

DAFTAR PUSTAKA

- Adhitama, S., Kuswanti, N., Khaleyla, F., Biologi, J., Matematika, F., Ilmu, D., Alam, P., & Surabaya, U. N. (2023). *Pengaruh Ekstrak Daun Kedondong terhadap Penurunan Kadar Kolesterol Total dan Berat Badan Mencit Diabetes Melitus Tipe II Effect of Ambarella Leaf Extract in Reducing Total Cholesterol Levels and Body Weight of Mice with Diabetes Mellitus Type II*. 12, 354–362. <https://journal.unesa.ac.id/index.php/lenterabio/index354>
- Akbari, C., Dodd, M., Stål, P., Nasr, P., Ekstedt, M., Kechagias, S., Vessby, J., Rorsman, F., Zhang, X., Wang, T., Jemielita, T., Fernandes, G., Engel, S. S., Hagström, H., & Shang, Y. (2024). Long-term major adverse liver outcomes in 1,260 patients with non-cirrhotic NAFLD. *JHEP Reports*, 6(2). <https://doi.org/10.1016/j.jhepr.2023.100915>
- Anjani, D. A. V. N. (2023). Non-alcoholic Fatty Liver Disease: Diagnosis and Treatment. *Jurnal Biologi Tropis*, 23(3), 213–224. <https://doi.org/10.29303/jbt.v23i3.5016>
- Awaliyah, D. Z., Santoso, H., Biomed, M., Syauqi, A., Biologi, U., Matematika, F., & Pengetahuan, I. (2018). Profil Fitokimia pada Jamu Kunci-Sirih (*Boesenbergia pandurata*-*Piper betle*). *Jurnal Ilmiah BIOSAIN TROPIS (BIOSCIENCE-TROPIC)*, 4.
- Ayunda, R. D., & Malita, S. (2024). JKU 13(3) (2024) Pemanfaatan Senyawa Flavonoid sebagai Antioksidan pada Penderita Hiperkolesterolemia: Studi Literatur. *Jurnal Kedokteran UNRAM*, 13. <https://doi.org/10.29303/jk.v13i3.5388>
- Barret, K. E., Brooks, H. L., Barman, S. M., & Yuan, J. (2019). *Ganong's Review of Medical Physiology*. Lange.
- Beringer, A., & Miossec, P. (2019). IL-17 and TNF- α co-operation contributes to the proinflammatory response of hepatic stellate cells. *Clinical and Experimental Immunology*, 198(1), 111–120. <https://doi.org/10.1111/cei.13316>
- Budi, A., & Sijabat, R. M. (2023a). Hubungan Tingkat Pengetahuan dan Ketepatan Penggunaan Obat Simvastatin Pada Pasien Hiperkolesterolemia di Rumah Sakit Advent Medan. *Journal Of Pharmaceutical And Sciences*, 6.
- Budi, A., & Sijabat, R. M. (2023b). Relationship Between Level of Knowledge and Accuracy of Using Simvastatin in Hypercholesterolemic Patients at Advent Medan Hospital. *JOURNAL OF PHARMACEUTICAL AND SCIENCES*, 6.

- Chalasan, N., Younossi, Z., Lavine, J. E., Charlton, M., Cusi, K., Rinella, M., Harrison, S. A., Brunt, E. M., & Sanyal, A. J. (2018). The diagnosis and management of nonalcoholic fatty liver disease: Practice guidance from the American Association for the Study of Liver Diseases. *Hepatology*, *67*(1), 328–357. <https://doi.org/10.1002/hep.29367>
- Delli Bovi, A. P., Marciano, F., Mandato, C., Siano, M. A., Savoia, M., & Vajro, P. (2021). Oxidative Stress in Non-alcoholic Fatty Liver Disease. An Updated Mini Review. In *Frontiers in Medicine* (Vol. 8). Frontiers Media S.A. <https://doi.org/10.3389/fmed.2021.595371>
- Dooley, J. S., Anna S. F., Andrew K. Burroughs, & E. Jenny Heathcote. (2018). *Sherlock's Diseases of the Liver and Biliary System* (James S. Dooley, Anna S. F. Lok, Andrew K. Burroughs, & E. Jenny Heathcote, Eds.; 13th ed.). Wiley. <https://doi.org/10.1002/9781119237662>
- Effendi Sembiring, M., Napih Nasution, A., & Chiuman, L. (2023). Effectiveness Test of Ethanol Extract of Red Betel Leaves (*Piper Crocatum* Ruiz & Pav) Against Histopathological Features of The Pancreas and Blood Sugar Levels of Alloxan-Induced Male Mice (*Mus Musculus* L) under a Creative Commons Attribution-Non Commercial 4.0 International License (CC BY-NC 4.0). *Jurnal Eduhealt*, *14*(04), 2023. <http://ejournal.seaninstitute.or.id/index.php/health>
- Ge, X., Zheng, L., Wang, M., Du, Y., & Jiang, J. (2020). Prevalence trends in non-alcoholic fatty liver disease at the global, regional and national levels, 1990-2017: a population-based observational study. *BMJ Open*, *10*(8), e036663. <https://doi.org/10.1136/bmjopen-2019-036663>
- Hall, J. E., & Hall, M. E. (2020). *Guyton and Hall Textbook of Medical Physiology* (14th ed.).
- Hardiansyah, R., & Lamid, M. (2022). An Efficacy of Seligi Leaf Flour Fermentation on Cholesterol Levels, Low Density Lipoprotein, and High Density Lipoprotein in Catfish. *Jurnal Medik Veteriner*, *5*(1), 41–47. <https://doi.org/10.20473/jmv.vol5.iss1.2022.41-47>
- Harfiani, E., Suci, R. N., Basah, K., Arsianti, A., & Bahtiar, A. (2017). Functional analysis of *Ageratum conyzoides* L. (Babandotan) leaves extract on rheumatoid arthritis model rat. *Asian Journal of Pharmaceutical and Clinical Research*, *10*(3), 429–433. <https://doi.org/10.22159/ajpcr.2017.v10i3.16428>
- Hariadini, A. L., Sidharta, B., Ebtavanny, T. gusti, & Minanga, E. putri. (2020). Hubungan Tingkat Pengetahuan Dan Ketepatan Penggunaan Obat Simvastatin Pada Pasien Hiperkolesterolemia Di Apotek Kota Malang. *Pharmaceutical Journal of Indonesia*, *005*(02), 91–96. <https://doi.org/10.21776/ub.pji.2020.005.02.4>

- Hasan, H., Ain Thomas, N., Hiola, F., Nuzul Ramadhani, F., & Ibrahim, A. S. (2022a). Skrining Fitokimia dan Uji Aktivitas Antioksidan Kulit Batang Matoa (*Pometia pinnata*) Dengan Metode 1,1-Diphenyl-2 picrylhidrazyl (DPPH). *Indonesian Journal of Pharmaceutical Education*, 2(1), 67–73. <https://doi.org/10.37311/ijpe.v2i1.10995>
- Hasan, H., Ain Thomas, N., Hiola, F., Nuzul Ramadhani, F., & Ibrahim, A. S. (2022b). Skrining Fitokimia dan Uji Aktivitas Antioksidan Kulit Batang Matoa (*Pometia pinnata*) Dengan Metode 1,1-Diphenyl-2 picrylhidrazyl (DPPH). *Indonesian Journal of Pharmaceutical Education*, 2(1), 67–73. <https://doi.org/10.37311/ijpe.v2i1.10995>
- Herrington, C. S. (2019). *Muir's Textbook of Pathology* (C. S. Herrington, Ed.; 16th ed.). CRC Press. <https://doi.org/10.1201/9780429300240>
- Huh, Y., Cho, Y. J., & Nam, G. E. (2022). Recent Epidemiology and Risk Factors of Nonalcoholic Fatty Liver Disease. In *Journal of Obesity and Metabolic Syndrome* (Vol. 31, Issue 1, pp. 17–27). Korean Society for the Study of Obesity. <https://doi.org/10.7570/JOMES22021>
- Januarti, I. B., Wijayanti, R., Wahyuningsih, S., & Nisa, Z. (2019). Potensi Ekstrak Terpurifikasi Daun Sirih Merah (*Piper crocatum* Ruiz & Pav) Sebagai Antioksidan Dan Antibakteri. *JPSCR : Journal of Pharmaceutical Science and Clinical Research*, 4(2), 60. <https://doi.org/10.20961/jpscr.v4i2.27206>
- Jeshua, A. A. (2019). *Uji efektivitas ekstrak daun sirih (piper betle) sebagai hemostatik alami dalam manajemen perdarahan pasca bedah pada tikus putih galur wistar (rattus norvegicus) post laparotomi (+CD)*.
- Kaban, K., & Sunarti, S. (2019). EKSTRAK RIMPANG KUNYIT (*Curcuma longa* Linn) MENURUNKAN PENYAKIT PERLEMAKAN HATI NON-ALKOHOLIK. *BIOLINK (Jurnal Biologi Lingkungan Industri Kesehatan)*, 5(2), 123–130. <https://doi.org/10.31289/biolink.v5i2.1800>
- Kalra, A., Yetiskul, E., Wehrle, C. J., & Tuma, F. (2025). *Physiology, Liver*. StatPearls.
- Khristian, E., & Inderiati, D. (2017). *Sitohisteknologi*. Kementerian Kesehatan Republik Indonesia.
- Kudaravalli, P., & John, S. (2025). *Nonalcoholic Fatty Liver*. StatPearls.
- Lai, J., Wang, H. L., Zhang, X., Wang, H., & Liu, X. (2022). Pathologic Diagnosis of Nonalcoholic Fatty Liver Disease. *Archives of Pathology and Laboratory Medicine*, 146(8), 940–946. <https://doi.org/10.5858/arpa.2021-0339-RA>
- LeFort, K. R., Rungratanawanich, W., & Song, B. J. (2024). Contributing roles of mitochondrial dysfunction and hepatocyte apoptosis in liver diseases through oxidative stress, post-translational modifications, inflammation, and intestinal barrier dysfunction. In *Cellular and Molecular Life Sciences* (Vol. 81, Issue

- 1). Springer Science and Business Media Deutschland GmbH.
<https://doi.org/10.1007/s00018-023-05061-7>
- Lidya Ichwana, D. N., Supriatna, A., Sutjiatmo, A. B., Nar Vikasari, S., & Rana Khalifa, K. (2021). *Uji toksisitas Akut Ekstrak Daun Sirih Merah (Piper crocatum) Sebagai Bahan Terapi Poker Periodontal*.
- Lister, I. N. E. (2021). *Daun Sirih Merah Manfaat Untuk Kesehatan* (UNPRI PRESS, Trans.; Vol. 2).
- Lister, I. N. E., Ginting, C. N., Girsang, E., Nataya, E. D., Azizah, A. M., & Widowati, W. (2020). Hepatoprotective properties of red betel (*Piper crocatum* Ruiz and Pav) leaves extract towards H₂O₂-induced HepG2 cells via anti-inflammatory, antinecrotic, antioxidant potency. *Saudi Pharmaceutical Journal*, 28(10), 1182–1189.
<https://doi.org/10.1016/j.jsps.2020.08.007>
- Lister, N. E. (2020). *Daun Sirih Merah Mandaat Untuk Kesehatan*. UNPRI PRESS.
- Loomba, R., Friedman, S. L., & Shulman, G. I. (2021). Mechanisms and disease consequences of nonalcoholic fatty liver disease. In *Cell* (Vol. 184, Issue 10, pp. 2537–2564). Elsevier B.V. <https://doi.org/10.1016/j.cell.2021.04.015>
- Masenga, S. K., Kabwe, L. S., Chakulya, M., & Kirabo, A. (2023a). Mechanisms of Oxidative Stress in Metabolic Syndrome. In *International Journal of Molecular Sciences* (Vol. 24, Issue 9). Multidisciplinary Digital Publishing Institute (MDPI). <https://doi.org/10.3390/ijms24097898>
- Masenga, S. K., Kabwe, L. S., Chakulya, M., & Kirabo, A. (2023b). Mechanisms of Oxidative Stress in Metabolic Syndrome. In *International Journal of Molecular Sciences* (Vol. 24, Issue 9). Multidisciplinary Digital Publishing Institute (MDPI). <https://doi.org/10.3390/ijms24097898>
- Maulina, M. (2018). *Zat-Zat Yang Mempengaruhi Histopatologi Hepar*. UNIMAL PRESS.
- Nazira, S., Selvester Thadeus, M., & Hardini, N. (2020). Efektivitas Ekstrak Biji Ketumbar (*Coriandrum Sativum* L.) Terhadap Gambaran Histopatologi Ginjal Tikus Hiperkolesterolemia Diabetes. *Jurnal Muara Sains, Teknologi, Kedokteran, dan Ilmu Kesehatan*, 4(1), 357–368.
<https://doi.org/10.24912/jmistkik.v4i2.8249>
- Nugroho, S. W., Fauziyah, K. R., Sajuthi, D., & Darusman, H. S. (2018). Profil Tekanan Darah Normal Tikus Putih (*Rattus norvegicus*) Galur Wistar dan Sprague-Dawley (The Profile of Normal Blood Pressure Laboratory Rat (*Rattus norvegicus*) Strain Wistar and Sprague-Dawley). *ACTA VETERINARIA INDONESIA*, 6(2), 32–37.
<http://www.journal.ipb.ac.id/indeks.php/actavetindones>

- Nurkhasanah, M. A., & Mochammad, S. (2023). *Antioksidan dan Stres Oksidatif* (G. A. Sabilla, Ed.). UAD PRESS.
- Patala, R., Utami, K., & Wahyuni, S. (2021). Potensi Ekstrak Daun Sirih Merah terhadap Histopatologi Pankreas Tikus Putih Jantan Yang Diinduksi Streptomisin. *Farmakologika Jurnal Farmasi*, XVIII(2).
- Pierantonelli, I., & Svegliati-Baroni, G. (2019). Nonalcoholic Fatty Liver Disease: Basic Pathogenetic Mechanisms in the Progression from NAFLD to NASH. *Transplantation*, 103(1), E1–E13. <https://doi.org/10.1097/TP.0000000000002480>
- Pose, E., Trebicka, J., Mookerjee, R. P., Angeli, P., & Ginès, P. (2019). Statins: Old drugs as new therapy for liver diseases? In *Journal of Hepatology* (Vol. 70, Issue 1, pp. 194–202). Elsevier B.V. <https://doi.org/10.1016/j.jhep.2018.07.019>
- Pouwels, S., Sakran, N., Graham, Y., Leal, A., Pintar, T., Yang, W., Kassir, R., Singhal, R., Mahawar, K., & Ramnarain, D. (2022). Non-alcoholic fatty liver disease (NAFLD): a review of pathophysiology, clinical management and effects of weight loss. In *BMC Endocrine Disorders* (Vol. 22, Issue 1). BioMed Central Ltd. <https://doi.org/10.1186/s12902-022-00980-1>
- Puspita, P. J., Safithri, M., & Sugiharti, N. P. (2019). Antibacterial Activities of Sirih Merah (*Piper crocatum*) Leaf Extracts. *Current Biochemistry*, 5(3), 1–10. <https://doi.org/10.29244/cb.5.3.1-10>
- Rives, C., Fougerat, A., Ellero-Simatos, S., Loiseau, N., Guillou, H., Gamet-Payrastre, L., & Wahli, W. (2020a). Oxidative stress in NAFLD: Role of nutrients and food contaminants. *Biomolecules*, 10(12), 1–69. <https://doi.org/10.3390/biom10121702>
- Rives, C., Fougerat, A., Ellero-Simatos, S., Loiseau, N., Guillou, H., Gamet-Payrastre, L., & Wahli, W. (2020b). Oxidative stress in NAFLD: Role of nutrients and food contaminants. *Biomolecules*, 10(12), 1–69. <https://doi.org/10.3390/biom10121702>
- Rodwell, V., Bender, D., Botham, K., Kenelly, P., & Weil, P. (2015). *Harper's Illustrated Biochemistry*.
- Rohmania, R. (2020). *Efektivitas Ekstrak Daun Sirih Merah (Piper crocatum Ruiz & Pav) Sebagai Larvasida Terhadap Larva Culex sp.*
- Safithri, M., Faridah, D. N., Ramadani, F., & Pratama, R. (2022). Antioxidant activity of ethanol extract and fractions of *Piper crocatum* with Rancimat and cuprac methods. *Turkish Journal of Biochemistry*. <https://doi.org/10.1515/tjb-2021-0300>

- Salsabila, N. A. (2019). Apoptosis Sel Hepatosit Sebagai Akibat Dari Metabolisme Alkohol. *Apoptosis of Hepatocyte Cells as a Result of Alcohol Metabolism*, 10. <https://doi.org/10.35816/jiskh.v10i2.133>
- Sarwanti, S., Stephanie, M., Kodariah, R., Korespondensi, P., & Ria Kodariah, D. (2020). TINJAUAN PUSTAKA Peran CD44 pada Progresivitas Non Alcoholic Steatohepatitis Peran CD44 pada Progresivitas Non Alcoholic Steatohepatitis (NASH). *Maj Patol Indones*, 29(3), 71–81.
- Sato-Espinoza, K., Chotiprasidhi, P., Huaman, M. R., & Díaz-Ferrer, J. (2024). Update in lean metabolic dysfunction-associated steatotic liver disease. In *World Journal of Hepatology* (Vol. 16, Issue 3, pp. 452–464). Baishideng Publishing Group Inc. <https://doi.org/10.4254/wjh.v16.i3.452>
- Sayuti, F., & Musa, Z. (2021). Laporan Kasus Hepatoblastoma Subtipe Campuran Epitelial Dan Mesenkimal. In *Laporan Kasus Syifa' MEDIKA* (Vol. 12, Issue 1).
- Setiawan, S. I., & Bhakti Asih. (2021). Pilihan Tatalaksana Penyakit Perlemakan Hati Non-Alkohol (Non-Alcoholic Fatty Liver Disease/ NAFLD). *Cermin Dunia Kedokteran*, 48(3).
- Setiono, D. D., Wantania, F. E. N., & Polii, E. B. I. (2022). Risk Factors of Non-Alcoholic Fatty Liver Disease in Adults. *E-CliniC*, 10(2), 234. <https://doi.org/10.35790/ecl.v10i2.37814>
- Sijid, S. A., Muthiadin, C., Zulkarnain, Z., & Hidayat, Ar. S. (2020). Pengaruh Pemberian Tuak Terhadap Gambaran Histopatologi Hati Mencit (Mus musculus) ICR Jantan. *Jurnal Pendidikan Matematika Dan IPA*, 11(2), 193. <https://doi.org/10.26418/jpmipa.v11i2.36623>
- Sizar, omeed, Khare, swapnil, Patel, preeti, & Talati, raja. (2024). *Statin Medications*.
- Soesilawati, P. (2020). *Histologi Kedokteran dasar*.
- Suatowijaya, Riza, H., & Fajriaty, I. (2019). Virtual Screening Struktur Modifikasi Simvastatin Terhadap Enzim HMG-COA Reduktase Menggunakan Metode Docking. *Jurnal Mahasiswa Farmasi Fakultas Kedokteran UNTAN*.
- Sulaiman, A. S. (2023). Perlemakan Hati Non-Alkoholik dan Risiko Fibrosis Hati pada Pasien Hepatitis B Kronik. *Jurnal Penyakit Dalam Indonesia*, 10(3). <https://doi.org/10.7454/jpdi.v10i3.1456>
- Sumadewi, K. T. (2023). Embryology, anatomy and physiology of the liver: Review. *Indian Journal of Clinical Anatomy and Physiology*, 10(3), 138–144. <https://doi.org/10.18231/j.ijcap.2023.031>
- Teng, M. L. P., Ng, C. H., Huang, D. Q., Chan, K. E., Tan, D. J. H., Lim, W. H., Yang, J. D., Tan, E., & Muthiah, M. D. (2023). Global incidence and

- prevalence of nonalcoholic fatty liver disease. In *Clinical and Molecular Hepatology* (Vol. 29, Issue suppl, pp. 32–42). Korean Association for the Study of the Liver. <https://doi.org/10.3350/CMH.2022.0365>
- Thadeus, M. S., Fauziah, C., Zulfa, F., & Anisah. (2019). The Effect of Red Dragon Fruit Extract (*Hylocereus Polyrhizus*) on Membrane Lipid Peroxidation and Liver Tissue Damage Triggered by Hyperlipidemia in White Rats (*Rattus Norvegicus*). *Advances in Health Sciences Research*, 13.
- Timur, W. W., & Santoso, A. (2019). Pengaruh Kombinasi Ekstrak Pisang Kepok (*Musa Paradisiaca*) Dengan Gemfibrozil Terhadap Kadar Lipid Darah Tikus Wistar. *Journal of Pharmaceutical Science and Medical Research*, 2(2), 57–66. <http://e-journal.unipma.ac.id/index.php/pharmed>
- Torres-Peña, J. D., Martín-Piedra, L., & Fuentes-Jiménez, F. (2021). Statins in Non-alcoholic Steatohepatitis. In *Frontiers in Cardiovascular Medicine* (Vol. 8). Frontiers Media SA. <https://doi.org/10.3389/fcvm.2021.777131>
- Tortora, G., & Derrickson, B. (2017). *Principles Of Anatomy & Physiology* (15th ed.). Danvers MA.
- Unram, J. K., Biokimia, ¹bagian, Dokter, P., Kedokteran, F., & Kesehatan, I. (2024). Pemanfaatan Senyawa Flavonoid sebagai Antioksidan pada Penderita Hiperkolesterolemia: Studi Literatur Rahmah Dara Ayunda¹, Soufa Malita². *Jurnal Kedokteran UNRAM*. <https://doi.org/10.29303/jk.v13i3.5388>
- Vernon, H., Wehrie, C. J., Sampson K, V., & Kasi, A. (2022). *Anatomy, Abdomen and Pelvis: Liver*. StatPearls.
- Wang, X., Chen, Y., Meng, H., & Meng, F. (2023). SREBPs as the potential target for solving the polypharmacy dilemma. In *Frontiers in Physiology* (Vol. 14). Frontiers Media SA. <https://doi.org/10.3389/fphys.2023.1272540>
- Xavier, A., Zacconi, F., Santana-Romo, F., Eykyn, T. R., Lavin, B., Phinikaridou, A., Botnar, R., Uribe, S., Oyarzún, J. E., Cabrera, D., Arrese, M., & Andia, M. E. (2021). Assessment of hepatic fatty acids during non-alcoholic steatohepatitis progression using magnetic resonance spectroscopy. *Annals of Hepatology*, 25. <https://doi.org/10.1016/j.aohep.2021.100358>
- Yensasnidar Yensasnidar, & Marlinda Marlinda. (2018). Efektivitas Pemberian Ekstrak Daun Salam (*Eugenia Polianta*) Dibandingkan Obat Statin Dalam Penurunan Kadar Kolesterol Total Pada Penderita Hiperkolesterol DiwilayahKerja UPDT Puskesmas Kerinci Kanan. *Jurnal Kesehatan Perintis (Perintis's)*, 5.
- Zhang, S., Ren, X., Zhang, B., Lan, T., & Liu, B. (2024). A Systematic Review of Statins for the Treatment of Nonalcoholic Steatohepatitis: Safety, Efficacy, and Mechanism of Action. In *Molecules* (Vol. 29, Issue 8). Multidisciplinary

Digital Publishing Institute (MDPI).
<https://doi.org/10.3390/molecules29081859>