

DAFTAR PUSTAKA

1. Saurat JH, Halioua B, Baissac C, Cullell NP, Hayoun YB, et al. Epidemiology of acne and rosacea: a worldwide global study. *JAAD*. 2024; 90(5): 1016-1018.
2. Sibero HT, Sirajudin A, Anggraini DI. Prevalensi dan gambaran epidemiologi akne vulgaris di provinsi Lampung. *JK Unila*. 2019; 3(2): 308-312.
3. Jusuf NK, Putra IM, Rangkuti ADP. Assessing Acne Severity: Tele dermatology versus face to face consultation during the COVID-19 pandemic. *J Aesthet Dermatol*. 2023; 16(1): 30-34.
4. Chew FT, Heng AHS. Systematic review of the epidemiology of acne vulgaris. *Sci Rep*. 2020;10(5754):1-29.
5. Yenny SW. Resistensi antibiotik pada pengobatan akne vulgaris. *MDVI*. 2018;45(2):111-5.
6. Putri IY. Hubungan kualitas tidur dan kuantitas tidur dengan derajat keparahan akne vulgaris pada siswa madrasah Aliyah pesantren Shine Al-Falah. Padang: Universitas Andalas; 2020.
7. Dréno B, Araviiskaia E, Kerob D, Andriessen A, Anfilova M, Arenbergerova M, et al. Nonprescription acne vulgaris treatments: Their role in our treatment armamentarium—An international panel discussion. *J Cosmet Dermatol*. 2020;19:2201-2211.
8. Yang JW, Fan BG, Tan F, Kong HM, Liu Q, Zou Y, et al. The role and safety of UVA and UVB in UV-induced skin erythema. *Front Med*. 2023; 10:1-7.
9. Passeron T, Lim HW, Goh CL, Kang HY, Ly F, Morita A, et al. Photoprotection according to skin phototype and dermatoses: practical recommendations from an expert panel. *JEADV*. 2021;35:1460-1469.
10. Lee WJ, Chae SY, Ryu HS, Jang YH, Lee SJ, Kim DW. Inflammatory cytokine expression and sebum production after exposure of cultured human sebocytes to ultraviolet a radiation and light at wavelengths of 650 nm and 830 nm. *Ann Dermatol*. 2015;27(2):163-170.
11. Addor FAS, Barcaui CB, Gomes EE, Lupi O, Marcon CR, Miot HA. Sunscreen lotions in the dermatological prescription: review of concepts and controversies. *An Bras Dermatol*. 2022;97(2):204-222.

12. Casals JP, Carrasco DM, Munoz ER, Bonafé JFM, Trullàs C, Jourdan E, et al. Sun exposure, a relevant exposome factor in acne patients and how photoprotection can improve outcomes. *J Cosmet Dermatol*. 2023;22: 1919-1928.
13. Geoffrey K, Mwangi AN, Maru SM. Sunscreen products: rationale for use, formulation development and regulatory considerations. *SPJ*. 2019;27(7): 1009-1018.
14. Dreno B, Shourick J, Kerob D, Bouloc A, Taïeb C. The role of exposome in acne: results from an international patient survey. *JEADV*. 2020;34:1057-1064.
15. Wulandari W, Wasito H, Susilowati SS. Stabilitas fisik dan pengukuran nilai sun protection factor sediaan tabir surya pada kondisi stres penyimpanan dengan spektrofotometri. *Acta Pharm Indo*. 2018;6(1):1-11.
16. Chen P, Li S, Tang Y, Zou B, Chen X, et al. Low dose of exposure to ultraviolet radiation are associated with a decreased risk of acne in college students. *SSRN*. 2022
17. Puaratanaarunkon T, Asawanonda P. A randomized, double blinded, split-face study of the efficacy of using a broad spectrum sunscreen with anti-inflammatory agent to reduce post inflammatory hyperpigmentation after picosecond laser. *Clin Cosmet Investig Dermatol*. 2022;15:331-337.
18. Yang HO, Stanfield J, Cole C, Appa Y, Rigel D. High-spf sunscreens (spf ≥ 70) may provide ultraviolet protection above minimal recommended levels by adequately compensating for lower sunscreen user application amounts. *J Am Acad Dermatol*. 2012;67(6):1220-1227.
19. Bhat SA, Deshmukh GA, Dhoot DS, Barkate H. Comprehensive skin care regimen of moisturizer with broad-spectrum sunscreen as an adjuvant in management of acne (charisma). *Int J Sci Study*. 2018;6(5):5-9.
20. Digabel JL, Questel E, Lauze C, Carballido F, Josse G. In vivo evaluation of sunscreens application by multispectral imaging: a new tool for educating sunscreen users. *Skin Res Technol*, 2023;29(8):1-7.
21. National Academy of Sciences, Engineering, and Medicine (US). Review of fate, exposure, and effects of sunscreens in aquatic environments and implications for sunscreen usage and human health. Washington DC: The National Academies Press; 2022.
22. Latha M, Martis J, Shobha V, Shinde RS, Bangera S, Krishnankutty B, et al. Sunscreening agents. *J Clin Aesthet Dermatol*, 2013;6(1):16-26.

23. Makgabutlane M, Wright CY. Real-time measurement of outdoor worker's exposure to solar ultraviolet radiation in Pretoria, South Africa. *S Afr J Sci.* 2015;111(5/6):1-7.
24. Mumtazah EF, Salsabila S, Lestari ES, Rohmatin AK, Ismi AN, Rahmah HA, Mugiarto D, *et al.* Pengetahuan mengenai sunscreen dan bahaya paparan sinar matahari serta perilaku mahasiswa teknik sipil terhadap penggunaan sunscreen. *JFK.* 2020;7(2):63-8.
25. Sofia M, Minerva P. Hubungan tingkat pengetahuan bahaya paparan sinar matahari dengan penggunaan sunscreen oleh mahasiswa kepelatihan olahraga 2018 Universitas Negeri Padang. *Jurnal Pendidikan Tambusai.* 2021;5(3):7596-7603.
26. Sitohang IBS, Wasitatmadja SM. Akne vulgaris. In: Menaldi SLSM, Bramono K, Indriatmi W, editors. *Ilmu penyakit kulit dan kelamin.* 7th ed. Jakarta: Badan Penerbit FKUI; 2019. p288-292.
27. Oon HH, Lim SYD, Goh CL. Adult acne vulgaris. In: Suh DH editors. *Acne current concepts and management.* Switzerland: Springer; 2021. p35-44.
28. Diffey BL. Time and place as modifiers of personal uv exposure. *Int J Environ Res Public Health.* 2018;15(6):13-14.
29. Badan Pusat Statistik (2019). Letak geografis kota Padang. <https://padangkota.bps.go.id/id/statistics-table/1/MiMx/letak-geografis-kota-padang.html> - Diakses Desember 2024.
30. Pemerintah Kota Padang (2016). Gambaran kota Padang. <https://padang.go.id/gambaran-umum-kota-padang> - Diakses Desember 2024.
31. Dapkevicius I, Romualdo V, Marques A, Lopes C, Amaral M. Acne vulgaris topical therapies: application of probiotics as a new prevention strategy. *Cosmetics.* 2023;10(77):1-17.
32. The Calgary Guide to Understanding Disease (2012). Acne vulgaris. The Calgary Guide. <https://calgaryguide.ucalgary.ca/Acne-Vulgaris/> - Diakses Juli 2022.
33. Greydanus DE, Azmeh R, Cabral MD, Dickson CA, Patel DP. Acne in the first three decades of life: an update of a disorder with profound implications for all decades of life. *DM.* 2021;67(4).
34. Goh C, Cheng C, Agak G, Zaenglein AL, Graber EM, Thiboutot DM, *et al.* Acneiform disorders. In: Kang S, Amagai M, editors. *Fitzpatrick's*

dermatology. 9th ed. New York: McGraw-Hill Education; 2018. p1391-1418.

35. Perhimpunan Dokter Spesialis Kulit dan Kelamin Indonesia (ID). Panduan praktik klinis bagi dokter spesialis kulit dan kelamin di Indonesia. Jakarta: PERDOSKI; 2017.
36. AAD (2022). How to use spray and stick sunscreen. American Academy of Dermatology Association. <https://www.aad.org/public/everyday-care/sun-protection/shade-clothing-sunscreen/how-to-use-stick-spray-sunscreens#:~:text=For%20the%20best%20protection%20with,an%20even%20layer%20of%20coverage>. – Diakses Agustus 2024.
37. Guerra KC, Crane JS. Sunburn. [Diperbarui Oktober 2023]. StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2018. Diakses melalui: <https://www.ncbi.nlm.nih.gov/books/NBK534837/>.
38. Komite Etik Penelitian dan Pengembangan Kesehatan Nasional Kementerian Kesehatan RI. Pedoman dan standar etik penelitian dan pengembangan kesehatan nasional. Balitbangkes 2021; p1-13.
39. Universitas Andalas (2025). Selayang pandang. Universitas Andalas. <https://www.unand.ac.id/about-us/tentang-unand/selayang-pandang>. – Diakses Oktober 2025.
40. Yang J, Yang H, Xu A, He L. A review of advancement on influencing factors of acne: an emphasis on environment characteristic. Front Public Health. 2020;8.
41. Chavda VP, Acharya D, Hala V, Daware S, Vora LK. Sunscreens: a comprehensive review with the application of nanotechnology. J Drug Deliv. Sci. Technol. 2023;86.
42. Salih H, Psomadakis C, George SMC. Sunscreens: a narrative review. Skin Health Dis. 2024;4(6).
43. Vasam M, Korutla S, Bohara RA. Acne vulgaris: a review of the pathophysiology, treatment, and recent nanotechnology based advances. Biochem Biophys Rep. 2023;36.
44. Bansal P, Sardana K, Vats G, Sharma L, Garaga CU, Khurana A. A prospective study examining trigger factors and hormonal abnormalities in adult female acne. Indian Dermatol Online J. 2020;4:544-550.
45. Husna A, Yenny SW, Desmawati D, Akhyar G, Masrul M, Yulistini Y. Comparison of quality of life, anxiety, and depression levels based on acne vulgaris severity. JDVI. 2024;8(2):84-91.

46. Salsabila R, Daemawan H. Faktor-faktor pemakaian tabir surya dengan kejadian akne vulgaris pada mahasiswa kedokteran universitas tarumanegara. JKT. 2023;4(4):6680-6685.
47. Mills OH, Porte M, Kligman AM. Enhancement of comedogenic substances by ultraviolet radiation. Br J Dermatol. 1978;98(2):145-150.
48. Mills OH, Kligman AM. Comedogenicity of sunscreen: experimental observations in rabbits. Arch Dermatol. 1982;118(6):417-419.
49. Portilho L, Aiello LM, Vasques LI, Bagatin E, Leonardi GR. Effectiveness and factors influencing sun protection: a review. Braz J Pharm Sci. 2022;58.
50. Williams JD, Maitra P, Atillasoy E, Wu MM, Farberg AS, Rigel DS. Spf 100+ sunscreen is more protective against sunburn than spf 50+ in actual use: results of a randomized, double-blind, split-face, natural sunlight exposure clinical trial. J Am Acad Dermatol. 2017;78(5):902-910.
51. Kobwanthanakun W, Slipa-archa N, Wongpraparut C, Pruksaekanan C, Manuskiatti W. An evaluation of the course of facial sunscreen coverage and sustainability over an 8-hour workday among workers. Health Sci Rep. 2021;4(3):350-355.
52. How KN, Ho CW, Sundaran M, Wan Ahmal Kammal WSL, Lim PY, Chew W. Efficacy and tolerability of a sunscreen containing licochalcone a and p-carnitine as an adjunct to retinoids in the management of acne and post acne pigmentation among malaysian patients. Clin Cosmet Investig Dermatol. 2023;16:3719-3729.
53. BMKG (2021). Informasi indeks ultraviolet sinar matahari (uv). Badan Meteorologi, Kimatologi, dan Geofisika. <https://iklim.bmkg.go.id/publikasi-klimat/ftp/buletin/2021/Indeks%20IUT%202306.pdf> – Diakses November 2025.
54. Diffey B. When should sunscreen be applied: the balance between health benefit and adverse consequence to humans and the environment. Int J Cosmet Sci. 2023;45:45-51.
55. FDA (2025). Sunscreen: how to help protect your skin from the sun. Food and Drug Administration. <https://www.fda.gov/drugs/understanding-over-counter-medicines/sunscreen-how-help-protect-your-skin-sun#:~:text=Apply%2015%20minutes%20before%20sun,avoiding%20the%20eyes%20and%20mouth>). – Diakses Oktober 2025.

56. Zou W, Ramanathan R, Urban S, Sinclair C, King K, Tinker R, Bansal V. Sunscreen testing: a critical perspective and future roadmap. *TrAC*. 2022;157.
57. Koumaki D, Evangelou G, Gregoriou S, Kouloumvakou S, Manios A, Katoulis A, et al. Skin cancer knowledge, sun exposure, photoprotection behavior, and perceived barriers associated with skin cancer types in a greek cohort: a cross-sectional study on the island of crete. *Cancers*. 2024;16(24).
58. de Gálvez MV, Aguilera J, Buenda EA, Sánchez-Roldán C, Herrera-Ceballos E. Time required for a standart sunscreen to become effective following application: a uv photography study. *JEADV*. 2018;32:123-124.
59. Kim SM, Oh BH, Lee YW, Choe YB, Ahn KJ. The relation between the amount of sunscreen applied and the sun protection factor in asian skin. *J Am Acad Dermatol*. 2010;62(2):218-222.
60. Talitha FS, Krisnarti E, Ratnaningrum K. Hubungan penggunaan tabir surya dengan derajat akne vulgaris pada mahasiswa fakultas kedokteran universitas muhammadiyah semarang. *JURRIKE*. 2025;4(2):388-398.
61. Novitasari T, Prajitno S, Indramaya DM. Behavior of sunscreen usage among medical students. *BKKK*. 2020;32(3):174-181.
62. Ruvolo E, Aeschliman L, Cole C. Evaluation of sunscreen efficacy over time and re-application using hybrid diffuse reflectance spectroscopy. *Photodermatol Photoimmunol Photomed*. 2020;36(3):192-199.
63. Cruz LF, Guimarães CS, Oliveira BL, Neves BS, Araújo CFC, de Sousa MCB, Carmo VRDS, et al. Evaluation of how facial sunscreens are applied by the population: an approach beyond the product quantity. *An Bras Dermatol*. 2025;100(1):158-161.
64. Rungananchai C, Silpa-Archa N, Wongpraparut C, Suiwongsa B, Sangveraphunsiri V, Manuskiatti W. Sunscreen application to the face persists beyond 2 hours in indoor workers: an open-label trial. *J Dermatol Treat*. 2019;30(5):483-486.