

DAFTAR PUSTAKA

1. Kandhari S, Rao PN, Arsiwala S, Ganjoo A, Sood S, Kumar D. Expert opinion on current trends in hyperpigmentation management: Indian perspective. *International Journal of Research in Dermatology*. 2021;8(1):142.
2. Review M, Goswami P, Sharma HK. Skin hyperpigmentation disorders and use of herbal extractes : a review. *Current Trends in Pharmaceutical Research*. 2020;7(2):81-104
3. Du Y, Doraiswamy C, Mao J, Zhang Q, Liang Y, Du Z, et al. Facial skin characteristics and concerns in Indonesia: A cross-sectional observational study. *Skin Research and Technology*. 2022;28(5):719–28.
4. Farina Salim Y, Wydy Yenny S, Lestari S. Insidens Melasma di Poliklinik Kulit dan Kelamin RSUP dr. M. Djamil Padang tahun 2012-2015. *Jurnal Kesehatan Andalas*. 2018;7:71-3
5. França K, Keri J. Psychosocial impact of acne and postinflammatory hyperpigmentation. *Anais Brasileiros de Dermatologia*. 2017;92(4):505–9.
6. Yadav A, Garg T, Mandal AK, Chander R. Quality of life in patients with acquired pigmentation: An observational study. *Journal of Cosmetic Dermatology*. 2018; 17: 1293–4.
7. Malik HA, Jusuf NK, Jusuf NK. Pattern of pigmentation disorder in Cosmetic Dermatology Clinic H. Adam Malik General Hospital, Medan, 2012 – 2015. *Journal of General Procedural Dermatology & Venereology Indonesia*. 2017;2 (1): 1-6
8. Nautiyal A, Wairkar S. Management of hyperpigmentation: Current treatments and emerging therapies. *Pigment Cell and Melanoma Research*. 2021; 34: 1000–14.
9. Lee AY. Skin pigmentation abnormalities and their possible relationship with skin aging. *International Journal of Molecular Sciences*. 2021; 22: 1-19
10. Sjarif M, Liliek Norawati. *Pedoman diagnosis dan tatalaksana melasma*. Jakarta: Universitas Indonesia Publishing; 2018. 16–17.
11. Mahajan VK, Patil A, Blicharz L, Kassir M, Konnikov N, Gold MH, et al. Medical therapies for melasma. *Journal of Cosmetic Dermatology*. 2022;21: 3707–28.
12. Sarkar R, Arora P, Garg Kv. Cosmeceuticals for hyperpigmentation: What is available?. *Journal of Cutaneous and Aesthetic Surgery*. 2013;6(1):4.
13. Puspitasari P, Putra Wiraguna A, Pangkahila W. Krim ekstrak teh hijau 20% (*Camellia sinensis*) mencegah peningkatan jumlah melanin sama efektif dengan krim hidrokuinon 4% pada kulit marmut (*Cavia porcellus*) yang dipajan sinar ultraviolet B. *Jurnal Biomedik*. 2017; 9(2) :101-6
14. Searle T, Al-Niaimi F, Ali FR. Hydroquinone: myths and reality. *Clinical and Experimental Dermatology*. 2021; 46: 636–40.
15. Ishack S, Lipner SR. Exogenous ochronosis associated with hydroquinone: a systematic review. *International Journal of Dermatology*. 2022; 61: 675–84.
16. Aki EM. Liposomal azelaic acid 20% cream vs hydroquinone 4% cream as adjuvant to oral tranexamic acid in melasma: a comparative study. *Journal of Dermatological Treatment*. 2022;33(4):2008–13.
17. Sheikh M, Majeed R, Iqbal W. Comparing the Effectiveness of Oral Formulation of Tranexamic Acid in Treating Melasma versus Topical Treatment like Kojic Acid. *Pakistan Journal of Medical and Health Sciences*. 2021;15(6):1372–5.
18. Elkamshoushi AM, Romisy D, Omar SS. Oral tranexamic acid, hydroquinone 4% and low-fluence 1064 nm Q-switched Nd:YAG laser for mixed melasma: Clinical and dermoscopic evaluation. *Journal of Cosmetic Dermatology*. 2022;21(2):657–68.
19. Mukherjee PK, Biswas R, Sharma A, Banerjee S, Biswas S, Katiyar CK. Validation of medicinal herbs for anti-tyrosinase potential. *Journal of Herbal Medicine*. 2018;14: 1–16.

20. Wasiullah M, Yadav P, Patel SK, Singh P. Comparative study of cosmeceutical used in hyperpigmentation. *World Journal of Pharmaceutical Research*. 2023;12(1):478.
21. Hidayah H, Kusumawati AH, Sahevtiyani S, Amal S. Literature review articles: aktivitas antioksidan formulasi serum wajah dari berbagai tanaman. *Journal of Pharmacopolium*. 2021;4(2):75–80.
22. Rathee P, Kumar S, Kumar D, Kumari B, Yadav SS. Skin hyperpigmentation and its treatment with herbs: an alternative method. *Future Journal of Pharmaceutical Sciences*. 2021;7(1).
23. Holinger, JC, Angra K, Halder RM. Are Natural Ingredients effective in the management of hyperpigmentation? A Systematic Review. *Journal of Clinical and Aesthetic Dermatology*. 2018;11(2): 28-37
24. Aprilliani A, Suganda AG, Hartati R. Inhibition test of tyrosinase activity from Zingiberaceae Uji inhibisi aktivitas enzim tirosinase beberapa jenis tumbuhan Zingiberaceae. *Jurnal Ilmiah Farmasi* . 2018;14(1):46–58.
25. Rahmat E, Lee J, Kang Y. Javanese Turmeric (*Curcuma xanthorrhiza* Roxb.): Ethnobotany, Phytochemistry, Biotechnology, and Pharmacological Activities. *Evidence-based Complementary and Alternative Medicine*. 2021: 1-15
26. Badan Pusat Statistik Indonesia. *Statistics of Medicinal Plants Indonesia*, BPS-statistics Indonesia. BPS-statistics Indonesia. 2019:1
27. Kementerian Kesehatan Indonesia. *Temulawak ditetapkan sebagai Tanaman Obat Unggulan Indonesia*. Kemkes Indonesia. 2023:1
28. Databooks. *Provinsi Penghasil Temulawak Terbesar di Indonesia*. Katadata. 2022.
29. Deokate U, Upadhye M. Antioxidant Potential of Phytoconstituents with Special Emphasis on Curcumin. *IntechOpen*. 2023: 1-17
30. Rachkeeree A, Kantadoung K, Puangpradub R, Suksathan R. Phytochemicals, antioxidants and anti-tyrosinase analyses of selected ginger plants. *Pharmacognosy Journal*. 2020;12(4):872–83.
31. Saputri. Validasi Metode Analisis Kurkuminoid dan Xantotizol pada Rimpang Temulawak (*Curcuma xanthorrhiza*) dengan KLT Densitometri. *Media Pharmaceutica Indonesiana*. 2022;4(2):147–56
32. Hachiya. Animal model for hyperpigmentation. *United States Patent*. 2011:1-10
33. Department of Primary Industries N. *Animal Research Review Panel Guidelines for the Housing of Guinea Pigs in Scientific Institutions*. 2018: 8-11
34. Alvianti PN, Fitria L. Profil hematologis marmot jantan dan betina pada tingkatan usia yang berbeda. *Gunung Djati Conference Series*. 2023;35: 75-83
35. Sugiharto, Ariff A, Ahmad S, Hamid M. Properties of kojic acid and curcumin: Assay on cell B16-F1. In: *AIP Conference Proceedings*. American Institute of Physics Inc. 2016: 2-6
36. Wilapangga A. Analisis Potensi Farmakokinetik dan Toksisitas Pada Curcumin (*Curcuma xanthorrhiza*) Sebagai Brightening Terhadap Reseptor Protein Tirosinase Secara in Silico. *Indonesian Journal of Pharmaceutical Education*. 2023;3(2): 203-11
37. Reti Hindritiani. *In Vitro Study of Herbal Depigmenting Agent*. PIT Perdoski Jakarta. 2023: 1-5
38. Hegde M, Girisa S, Bharathwaj, Chetty B, Vishwa R, Kunnumakkara AB. Curcumin Formulations for Better Bioavailability: What We Learned from Clinical Trials Thus Far?. *American Chemical Society*. 2023;8:46.
39. Di Lorenzo R, Forgione F, Bernardi A, Sacchi A, Laneri S, Greco G. Clinical Studies on Topical Curcumin. *Skin Pharmacology and Physiology*. 2024; 36:235–48.
40. Rahmat SD, Rahmawati SR, Sahari Y, Firmansyah A, Sundalian M. Penentuan Kelarutan Kurkumin Dalam Delapan Pelarut Organik Guna Pengembangan Sediaan Farmasi Berbahan Dasar Kurkumin Menggunakan Spektrofotometri Visible Dan Gravimetri. *Jurnal Sains dan Teknologi Farmasi Indonesia*. 2023; 12(2):1-12

41. Suryaningsih BE. Melanogenesis and its associated signalings. *Bali Medical Journal*. 2020;9(1):327-31
42. D'Mello S, Finlay GJ, Baguley BC, Askarian-Amiri ME. Signaling pathways in melanogenesis. *International Journal of Molecular Sciences*. 2016(17):1-18
43. Serre C, Busuttill V, Botto JM. Intrinsic and extrinsic regulation of human skin melanogenesis and pigmentation. *International Journal of Cosmetic Science*. 2018;40:328–47.
44. Slominski RM, Sarna T, Płonka PM, Raman C, Brożyna AA, Slominski AT. Melanoma, Melanin, and Melanogenesis: The Yin and Yang Relationship. *Frontiers in Oncology*. 2022(12): 1-18
45. Lu Y, Tonissen KF, Di Trapani G. Modulating skin colour: Role of the thioredoxin and glutathione systems in regulating melanogenesis. *Bioscience Reports*. 2021;41: 1-12
46. Mota S, Rosa GP, Barreto MC, Garrido J, Sousa E, Cruz MT, et al. Comparative Studies on the Photoreactivity, Efficacy, and Safety of Depigmenting Agents. *Pharmaceuticals*. 2024 Jan 1;17(1).
47. Maddaleno AS, Camargo J, Mitjans M, Vinardell MP. Melanogenesis and Melasma Treatment. *Cosmetics*. 2021; 8(82): 1-11
48. Kothapalli L, Sawant P, Thomas A, Wavhale R, Bhosale K. Understanding the Molecular Mechanism of Phytoconstituents as Tyrosinase Inhibitors for Treatment of Hyperpigmentation. *Saudi Journal of Medical and Pharmaceutical Sciences*. 2021;7(2):135–44.
49. Salim F. Penatalaksanaan Terkini Pada Melasma. *Ilmu Kesehatan kulit dan kelamin FK Universitas Syiahkuala*. Banda Aceh. 2020:241-8
50. Cas MD, Ghidoni R. Dietary curcumin: Correlation between bioavailability and health potential. *Nutrients*. 2019;11:1-14
51. Ambarsari L, Purwakusumah ED. Curcumin Analysis and Cytotoxic Activities of Some *Curcuma xanthorrhiza* Roxb. *International Journal of PharmTech Research*. 2016;9(7): 175-80
52. Sharifi-Rad J, Rayess Y El, Rizk AA, Sadaka C, Zgheib R, Zam W, et al. Turmeric and Its Major Compound Curcumin on Health: Bioactive Effects and Safety Profiles for Food, Pharmaceutical, Biotechnological and Medicinal Applications. *Frontiers in Pharmacology*. 2020;11:1-23.
53. Rosidi A. The difference of Curcumin and Antioxidant activity in *Curcuma Xanthorrhiza* at different regions. *Journal of Advanced Pharmacy Education & Research*. 2020;10(1):14-8
54. Hewlings SJ, Kalman DS. Curcumin: A review of its effects on human health. *Foods*. Multidisciplinary Digital Publishing Institute AG. 2017;92(6):1-11
55. Girst G, Ötvös SB, Fülöp F, Balogh GT, Hunyadi A. Pharmacokinetics-driven evaluation of the antioxidant activity of curcuminoids and their major reduced metabolites—a medicinal chemistry approach. *Molecules*. 2021;26(12):1-11
56. Batubara I, Julita I, Darusman LK, Muddathir AM, Mitsunaga T. Flower Bracts of Temulawak (*Curcuma Xanthorrhiza*) for Skin Care: Anti-acne and Whitening Agents. *Procedia Chemistry*. 2015;14:216–24.
57. Goenka S, Simon SR. Comparative study of curcumin and its hydrogenated metabolites, tetrahydrocurcumin, hexahydrocurcumin, and octahydrocurcumin, on melanogenesis in B16F10 and MNT-1 cells. *Cosmetics*. 2021;8(1):1–13.
58. Goenka S, Simon SR. Novel chemically modified curcumin (Cmc) analogs exhibit anti-melanogenic activity in primary human melanocytes. *International Journal of Molecular Sciences*. 2021;22(11): 1-16
59. Wargasetia TL, Widowati W, Muthmainnah AS, Rizal. Anti-Aging Properties of Temulawak Extract (*Curcuma xanthorrhiza* L.) by In Vitro Assay. *Folia Medica Indonesiana*. 2023 Dec 10;59(4):350–6.

60. Heng MCY, Song MK, Harker J, Heng MK. Drug-induced suppression of phosphorylase kinase activity correlates with resolution of psoriasis as assessed by clinical, histological and immunohistochemical parameters. *British Journal of Dermatology*. 2000;143:937-49
61. Chandrashekar A, Annigeri RG, Va U, Thimmasetty J. A clinicobiochemical evaluation of curcumin as gel and as buccal mucoadhesive patches in the management of oral submucous fibrosis. *Oral Surg Oral Med Oral Pathol Oral Radiol*. 2021 Apr;131(4):428-34.
62. Guru SR, Reddy KA, Rao RJ, Padmanabhan S, Guru R, Srinivasa TS. Comparative evaluation of 2% turmeric extract with nanocarrier and 1% chlorhexidine gel as an adjunct to scaling and root planing in patients with chronic periodontitis: A pilot randomized controlled clinical trial. *J Indian Soc Periodontol*. 2020;24(3):244-52.
63. Schwartz Chelsea, Jan Arif, Zito Patrick M. Hydroquinone. Florida: StatPearls publishing 2024.
64. Meymandi SS, Shanehsaz SM, Dogaheh MA, Jahani Y. Efficacy of licorice extract in the treatment of melasma: A randomized, double-blind, placebo-controlled clinical trial. *Journal of dermatology and cosmetic*. 2016;
65. Wolf JR, Gewandter JS, Bautista J, Heckler CE, Strasser J, Dyk P, et al. Utility of topical agents for radiation dermatitis and pain: a randomized clinical trial. *Supportive Care in Cancer*. 2020 Jul 1;28(7):3303-11.
66. Kheirieh AE, Sharififar F, Dogaheh MA, Dabaghzadeh F, Meymandi SS, Bakhshoudeh B. Evaluating the efficacy of Terminalia chebula Retz. 5% cream compared to hydroquinone 2% cream in the treatment of melasma. *Avicenna J Phytomed*. 2024 Sep 1;14(5):527-36.
67. Pumthong G, Asawanonda P, Varothai S, Jariyasethavong V, Triwongwanat D, Suthipinittharm P, et al. Curcuma aeruginosa, a novel botanically derived 5 α - reductase inhibitor in the treatment of male-pattern baldness: A multicenter, randomized, double-blind, placebo-controlled study. *Journal of Dermatological Treatment*. 2012 Oct;23(5):385-92.