DAFTAR PUSTAKA

Abd Elrahman, M. M., El makawy, A. I., Hassanane, M. S., Alam, S. S., Hassan, N. H. A., & Amer, M. K. (2021). Assessment of correlation between asthenozoospermia and mitochondrial DNA mutations in Egyptian infertile men. *Journal of Genetic Engineering and Biotechnology*, *19*(1). https://doi.org/10.1186/s43141-020-00111-0

Afita, A. S. (2023). Uji Efektivitas Pemberian Larutan Gula Aren (*Arenga Pinnata*) Terhadap Gambaran Histopatologi Hepar Pada Tikus Jantan Galur Wistar Yang Diinduksi Aloksan. *EJournal Kedokteran Indonesia.*, *10*. https://ejki.fk.ui.ac.id/index.php/journal/article/view/230

Al-Ishaq, R. K., Abotaleb, M., Kubatka, P., Kajo, K., & Büsselberg, D. (2019). Flavonoids and their anti-diabetic effects: Cellular mechanisms and effects to improve blood sugar levels. *Biomolecules*, *9*(9). https://doi.org/10.3390/biom9090430

Arief, D. A., Sangi, M. S., & Kamu, V. S. (2017). *JURNAL MIPA UNSRAT ONLINE 6(2) 12-15 Skrining Fitokimia Dan Uji Toksisitas Ekstrak Biji Aren (Arenga pinnata MERR.)*. *6*(2), 12–15.

Ariyo, A. L., Olayemi, M., Saka, S., Saka, F. S., Oluwa, A., & Olatunde, A. (2023). *Ameliorative Effect Of Ethanol Extract Of Psidium Guajavaleaves On Male Reproductive System Of Streptozotocin-Induced Diabetic Wistar Rats*. 1–16.

Banday, M. Z., Sameer, A. S., & Nissar, S. (2020). Pathophysiology of diabetes: An overview. *Avicenna Journal of Medicine*, *10*(4), 174. https://doi.org/10.4103/AJM.AJM_53_20

Black, H. S. (2022). *A Synopsis of the Associations of Oxidative Stress , ROS , and Antioxidants with Diabetes Mellitus*.

Blonde, L., Umpierrez, G. E., Reddy, S. S., McGill, J. B., Berga, S. L., Bush, M., Chandrasekaran, S., DeFronzo, R. A., Einhorn, D., Galindo, R. J., Gardner, T. W., Garg, R., Garvey, W. T., Hirsch, I. B., Hurley, D. L., Izuora, K., Kosiborod, M., Olson, D., Patel, S. B., … Weber, S. L. (2022). American Association of Clinical Endocrinology Clinical Practice Guideline: Developing a Diabetes Mellitus Comprehensive Care Plan-2022 Update. *Endocrine Practice : Official Journal of the American College of Endocrinology and the American Association of Clinical Endocrinologists*, *28*(10), 923–1049. https://doi.org/10.1016/J.EPRAC.2022.08.002

Budiarti, R. (2019). *Penurunan Glukosa Darah dan Perbaikan Histopatologi Jaringan pada Kondisi Hiperoksia Hiperbarik Tikus yang Diinduksi Aloksan (Studi Eksperimental Laboratoris)* (A. Fitriah (ed.); Pertama). Global Science Redaksi:

Cantikka Ridanti, Dharmono, D., & Riefani, M. K. (2022). Kajian Etnobotani Aren

(Arenga pinnata Merr.) Di Desa Sabuhur Kecamatan Jorong Kabupaten Tanah Laut. *JUPEIS : Jurnal Pendidikan Dan Ilmu Sosial*, *1*(3), 200–215. https://doi.org/10.55784/jupeis.vol1.iss3.175

Chaib, A., Zarrouq, B., El Amine Ragala, M., Lyoussi, B., Giesy, J. P., Aboul-Soud, M. A. M., & Halim, K. (2023). Effects of nutrition education on Metabolic profiles of patients with type 2 diabetes mellitus to improve glycated hemoglobin and body mass index. *Journal of King Saud University - Science*, *35*(1), 102437. https://doi.org/10.1016/J.JKSUS.2022.102437

Chakraborty, S., & Saha, S. (2022). Understanding sperm motility mechanisms and the implication of sperm surface molecules in promoting motility. *Middle East Fertility Society Journal*, *27*(1), 1–12. https://doi.org/10.1186/S43043-022-00094-7/FIGURES/3

Chen, H., Murray, E., Sinha, A., Laumas, A., Li, J., Lesman, D., Nie, X., Hotaling, J., Guo, J., Cairns, B. R., Macosko, E. Z., Cheng, C. Y., & Chen, F. (2021). Dissecting mammalian spermatogenesis using spatial transcriptomics. *Cell Reports*, *37*(5). https://doi.org/10.1016/j.celrep.2021.109915

Cheon, Y. P., & Kim, C. H. (2015). Impact of glycosylation on the unimpaired functions of the sperm. *Clinical and Experimental Reproductive Medicine*, *42*(3), 77–85. https://doi.org/10.5653/cerm.2015.42.3.77

Cui, K., Tang, Z., Li, C., Wang, T., Rao, K., Wang, S., Liu, J., & Chen, Z. (2018). Lipoxin A4 improves erectile dysfunction in rats with type I diabetes by inhibiting oxidative stress and corporal fibrosis. *Asian Journal of Andrology*. https://doi.org/10.4103/aja.aja

Cui, Y., Li, F., Zhu, X., Xu, J., Muhammad, A., Chen, Y., & Li, D. (2022). *Alfalfa saponins inhibit oxidative stress-induced cell apoptosis through the MAPK signaling pathway*. *27*(1), 1–8.

Dahlan, M. S. (2014). *Statistik untuk kedokteran dan kesehatan* (6th ed.). Jakarta: Epidemiologi Indonesia.

Darenskaya, M. A., Kolesnikova, L. I., & Kolesnikov, S. I. (2021). Oxidative Stress: Pathogenetic Role in Diabetes Mellitus and Its Complications and Therapeutic Approaches to Correction. *Bulletin of Experimental Biology and Medicine*, *171*(2), 179–189. https://doi.org/10.1007/s10517-021-05191-7

Dcunha, R., Hussein, R. S., Ananda, H., Kumari, S., Adiga, S. K., Kannan, N., Zhao, Y., & Kalthur, G. (2022). Current Insights and Latest Updates in Sperm Motility and Associated Applications in Assisted Reproduction. *Reproductive Sciences (Thousand Oaks, Calif.)*, *29*(1), 7–25. https://doi.org/10.1007/S43032-020-00408-Y

Ding, G. L., Liu, Y., Liu, M. E., Pan, J. X., Guo, M. X., Sheng, J. Z., & Huang, H. F. (2015). The effects of diabetes on male fertility and epigenetic regulation during spermatogenesis. *Asian Journal of Andrology*, *17*(6), 948–953. https://doi.org/10.4103/1008-682X.150844

Dong, H., Wang, Y., Zou, Z., Chen, L., Shen, C., Xu, S., Zhang, J., Zhao, F., Ge, S., Gao, Q., Hu, H., Song, M., & Wang, W. (2017). Abnormal Methylation of Imprinted Genes and Cigarette Smoking: Assessment of Their Association with the Risk of Male Infertility. *Reproductive Sciences*, *24*(1), 114–123. https://doi.org/10.1177/1933719116650755

El-Sakka, A. I., Sayed, H. M., & Tayeb, K. A. (2008). Type 2 diabetes-associated androgen alteration in patients with erectile dysfunction. *International Journal of Andrology*, *31*(6), 602–608. https://doi.org/10.1111/j.1365-2605.2007.00815.x

Elekofehinti, O. O. (2015). Saponins: Anti-diabetic principles from medicinal plants – A review. *Pathophysiology*. https://doi.org/10.1016/j.pathophys.2015.02.001

Fedail, J. S., Ahmed, A. A., Musa, H. H., Ismail, E., Sifaldin, A. Z., & Musa, T. H. (2016). Asian Paci fi c Journal of Reproduction. *Asian Pacific Journal of Reproduction*, *5*(5), 434–441. https://doi.org/10.1016/j.apjr.2016.07.014

Hadi, S., Aulia Ramadani, R., Rahmadina, N., Qadry Sukmana, M. L., & Nastiti, K. (2024). Influence temperature to Flavonoid stability of palm sugar (Arenga pinnata Merr .) as antioxidant. *Journal of Midwifery and Nursing*, *6*(2), 417–423. https://doi.org/10.35335/jmn.v6i2.4950

Huang, R., Chen, J., Guo, B., Jiang, C., & Sun, W. (2024). Diabetes-induced male infertility: potential mechanisms and treatment options. *Molecular Medicine*, *30*(1). https://doi.org/10.1186/s10020-023-00771-x

Husna, F., Suyatna, F. D., Arozal, W., & Purwaningsih, E. H. (2019). Model Hewan Coba pada Penelitian Diabetes. *Pharmaceutical Sciences and Research*, *6*(3), 131–141. https://doi.org/10.7454/psr.v6i3.4531

Hussain, F., & Ikram, F. (2020). *Antioxidant and Antidiabetic Potential of Saponin Fraction Isolated from Moringa oleifera Leaves*. *2*, 86–92.

Ighodaro, O. M., Adeosun, A. M., & Akinloye, O. A. (2017). Alloxan-induced diabetes, a common model for evaluating the glycemic-control potential of therapeutic compounds and plants extracts in experimental studies. *Medicina (Kaunas, Lithuania)*, *53*(6), 365–374. https://doi.org/10.1016/J.MEDICI.2018.02.001

Karavolos, S., Mbbs, B., Panagiotopoulou, N., Alahwany, H., Martins, S., & Mbchb, S. (2020). An update on the management of male infertility. *The Obstetrician & Gynaecologist*, *22*(4), 267–274. https://doi.org/10.1111/TOG.12688

Kemenkes RI. (2020). *Pedoman Nasional Pelayanan Kedokteran Tata Laksana Diabetes Melitus Tipe 2 Dewasa*. *14*. http://www.unpcdc.org/media/15782/sustainable procurement practice.pdf%0Ahttps://europa.eu/capacity4dev/unep/document/briefing-note-sustainable-public-procurement%0Ahttp://www.hpw.qld.gov.au/SiteCollectionDocuments/ProcurementGuideIntegratingSustainabilit

Khan, M. I., Karima, G., Khan, M. Z., Shin, J. H., & Kim, J. D. (2022). *Therapeutic Effects of Saponins for the Prevention and Treatment of Cancer by Ameliorating*

Inflammation and Angiogenesis and Inducing Antioxidant and Apoptotic Effects in Human Cells.

Kim, H.-Y. (2015). Statistical notes for clinical researchers: post-hoc multiple comparisons. *Restorative Dentistry & Endodontics*, *40*(2), 172. https://doi.org/10.5395/RDE.2015.40.2.172

Kisaoglu, A., Borekci, B., Yapca, O. E., Bilen, H., & Suleyman, H. (2013). Tissue damage and oxidant/antioxidant balance. *The Eurasian Journal of Medicine*, *45*(1), 47–49. https://doi.org/10.5152/EAJM.2013.08

Kouidrat, Y., Pizzol, D., Cosco, T., Thompson, T., Carnaghi, M., Bertoldo, A., Solmi, M., Stubbs, B., & Veronese, N. (2017). High prevalence of erectile dysfunction in diabetes: a systematic review and meta-analysis of 145 studies. *Diabetic Medicine*, *34*(9), 1185–1192. https://doi.org/10.1111/dme.13403

Kristanto, V. H. (2018). *Metodologi Penelitian Pedoman Penulisan Karya Tulis Ilmiah (KTI)*. Deepublish.

Kumar, N., & Singh, A. (2015). Trends of male factor infertility, an important cause of infertility: A review of literature. *Journal of Human Reproductive Sciences*, *8*(4), 191. https://doi.org/10.4103/0974-1208.170370

Liu, E., & Fan, J. (2018). *Fundamentals of Laboratory Animal Science*.

Lyu, H., Chen, J., & Li, W. (2016). *Natural Product Communications Natural Triterpenoids for the Treatment of Diabetes Mellitus : A Review*. https://doi.org/10.1177/1934578X1601101037

Magliano, D. J., Boyko, E. J., Balkau, B., Barengo, N., Barr, E., Basit, A., Bhata, D., Bommer, C., Booth, G., Cariou, B., Chan, J., Chen, H., Chen, L., Chivese, T., Dabalea, D., Divakar, H., Duan, D., Duncan, B. B., Fang, M., … Xinge Zhang, Z. Z. (2021). International Diabetes Federation. In *Diabetes Research and Clinical Practice* (Vol. 102, Issue 2). https://doi.org/10.1016/j.diabres.2013.10.013

Maresch, C. C., Stute, D. C., Fleming, T., Lin, J., Hammes, H. P., & Linn, T. (2019). Hyperglycemia induces spermatogenic disruption via major pathways of diabetes pathogenesis. *Scientific Reports*, *9*(1), 1–12. https://doi.org/10.1038/s41598-019-49600-4

Mishra, R., Nikam, A., Hiwarkar, J., Nandgude, T., Bayas, J., & Polshettiwar, S. (2024). Flavonoids as potential therapeutics in male reproductive disorders. *Future Journal of Pharmaceutical Sciences*, *10*(1). https://doi.org/10.1186/s43094-024-00677-3

Mogaddami, Z., Sheikhzadeh, F., Hatami, H., Khojasteh, S. M. B., Khajehnasiri, N., Hemmati, A. R. A., & Dastranj, A. (2018). Effects of short- and long-term regular exercise on reproductive tissue in streptozotocin-induced diabetic male Wistar rats. *Endocrine Regulations*, *52*(4), 167–175. https://doi.org/10.2478/enr-2018-0021

Mostafavinia, A., Amini, A., Ghorishi, S. K., Pouriran, R., & Bayat, M. (2016). The

effects of dosage and the routes of administrations of streptozotocin and alloxan on induction rate of type1 diabetes mellitus and mortality rate in rats. *Laboratory Animal Research*, *32*(3), 160–165. https://doi.org/10.5625/LAR.2016.32.3.160

Nurkhasanah, M. A., Si, A., Mochammad, S., Bachri, S., Si, M., Si, D. S., & Yuliani, M. P. (2023). *Antioksidan dan Stres Oksidatif*.

Pereira, R., Sá, R., Barros, A., & Sousa, M. (2017). Major regulatory mechanisms involved in sperm motility. *Asian Journal of Andrology*, *19*(1), 5–14. https://doi.org/10.4103/1008-682X.167716

Prameswari, okky meidiana, & Widjanarko, simon bambang. (2014). The Effect of Water Extract of Pandan Wangi Leaf to Decrease Blood Glucose Levels and Pancreas Histopathology at Diabetes Mellitus Rats. *Jpt : Jurnal Proteksi Tanaman (Journal of Plant Protection)*, *2*(2), 16–27. https://doi.org/10.25077/jpt.3.2.56-64.2019

Prihatini, G. S. (2016). *Pengantar Biostatistik* (Edisi 1). UMMPress.

Priyanto, B. A., & Wibowo, P. (2021). Efek Quercetin Dari Buah Delima (Punica Granatum L.) Terhadap Penurunan Glukosa Darah. *Surabaya Biomedical Journal*, *1*(1), 59–73. https://doi.org/10.30649/sbj.v1i1.9

Puspareni, L. D., Fauziyah, A., & Wardhani, S. (2022). Are Glycaemic Response, Glycaemic Index, and Glycaemic Load of Traditional Palm Sugar (Arenga pinnata) Different from Cane Sugar?: An Oral Glucose Tolerance Test. *Amerta Nutrition*, *6*(2), 206–211. https://doi.org/10.20473/amnt.v6i2.2022.206-211

Putta, S., Yarla, N. S., Kilari, E. K., & Surekha, C. (2016). *Therapeutic Potentials of Triterpenes in Diabetes and its Associated Therapeutic Potentials of Triterpenes in Diabetes and its Associated Com- plications*. *July*. https://doi.org/10.2174/1568026616666160414123343

Shi, G. J., Zheng, J., Wu, J., Qiao, H. Q., Chang, Q., Niu, Y., Sun, T., Li, Y. X., & Yu, J. Q. (2017). Protective effects of lycium barbarum polysaccharide on male sexual dysfunction and fertility impairments by activating hypothalamic pituitary gonadal axis in streptozotocin-induced type-1 diabetic male mice. *Endocrine Journal*, *64*(9), 907–922. https://doi.org/10.1507/endocrj.EJ16-0430

Soelistijo, S. A. (2021). Pedoman Pengelolaan dan Pencegahan Diabetes Melitus Tipe 2 Dewasa di Indonesia 2021. *Global Initiative for Asthma*, 46. www.ginasthma.org.

Sovia, E., & Anggraeny, D. (2019). Sugar Palm Fruits (Arenga pinnata) as Potential Analgesics and Anti-Inflammatory Agent. *Molecular and Cellular Biomedical Sciences*, *3*(2), 107. https://doi.org/10.21705/mcbs.v3i2.63

Srikaeo, K., Sangkhiaw, J., & Likittrakulwong, W. (2018). Productions and Functional Properties of Palm Sugars. *Walailak Journal of Science and Technology (WJST)*, *16*(11), 897–907. https://doi.org/10.48048/wjst.2019.5323

Tavares, R. S., Portela, J. M. D., Sousa, M. I., Mota, P. C., Ramalho-Santos, J., &

Amaral, S. (2017). High glucose levels affect spermatogenesis: An in vitro approach. *Reproduction, Fertility and Development*, *29*(7), 1369–1378. https://doi.org/10.1071/RD15475

Wolfensohn, S., & Lloyd, M. (2013). *Handbook of laboratory animal management and welfare*.

World Health Organisation. (2023). *Infertility*. https://www.who.int/news-room/fact-sheets/detail/infertility

World Health Organization. (2021). WHO laboratory manual for the examination and processing of human semen. In *Geneva: World Health Organization* (Vol. 6). https://www.who.int/publications/i/item/9789240030787

World Health Organization. (2023). *Diabetes Mellitus*. https://www.who.int/news-room/fact-sheets/detail/diabetes

Wulantika, T. (2020). Karakterisasi Morfologi Tanaman Enau Di Kenagarian Sungai Naniang. *J-PEN Borneo : Jurnal Ilmu Pertanian*, *3*(2). https://doi.org/10.35334/jpen.v3i2.1481

Yu, S., & Shang, P. (2014). A review of bioeffects of static magnetic field on rodent models. *Progress in Biophysics and Molecular Biology*, *114*(1), 14–24. https://doi.org/10.1016/J.PBIOMOLBIO.2013.11.002

Zade, & Gulkari, V. (2019). Preventive effects of soy lecithin in combination with flavonoids on stz induced Diabetes Mellitus in rats. *Asian Journal of Biomedical and Pharmaceutical Sciences*, *9*(67). https://doi.org/10.35841/2249-622x.67.19-253

Zheng, J., Lu, Y., Qu, X., Wang, P., Zhao, L., Gao, M., Shi, H., & Jin, X. (2016). Decreased sperm motility retarded ICSI fertilization rate in severe oligozoospermia but good-quality embryo transfer had achieved the prospective clinical outcomes. *PLoS ONE*, *11*(9), 1–12. https://doi.org/10.1371/journal.pone.0163524

Zhu, J. Z., Dong, X. Y., Liang, J. J., Zhang, Z. Q., Hu, X. Y., & Li, L. K. (2017). Effects of diabetes mellitus on semen quality in adult men: A systematic review and meta-analysis. *International Journal of Clinical and Experimental Medicine*, *10*(8), 11290–11303.