

Effectiveness Of Administering Olive Oil Against Diaper Rash In Babies Aged 0-36 Months At Pmb Cahyati Bogor, West Java, 2023

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Abstract.

*In The World, It Is Estimated That Skin Irritation (Diaper Rash) Occurs In Babies In 25% Of The 6,840,507,000 Babies Born. The Prevalence Of Babies Affected By Diaper Rash In West Java In 2020 Was 52.7%. Diaper Rash Can Cause Red Spots, Itching, Skin Irritation, And Discomfort In Sensitive Areas Of Toddlers. Usually Caused By Humidity, Fungus And Bacteria That Develop In These Sensitive Areas. The Aim Of This Research Is To Find Out How Effective The Use Of Olive Oil Is In Treating Diaper Rash. **Research Method:** The Research Used Was Pre-Experimental Using A One Group Pretest-Posttest Design, And With A Prospective Approach. This Research Was Conducted At Pmb Cahyati Bogor, West Java. The Research Sample Was 30 Respondents Taken Using Total Sampling Technique. **Research Results:** Based On The Results Of Non-Parametric Statistical Tests, The Significance Value Was $0.000 < 0.005$, It Can Be Concluded That There Is An Effect Of Giving Olive Oil On Diaper Rash In Toddlers At Pmb Cahyati, Bogor, West Java In 2023. **Suggestion:** It Is Hoped That Respondents Can Use Extra Virgin Olive Oil As A Medicine To Treat Diaper Rash In Toddlers Who Experience Diaper Rash And Can Be Used For Other Health Needs.*

Keywords: Effectiveness, Olive Oil and Diaper Rash.

I. INTRODUCTION

All toddlers face many problems that are quite extensive and complex, and one of the main problems is skin problems. Toddlers under three years of age have sensitive and very sensitive skin, so their bodies are not yet used to risky environments. Babies and toddlers have thinner skin, which makes them more susceptible to infections, irritation and allergies. Diaper dermatitis, also known as diaper rash, is one of the most common skin problems in babies and toddlers (Meliana and Hikmalia, 2017). According to the World Health Organization (WHO), skin irritation (diaper rash) occurring in babies is 25% of the 6,840,507,000 babies born worldwide in 2019. Globally, the incidence and age of those affected by diaper rash varies. This is related to the use of diapers, toilet training, and different levels of cleanliness. In Indonesia itself, the incidence rate reaches 7-35% in male and female babies under 3 years old, and mostly in babies aged 9-12 months (Silaban, 2022). The prevalence of diaper rash in West Java in 2020, there were 52.7% of babies who had experienced diaper rash (West Java Health Office, 2020). Diaper rash causes irritation and inflammation of the diaper area, including the groin, lower abdomen, buttocks, and anogenital area. Other causes of diaper rash are diapers that are wet with urine and feces, unclean skin, and an unhealthy environment. Additionally, not giving your baby enough time to get out of the diaper (at least two to three hours) can result in diaper rash. If diaper rash is left untreated and left untreated for more than three days, candida fungus can easily grow in the area.

This can cause diaper candidiasis (Ully et al, 2018). Diaper rash can cause red spots, redness, blisters, skin irritation, and discomfort. This causes the baby to be fussy, cry often, and sensitive. As a result, sleep patterns become less effective, which disrupts growth and development hormones. Brain metabolism increases during good sleep patterns, which has an impact on children's emotional and cognitive recovery or restoration (Setianingsih & Hasanah, 2018). Pharmacological or non-pharmacological treatment can be given to babies who have diaper rash. For severe diaper rash, antibiotic and anti-fungal creams such as nystatin are given in addition to zinc oxide ointment. Cotrimazole, micohazole, and hydrocortisone are corticosteroids used to reduce inflammation. However, non-pharmacological therapy can also be done, such as applying olive oil (which contains omeleon) to prevent damaged skin diseases such as psoriasis and eczema, and

changing diapers according to capacity to reduce moisture and skin friction. (Hapsari, 2019). Extra virgin olive oil can help treat diaper rash by moisturizing, plumping and smoothing the surface of the skin because its short steps reduce the antioxidant content by around 1-5 percent. Olive oil has the highest vitamin E content, namely alpha tocopherol, which reduces inflammation and repairs damaged skin cells.

Olive oil contains vitamin B2, which has the function of accelerating wound healing; vitamin C improves the immune system by fighting free radicals; and vitamin K reduces inflammation quickly. (Nikmah Ainun, Yuseva, 2021). Some ways to treat diaper rash are by changing diapers regularly, choosing diapers that suit the baby's skin, using warm water to clean the baby's bottom, avoiding powder, looking for diapers in a larger size than usual, stopping using diapers for some time, and maybe use baby ointment. However, using natural ingredients when healing rashes is better. Apply olive oil twice a day, once in the morning and once in the afternoon, for three to five days (Rahayu, 2020). Based on the results of an initial survey at PMB Cahyati Bogor, West Java in July 2023, through interviews with 30 mothers who had babies aged 0-36 weeks who had complaints that their children had diaper rash. For treatment so far there have been 20 mothers who have given powder to diaper rash for dealt with it, and 10 mothers let it heal. Giving olive oil has never been used as an intervention to reduce diaper rash. Therefore, researchers are interested in conducting research on the effectiveness of giving olive oil against diaper rash in babies aged 0-36 months at PMB Cahyati Bogor, West Java.

II. METHODS

The type of research is quantitative research using a pre-experimental design with a one group pretest-posttest design. The population in this study were all mothers who had babies with diaper rash at PMB Cahyati Bogor, West Java in 2023. In July-October 2023, the entire sample was taken who met the sample criteria, namely 30 people using total sampling. The data collected in this research is in the form of secondary data and primary data. Data analysis uses univariate and bivariate analysis.

III. RESULTS AND DISCUSSION

3.1. Univariate Analysis

Table 3.1. Frequency Distribution of Respondent Characteristics based on age, gender and mother's way of caring for diaper rash at PMB PMB Cahyati Bogor, West Java

No	Category	Frequency	Precentage
1	Child's age		
	0 – 12 Months	10 people	33 %
	12 – 24 Months	11 people	36 %
	24 – 36 Months	9 people	30 %
2	Baby Gender		
	Man	18 people	60 %
	Woman	12 people	40 %
3	How Mothers Treat Diaper Rash		
	Powder	7 people	23 %
	No Treatment	9 people	30 %
	Ointment	8 people	26 %
	Baby Lotion	6 people	20 %

Based on table 3.1 above, it can be seen that there are 10 people aged 0 – 12 months or as many as (33%). Aged 12 - 24 months there were 11 people (36%), and aged 24 - 36 months there were 9 people (30%). This is in line with research by Septian Mixrova Sebayar, et al (2020) which states that the age of diaper rash sufferers is 0-36 months. Babies' skin is thinner and more sensitive than adults' skin. This makes the baby's skin more susceptible to infections, allergies and irritation. Therefore, babies very easily experience diaper rash. Diaper rash is characterized by a red color around the skin covered by the diaper and inflammation of the baby's skin, making the baby feel uncomfortable and fussy. Diaper rash usually occurs in the genitals, buttocks and inner thighs or in other words in areas covered by diapers. (Indonesian Pediatric Society, 2019) .For the male gender, there were 18 people (60%), and there were 12 women (40%). This is in line with research by Lisa Putri Utami Damanik, et al (2022) that diaper rash sufferers are male. This is

because the shape of a baby boy's genitals has more certain folds or wrinkles which causes areas of moisture to be more vulnerable in the male baby's genital area so that excessive humidity triggers diaper rash. Meanwhile, 7 people (23%) used powder to treat diaper rash, 9 people (30%) used no treatment, 8 people used ointment (26%), and 6 people used baby lotion (20%). The mother's lack of knowledge about prevention is likely that her baby will experience diaper rash and if the mother's knowledge of preventative measures is good, namely by paying attention to the moisture of the skin in the buttocks area, if the diaper is wet it must be changed immediately so that the baby's skin is not damp, the baby will automatically avoid being diapered. rash because parents understand the proper way to prevent diaper rash (Lisdiana, 2019).

Table 3.2. Frequency Distribution and Percentage of the degree of diaper rash before and after giving olive oil at PMB Cahyati Bogor, West Java

Diaper Rash Degree Categories	Before Intervention	%	After Intervention	%
No rash	0	0	6	20%
Very Light	0	0	17	56,7%
Light	5	16,7%	5	16,7%
Light-medium	6	20 %	2	6,7%
Medium	13	43,3%	0	0
Heavy	6	20%	0	0
Very Heavy	0	0	0	0
Total	30 People	100%	30 People	100%

Based on Table 3.2, it was found that the degree of diaper rash before the intervention was in the mild category there were 5 people (16.7%), mild-moderate as many as 6 people (20%), moderate as many as 13 people (43.3%), and severe as many as 6 people (20%). After the intervention, the degree of diaper rash decreased with the categories no rash as many as 6 people (20%), very light as many as 17 people (56.7%), mild as many as 5 people (16.7%), mild-moderate as many as 2 people (6.7%). After giving olive oil to the diaper rash of toddlers at PMB Cahyati Bogor, West Java. Diaper rash is initially characterized by mild redness accompanied by abrasions or minor wounds on the skin. A moderate rash is characterized by redness with or the appearance of purulent pustules around the skin, accompanied by blisters, pain, and discomfort. Severe diaper rash is characterized by very inflamed redness and the appearance of festering pustules. (Apriza, 2017).

Table 3.3. Distribution of the average degree of diaper rash before and after giving olive oil at PMB Cahyati Bogor, West Java

Degree of diaper rash	N	Mean	S.Deviation	Min-maks	95% CI for Mean
Before intervention	30	4.67	0.994	3-6	2.295
After intervention	30	2.10	0.803	1-4	2.838

Based on table 3.3, it shows that the average degree of diaper rash before giving olive oil was 4.67 with a standard deviation of 0.994. From the interval estimation results, it can be concluded that it is 95% believed that the average degree of diaper rash before administering Rafael Salgado brand extra virgin olive oil was 2.295 percent. Furthermore, it was found that the mean degree of diaper rash after administering olive oil was 2.10 and the standard deviation was 0.803. From the interval estimation results, it can be concluded that it is 95% believed that the average degree of diaper rash after 3 days of administering Rafael Salgado brand extra virgin olive oil is 2,838 percent.

3.2 Bivariate Analysis

Bivariate analysis was carried out to determine the effect of giving olive oil on diaper rash in toddlers. Before the bivariate analysis was carried out, the researcher tested the normality of the data using the Kolmogorov-Smirnov test, obtaining the following results:

Table 3.4. Kolmogorov-Smirnov Normality Test
One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		30
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	.58042100
Most Extreme Differences	Absolute	.215
	Positive	.215

	Negative	-.144
Test Statistic		.215
Asymp. Sig. (2-tailed)		.001 ^c

- Test distribution is Normal.
- Calculated from data.
- Lilliefors Significance Correction.

The results of the normality test using Kolmogorov Smirnov showed a p value < 0.05 with analysis of the result value $0.001 \leq 0.05$ which shows that the data is not normally distributed so that for the next analysis a non-parametric statistical test is used, namely the Wilcoxon test at $\alpha 5\%$. To see significance, if the p value ≤ 0.05 then there is an effect of giving Rafael Salgado brand extra virgin olive oil on diaper rash in toddlers.

Table 3.5. Effectiveness of Giving Olive Oil Against Diaper Rash at PMB PMB Cahyati Bogor, West Java

Variable	Pretest	Post test	P value
	Mean \pm SD	Mean \pm SD	
DDISIS	4.67 \pm 0.994	2.10 \pm 0.803	0.000

Based on Table 3.5, the results show that the average degree of diaper rash before the intervention was 4.67 with a standard deviation of 0.994, while the average degree of diaper rash after the intervention was 2.10 with a standard deviation of 0.49.

Table 3.6. Wilcoxon Test Results

	After intervention - Before intervention
Z	-4.879 ^b
Asymp. Sig. (2-tailed)	.000

- Wilcoxon Signed Ranks Test
- Based on positive ranks

Based on table 3.6. From the results of non-parametric statistical tests, a significance value of $0.000 < 0.005$ was obtained, it can be concluded that, H_a was accepted, meaning there was a significant difference in the average degree of diaper rash in diaper rash patients in toddlers before and after giving olive oil. So it can be concluded that there is an effect of giving olive oil on diaper rash in toddlers. In line with research conducted by Syifa Anisa, et al (2023) which discussed the effect of giving olive oil on reducing the degree of diaper rash in toddlers, the initial average degree of diaper rash before giving olive oil was 3.27 and decreased to 1.45. The results of the paired t-test before and after treatment showed a p value of $0.000 < 0.005$, meaning that there was an effect of giving olive oil on reducing the degree of diaper rash in toddlers. This is in line with research conducted by Sebayar and Sembiring (2020) which stated that there was a significant difference between the pre-test and post-test groups regarding diaper rash in babies and toddlers aged 0-36 months with the Diaper Dermatitis Severity Index Score assessment.

Where the mean in the pre-test group (4.46 SD = 1.19) was greater than the mean in the post-test group (2.14 SD = 0.84). It can be concluded that the DDSIS score is better in the post-test than in the pre-test. The results of the study showed differences in the degree of diaper rash before and after administering extra virgin olive oil (EVOO). The statistical test results show a p value of $0.000 < 0.05$, meaning that there is an effect of giving olive oil on reducing the degree of diaper rash in toddlers. In research conducted by Lisa Putri Utami Damanik, et al (2022) which stated that the average value with a smear of coconut oil was (11.50) from 15 samples and with a smear of olive oil was (19.50) with a sum of ranks for spreading coconut oil were (172.50) and spreading olive oil were (292.50). Based on the results of the Mann-Whitney test, the p-value was 0.004, because the p value < 0.05 , it can be concluded that there is a significant difference between the use of coconut oil and olive oil to treat diaper rash in babies. Researchers assume that diaper rash occurs on average in children aged 12-24 months, with most sufferers being male toddlers. This is because there are many folded areas on the toddler's thighs which can cause rashes in areas that get wet easily when using diapers. This incident must receive attention so that it is treated immediately, one of the treatments is using olive oil to treat diaper rash in toddlers. It turns out that from research results, olive oil is quite effective in eliminating diaper rash in children aged 0-36 months.

IV. CONCLUSION

Based on the results of this research, several things can be concluded, as follows:

1. The results of the research analysis showed that 11 people (36%) suffered from diaper rash aged 12-24, 18 people (60%) were the most common gender, and the mother's way of treating diaper rash was mostly without 9 people (30%) used treatment.
2. The average degree of diaper rash before administering olive oil at PMB Cahyati Parung Panjang Bogor was 4.67 (moderate degree)
3. The average degree of diaper rash after administering olive oil at PMB Cahyati Bogor, West Java is 2.10 (very light degree).
4. Based on the results of non-parametric statistical tests, the significance value was $0.000 < 0.005$, so it can be concluded that there is an effect of giving olive oil on diaper rash in toddlers.

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