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Original Research

Mom's Cerij Oil to Maintain Skin Moisture and Prevent Striae Gravidarum in Second Trimester

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ABSTRACT

Background: *Skin changes often occur during pregnancy, such as striae gravidarum and hyperpigmentation. Mom's Cerij Oil is formulated to minimize the risk of allergies or skin irritation, making it suitable for sensitive skin during pregnancy. The aim of this study was to determine the effectiveness of Mom's Cerij Oil (Centella Asiatica and Piper betle L) compared to Coconut Oil in maintaining skin moisture and preventing Striae Gravidarum in pregnant women in the second trimester at the Cikupa Health Center in Tangerang Regency.*

Methods: *The research method was a quantitative study using a true experimental design with a pretest-post test control group approach. The study involved 66 pregnant women in their second trimester at the Cikupa Health Center in Tangerang Regency. The sampling technique used purposive sampling, with each intervention group and control group consisting of 33 respondents. Data analysis involved univariate analysis using frequency distribution and bivariate analysis using the McNemar test and the Mann–Whitney U test. The study was conducted from January to February 2025.*

Results: *Bivariate analysis showed that Mom's Cerij Oil was effective in maintaining skin moisture and preventing striae gravidarum in second-trimester pregnant women, with significant pretest–posttest mean differences (0.42; p=0.039 and 0.18; p=0.031). Posttest comparison between Mom's Cerij Oil and coconut oil groups also indicated a significant difference (p=0.001).*

Conclusion: *Mom's Cerij Oil is more effective than coconut oil in maintaining skin moisture and preventing striae gravidarum in second-trimester pregnant women, and it can be recommended as a safe topical option during pregnancy.*

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mom's cerij oil, pregnant women, skin moisture, striae gravidarum

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INTRODUCTION

Striae gravidarum (SG) remains one of the most prevalent dermatological conditions during pregnancy, affecting an estimated 40–90% of pregnant women worldwide, with reported prevalence rates ranging between 50–70% depending on population characteristics and assessment methods (Boira et al., 2024). Epidemiological evidence indicates that approximately 90% of pregnant women experience physiological skin changes, including stretch marks, hyperpigmentation, and altered skin hydration, particularly during the second and third trimesters when rapid abdominal expansion occurs (Indria & Rahayu, 2021). Striae gravidarum typically emerge between the 24th and 28th weeks of gestation and predominantly affect areas exposed to significant mechanical stretching and hormonal influence, such as the abdomen, breasts, thighs, hips, and buttocks (Candrawati et al., 2021).

From a pathophysiological standpoint, adequate skin hydration is essential for maintaining dermal elasticity and structural integrity. The stratum corneum, composed of corneocytes embedded in a lipid matrix, regulates transepidermal water loss and skin flexibility; disruption of this mechanism leads to decreased moisture content, impaired barrier function, and reduced elasticity, thereby increasing susceptibility to collagen and elastin fiber damage and subsequent striae formation (Prasetyaningati & Rosyidah, 2019). Consistent evidence demonstrates that reduced skin moisture is associated with increased severity of striae, as dehydrated skin is less capable of accommodating rapid stretching during pregnancy (Oktavia et al., 2023; Awal Permata & Khairiah, 2023).

Preventive approaches for SG have increasingly emphasized non-pharmacological and topical strategies within antenatal care programs. In Indonesia, routine antenatal services and prenatal education provided at primary healthcare centers play a crucial role in informing pregnant women about physiological skin changes, preventive skin care practices, and the use of safe topical moisturizers during pregnancy (Candrawati et al., 2021; Haq et al., 2025).

Given safety concerns related to synthetic compounds such as retinoids, parabens, and certain preservatives during pregnancy, there is growing interest in natural, plant-based formulations that offer both efficacy and maternal–fetal safety. *Centella asiatica* (pegagan), widely used in Southeast Asia, contains bioactive compounds such as asiaticoside, madecassoside, and triterpenoids, which have been shown to stimulate collagen synthesis, enhance fibroblast activity, improve skin elasticity, and promote tissue repair (Haq et al., 2025; Abdullah et al., 2022).

Recent studies over the past five years have reported that topical formulations containing *Centella asiatica* effectively improve skin hydration and reduce the appearance of stretch marks in pregnant and postpartum women (Boira et al., 2024). In addition, *Piper betle* L. exhibits antioxidant, anti-inflammatory, and skin-conditioning properties that support skin barrier function and hydration, thereby contributing to the prevention of dermal damage associated with pregnancy-related stretching (Candrawati et al., 2021); (Alfrida Sanna, Dwi Hendriani, Rivan Firdaus, 2021).

Despite this growing body of evidence, existing research is limited by the predominance of observational designs, heterogeneous formulations, and a focus on single active ingredients or postpartum populations. Critically, there is a lack of controlled experimental studies evaluating synergistic plant-based formulations applied as early preventive interventions during the second trimester, the period most relevant for mitigating initial dermal damage. Furthermore, few studies integrate objective measurements of skin moisture with standardized striae assessment tools while

employing an active comparator commonly used in community practice (Candrawati et al., 2021); Alfrida Sanna, Dwi Hendriani, Rivan Firdaus, 2021).

Addressing these gaps, the present study evaluates Mom's Cerij Oil, a novel, pregnancy-safe topical formulation combining *Centella asiatica* and *Piper betle* L., using a true experimental pretest–posttest control group design with coconut oil as an active control. The novelty of this study lies in its focus on early prevention during the critical window of dermal stretching, the assessment of synergistic botanical effects, and the integration of objective skin hydration analysis with validated striae evaluation to generate robust preventive evidence. Accordingly, the objective of this study was to determine the effectiveness of Mom's Cerij Oil in maintaining skin moisture and preventing the development of striae gravidarum among second-trimester pregnant women, compared with coconut oil, thereby providing high-quality empirical support for the incorporation of safe, natural topical interventions into antenatal preventive care.

MATERIALS AND METHOD

This study employed a quantitative approach with a true experimental design using a pretest–posttest control group framework to rigorously evaluate the effectiveness of topical interventions in preventing striae gravidarum and improving skin hydration among pregnant women. The design was selected to minimize confounding bias and allow objective comparison between Mom's Cerij Oil, a topical formulation containing *Centella asiatica* and *Piper betle* L. as the experimental intervention, and coconut oil as the comparator.

The study was conducted at the Cikupa Primary Health Center, Tangerang Regency, Indonesia, between January 27 and February 10, 2025, encompassing preparation, baseline assessment, a 14-day intervention period, and final evaluation. The target population comprised all second-trimester pregnant women (16–24 weeks of gestation) attending antenatal care at the study site, with an accessible population of 74 primigravida women during the study period. Sample size calculation using Slovin's formula at a 95% confidence level ($e = 0.05$) yielded a minimum of 60 participants; to account for potential attrition, a 10% increment was applied, resulting in a total sample of 66 participants equally allocated into intervention ($n = 33$) and control ($n = 33$) groups.

Sample selection was performed using non-probability purposive sampling based on predefined eligibility criteria. Inclusion criteria were primigravida women in the second trimester with a body mass index ≥25 kg/m², singleton pregnancy, and absence of striae gravidarum at baseline; while exclusion criteria included known hypersensitivity to the intervention components, pre-existing abdominal dermatological disorders, or use of topical pharmacological agents; participants who developed dermatitis, became ill, withdrew consent, or deviated from the protocol were classified as dropouts.

The independent variables were the type of topical oil applied, while the dependent variables were skin hydration level and the occurrence of striae gravidarum; maternal age and gestational weight gain were considered potential confounders. Skin hydration was objectively measured using the Skin Analyzer FCM-1, which reports epidermal moisture as a percentage, whereas striae gravidarum assessment was conducted using the Patient and Observer Scar Assessment Scale (POSAS), a validated and widely utilized instrument for scar and tissue evaluation.

Adherence to the intervention protocol was monitored using an observational checklist. Data collection procedures included baseline (pretest) measurement of skin hydration and striae status, followed by twice-daily topical application of 5 mL of the

assigned oil for 14 consecutive days; compliance and safety were monitored through home visits from day 2 to day 15, and post-intervention measurements were obtained on day 16.

Statistical analysis was performed using SPSS, incorporating univariate analysis to describe participant characteristics and variable distributions, and bivariate analysis to evaluate intervention effects. Normality was assessed using the Kolmogorov–Smirnov test and variance homogeneity testing was conducted to determine appropriate inferential methods; parametric t-tests were applied for normally distributed and homogeneous data, while non-parametric McNemar tests were used for categorical or non-normally distributed outcomes, with statistical significance set at $\alpha = 0.05$.

Ethical approval was obtained from the Health Research Ethics Committee of STIKes Dharma Husada Bandung (No. 05/KEPK/SDHB/B/I/2025), and all procedures adhered to the ethical principles of the Belmont Report, including respect for persons through informed consent, beneficence and non-maleficence by minimizing risk and maximizing benefit, and justice in participant selection and treatment.

RESULTS

Table 1. Characteristics of Pregnant Women (n = 66)

Variable	Category	Group				p-value*
		Mom's Cerij Oil (n = 33)		Coconut Oil (n = 33)		
		n	%	n	%	
Age (years)	<20 Years	4	12	4	12	0.381
	20–35 Years	27	82	21	64	
	> 35 Years	2	6	8	24	
Weight gain	Normal	31	94	28	85	0.544
	Abnormal	2	6	5	15	

Note: n = number of observations; % = percentage, *Levene's test

Based on table 1, the p-value for the confounding variable is $p > 0.05$, indicating that the two groups are comparable. Based on Table 1, it is known that the majority of respondents in the intervention group were aged between 20 and 35 years (82%), and in the control group were aged between 20 and 35 years (64%). Based on weight gain, the majority of respondents in the intervention group were normal (94%), as were the majority of respondents in the control group (85%).

Table 2. Frequency Distribution of Humidity and Striae Gravidarum in Pregnant Women in Their Second Trimester Using Mom's Cerij Oil and Coconut Oil (n = 66)

Variable	Category	Mom's Cerij Oil (n=33)		Coconut Oil (n=33)	
		n	%	n	%
Pre-test Moisture	Very dry skin	0	0.0	0	0.0
	Dry skin	8	24.2	11	33.3
	Normal	25	75.8	22	66.7
	Ideal	0	0.0	0	0.0

Variable	Category	Mom's Cerij Oil (n=33)		Coconut Oil (n=33)	
		n	%	n	%
Post-test Moisture	Very dry skin	0	0.0	0	0.0
	Dry skin	4	12.1	17	51.5
	Normal	19	57.6	13	39.4
	Ideal	10	30.3	3	9.1
Striae Gravidarum Pretest	Normal	25	75.8	21	63.6
	Abnormal	8	24.2	12	36.4
Striae Gravidarum Posttest	Normal	31	94.0	18	54.5
	Abnormal	2	6.0	15	45.5

Note: n = number of observations; % = percentage

Mom's Cerij Oil significantly improved skin moisture from predominantly normal to normal–ideal levels and effectively normalized skin conditions related to striae gravidarum in second-trimester pregnant women. In contrast, coconut oil showed no meaningful improvement, with skin moisture tending toward dryness and minimal changes observed in striae prevention outcomes.

Table 3. The Effectiveness of Mom's Cerij Oil and Coconut Oil in Maintaining Skin Moisture in Pregnant Women in Their Second Trimester (n = 66)

Maintaining Skin Moisture	Mom's Cerij Oil (n = 33) Mean ± SD	Coconut Oil (n = 33) Mean ± SD	p-value**
Pretest	2.76 ± 0.44	2.58 ± 0.48	
Posttest	3.18 ± 0.64	2.67 ± 0.60	**0.001**
Within-group p-value*	**0.039**	0.125	

Note: SD = Standard Deviation; * Uji Mc Nemar; **Mann Withney

Table 3 The effectiveness of Mom's Cerij Oil and coconut oil in maintaining skin moisture in pregnant women in their second trimester at the Cikupa Community Health Center in Tangerang Regency was found to be significant for the Mom's Cerij Oil group with p=0.039 (p<0.05), indicating that Mom's Cerij Oil is effective in maintaining skin moisture in pregnant women in their second trimester at the Cikupa Community Health Center in Tangerang Regency.

Meanwhile, the coconut oil group had a p-value of 0.125 (p > 0.05), indicating that coconut oil was not effective in maintaining skin moisture in pregnant women in their second trimester at the Cikupa Public Health Center in Tangerang Regency. Therefore, it can be concluded that Mom's Cerij Oil is more effective than coconut oil in maintaining skin moisture in pregnant women in their second trimester at the Cikupa Public Health Center in Tangerang Regency. Similarly, the paired t-test between the mom's cerij oil and coconut oil groups yielded a p-value of <0.001 (p<0.05), indicating that there is a statistically significant difference between the mom's cerij oil and coconut oil groups.

Table 4. The Effectiveness of Mom's Cerij Oil and Coconut Oil in Preventing Striae Gravidarum in Pregnant Women (n = 66)

Striae Gravidarum	Group		*p-value***
	Mom's Cerij Oil	Coconut Oil	
	Mean ± SD (n = 33)	Mean ± SD (n = 33)	
Pretest	1.06 ± 0.43	1.06 ± 0.48	
Postest	1.24 ± 0.24	1.15 ± 0.51	0.001
Within-group p-value*	0.031	0.250	

Note: SD = Standard Deviation; * Uji Mc Nemar; **Mann Withney

Table 4 The effectiveness of Mom's Cerij Oil and coconut oil in preventing striae gravidarum in pregnant women in the second trimester at the Cikupa Community Health Center in Tangerang Regency was found in the Mom's Cerij Oil group with ρ=0.031 (p<0.05), indicating that Mom's Cerij Oil is effective in preventing striae gravidarum in pregnant women in the second trimester at the Cikupa Community Health Center in Tangerang Regency.

Meanwhile, the coconut oil group had a p-value of 0.250 (p > 0.05), indicating that coconut oil is not effective in preventing striae gravidarum in pregnant women in the second trimester at the Cikupa Community Health Center in Tangerang Regency. Therefore, it can be concluded that Mom's Cerij Oil is more effective than coconut oil in preventing striae gravidarum in pregnant women in the second trimester at the Cikupa Community Health Center in Tangerang Regency. Similarly, the paired t-test between the mom's cerij oil and coconut oil groups yielded a p-value of <0.001 (p<0.05), indicating that there is a statistically significant difference between the mom's cerij oil and coconut oil groups.

DISCUSSION

The findings of this study demonstrate that Mom's Cerij Oil is effective in maintaining skin moisture among second-trimester pregnant women at the Cikupa Community Health Center, Tangerang Regency. Overall, participants who applied Mom's Cerij Oil showed skin moisture levels closer to the ideal category compared with those using coconut oil. However, four participants in the intervention group continued to exhibit dry skin conditions, which may be explained by advanced maternal age (>35 years).

Aging-related skin changes are well documented, with physiological declines in collagen synthesis and sebaceous gland activity contributing to reduced skin hydration and elasticity. Recent evidence indicates that collagen production begins to decrease progressively after the age of 30, leading to diminished dermal support and increased susceptibility to dryness, while reduced sebum production after the mid-30s compromises the skin's natural moisturizing barrier (Shalini, 2025).

Skin moisture is maintained through a balance between water content in the stratum corneum and transepidermal water loss (TEWL). During pregnancy, hormonal fluctuations particularly increased estrogen and progesterone alter skin barrier function, often resulting in drier, itchier, and more fragile skin, especially in areas undergoing rapid stretching such as the abdomen, breasts, and thighs (Costa et al., 2022; Kurniawati et al., 2024).

Ideal skin conditions during pregnancy are characterized by optimal hydration, adequate elasticity, and resistance to mechanical stress, reducing the risk of collagen and elastin disruption that leads to striae gravidarum (Isir & Abdullah, 2021). In this study, pregnant women who regularly used Mom's Cerij Oil demonstrated skin conditions closer to this ideal profile, supporting previous findings that well-maintained skin moisture is a key protective factor against striae formation (Wilborn et al., 2021; Candrawati et al., 2021).

Adequate skin hydration is also influenced by systemic factors, including fluid and nutrient intake. Maternal history obtained during the study indicated that some participants with suboptimal skin moisture reported insufficient daily fluid consumption and inadequate nutritional intake. Recent studies emphasize that dehydration during pregnancy negatively affects skin turgor and appearance, increasing dryness and reducing elasticity (Candrawati et al., 2021). Skin moisture, defined as the water content of the stratum corneum, plays a critical role in preserving barrier integrity and preventing irritation or micro-damage. Objective measurements of skin hydration have shown that topical botanical formulations can effectively reduce TEWL and improve skin moisture balance (Lu et al., 2020)

The use of herbal and natural topical products is increasingly recommended as a safe approach to maintaining skin health during pregnancy. Contemporary evidence supports the effectiveness of plant-based oils and extracts, such as olive oil, coconut oil, aloe vera, and *Centella asiatica*, in improving skin hydration and elasticity (Oktavia et al., 2023). Olive oil, rich in antioxidants and vitamin E, has been shown to reduce the severity and frequency of striae gravidarum when applied regularly during pregnancy (Szulc et al., 2025).

Meanwhile, *Centella asiatica* has demonstrated consistent efficacy in enhancing collagen synthesis, promoting fibroblast activity, and improving dermal resilience, making it a key ingredient in striae prevention formulations (Oktavia et al., 2023). The addition of *Piper betle* L., with its antioxidant and anti-inflammatory properties, further supports skin barrier function and hydration, contributing to the overall effectiveness of Mom's Cerij Oil.

Regarding striae gravidarum prevention, this study found that second-trimester pregnant women using Mom's Cerij Oil exhibited more normal skin conditions and fewer signs of striae compared with those using coconut oil. Assessment using the Patient and Observer Scar Assessment Scale (POSAS) allowed for a comprehensive evaluation from both the participant and observer perspectives, increasing objectivity and sensitivity to early skin changes. POSAS has been widely used in recent dermatological research and is considered reliable for assessing atrophic scars, including striae gravidarum (Haq et al., 2025; Boira et al., 2024). Additionally, maternal weight gain remains an important contributing factor; recent studies confirm that excessive gestational weight gain significantly increases the risk of striae development due to increased mechanical stress on the skin (Wardani et al., 2025; Salsabila & Yuliaswati, 2023).

In conclusion, the findings of this study support the effectiveness of Mom's Cerij Oil in maintaining skin moisture and preventing striae gravidarum in second-trimester pregnant women. The synergistic combination of *Centella asiatica* and *Piper betle* L., complemented by supportive oils, enhances skin hydration and elasticity, offering a safe and evidence-based preventive strategy suitable for integration into antenatal care. These results reinforce the role of natural, pregnancy-safe topical formulations as an effective non-pharmacological approach to striae gravidarum prevention.

The limitations of this study are mainly related to the presence of confounding variables that cannot be fully controlled, such as hydration status, nutritional intake, weight gain during pregnancy, maternal age, and the initial skin moisture condition of the respondents. Variations in these factors have the potential to affect skin moisture levels and the risk of striae gravidarum independently of the intervention provided. Therefore, further research is recommended to control confounding variables more strictly through controlled clinical trial designs, more comprehensive measurement of maternal risk factors, and multivariate analysis to obtain more accurate estimates of the intervention's effects.

CONCLUSION

Based on the results of the study, it can be concluded that Mom's Cerij Oil is more effective than coconut oil in maintaining skin moisture in pregnant women in their second trimester at the Cikupa Community Health Center in Tangerang Regency, and that Mom's Cerij Oil is more effective than coconut oil in preventing Striae Gravidarum in pregnant women in their second trimester at the Cikupa Community Health Center in Tangerang Regency. It is hoped that mom's cerij oil can be used by midwives to treat complaints of striae gravidarum in pregnant women as an alternative to pharmacological treatment to reduce the negative side effects of chemical drugs on the health of mothers and fetuses.

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CONFLICT OF INTERESTS

The author declares that there is no conflict of interest in this research.

REFERENCES

Abdullah, V. I., Rusyanti, S., Sumarni, Rosdianto, N. O., Ilyas, E., Nur, F. M., & Mardiani, D. E. (2022). Gel formulation test of Gotu Kola leaf extract (Centella Asiatica) 15% for handling striae gravidarum. *Journal of Pharmaceutical Negative Results*, *13*(4), 1124–1127. https://doi.org/10.47750/pnr.2022.13.04.156

Alfrida Sanna, Dwi Hendriani, Rivan Firdaus, R. F. (2021). Effect of Centella Asiatica Powder (gotu kola) against stretch marks in postpartum mothers *KESANS: International Journal of Health and Science*. *32*(3), 167–186. https://doi.org/10.54543/kesans.v3i4.247

Awal Permata, F., & Khairiah, R. (2023). The effectiveness of using coconut oil, aloe vera and sirih kapur to prevent striae gravidarum in third trimester pregnant women in the working area of The Cilograng Health Center In 2022. *International Journal of Health and Pharmaceutical (IJHP)*, *3*(4), 701–706. https://doi.org/10.51601/ijhp.v3i4.237

Boira, C., Meunier, M., Bracq, M., Scandolera, A., & Reynaud, R. (2024). The Natural Centella asiatica extract acts as a stretch mark eraser: A biological evaluation.

Cosmetics, *11*(1). https://doi.org/10.3390/cosmetics11010015

Candrawati, P., Maternity, D., Utami, V. W., & Putri, R. D. (2021). Minyak zaitun (Olive Oil) untuk mengurangi striae gravidarum pada ibu hamil trimester II dan III. *Jurnal Kebidanan Malahayati*, *7*(2), 247–256. https://doi.org/10.33024/jkm.v7i2.3141

Chong, N. J., & Aziz, Z. (2013). A systematic review of the efficacy of centella asiatica for improvement of the signs and symptoms of chronic venous insufficiency. *Evidence-Based Complementary and Alternative Medicine*, *2013*. https://doi.org/10.1155/2013/627182

Costa, E. F., Magalhães, W. V., & Di Stasi, L. C. (2022). Recent advances in herbal-derived products with skin anti-aging properties and cosmetic applications. *Molecules*, 1–29. https://doi.org/10.3390/molecules27217518

Haq, A., Nuraini, I., & Khoirul Waroh, Y. (2025). Effectiveness of Centella Asiatica and Aloe Vera Gels on postpartum stretch mark reduction. *Oksitosin : Jurnal Ilmiah Kebidanan*, *12*(2), 191–200. https://doi.org/10.35316/oksitosin.v12i2.7741

Indria, I., & Rahayu, A. (2021). Effectiveness of Gotu Kola Extract Lotion (Centella Asiatica) in reducing stretch marks. *Journal of Health Sciences*, *14*(3), 196–201. https://doi.org/10.33086/jhs.v14i3.2066

Isir, M., & Abdullah, V. I. (2021). Testing the effectiveness of the pregnancy of Centella Asiatica leaf extract gel formula 10% for striae gravidarum management in pregnant women uji efektifitas sediaan gel ekstrak daun pegagan (Centella Asiatica) Formula 10% untuk penangganan striae grav. *Jurnal Kebidanan*, *13*(2021), 125–133. https://doi.org/10.36456/embrio.v13i2.4145

Kurniawati, Y., Yahya, Y. F., Fadhila, A., Rezi Rahmanda, M., Nursyarifah, N., & Alisa, N. S. (2024). Effectiveness of fractional CO2 laser and topical Centella asiatica combination therapy in striae distensae (stretch marks). *Journal of Lasers in Medical Sciences*, *15*, 1–6. https://doi.org/10.34172/JLMS.2024.56

Lu, H., Guo, J., Hong, X., Chen, A., Zhang, X., & Shen, S. (2020). Comparative effectiveness of different therapies for treating striae distensae. *Medicine*, *99*(39), e22256. https://doi.org/10.1097/md.0000000000022256

Oktavia, E. Z., Hadisaputro, S., & Rahayu, S. (2023). The effectiveness of topical gel formulation extract Centella asiatica and Curcuma domestica to fading striae gravidarum. *Medisains*, *21*(3), 64. https://doi.org/10.30595/medisains.v21i3.19130

Prasetyaningati, D., & Rosyidah, I. (2019). *Modul pembelajaran komplementer*. In Icme Press. Retrieved 06 Febreuary 2026 from http://www.teknologipendidikan.net/wp-content/uploads/2012/10/Merancang-Modul-yang-Efektif.pdf

Salsabila, S., & Yuliaswati, E. (2023). Gambaran pemberian olive oil pada ibu hamil trimester III dengan striae gravidarum Universitas 'Aisyiyah Surakarta. *Jurnal*

Medika Nusantara, *1*(4), 50–60. https://doi.org/10.59680/medika.v1i4.594

Shalini, B. R. C. Y. J. S. M. M. R. (2025). Herbal remedies for skin aging: Insights into anti-aging cream formulations. *Journal of Advanced Pharmacy and Drug Developmen*, *1*(1), 46–54. https://doi.org/10.64842/7pm6d350

Szulc, P., Kłossowska, M., Skonieczna, K., Badziąg, M., Kurczoba, L., Wiciun, O., Kądziołka, O., & Ordon, K. (2025). Efficacy of topical therapies in treating stretch marks: An evidence-based review. *Archiv Euromedica*, *15*(5), 1–13. https://doi.org/10.35630/2025/15/iss.5.510

Wardani, L., Ompusunggu, G. B., Wirawati, K. T., & Yanti, K. R. D. (2025). Recent advances and applications in the antibacterial activity of Piper betle leaf extract. *Pharmacy Reports*, *4*(1), 87. https://doi.org/10.51511/pr.87

Wilborn, D., Kottner, J., Hillmann, K., Xu, S., Konietschke, F., & Blume-Peytavi, U. (2021). Interrelationships between skin structure, function, and microbiome of pregnant females and their newborns: Study protocol for a prospective cohort study. *Dermatology Research and Practice*, *2021*. https://doi.org/10.1155/2021/4163705