes damage and shrinkage of the cytoplasm, due to disruption of the fungal membrane.¹⁰

The results of a preliminary study conducted by researchers at the posyandu within the Petoaha sub-district, working area of the Nambo Health Center, the number of toddlers in the posyandu is 58 and the number of babies aged 6 - 12 months is 16 babies, consisting of 9 babies male and 7 baby girls. After conducting interviews with 7 mothers whose

babies had diaper rash, it was found that 5 mothers had no idea how to treat diaper rash in babies aged 6-12 months, while 2 mothers used powder to treat diaper rash in their babies, because the baby's mothers still did not know that Powder can make diaper rash worse. The pubic area should not be powdered because the powder can clot and cover the opening of the urinary tract, so that the baby may have difficulty urinating

METHODS

This research is a pre-experimental study using the "One Group Pretest-Posttest" approach where in this design the researcher gives a pre-test to the group that will be given the treatment. Then the researcher did the treatment or treatment. After finishing the treatment, the researcher gave a post-test. The magnitude of the effect of the treatment can be known more accurately by comparing the results of the pre-test with the post-test (11). So this study is intended to see the effect of giving olive oil (olive oil) on the reduction of diaper rash in infants aged 0-12 months.

This research was carried out from 08 September to 02 October 2022 in the Working Area of the Nambo Health Center. The population in this study were all infants aged 6-12 months who had diaper rash at the Nambo Health Center, totaling 16 people. Sampling using Non-Probability sampling with the total sampling method, namely the entire population is used as a sample. The reason for taking total sampling is because the total population is less than 100, so the entire population is used as the research sample.

RESULTS

Characteristics of respondents

Table 1. Distribution of Respondent Characteristics

Characteristics of Respondents	n	%
Mother's Age (years)		
21-25	5	31,3
26-30	6	37,5
31-35	2	12,5
36-40	2	12,5
41-45	1	6,3
Education		
Elementary school	3	18,8



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Junior high school	5	31,2
Senior High School	6	37,5
College	2	12,5
Work		
Housewife	8	50,0
self-employed	7	43,8
government employees	1	6,2
Gender (Toddler)		
Male	7	43,8
Female	9	53,2
Toddler Age		
6 months	2	12,5
7 months	2	12,5
8 months	3	18,8
9 months	3	18,8
10 months	4	25,0
11 months	2	12,5
12 months		

Table 1 shows that the highest age distribution of respondents (mothers under five) was in the age group 26-30 years with 6 respondents (37.5%) and the lowest in the age group 41-45 years with 1 respondent (6.3%), with a level the highest education was senior high school with 6 respondents (37.5%) and the lowest was bachelor with 2 respondents (12.5%). The highest occupation of the respondents (mothers of toddlers) was IRT with 8 respondents (37.5%) and the lowest was civil servants with 1 respondent (6.3%). Female as many as 9 respondents (53.2%) with the highest age being 10 months old as many as 4 respondents (25.0%) and the lowest being ages 6.7 and 11 months each 2 respondents (12.5%).

Diaper Rash before and After treatment

Tabel 2. Frequency Distribution of Diaper Rash in Toddlers Before and After Treatment in the Work Area of the Nambo Health Center (n = 16)

Variable	Degrees of diaper rash	Group			
		Pre test		Post test	
		n	%	n	%
Diaper Rash	Degrees 0	0	0,0	6	37,5
	Degrees I	5	31,3	5	31,3
	Degrees II	8	50,0	5	31,3
	Degrees III	3	18,7	0	0,0

The table above shows that the highest degree of toddler diaper rash before being given olive oil was in the moderate category with 8 respondents (50.0%) and the lowest in the severe category with 3

respondents (18.7%). After being treated with olive oil, the highest was cured by 6 respondents (37.5%) and the lowest was in the heavy category by 0 respondents (0.0%).

DISCUSSION

Diaper rash is an infection of the baby's skin caused by friction on the diaper and skin as well as urine and feces that are in the diaper too. Parents who do not maintain the cleanliness of the baby by changing the baby's diaper which has been dirty with the baby's feces and urine are the cause of the baby experiencing diaper rash.¹¹

Diaper rash or diaper rash often occurs or is experienced by infants aged 6-12 months, but does not rule out the possibility that it also occurs in the neonatal period, namely infants aged 1 month, the incidence of diaper rash decreases as the baby gets older (12). This is in accordance with the sample that was the respondent in this study, namely infants aged 6-12 months, the highest distribution of toddler age was 10 months of age with 4 respondents (25.0%) and the lowest were ages 6.7 and 11 months respectively. 2 respondents (12.5%).

Based on the results of observations made by researchers at the research location, in this case the working area of the Nambo Health Center, out of the 16 babies who had diaper rash, there were differences in the degree of diaper rash where the mild degree was 31.3%, moderate 50.0% and severe 18.7%. Based on the results of observations, more respondents experienced moderate and mild diaper rash. Respondents who experienced diaper rash mostly occurred on the buttocks and thighs. Diaper rash in babies also spreads to the stomach and genital area, babies experience redness in the area of diaper rash.

According to the researcher's assumption, the average cause of diaper rash in infants at Nambo Health Center is because babies experience diarrhea. Babies with diarrhea are more susceptible to diaper rash because of the frequent bowel movements when babies have diarrhea, this condition makes it easier for fungal or germ infections (skin irritation) to occur, which are common in the face. This condition gets worse because the diapers used are very tight. This is reinforced by the results of interviews with the baby's mother, it was found that the parents changed the baby's diaper most often only changed 2 times a



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day/after the diaper was full/ defecate, the baby's parents put diapers all the time on their babies without letting at least 2-3 hours the baby is free from diapers so that the baby's skin exposed to air. When the baby's diaper is completely filled with urine and the mother's stool is not replaced immediately, sometimes the baby is allowed to play until he is satisfied, so it is not uncommon for the diaper used to be dirty with dust. There are significant differences between the skin of toddlers and adults, which include smaller keratinocytes, microrelief structure, thickened stratum corneum, extensive cell proliferation, and differences in collagen fibers in the dermis. Extracellular fat in the stratum corneum matrix acts as a barrier preventing water loss and entry of hydrophilic substances such as water where the corneocytes provide mechanical protection from the external environment.¹²

In addition to wearing diapers for too long, ammonia also causes diaper rash. An increase in urine pH increases fecal enzymes, namely protease and lipase, making it easier for irritation to the buttocks. Fecal enzymes also increase skin permeability due to bile salts contained in feces, especially during diarrhea.¹³

In general, diaper rash is caused by irritating factors caused by proteases and lipases present in the feces whose reactions can increase the acidic pH of the skin surface. In babies who experience diarrhea for about 48 hours, when the baby wets the bed, the urine will be absorbed and accumulated on the skin around the genitals, around the buttocks and groin, so that the skin will be moist for a while, and this is what causes microorganisms to grow and develop. development damages the tissue around the moist skin, causing skin irritation and dermatitis or diaper rash occurs.¹⁴

When using disposable diapers, the excreted urine will accumulate and be absorbed by the skin around the use of the diaper, so that the skin in that area experiences irritation due to wet diapers called urine and feces. Urine and feces contain bacteria of the type of ammoniogenesis which can decompose the urine and feces into ammonia and eventually microorganisms cluster around the skin, causing infection and irritation. Sheets/cloths or baby clothes and unknowingly have broken down the urine into ammonia. This ammoniacal substance has a characteristic odor of urine, which can be smelled

when wetting the bed both in diapers, bed sheets and baby clothes.¹⁵

Diaper rash that is not handled properly and quickly can cause skin damage to the baby, therefore, efforts must be made to prevent diaper rash by giving olive oil. In addition, mothers also have to change their baby's clothes / diapers every time they get wet. When changing diapers, clean the skin gently with water, use mild soap after defecation, then rinse thoroughly, dry with a soft, soft towel or cloth, let it dry for a while, then put on a new diaper. Let the baby not wear a diaper for at least 2 -3 hours per day so that the baby's skin is not hot and moist, apply powder, cream or ointment to protect the skin to reduce friction. The use of powder must be done on dry or not wet skin conditions, avoid rashes from powder as well as dust. Powder can also cause more severe diaper rash because the powder that is located in the groin will mix with sweat which can cause bacteria to grow.¹⁶

Effect of giving olive oil (olive oil) on diaper rash in infants aged 6-12 months

Table 3. The Effect of Giving Olive Oil on Diaper Rash in Infants Aged 6-12 Months

Variabel	Pre test Mean ± SD	Post test Mean ± SD	p-value
Diaper Rash	1,88 ± 0,84	0,718 ±0,854	0,001

The table above shows that there are differences in the mean score obtained from the diaper rash degree instrument. The mean value during the pre-test (before treatment) was 1.88 and decreased to 0.84 after five days of intervention (olive oil administration). The results of the Wilcoxon test obtained p-value = 0.001 (<0.05), so it can be concluded that there is an effect of giving olive oil on diaper rash in infants aged 6-12 months in the working area of the Nambo Health Center, Kendari City, in 2022.

The results of the diaper rash post-test measurement showed that most of the respondents experienced a decrease in the incidence of diaper rash, most of the 6 respondents (37.5%) had no rash, mild as many as 5 respondents (31.3%), and moderate 5 respondents (31, 3%) while the degree of severity is no longer there (0%). Based on the results of



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observations of diaper rash in infants, most of them experienced a decrease in the degree of diaper rash after being given olive oil. The mother gives olive oil after bathing, after the baby's body is dry, especially the buttocks, stomach, thighs and genitals, then the mother applies olive oil to the area that has diaper rash. Mother let the olive oil 5-10 minutes, then continued to put on the baby's diaper. Some mothers still use eucalyptus oil first before applying olives, most mothers replace eucalyptus oil with olive oil. Mother gives olive oil every day after bathing. However, not all mothers immediately change their baby's diaper when the baby's diaper is full of urine and feces. The mother still leaves the baby's diaper a few minutes before changing a new diaper. Some mothers also use antiseptic soap to reduce the occurrence of baby diaper rash.

Babies who still have severe diaper rash experience diaper rash on the buttocks, thighs and genitals. Redness, itching and blisters appear and the baby also feels itchy. In giving diaper rash, mothers don't give olive oil to babies every day. In addition, giving olive oil is not done after bathing but at night when the baby is sleeping. Mothers also leave children in diapers filled with urine and feces.

Apart from giving olive oil to treat diaper rash, it is also necessary to pay attention to the care and cleanliness of the baby. Because olive oil is an alternative solution that is able to treat diaper rash in babies. If diaper rash is not prevented early on, care and personal hygiene of the baby are also not maintained, then diaper rash will actually get worse, so giving olive oil may not be able to treat diaper rash, more specific treatment is needed

The effect of giving olive oil to reduce the degree of diaper rash

Based on the results of the research and the results of data analysis on the difference in the degree of diaper rash before and after administration of olive oil (olive oil) was 1.084 using the Wilcoxon test showing a value of $p = 0.001 < \alpha = 0.05$ which means there is a significant difference in the degree of diaper rash in infants before and after giving olive oil (olive oil). The results showed that the degree of diaper rash in infants before giving olive oil was 1.88. while the degree of diaper rash in infants after giving olive oil (olive oil) obtained an average of 0.84. There was a decrease or difference of 1.084.

The results of this study are in line with research conducted by Sebayang and Sebiring (2020) which stated that the degree of respondent's diaper rash was reduced after administration of virgin coconut oil, namely 2.32, and before administration of olive oil, namely 8.64. with the results of the paired-t-test obtained p -value = 0.000, which means that there is an effect of giving olive oil on reducing children's diaper rash.¹⁷

The results of other studies also show the results that the effect of olive oil on infants and toddlers with diaper rash has reported that giving olive oil has a good effect on the dermatitis scale. The findings from this study confirm a number of studies and indicate that olive oil administration has a beneficial effect on diaper rash. The mean degree of diaper rash of respondents who experienced diaper rash after giving olive oil for 3 consecutive days with a frequency of giving 2 times a day in the morning and evening was 0.6.⁷

Based on the results of observations, before giving olive oil, most babies experience moderate and mild diaper rash. The habit of mothers who do not immediately change diapers when the baby's diaper is full of urine and feces. This exacerbates the condition of diaper rash in babies. Diaper rash in babies occurs on the body parts that are in direct contact with the diaper, namely the buttocks, thighs, genitals and stomach. In addition, the mother's ignorance about diaper rash and how to treat diaper rash makes the condition of diaper rash worse, even some babies have inflammation and erythema on the buttocks and thighs.

After being given counseling about the treatment of diaper rash and diaper rash alternative medicine, namely olive oil, the mother understood and understood about diaper rash and how to treat and treat it. It has been proven that most babies who experience diaper rash experience a decrease in signs and symptoms of diaper rash after being given olive oil. Decreased signs and symptoms of diaper rash on thighs, buttocks, abdomen and genitals. Most mothers have complied with all the procedures for giving olive oil to treat diaper rash in babies. Giving olive oil to babies is done after the baby has finished bathing and after the body parts where diaper rash occurs are dry and given in the morning and evening.

Giving olive oil to babies to treat diaper rash is an alternative treatment. Olive oil is capable and



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effective for killing germs and bacteria that cause diaper rash. Olive oil is easy to get in markets, so mothers can use and store olive oil as a preparation for diaper rash treatment. Apart from that, mothers also need to understand the causes of diaper rash so that mothers understand and are able to take care of babies with diaper rash. The role of officers is also needed to accompany and provide a roll model for the community, especially for mothers who have babies with diaper rash.

The results of the diaper rash post-test measurement showed that most of the respondents experienced a decrease in the incidence of diaper rash, most of the 6 respondents (37.5%) had no rash, mild as many as 5 respondents (31.3%), and moderate 5 respondents (31, 3%) while the degree of severity is no longer there (0%). after adding olive oil. The use of olive oil (olive oil) on a regular basis for infants and applied sufficiently to the baby's skin can prevent or treat skin irritation (diaper rash) in infants, because the content contained in olive oil (olive oil) is able to protect the skin from irritation.

Olive oil (olive oil) contains many active compounds such as phenols. Tocopherols, sterols, pigments, squalene and vitamin E. All of these compounds are beneficial for the skin repairing damaged skin cells as antioxidants neutralizing free radicals reduce redness on the skin and can protect the skin from irritation

Olive oil can reduce the degree of diaper rash because it can be used to moisturize the surface of the skin without clogging pores, as well as to rejuvenate the skin. When used regularly, olive oil is very effective as an alternative medicine to prevent diaper rash in babies.²

According to the assumption of the researchers, using olive oil (olive oil) on a regular basis for infants and applying it sufficiently to the baby's skin can prevent/treat skin irritation (diaper rash) in infants, because the content contained in olive oil (olive oil) is able to protect the skin from irritation.

CONCLUSION

1. The mean degree of diaper rash before giving olive oil was 1.88
2. The mean degree of baby diaper rash after being given olive oil was 0.84

3. Giving olive oil has an effect on reducing the degree of diaper rash in infants

It is recommended for the community to apply olive oil in perineal care to treat diaper rash in diarrhea patients. For the Health Center, it is hoped that it can increase education on the use of olive oil to treat diaper rash in toddlers

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