

DAFTAR PUSTAKA

Abdullah, L., & Bondagji, N. (2011). Histopathological patterns of testicular biopsy in male infertility: A retrospective study from a tertiary care center in the western part of Saudi Arabia. *Urology Annals*, 3(1), 19. <https://doi.org/10.4103/0974-7796.75867>

Adelati, S., Juniarto, A. Z., & Miranti, I. P. (n.d.). *SITOPATOLOGI SPERMATOGENESIS TESTIS TIKUS WISTAR DIABETES MELITUS*. 5(4).

Agustinus, A., I'tishom, R., & Pramesti, M.. *Biologi reproduksi pria* (2018) (1st ed).

American Diabetes Association. (2023). *Standards of Care in Diabetes—2023* Abridged for Primary Care Providers. *Clinical Diabetes*, 41(1), 4–31. <https://doi.org/10.2337/cd23-as01>

Biddinger, S. B., & Kahn, C. R. (2006). FROM MICE TO MEN: Insights into the Insulin Resistance Syndromes. *Annual Review of Physiology*, 68(1), 123–158. <https://doi.org/10.1146/annurev.physiol.68.040104.124723>

Chaudhury, A., Duvoor, C., Reddy Dendi, V. S., Kraleti, S., Chada, A., Ravilla, R., Marco, A., Shekhawat, N. S., Montales, M. T., Kuriakose, K., Sasapu, A., Beebe, A., Patil, N., Musham, C. K., Lohani, G. P., & Mirza, W. (2017). Clinical Review of Antidiabetic Drugs: Implications for Type 2 Diabetes Mellitus Management. *Frontiers in Endocrinology*, 8. <https://doi.org/10.3389/fendo.2017.00006>

Condorelli, R. A., La Vignera, S., Mongioi, L. M., Alamo, A., & Calogero, A. E. (2018). Diabetes Mellitus and Infertility: Different Pathophysiological Effects in Type 1 and Type 2 on Sperm Function. *Frontiers in Endocrinology*, 9, 268. <https://doi.org/10.3389/fendo.2018.00268>

Creasy, D. M. (2001). Pathogenesis of Male Reproductive Toxicity. *Toxicologic Pathology*, 29(1), 64–76. <https://doi.org/10.1080/019262301301418865>

Etik Sundari. (2022). *Efektifitas Campuran Umbi Gadung dan Buah Bintaro sebagai Rodentisida Nabati (Doctoral dissertation, Poltekkes Kemenkes Yogyakarta)*.

Facondo, P., Di Lodovico, E., Delbarba, A., Anelli, V., Pezzaioli, L. C., Filippini, E., Cappelli, C., Corona, G., & Ferlin, A. (2022). The impact of diabetes mellitus type 1 on male fertility: Systematic review and meta-analysis. *Andrology*, 10(3), 426–440. <https://doi.org/10.1111/andr.13140>

Fontana, L., Sirchia, S. M., Pesenti, C., Colpi, G. M., & Miozzo, M. R. (2024). Non-invasive biomarkers for sperm retrieval in non-obstructive patients: A

Muhamad Thariq Herkan, 2025

GAMBARAN HISTOPATOLOGIS DIAMETER TUBULUS SEMINIFERUS DAN SEL-SEL SPERMATOGENIK PADA TIKUS PUTIH (*Rattus norvegicus*) MODEL HIPERGLIKEMIK SETELAH PEMBERIAN EKSTRAK DAUN KELOR (*Moringa oleifera*)

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comprehensive review. *Frontiers in Endocrinology*, 15, 1349000. <https://doi.org/10.3389/fendo.2024.1349000>

Griswold, M. D. (2016). Spermatogenesis: The Commitment to Meiosis. *Physiological Reviews*, 96(1), 1–17. <https://doi.org/10.1152/physrev.00013.2015>

He, Z., Yin, G., Li, Q. Q., Zeng, Q., & Duan, J. (2021). Diabetes Mellitus Causes Male Reproductive Dysfunction: A Review of the Evidence and Mechanisms. *In Vivo*, 35(5), 2503–2511. <https://doi.org/10.21873/invivo.12531>

Husna, F., Suyatna, F. D., Arozal, W., & Purwaningsih, E. H. (2019). Model Hewan Coba pada Penelitian Diabetes Animal Model in Diabetes Research. *Mini Review Article Pharmaceutical Sciences and Research (PSR)*, 6(3), 131–141.

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*, 53(6), 365–374. <https://doi.org/10.1016/j.medici.2018.02.001>

Jackson, S. J., Andrews, N., Ball, D., Bellantuono, I., Gray, J., Hachoumi, L., Holmes, A., Latcham, J., Petrie, A., Potter, P., Rice, A., Ritchie, A., Stewart, M., Strepka, C., Yeoman, M., & Chapman, K. (2017). Does age matter? The impact of rodent age on study outcomes. *Laboratory Animals*, 51(2), 160–169. <https://doi.org/10.1177/0023677216653984>

Kashyap, P., Kumar, S., Riar, C. S., Jindal, N., Baniwal, P., Guiné, R. P. F., Correia, P. M. R., Mehra, R., & Kumar, H. (2022). Recent Advances in Drumstick (*Moringa oleifera*) Leaves Bioactive Compounds: Composition, Health Benefits, Bioaccessibility, and Dietary Applications. *Antioxidants*, 11(2), 402. <https://doi.org/10.3390/antiox11020402>

KEMENKES RI. (2020). *PEDOMAN NASIONAL PELAYANAN KEDOKTERAN TATA LAKSANA DIABETES MELITUS TIPE 2 DEWASA*.

Khristian E & Inderiati D. (2017). *Sitohistoteknologi*. Pusat pendidikan sumber daya manusia kesehatan.

Kotian, S. R., Pandey, A. K., Padmashali, S., Jaison, J., Kalthur, S. G., & Manipal University, India. (2016). A cadaveric study of the testicular artery and its clinical significance. *Jornal Vascular Brasileiro*, 15(4), 280–286. <https://doi.org/10.1590/1677-5449.007516>

Laoung-on, J., Jaikang, C., Saenphet, K., & Sudwan, P. (2021). Phytochemical Screening, Antioxidant and Sperm Viability of *Nelumbo nucifera* Petal Extracts. *Plants*, 10(7), 1375. <https://doi.org/10.3390/plants10071375>

Lestari, Z., & Sijid, S. A. (2021). Diabetes Melitus: Review Etiologi, Patofisiologi, Gejala, Penyebab, Cara Pemeriksaan, Cara Pengobatan dan Cara Pencegahan. *UIN Alauddin Makassar*, 237–241.

Muhamad Thariq Herkan, 2025

GAMBARAN HISTOPATOLOGIS DIAMETER TUBULUS SEMINIFERUS DAN SEL-SEL SPERMATOGENIK PADA TIKUS PUTIH (*Rattus norvegicus*) MODEL HIPERGLIKEMIK SETELAH PEMBERIAN EKSTRAK DAUN KELOR (*Moringa oleifera*)

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[www.upnvj.ac.id – www.library.upnvj.ac.id – www.repository.upnvj.ac.id]

Lotti, F., & Maggi, M. (2023). Effects of diabetes mellitus on sperm quality and fertility outcomes: Clinical evidence. *Andrology*, *11*(2), 399–416. <https://doi.org/10.1111/andr.13342>

Mahato, D. K., Kargwal, R., Kamle, M., Sharma, B., Pandhi, S., Mishra, S., Gupta, A., Mahmud, M. M. C., Gupta, M. K., Singha, L. B., & Kumar, P. (2022). Ethnopharmacological properties and Nutraceutical potential of *Moringa oleifera*. *Phytomedicine Plus*, *2*(1), 100168. <https://doi.org/10.1016/j.phyplu.2021.100168>

Mannucci, A., Argento, F. R., Fini, E., Coccia, M. E., Taddei, N., Becatti, M., & Fiorillo, C. (2022). The Impact of Oxidative Stress in Male Infertility. *Frontiers in Molecular Biosciences*, *8*, 799294. <https://doi.org/10.3389/fmolb.2021.799294>

Maresch, C. C., Stute, D. C., Alves, M. G., Oliveira, P. F., De Kretser, D. M., & Linn, T. (2018). Diabetes-induced hyperglycemia impairs male reproductive function: A systematic review. *Human Reproduction Update*, *24*(1), 86–105. <https://doi.org/10.1093/humupd/dmx033>

Marhaeni, L. S. (2021). *DAUN KELOR (Moringa oleifera) SEBAGAI SUMBER PANGAN FUNGSIONAL DAN ANTIOKSIDAN*. *13*(2).

Mescher, A. L. (Ed.). (2024). *Junqueira's basic histology: Text and atlas* (Seventeenth edition). McGraw-Hill.

Neto, F. T. L., Bach, P. V., Najari, B. B., Li, P. S., & Goldstein, M. (2016). Spermatogenesis in humans and its affecting factors. *Seminars in Cell & Developmental Biology*, *59*, 10–26. <https://doi.org/10.1016/j.semedb.2016.04.009>

Nieschlag, E., Behre, H. M., Kliesch, S., & Nieschlag, S. (Eds.). (2023). *Andrology: Male reproductive health and dysfunction* (Fourth edition). Springer.

Nunung Harijati, Setijono Samino, Serafinah Indriyani, & Aris Soewondo. (2017). *Mikroteknik Dasar*. Universitas Brawijaya Press.

O'Flaherty, C. (2020). Reactive Oxygen Species and Male Fertility. *Antioxidants*, *9*(4), 287. <https://doi.org/10.3390/antiox9040287>

Pareek, C., Badge, A. K., Bawaskar, P. A., More, A., & Nair, N. (2023). Reviving Spermatogenesis: A Case Report on an Approach to Treat Non-obstructive Azoospermia Using Theophylline, Pentoxifylline, and Hyaluronic Acid. *Cureus*. <https://doi.org/10.7759/cureus.50623>

Paulsen, F., & Waschke, J. (2018). *Atlas of Anatomy Sobotta: General Anatomy and Musculoskeletal System* (16th ed.). Elsevier Inc.

PERKENI. (2021). *Pedoman Pengelolaan dan Pencegahan Diabetes Melitus Tipe 2 Dewasa di Indonesia*. Penerbit PERKENI.

Rudrapal, M., Khairnar, S. J., Khan, J., Dukhyil, A. B., Ansari, M. A., Alomary, M. N., Alshabrimi, F. M., Palai, S., Deb, P. K., & Devi, R. (2022). Dietary

Muhamad Thariq Herkan, 2025

GAMBARAN HISTOPATOLOGIS DIAMETER TUBULUS SEMINIFERUS DAN SEL-SEL SPERMATOGENIK PADA TIKUS PUTIH (*Rattus norvegicus*) MODEL HIPERGLIKEMIK SETELAH PEMBERIAN EKSTRAK DAUN KELOR (*Moringa oleifera*)

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Polyphenols and Their Role in Oxidative Stress-Induced Human Diseases: Insights Into Protective Effects, Antioxidant Potentials and Mechanism(s) of Action. *Frontiers in Pharmacology*, 13, 806470. <https://doi.org/10.3389/fphar.2022.806470>

Sabirosi, B. G., P. Trisunuwati, & D. Winarso. (2014). Ekspresi Tumor Necrosis Factor–alpha (TNF- α) dan Jumlah Sperma Pada Tikus (*Rattus norvegicus*) Model Diabetes Mellitus Tipe 1 Hasil Induksi Streptozotocin yang Diterapi dengan Ekstrak Etanol Rimpang Kunyit (*Curcuma longa* L.). *Student J*, 3(4), 1–9.

Schoeller, E. L., Schon, S., & Moley, K. H. (2012). The effects of type 1 diabetes on the hypothalamic, pituitary and testes axis. *Cell and Tissue Research*, 349(3), 839–847. <https://doi.org/10.1007/s00441-012-1387-7>

Song, H., Wang, M., & Xin, T. (2019). Mst1 contributes to nasal epithelium inflammation via augmenting oxidative stress and mitochondrial dysfunction in a manner dependent on Nrf2 inhibition. *Journal of Cellular Physiology*, 234(12), 23774–23784. <https://doi.org/10.1002/jcp.28945>

Soviana, E., Rachmawati B, & Widyastiti NS. (2014). Pengaruh suplementasi β -carotene terhadap kadar glukosa darah dan kadar malondialdehida pada tikus sprague dawley yang diinduksi Streptozotocin. *Jurnal Gizi Indonesia (The Indonesian Journal of Nutrition)*, 2(2), 41–46. <https://doi.org/DOI:https://doi.org/10.14710/jgi.2.2.41-46>

Sugiyono. (2007). *Metode Penelitian Kuantitatif Kualitatif dan R&D*. Alfabeta.

Tsili, A. C., Sofikitis, N., Stiliara, E., & Argyropoulou, M. I. (2019). MRI of testicular malignancies. *Abdominal Radiology*, 44(3), 1070–1082. <https://doi.org/10.1007/s00261-018-1816-5>

Tüttelmann, F., Ruckert, C., & Röpke, A. (2018). Disorders of spermatogenesis: Perspectives for novel genetic diagnostics after 20 years of unchanged routine. *Medizinische Genetik*, 30(1), 12–20. <https://doi.org/10.1007/s11825-018-0181-7>

United States Department of Agriculture, 2024

Waskita Utama, D. (2016). *Pengaruh Protektif Dan Kuratif Pemberian Suplemen Jus Buah Naga Putih (Hylocereus Undatus) Terhadap Histologi Tubulus Seminiferus Tikus Putih (Rattus norvegicus) Dewasa Galur Sprague dawley Yang Diinduksi Siproteron Asetat*.