

DAFTAR PUSTAKA

- Afriani, Dina, and Kenti Yuliana. "Analisis penggunaan gadget terhadap interaksi sosial mahasiswa." Lentera: Jurnal Ilmiah Kependidikan 17.1 (2022): 9-19.
- Ageeva, E.S., Shramko, Iu.I., & Kubyshkin, A.V. (2024). The role of genetic factors in likelihood of type 2 diabetes mellitus. Health Risk Analysis. <https://doi.org/10.21668/health.risk/2024.3.17.eng>
- Aktar, M. A., Alam, M. M., & Al-Amin, A. Q. (2021). Global economic crisis, energy use, CO₂ emissions, and policy roadmap amid COVID-19. Sustainable Production and Consumption, 26, 770-781.
- Amalia, R. (2019, September). Molecular Dinamik Senyawa Turunan Benzimidazol Sebagai Inhibitor Kolinesterase. In Prosiding Seminar Nasional dan Penelitian Kesehatan 2018.
- Aryanti, W. (2021, June). IN SILICO STUDY OF FLAVONOID DERIVATIVES ON N-METHYLTRANSFERASE HISTAMINE RECEPTOR AS ANTI-ALLERGIC. In Prosiding Seminar Nasional dan Penelitian Kesehatan 2018.
- Ayutthaya, S. S., & Adnan, N. (2020). Faktor Risiko Hipertensi pada Penderita Diabetes Mellitus Tipe 2. Jurnal ilmu kesehatan masyarakat, 9(02), 60-71.
- Azis, A. (2021). Uji Efektivitas Penurunan Gula Darah Ekstrak Etanol Daun Asam Jawa (Tamarindus indica L) Terhadap Mencit (Mus musculus). Jurnal Kesehatan Yamasi Makassar, 5(2), 1-7.
- Azizah, S. A., & Novrianti, I. (2022). Pharmacotherapy Of Diabetic Mellitus: A Review Review: Farmakoterapi Diabetes Melitus. Journal Of Pharmacy and Science, 5(2), 80-91.
- Barus, B. R., & Rahmi, S. (2021). Aktivitas Ekstrak Daun Asam Jawa (Tamarandus indica L.) Terhadap Kadar Glukosa Darah Kelinci Jantan Yang Diinduksi Streptozotosin. Jurnal Biosains, 7(3), 148-151.
- Chandrasekaran, P., & Weiskirchen, R. (2024). The role of obesity in type 2 diabetes mellitus—An overview. International Journal of Molecular Sciences, 25. <https://doi.org/10.3390/ijms25031882>
- Chigurupati, S., & Kitsupee, P. (2020). Antioxidant and antidiabetic properties of Tamarindus indica leaf ethanolic extract. Southeast Asian Journal of Tropical Medicine and Public Health, 51, 559-559.
- Chimsah, F., Nyarko, G., & Abubakari, A.-H. (2020). A review of explored uses and study of nutritional potential of tamarind (Tamarindus indica L.) in Northern Ghana. Australian Journal of French Studies, 14, 285–294. <https://doi.org/10.5897/AJFS2018.1744>
- Cuadros, D., Li, J., Musuka, G., & Awad, S. (2021). Spatial epidemiology of diabetes: Methods and insights. World Journal of Diabetes, 12(7), 1042–1056. <https://doi.org/10.4239/wjd.v12.i7.1042>

Dalfrà, M., Burlina, S., Giovanna Del Vescovo, G., & Lapolla, A. (2020). Genetics and epigenetics: New insight on gestational diabetes mellitus. *Frontiers in Endocrinology*, 11. <https://doi.org/10.3389/fendo.2020.602477>

Daryabor, G., Atashzar, M., Kabelitz, D., Meri, S., & Kalantar, K. (2020). The effects of type 2 diabetes mellitus on organ metabolism and the immune system. *Frontiers in Immunology*, 11, 1582. <https://doi.org/10.3389/fimmu.2020.01582>

Dey, R., Nandi, S., & Samadder, A. (2021). Pelargonidin Mediated Selective Activation of p53 and Parp Proteins in Preventing Food Additive Induced Genotoxicity: an in Vivo Coupled in Silico Molecular Docking Study. *European Journal of Pharmaceutical Sciences*, 156(June 2020), 105586. <https://doi.org/10.1016/j.ejps.2020.105586>

ElGohary, G. M., Hashmi, S., Styczynski, J., Kharfan-Dabaja, M. A., Alblooshi, R. M., de la Cámara, R., ... & El Fakih, R. (2020). The risk and prognosis of COVID-19 infection in cancer patients: a systematic review and meta-analysis. *Hematology/oncology and stem cell therapy*.

Elmaidomy, A. H., Abdelmohsen, U., Alsenani, F., Aly, H., Shams, S. G., Younis, E., Ahmed, K. A., Sayed, A., Owis, A., Afifi, N. I., & El Amir, D. (2022). The anti-Alzheimer potential of Tamarindus indica: An in vivo investigation supported by in vitro and in silico approaches. *RSC Advances*, 12, 11769–11785. <https://doi.org/10.1039/d2ra01340a>

Farooq, S., Munir, R., Imtiaz, K., Sehar, S., Khurshid, A., Yunus, N., Kanwal, A., Majeed, Y., Gillani, F. S. A., & Fang, N. (2022). Phytochemical investigation and antioxidant activities of tamarind (Tamarindus indica L.). *Notulae Botanicae Horti Agrobotanici Cluj-Napoca*. <https://doi.org/10.15835/nbha50312892>

Firmansya, A., Nursiam, D. F., Ulfah, M., & Ruswanto, R. (2024, May). Studi In Silico Senyawa Katekin Terhadap Reseptor Alpha Glukosidase (3POC) Sebagai Antidiabetes Tipe 2. In Prosiding Seminar Nasional dan Penelitian Kesehatan 2018.

Fonseca-Correia, J. I., & Correia-Rotter, R. (2021). Sodium-glucose cotransporter-2 inhibitors mechanisms of action: A review. *Frontiers in Medicine*, 8. <https://doi.org/10.3389/fmed.2021.777861>

Foretz, M., Guigas, B., & Viollet, B. (2019). Understanding the glucoregulatory mechanisms of metformin in type 2 diabetes mellitus. *Nature Reviews Endocrinology*, 15, 569–589. <https://doi.org/10.1038/s41574-019-0242-2>

Galicia-Garcia, U., Benito-Vicente, A., Jebari, S., Larrea-Sebal, A., Siddiqi, H., Uribe, K. B., ... & Martín, C. (2020). Pathophysiology of type 2 diabetes mellitus. *International journal of molecular sciences*, 21(17), 6275.

Glovaci, D., Fan, W., & Wong, N. (2019). Epidemiology of Diabetes Mellitus and Cardiovascular Disease. *Current Cardiology Reports*, 21, 1–8. <https://doi.org/10.1007/s11886-019-1107-y>

Gowda, J., & Hegde, K. (2022). A brief review on pharmacological potential of Tamarindus indica. *International Journal of Pharmaceutical Sciences Review and Research*. <https://doi.org/10.47583/ijpsrr.2022.v74i01.024>

Gowda, J., & Hegde, K. (2022). A brief review on pharmacological potential of Tamarindus indica. International Journal of Pharmaceutical Sciences Review and Research. <https://doi.org/10.47583/ijpsrr.2022.v74i01.024>

Hilda, H., Masniah, M., & Yusnita, H. (2023). Edukasi Dan Pelatihan Pembuatan Teh Celup Saffron Dan Asam Jawa Sebagai Antidiabetes Pada Masyarakat Desa Laut Dendang, Kecamatan Percut Sei Tuan. Majalah Cendekia Mengabdi, 1(4), 253-259.

Ilari, L., Piersanti, A., Göbl, C., Burattini, L., Kautzky-Willer, A., Tura, A., & Morettini, M. (2022). Unraveling the factors determining development of type 2 diabetes in women with a history of gestational diabetes mellitus through machine-learning techniques. Frontiers in Physiology, 13. <https://doi.org/10.3389/fphys.2022.789219>

Ilonen, J., Lempainen, J., & Veijola, R. (2019). The heterogeneous pathogenesis of type 1 diabetes mellitus. Nature Reviews Endocrinology, 15(11), 635–650. <https://doi.org/10.1038/s41574-019-0254-y>

Indratmoko, S., Hayu Nurani, L., & Wahyuningsih, I. (2022). Penambatan Molekuler Fosfodiesterase Tipe 5 oleh Senyawa Aktif Icariin sebagai Terapi Disfungsi Ereksi. PENAMBATAN MOLEKULER FOSFODIESTERASE TIPE 5 OLEH SENYAWA AKTIF ICARIIN SEBAGAI TERAPI DISFUNGSI EREKSI.

Ismail, L., Materwala, H., & Al Kaabi, J. (2021). Association of risk factors with type 2 diabetes: A systematic review. Computational and Structural Biotechnology Journal, 19, 1759-1785. <https://doi.org/10.1016/j.csbj.2021.03.003>

Iwata, H. (2023). Application of in silico technologies for drug target discovery and pharmacokinetic analysis. Chemical & Pharmaceutical Bulletin, 71(6), 398–405. <https://doi.org/10.1248/cpb.c22-00638>

Khalid, M., Alkaabi, J., Khan, M. A. B., & Adem, A. (2021). Insulin signal transduction perturbations in insulin resistance. International Journal of Molecular Sciences, 22(16), 8590. <https://doi.org/10.3390/ijms22168590>

Khan, M. A. B., Hashim, M. J., King, J., Govender, R., Mustafa, H., & Al Kaabi, J. (2019). Epidemiology of Type 2 Diabetes – Global Burden of Disease and Forecasted Trends. Journal of Epidemiology and Global Health, 10, 107–111. <https://doi.org/10.2991/jegh.k.191028.001>

Kotwas, A., Karakiewicz, B., Zabielska, P., Wieder-Huszla, S., & Jurczak, A. (2021). Epidemiological factors for type 2 diabetes mellitus: Evidence from the Global Burden of Disease. Archives of Public Health, 79. <https://doi.org/10.1186/s13690-021-00632-1>

Krishna, R. N., Anitha, R., & Ezhilarasan, D. (2020). Aqueous extract of Tamarindus indica fruit pulp exhibits antihyperglycaemic activity. Avicenna Journal of Phytomedicine, 10, 440-447. <https://doi.org/10.22038/AJP.2020.14787>

Mayavel, A., Amaravel, M., Bagathsingh, C., Krishnan, G. R., & Nagarajan, B. (2024). Exploring morpho-biochemical diversity in Tamarind (Tamarindus indica L.) for advanced breeding approaches. LEGUME RESEARCH – AN INTERNATIONAL JOURNAL. <https://doi.org/10.18805/lr-5295>

Mbarki, S., Ben Abdelaziz, A., Ben Hassine, D., Melki, S., Ben Rejeb, N., Omezzine, A., Bouslama, A., & Ben Abdelaziz, A. (2022). Epidemiology of diabetes mellitus in Tunisia. *La Tunisie Médicale*, 100(3), 229–240.

Mehdi, M. H., Alawi, A., Thabet, A., Alarabi, F. Y. S., & Omar, G. M. N. (2021). Analysis of bioactive chemical compounds of leaves extracts from *Tamarindus indica* using FT-IR and GC-MS spectroscopy. *Asian Journal of Research in Botany*, 8(1), 22-34. <https://doi.org/10.9734/AJRB/2021/V8I130171>

Mukhopadhyay, Sanjay, et al. “Insulinoma-associated protein 1 (INSM1) is a sensitive and highly specific marker of neuroendocrine differentiation in primary lung neoplasms: an immunohistochemical study of 345 cases, including 292 whole-tissue sections.” *Modern Pathology* 32.1 (2019): 100-109.

Musah, M., Mathew, J., Azeh, Y., Nwakife, N. C., Abdulhamid, Z., & Mohammed, A. (2022). Nutritional assessment of fermented and roasted *Tamarindus indica* seeds. *Journal of Agriculture and Food Sciences*. <https://doi.org/10.4314/jafs.v20i1.5>

Nasution, H., Nst, M. R., & Abdifi, R. (2013). Aktivitas antidiabetes ekstrak etanol daun asam jawa (*tamarindus indica* linn) terhadap enzim alfa glukosidase. *Photon: Jurnal Sain dan Kesehatan*, 4(1), 71-75.

Nwanna, E., Aro, O. P., Ogunsuyi, O., Shodehinde, S., & Oboh, G. (2024). Unveiling the anti-diabetic potential: A comparative study on the vitamin and amino acid profiles of bioactive compounds in fermented and raw Tamarind seeds. *Natural Product Communications*. <https://doi.org/10.1177/1934578x241259003>

Ojo, O. A., Ibrahim, H. S., Rotimi, D. E., Ogunlakin, A. D., & Ojo, A. B. (2023). Diabetes mellitus: From molecular mechanism to pathophysiology and pharmacology. *Medicine in Novel Technology and Devices*, 19, 100247. <https://doi.org/10.1016/j.medntd.2023.100247> Álvarez, H., Andrade, R., Peña Monserrate, G. R., Cedeño, J., Zambrano, E., & Viera, W. (2019). Agro-morphological characterization “in situ” of *Tamarindus indica* L. In situ morphological studies.

Ozougwu, J. C., Obimba, K. C., Belonwu, C. D., & Unakalamba, C. B. (2013). The pathogenesis and pathophysiology of type 1 and type 2 diabetes mellitus. *J Physiol Pathophysiol*, 4(4), 46-57.

Pamungkas, T. S., & Manalu, R. T. (2023). Studi in silico senyawa aktif asam Jawa (*Tamarindus indica* L.) sebagai antidiabetes melalui inhibisi protein tyrosine phosphatase. *Jurnal Ilmiah Ibnu Sina (JIIS): Ilmu Farmasi dan Kesehatan*. <https://doi.org/10.36387/jiis.v8i1.1282>

Pansari, P. (2021). Computational approaches for drug discovery from medicinal plants in the era of data-driven research. *Indian Drugs*. <https://doi.org/10.53879/id.58.08.12930>

Powe, C. E., Hivert, M., & Udler, M. (2020). Defining heterogeneity among women with gestational diabetes mellitus. *Diabetes*, 69, 2064–2074. <https://doi.org/10.2337/db120-0004>

- Prameswari, O. M., & Widjanarko, S. B. (2014). Uji efek ekstrak air daun pandan wangi terhadap penurunan kadar glukosa darah dan histopatologi tikus diabetes mellitus. *Jurnal Pangan dan agroindustri*, 2(2), 16-27.
- Pratama, A. A., Rifai, Y., & Marzuki, A. (2017). Docking Molekuler Senyawa 5, 5'-Dibromometilsesamin. *Majalah Farmasi dan Farmakologi*, 21(3), 67-69.
- Pratama, N. A. L., Meilani, A., & Fakih, T. M. (2021). Studi in Silico Senyawa Turunan Kurkuminoid Terhadap Reseptor Androgen Sebagai Kandidat Terapi Kanker Prostat. *Jurnal Ilmiah Farmasi Farmasyifa| Vol*, 4(2).
- Pratiwi, M. I. (2020). Dampak Covid-19 terhadap perlambatan ekonomi sektor umkm. *Jurnal Ners*, 4(2), 30-39.
- Praveenakumar, R. (2020). Studies on phytochemical evaluation of tamarind (*Tamarindus indica L.*) genotypes prevailing in Eastern dry zone of Karnataka. *International Journal of Agriculture, Environment and Biotechnology*, 8(4), 320-324. <https://doi.org/10.18782/2582-2845.8367>
- Rahmadi, M., Nurhan, A. D., Pratiwi, E. D., Prameswari, D. A., Panggono, S. M., Nisak, K., & Khotib, J. (2021). The effect of various high-fat diet on liver histology in the development of NAFLD models in mice. *Journal of Basic and Clinical Physiology and Pharmacology*, 32(4), 547-553.
- Rahman, R. S., Almomen, F., Alajmi, A. A., et al. (2022). Predictors and associated risk factors of development of type 2 diabetes mellitus. *Journal of Healthcare Sciences*. <https://doi.org/10.5253/johs.2022.2603>
- Rocha, R. F., Rodrigues, T., Menegatti, A., Bernardes, G., & Terenzi, H. (2020). The antidiabetic drug lobeglitazone has the potential to inhibit PTP1B activity. *Bioorganic Chemistry*, 100, 103927. <https://doi.org/10.1016/j.bioorg.2020.103927>
- Salau, V., Erukainure, O., Aljoundi, A., Akintemi, E., Elamin, G., & Odewole, O. A. (2024). Exploring the inhibitory action of betulinic acid on key digestive enzymes linked to diabetes via in vitro and computational models. *SAR and QSAR in Environmental Research*, 35, 411-432. <https://doi.org/10.1080/1062936X.2024.2352729>
- Salehi, B., Ata, A., Kumar, N. V. A., Sharopov, F., Ramírez-Alarcón, K., Ruiz-Ortega, A., ... & Sharifi-Rad, J. (2019). Antidiabetic potential of medicinal plants and their active components. *Biomolecules*, 9. <https://doi.org/10.3390/biom9100551>
- Sari, S. W., Wilapangga, A., Sari, A. N., & Astriani, S. (2023). STUDI IN SILICO POTENSI FARMAKOKINETIK DUA SENYAWA DARI TANAMAN KENAF (*Hibiscus cannabinus L.*) UNTUK PREDIKSI TOKSISITAS. *Jurnal Bina Cipta Husada: Jurnal Kesehatan Dan Science*, 19(2), 70-79.
- Sarna, R., Saxena, S., Bhardwaj, S., & Aggarwal, A. (2023). Novel carriers and approaches insight in diabetes mellitus. *Research and Analysis Journal*. <https://doi.org/10.18535/raj.v6i10.422>
- Sarnobat, D., Moffett, C. R., Tanday, N., Reimann, F., Gribble, F., Flatt, P., & Tarasov, A. (2020). Antidiabetic drug therapy alleviates type 1 diabetes in mice by promoting

pancreatic α -cell transdifferentiation. *Biochemical Pharmacology*, 114216. <https://doi.org/10.1016/j.bcp.2020.114216>

Shaikh, A., & Singh, U. P. (2024). A brief review on pharmacognosy, phytochemistry, and therapeutic applications of *Tamarindus indica*. *International Journal of Pharmaceutical Sciences and Medicine*. <https://doi.org/10.47760/ijpsm.2024.v09i06.013>

Shaker, B., Ahmad, S., Lee, J., Jung, C., & Na, D. (2021). In silico methods and tools for drug discovery. *Computers in Biology and Medicine*, 137, 104851. <https://doi.org/10.1016/j.combiomed.2021.104851>

Shrestha, B., Nepal, B., Shakya, Y. L., & Regmi, B. (2019). Life style factors associated with the risk of type 2 diabetes mellitus. *Grande Medical Journal*, 1(2), 77-83. <https://doi.org/10.3126/gmj.v1i2.27057>

Somnath, R., & Deshmukh, V. N. (2024). Phytochemical profiling, molecular docking and GLUT4 and PPAR- γ mRNA Expression study of *Tamarindus indica* seeds fraction for antidiabetic activity in Rats. *Journal of Applied Bioanalysis*. <https://doi.org/10.53555/jab.v10i2.152>

Sridevi, C., Vijayabalan, S., & Das, S. (2020). Antidiabetic properties of *Tamarindus indica* leaf extracts. *Southeast Asian Journal of Tropical Medicine and Public Health*, 51, 559-560.

Telesmanich, N. R., Mikashinovich, Z., & Konoval'Chik, M. A. (2022). Molecular and metabolic mechanisms of type 1 and type 2 diabetes mellitus. *Experimental and Clinical Gastroenterology*. <https://doi.org/10.31146/1682-8658-ecg-203-7-177-184>

Vidal-Tovar, C., Gordon-Hernández, Y., Fragoso-Castilla, P., Gutierrez de Pineres, C. A., & Angulo-Blanquicett, G. E. (2022). Production of an electrolyte drink from the use of tamarind fruit (*Tamarindus indica* L.). *IOP Conference Series: Materials Science and Engineering*, 1253. <https://doi.org/10.1088/1757-899X/1253/1/012005>

Yang, J.-F., Wang, D., Jia, C.-Y., Wang, M.-Y., Hao, G., & Yang, G. (2020). Freely accessible chemical database resources of compounds for in silico drug discovery. *Current Medicinal Chemistry*. <https://doi.org/10.2174/0929867325666180508100436>

Yaribeygi, H., Sathyapalan, T., Atkin, S., & Sahebkar, A. (2020). Molecular mechanisms linking oxidative stress and diabetes mellitus. *Oxidative Medicine and Cellular Longevity*, 2020, 8609213. <https://doi.org/10.1155/2020/8609213>

Yeni, K., Tulek, Z., Simsek, O. F., & Bebek, N. (2018). Relationships between knowledge, attitudes, stigma, anxiety and depression, and quality of life in epilepsy: A structural equation modeling. *Epilepsy & Behavior*, 85, 212-217.

Yuliana, A., Saputri, O. A., & Adlina, S. (2022). Molecular Docking dan Uji Toksisitas Remdesivir, Lopinavir, Ritonavir dan Favipiravir Terhadap M-Protease SARS-CoV-2.

Zakaria, M. N. Z., Aththar, A. F., Hamami, S. M. A., Fai, M., & Rahayu, S. (2023). In Silico Study of α -Amylase and α -Glucosidase Inhibitory Compounds in *Aloe vera* as Antidiabetic Agent. *Biotropika: Journal of Tropical Biology*, 11(1), 28-37.

Zolkepli, H., Widodo, R., Mahmood, S., Salim, N., Awang, K., Ahmad, N., & Othman, R. (2022). A review on the delivery of plant-based antidiabetic agents using nanocarriers: Current status and their role in combatting hyperglycaemia. *Polymers*, 14. <https://doi.org/10.3390/polym14152991>