

DAFTAR PUSTAKA

- Abulehia, H., Mohd Nor, N. S., Sheikh Abdul Kadir, S. H., Abdul Aziz, M., & Zulkifli, S. (2023). The effects of trans fat diet intake on metabolic parameters and pancreatic tissue in offspring of prenatal bisphenol A exposed rats. *Scientific Reports*, 13(1), 9322.
- Alboghobeish, S., Mahdavinia, M., Zeidooni, L., Samimi, A., Orooan, A. A., Alizadeh, S., Dehghani, M. A., Ahangarpour, A. & Khorsandi, L. (2019). Efficiency of naringin against reproductive toxicity and testicular damages induced by bisphenol a in rats. *Iranian Journal of Basic Medical Sciences*, 22(3): 315-323.
- Almeida, S., Raposo, A., Almeida-González, M., & Carrascosa, C. (2018). Bisphenol a: food exposure and impact on human health. *Comprehensive Reviews in Food Science and Food Safety*, 17(6): 1503-1517.
- Al-Muqsith, A. M. (2015). *Anatomi Sistem Genitalia*. Diakses 05 November 2023, dari <https://repository.unimal.ac.id/3182.1>
- Alonso-Magdalena, P., Morimoto, S., Ripoll, C., Fuentes, E., & Nadal, A. (2006). The estrogenic effect of bisphenol A disrupts pancreatic β -cell function in vivo and induces insulin resistance. *Environmental health perspectives*, 114(1), 106-112.
- Amaliah, A. M. (2019). Pengaruh bisphenol-a terhadap histologi tubulus seminiferus tikus putih (*Rattus norvegicus*) jantan galur *sprague dawley*. *Skripsi*, Fakultas Kedokteran Universitas Lampung, Bandar Lampung.
- Amaliah, A. M., Sutyarso, S., & Rahmanisa, S. (2019). Bisphenol-a (BPA) Menurunkan Diameter Tubulus Seminiferus Tikus Putih Jantan (*Rattus norvegicus*) Galur Sprague dawley. *Jurnal Agromedicine*, 6(2).
- Aschberger, K., Castello, P., Hoekstra, E., Kaarakitsios, S., Munn, S., Pakalin, S. & Sarigiannis, D. (2010). Bisphenol a and baby bottles: challenges and perspective. *JRC Scientific and Technical Reports EUR 24389 EN*. Luxembourg: Publication Office of the European Union.
- Asiimwe, S., Borg-Karlsson, A. K., Azeem, M., Mugisha, K. M., Namutebi, A., & Gakunga, N. J. (2014). Chemical composition and toxicological evaluation of the aqueous leaf extracts of *Plectranthus amboinicus* Lour. Spreng. *Int J Pharm Sci Invent*, 3(2): 19-27.

- Atmoko, T. & Ma'ruf, A. (2009). Uji toksisitas dan skrining fitokimia ekstrak tumbuhan sumber pakan orngutan terhadap larva *Artemia salina* L. *Jurnal Penelitian dan Konservasi Alam*, 6(1): 37-45.
- Badan Pengawas Obat dan Makanan Republik Indonesia (BPOM RI). (2020). Pedoman Implementasi Peraturan Badan POM No.20 Tahun 2019 Tentang Kemasan Pangan. Diakses 03 November 2023, dari <https://standarpangan.pom.go.id>.
- Bakar, A., Izzany, F., Bakar, A., Fadzelly, M., Abdullah, N., Endrini, S., & Rahmat A. (2018). A review of malaysian medicinal plants with potential anti-inflammatory activity. *Advances in Pharmacological Sciences*, 18: 1-13.
- Banerjee, O., Singh, S., Paul, T., Maji, B. K., & Mukherjee, S. (2024). Centella asiatica mitigates the detrimental effects of Bisphenol-A (BPA) on pancreatic islets. *Scientific Reports*, 14(1), 8043.
- Bases, E., El-Sheekh, M. M., El Shafay, S. M., El-Shenody, R., & Nassef, M. (2025). Therapeutic anti-inflammatory immune potentials of some seaweeds extracts on chemically induced liver injury in mice. *Scientific Reports*, 15(1), 4370.
- Betteridge, D. J. (2000). *What is oxidative stress?*. *Metabolism*, 49(2), 3-8.
- Bordbar, H., Yahyavi, S. S., Noorafshan, A., Aliabadi, E., & Naseh, M. (2023). Resveratrol ameliorates bisphenol A-induced testicular toxicity in adult male rats: a stereological and functional study. *Basic and Clinical Andrology*, 33(1), 1.
- Carlisle, J. (2009). Toxicological Profile for Bisphenol-A. Integrated risk assessment branch office of enviromental health hazard assessment california enviromental protection agency.
- Chi, L. K., Yuan, Q., Wang, M. Y., Guo, C. R., Zhu, X. D., Jiang, H. B., Zhang, Q. H., Zhao, Y., Li, L., & Yan, H. (2024). Metabolomics reveals that ferroptosis participates in bisphenol A-induced testicular injury. *Heliyon*, 10(11).
- Chung, L. Y., Soo, W. K., Chan, K. Y., Mustafa, M. R., Gosh, S. H., & Imiyabir Z. (2009). Lipoxygenase inhibiting activity of some Malaysian plants. *Pharmaceutical Biology*. 47(12), 1142-1148.
- Conceição, M., Gushiken, L. F. S., Aldana-Mejía, J. A., Tanimoto, M. H., Ferreira, M. V. D. S., Alves, A. C. M., Miyashita, M. N., Bastos, J. K., Beserra, F. P., & Pellizzon, C. H. (2022). Histological, immunohistochemical and antioxidant analysis of skin wound healing influenced by the topical application of Brazilian red propolis. *Antioxidants*, 11(11), 2188.

- Dabrowski, A., Jurkowska, G., & Wereszczynska-Siemiatkowska, U. (2007). "Choroby trzustki," in *Choroby wewnêtrzne. Przyczyny, rozpoznanie i leczenie*, ed. A. Szczeklik (Warszawa: Medycyna Praktyczna), 857–880.
- Darwin, P. S. (1997). New Species of The *Timonius flavescens* alliance (*Rubiaceae guatterdeae*) in papuasia. *Systematic Botany*, 22: 85-98.
- Delclos, K. B., Camacho, L., Lewis, S. M., Vanlandingham, M. M., Latendresse, J. R., Olson, G. R., Davis, K. J., Patton, R. E., Costa, G. G., Woodling, K. A., Bryant, M. S., Chidambaram, M., Trbojevich, R., Juliar, B. E., Felton, R. P., & Thorn, B. T. (2014). Toxicity evaluation of bisphenol A administered by gavage to Sprague Dawley rats from gestation day 6 through postnatal day 90. *Toxicological Sciences*, 139(1), 174-197.
- Diningsih, A. & Rangkuti, N. A. (2020). Penyuluhan pemakaian plastik sebagai kemasan makanan dan minuman yang aman digunakan untuk kesehatan di desa labuhan rasoki. *Jurnal Education and Development*, 8(1): 17–20.
- Dobrzyńska, M. M., & Radzikowska, J. (2013). Genotoxicity and reproductive toxicity of bisphenol A and X-ray/bisphenol A combination in male mice. *Drug and chemical toxicology*, 36(1): 19-26.
- Dupont, J., White, P. J., Carpenter, M. P., Schaefer, E. J., Meydani, S. N., Elson, C. E., Woods, M. & Gorbach, S. L. (1990). Food uses and health effects of corn oil. *Journal of the American College of Nutrition*, 9(5): 438-470. <https://doi.org/10.1080/07315724.1990.10720403>.
- EFSA Panel on Food Contact Materials, Enzymes and Processing Aids (CEP), Lambré, C., Barat Baviera, J. M., Bolognesi, C., Chesson, A., Cocconcelli, P. S., *et al.* (2023). Re-evaluation of the risks to public health related to the presence of bisphenol A (BPA) in foodstuffs. *EFSA Journal*, 21(4), e06857.
- El-Beshbishy, H. A., Aly, H. A., & El-Shafey, M. (2013). Lipoic acid mitigates bisphenol A-induced testicular mitochondrial toxicity in rats. *Toxicology and industrial health*, 29(10): 875-887.
- Faadhilah, H. & Tiitraesmi, A. (2023). Review: pencemaran bisphenol-a (BPA) dalam kemasan galon dan dampaknya bagi kesehatan. *Farmaka*, 21(2): 223-229.
- Fang, Y., Zhou, Y., Zhong, Y., Gao, X., & Tan, T. (2013). Effect of vitamin E on reproductive functions and anti-oxidant activity of adolescent male mice exposed to bisphenol A. *Wei sheng yan jiu = Journal of hygiene research*, 42(1): 18-22.

- Farrugia, F., Aquilina, A., Vassallo, J., & Pace, N. P. (2021). Bisphenol A and type 2 diabetes mellitus: a review of epidemiologic, functional, and early life factors. *International journal of environmental research and public health*, 18(2), 716.
- Fauziyah, K. R. (2018). *Profil tekanan darah normal tikus putih (Rattus norvegicus) galur wistar dan sprague-dawley*. Bogor: IPB.
- Flint, S., Markle, T., Thompson, S. & Wallace, E. (2012). Bisphenol A exposure, effect, and policy: A wildlife perspective. *J Environ Manage*, 104: 19-34.
- Gartner, Hiatt, L. P. & Strum, J. L. (2012). *Biologi Sel dan Histologi Edisi ke-6*. Jakarta: Binarupa Aksara.
- Ginter-Kramarczyk, D., Zembrzuska, J., Kruszelnicka, I., Zając-woźnialis, A., Ciślak, M. & Poznan, T. (2022). Influence of temperature on the quantity of bisphenol a in bottled drinking water. *International Journal of Environmental Research and Public Health*, 19(9): 1-10.
- Gurmeet, K. S. S., Rosnah, I., Normadiah, M. K., Das, S., & Mustafa, A. M. (2014). Detrimental effects of bisphenol A on development and functions of the male reproductive system in experimental rats. *EXCLI journal*, 13, 151.
- Gusnawati, G., Munira, M., Rachmanto, M. R., & Ramadhani, U. (2023). Analisis migrasi cemaran bisphenol-a (bpa) kemasan plastik polycarbonat (pc) pada produk air minum dalam kemasan galon di wilayah kota makassar. *Jambura Journal of Chemistry*, 5(1): 46-52.
- Guyton, A. C. & Hall, J. E. (2013). *Buku Ajar Fisiologi Kedokteran*. Edisi kedua belas. Jakarta. EGC.
- Guyton, A. C. & Hall, J. E. (2021). *Textbook of medical physiology* (14th ed.). Elsevier.
- Hales, D. B., Allen, J. A., Shankara, T., Janus, P., Buck, S., Diemer, T., & Hales, K. H. (2005). Mitochondrial function in Leydig cell steroidogenesis. *Annals of the New York Academy of Sciences*, 1061(1): 120-134.
- Halim, J. (1990). *Atlas Praktikum Histologi*. 4th ed. EGC. Jakarta.
- Harbone, J. B. (1987). *Metode Fitokimia: Penuntun Cara Modren Menganalisa Tumbuhan*. ITB Press. Bandung.
- Harborne, J. B. (1987). *Metode Fitokimia: Penuntun Cara Modern Menganalisis Tumbuhan*. Bandung: ITB Press.
- Haschek, W. M., Rousseaux, C. G., Wallig, M. A., & Bolon, B. (Eds.). (2021). *Haschek and Rousseaux's Handbook of Toxicologic Pathology, Volume 1: Principles and Practice of Toxicologic Pathology*. Academic press.

- Hasibuan, M. S., Yasni, S., Bintang, M., Ranti, A. S. (2016). Antihyperglycemic activity of piper crocotum leaves and cinnamomum burmanii bark mixture extract in streptozotocin-induced diabetic rats. *J math fund Sci*, 48(2):178-191.
- Ho, Y. S., Magnenat, J. L., Gargano, M., & Cao, J. (1998). The nature of antioxidant defense mechanisms: a lesson from transgenic studies. *Environmental health perspectives*, 106(suppl 5), 1219-1228.
- Jannah, R., Setiasih, N. L. E., & Suastika, P. (2018). Histopatologi Testis Tikus Penderita Diabetes Mellitus Pasca Pemberian Ekstrak Daun Kelor. *Buletin Veteriner Udayana*, 10(2): 176-182.
- Jiang, W., Ding, K., Huang, W., Xu, F., Lei, M., & Yue, R. (2023). Potential effects of bisphenol A on diabetes mellitus and its chronic complications: A narrative review. *Heliyon*, 9(5).
- Jin P, Wang X, Chang F, Bai Y, Li Y, Zhou R, *et al.* (2013). Low dose bisphenol A impairs spermatogenesis by suppressing reproductive hormone production and promoting germ cell apoptosis in adult rats. *Journal of Biomedical Research*, 27(2), 135–44. <https://doi.org/10.7555/JBR.27.20120076>
- John, N., Rehman, H., Razak, S., David, M., Ullah, W., Afsar, T., ... & Jahan, S. (2019). Comparative study of environmental pollutants bisphenol A and bisphenol S on sexual differentiation of anteroventral periventricular nucleus and spermatogenesis. *Reproductive Biology and Endocrinology*, 17, 1-10.
- Johnson Mary. (2012). *Labome: Laboratory Mice and Rats* [Internet]. [diunduh 2023 Nov 5]. Tersedia pada: <http://www.labome.com/method/Laboratory-Mice-and-Rats.html>.
- Jordáková, I., Dobiáš, J., Voldřich, M. & Postka, J. (2018). Determination of bisphenol a, bisphenol f, bisphenol a diglycidyl ether and bisphenol F diglycidyl ether migrated from food cans using Gas Chromatography-Mass Spectrometry. *Czech Journal of Food Sciences*, 21(3): 85–90. <https://doi.org/10.17221/3481-cjfs>
- Junqueira, L. C. (1995). *Histologi Dasar*. 1st ed. EGC. Jakarta.
- Kamel, A. H., Foad, M. A., & Moussa, H. M. (2018). The adverse effects of bisphenol A on male albino rats. *The Journal of Basic and Applied Zoology*, 79: 1-9.
- Kaneto, H., Kajimoto, Y., Miyagawa, J. I., Matsuoka, T. A., Fujitani, Y., Umayahara, Y., Hanafusa, T., Matsuzawa, Y., Yamasaki, Y., & Hori, M. (1999). Beneficial effects of antioxidants in diabetes: possible protection of pancreatic beta-cells against glucose toxicity. *Diabetes*, 48(12), 2398-2406.

- Karpińska, M., & Czauderna, M. (2022). Pancreas—its functions, disorders, and physiological impact on the mammals' organism. *Frontiers in Physiology*, 13, 317.
- Kim, J. J., Kumar, S., Kumar, V., Lee, Y. M., Kim, Y. S., & Kumar, V. (2020). Bisphenols as a Legacy Pollutant, and Their Effects on Organ Vulnerability. *Int J Environ Res Public Health*, 17(1): 112.
- Konieczna A, Rutkowska A, & Rachoń D. (2015). Health Risk of Exposure To Bisphenol a (Bpa). *Department of Clinical and Experimental Endocrinology, Poland*, 66(1): 5–11.
- La Merrill, M. A., Smith, M. T., McHale, C. M., Heindel, J. J., Atlas, E., Cave, M. C., Collier, D., Guyton, K. Z., Koliwad, S., Nadal, A., Rhodes, C. J., Sargis, R. M., Zeise, L., & Blumberg, B. (2025). Consensus on the key characteristics of metabolism disruptors. *Nature Reviews Endocrinology*, 21(4), 245-261.
- Laily, N. (2016). Identifikasi Senyawa Bioaktif Golongan Fenolik (Asam Fenolat dan Flavonoid) Yang Terkandung Dalam Daun Bosibosi (*Timonius flavescens* (Jacq.) Baker) Dengan Metode Kromatografi Lapis Tipis. *Skripsi*, Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Negeri Medan.
- LbnGaol, A. Y. D., Ilyas, S., Hutahaean, S., & Sipahutar, H. (2021). Antidiabetic activity and immunostimulant potential of bosibosi (*Timonius flavescens* (Jacq) Baker) leaves ethanol extract in alloxan-induced diabetic rats. *Journal of Physics: Conference Series*. 1819(1), 012071.
- Li, L., Lin, W., Wang, Z., Huang, R., Xia, H., Li, Z., Deng, J., Ye, T., Huang, T., & Yang, Y. (2024). Hormone regulation in testicular development and function. *International Journal of Molecular Sciences*, 25(11), 5805.
- Li, Y. J., Song, T. B., Cai, Y. Y., Zhou, J. S., Song, X., Zhao, X., & Wu, X. L. (2009). Bisphenol A exposure induces apoptosis and upregulation of Fas/FasL and caspase-3 expression in the testes of mice. *Toxicological sciences*, 108(2), 427-436.
- Li, Y., Duan, F., Yang, F., Zhou, X., Pan, H., & Li, Y. (2015). Pubertal exposure to bisphenol A affects the reproduction of male mice and sex ratio of offspring. *Journal of Reproduction and Contraception*, 26(1): 14–21. <https://doi.org/10.7669/j.issn.1001-7844.2015.01.0014>.
- Lin, C. Y., Ni, C. C., Yin, M. C., & Lii, C. K. (2012). Flavonoids protect pancreatic beta-cells from cytokines mediated apoptosis through the activation of PI3-kinase pathway. *Cytokine*, 59(1), 65-71.

- Liu, S., Ma, X., Wang, Z., Lin, F., Li, M., Li, Y., Yang, L., Rushdi, H, E., Riaz, H., Gao, T., Yang, L., Fu, T., & Deng, T. (2023). MAEL gene contributes to bovine testicular development through the m5C-mediated splicing. *IScience*, 26(2).
- Lubis, N., Soni, D., & Fuadi, M. D. S. (2021). Pengaruh suhu penyimpanan air minum pada botol kemasan polikarbonat (pc) yang beredar di daerah garut terhadap kadar bisphenol-a (bpa) menggunakan spektrofotometri ultraviolet. *Journal of Chemistry*, 15(2): 223–230.
- Ma, Y., Liu, H., Wu, J., Yuan, L., Wang, Y., Du, X., Wang, R., Marwa, P. W., Petlulu, P., Chen, X. & Zhang, H. (2019). The adverse health effects of bisphenol A and related toxicity mechanisms. *Environmental Research*, 176: 1-17. <https://doi.org/10.1016/j.envres.2019.108575>.
- Madiyahawati, M., Soemarno., Suntari, R. & Nihayati, E. (2019). Sequence and Phylogenetic Analysis of Bebara Medicinal Plant (*Timonius flavescens* (Jacq.) Baker) Based on matK, rbcL and trnL Genes in Central Kalimantan. *Bioscience Research*, 16(1): 194-207.
- Maley, K., & Komasara, L. (2003). *Introduction to Lab Animal Science* [Internet]. [diunduh 2023 Nov 4]. Tersedia pada: http://www.medaille.edu/vmacer/120_lab_rodentlab1.htm.
- Malole, M. B. M., & Pramono, C. S. (1989). *Penggunaan Hewan-hewan Percobaan Laboratorium*. Departemen Pendidikan dan Kebudayaan. Direktorat Jenderal Pendidikan Tinggi Pusat Antar Universitas Bioteknologi, Institut Pertanian Bogor.
- Manzoor, M. F., Tariq, T., Fatima, B., Sahar, A., Tariq, F., Munir, S., Khan, S., Ranjha, M. M. A. N., Sameen, A., Zeng, X., & Ibrahim, S. A. (2022). An insight into bisphenol A, food exposure and its adverse effects on health: A review. *Frontiers in nutrition*, 9, 1047827.
- Marin, L. (2008). *Anatomy, Histologi, dan Embrilogy of the Pancreas*. http://anatomypics.wordpress.com/2008/12/23/23-anatomy-histology_embriologi-of-the-pankreas/
- Masiello, P. (2006). Animal models of type 2 diabetes with reduced pancreatic β -cell mass. *The International Journal of Biochemistry & Cell Biology*, 38(5–6), 873–893.
- Maulina, M. (2018). *Zat-Zat Yang Memengaruhi Histopatologi Hepar*. Lhoksemawe: Unimal Press.
- Mendrofa. (2012). *Daun Bosi-Bosi Penyegar Tubuh*. Artikel Dalam <Http://Www.Aktual.Co/Warisanbudaya/080439>.

- Mescher, A. L. (2015). *Terjemahan Histologi Dasar Junqueira, Teks dan Atlas*, Edisi 12. Jakarta: EGC.
- Mezencev, R., Feshuk, M., Kolaczowski, L., Peterson, G. C., Zhao, Q. J., Watford, S., & Weaver, J. A. (2024). The association between histopathologic effects and liver weight changes induced in mice and rats by chemical exposures: an analysis of the data from Toxicity Reference Database (ToxRefDB). *Toxicological Sciences*, 200(2), 404-413.
- Mikołajewska, K., Stragierowicz, J. & Gromadzińska, J. (2015). Bisphenol A – Application, sources of exposure and potential risks in infants, children and pregnant women. *International Journal of Occupational Medicine and Environmental Health*, 28(2), 209–41. <https://doi.org/10.13075/ijomeh.1896.00343>
- Mileva, Guergana, L. B., Stephanie, Konkle, Anne, T. M. (2014). Bisphenol-A: Epigenetic reprogramming and effects on reproduction and behavior. *International Journal of Environmental Research and Public Health*, 37-61.
- Mukhopadhyay, R., Prabhu, N. B., Kabekkodu, S. P. & Rai, P. S. (2022). Review on bisphenol A and the risk of polycystic ovarian syndrome: an insight from endocrine and gene expression. *Environmental Science and Pollution Research*, 29(22): 32631–32650. <https://doi.org/10.1007/s11356-022-19244-5>
- Munaya, N., A. Brahmadi, dan Y. B. H. Sakti. (2018). Efek Stres Puasa terhadap Ketebalan Epitel dan Diameter Tubulus Seminiferus Rattus norvegicus. *Mutiara Medika Jurnal Kedokteran dan Kesehatan*. 1(18):1-7.
- Munir B, Qadir A, Tahir M. (2017). Negative effects of bisphenol-A on testicular functions in albino rats and their abolitions with Tribulus terrestris L. *Brazilian J Pharmaceutical Sciences*. 53(3):1-19.
- Napitupulu, A. A. (2015). Kandungan Metabolit Sekunder dan Bagaimana Aktivitas Antioksidan pada Ekstrak Metanol Daun Bosibosi (*Timonius flavescens* (Jacq.) Baker). *Skripsi*. Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Negeri Medan.
- National Toxicology Program (NTP). (2008). NTP-CERHR monograph on the potential human reproductive and developmental effects of bisphenol A. *Ntp Cerhr Mon*, 22(08): 1–321.
- Nofal, A. E., AboShabaan, H. S., Fayyad, R. M., Ereba, R. E., Omar, N. A., Elsharkawy, S. M., & Elberri, A. I. (2023). Immunostimulatory and anti-inflammatory impact of *Fragaria ananassa* methanol extract in a rat model of

- cadmium chloride-induced pulmonary toxicity. *Frontiers in immunology*, 14, 1297315.
- Nuralifah, Fitrawan, L. O. M., Parawansah., & Trisetya, M. (2022). Histopatologi organ pankreas tikus dm tipe 2 yang diberi ekstrak etanol daun geddi merah (*Abelmoscus manihot* L. Medik). *Journal Syifa Sciences and Clinical Research*, 4(1): 141-151.
- Ohore, O. E. & Songhe, Z. (2019). Endocrine disrupting effects of bisphenol A exposure and recent advances on its removal by water treatment systems. A review. *Scientific African*, 1-12. <https://doi.org/10.1016/j.sciaf.2019.e00135>.
- Oriakpono, O. E. & Nduonofit, E. E. (2021). Reproductive toxicity of bisphenol a (BPA) in albino rats. *Advances in Image and Video Processing*, 9(2): 1-10. <https://doi.org/10.14738/aivp.92.9123>
- Pangkahila, E., Linawati, N. M., Sugiritama, I. W., & Siswanto, F. M. (2019). Pelatihan Fisik Berlebih Meningkatkan Indeks Apoptosis pada Hepatosit Tikus (*Rattus norvegicus*) Wistar Jantan. *Jurnal Biomedik*, 11(3): 144-149.
- Pascal, F., Manfo, T., Jubendradass, R., Nantia, E. A., Moundipa, P. F. & Mathur, P. P. (2014). *Adverse effects of bisphenol a on male reproductive function*. <https://doi.org/10.1007/978-3-319-01619-1>
- Pearce, E. C. (2000). *Anatomi dan Fisiologi Untuk Paramedis*. Gramedia Pustaka Utama. Jakarta.
- Perdana, W. Y. & Jacobus, D. J. (2016). Bisphenol a (BPA) adalah endocrine disrupture chemicals (EDC) yang berperan sebagai agen diabetogenikitle. *Cermin Dunia Kedokteran*, 43(9): 706–711.
- Peretz J, Gupta RK, Singh J, Hernandez- Ochoa I, Flaws JA. (2011). Bisphenol A impairs follicle growth inhibits steroidogenesis and downregulates rate-limiting enzymes in the estradiol biosynthesis pathway. *Toxicol Sc*. 119(1):209–17.
- Putri, S. I., Fajriah, A. S., Arradini, D., Widiyanto, A. & Atmojo, J. T. (2021). Pengaruh Bisphenol A Terhadap Perilaku Anak. *Journal of Health Research*, 4(2): 57-68.
- Rahayu, L. Damayanti, R. dan Wikanta, T. (2006). *Gambaran Histologi Pankreas Tikus Hiperglikemia Setelah Mengonsumsi k-Keragenan dan i- Keragenan*. Fakultas Farmasi Universitas Pancasila. Jakarta.
- Rahman, M. S., Kwon, W. S., Lee, J. S., Yoon, S. J., Ryu, B.Y. & Pang, M. G. (2015). Bisphenol-affects male fertility via fertility-related proteins in spermatozoa. *Scientific Reports*, 5(1): 1–9. <https://doi.org/10.1038/srep09169>.

- Rakhmat, I. I., Yuslianti, E. R., & Koswara, T. (2021). Flavonoid-rutin effect to blood glucose level and pancreas regeneration in diabetic rats. In 12th Annual Scientific Meeting, Medical Faculty, Universitas Jenderal Achmad Yani, *International Symposium on "Emergency Preparedness and Disaster Response during COVID 19 Pandemic" (ASMC 2021)* (pp. 64-66). Atlantis Press.
- Robertson, R. P. (2006). Oxidative stress and impaired insulin secretion in type 2 diabetes. *Current opinion in pharmacology*, 6(6), 615-619.
- Salian, S., Doshi, T., & Vanage, G. (2009). Neonatal exposure of male rats to Bisphenol A impairs fertility and expression of sertoli cell junctional proteins in the testis. *Toxicology*, 265(1-2): 56-67.
- Sari, D. N. R. & Anitasari, S. D. (2021). Sistem Endokrin: Seri Struktur Anatomi Hewan. Nusamedia.
- Sari, D. P., Fatmawati, U. & Prabasari, R. M. (2016). Profil hand on activity pada mata kuliah mikroteknik di prodi pendidikan biologi FKIP UNS. *Proceeding Biology Education Conference*, 13(1): 476-481. <https://media.neliti.com>.
- Sengupta, P. (2013). The laboratory rat: Relating its age with human's. *International Journal of Preventive Medicine*, 4(6): 624–630.
- Setyawati, I., Putra, I. G. N. A. D., & Roni, N. G. K. (2017). Histologi tubulus seminiferus dan kadar testosteron tikus yang diberi pakan imbuhan tepung daun kaliandra dan kulit nanas. *Jurnal Veteriner*, 18(3): 369–377. <https://doi.org/10.19087/jveteriner.2017.18.3.369>.
- Sherwood, L. (2014). *Fisiologi manusia Dari Sel ke Sistem Edisi 8*. Jakarta: EGC.
- Sipahutar, H., Gaol Lbn, A. Y. D. & Silalahi, A. (2007). Akselearsi pencapaian pubertas mencit setelah pendedahan xenoestrogen bisphenol A (BPA) selama dua generasi berturut-turut. *Jurnal Sains MIPA*, 13(2): 95-105. <https://doi.org/10.13140/RG.2.2.12778.77764>.
- Sipahutar, H., Gaol, A. Y., & Prasetya, E. (2023). Antidiabetic Potentials of Ethanol Extract of *Timonius flavescens* (Jacq.) Baker Leaf. *Tropical Journal of Natural Product Research*, 7(1).
- Sirois, M. (2005). *Laboratory Animal Medicine: Principles and Procedures*. United States of America: Mosby Inc.
- Siswanto, F. M., Yenniastuti, B., Putra, T. A., & Kardena, I. M. (2015). Aktivitas Fisik Maksimal Akut (*Acute Overtraining*) Menyebabkan Kerusakan Sel â Pankreas Mencit. *Jurnal Biomedik*, 7(2): 125–130.

- Sonavane, M. & Gassman, N. R. (2019). Bisphenol a co-exposure effects: a key factor in understanding BPA's complex mechanism and health outcomes. *Critical Reviews in Toxicology*, 49(5): 371–386. <https://doi.org/10.1080/10408444.2019.1621263>
- Sripratiwi, C. (2019). Perubahan Berat dan Histologi Testis Tikus Putih Jantan (*Rattus norvegicus*) Akibat Pemberian Fraksi Daun Jambu Biji Merah (*Psidium guajava* L.). *Biomedical Journal of Indonesia*, 5(1), 11-19.
- Subowo. (1992). *Histologi Umum*. 2nd ed. Bumi Aksara. Jakarta.
- Suharmiati. (2003). *Pengujian Bioaktivitas Anti Diabetes Mellitus Tumbuhan Obat*. Cermin Dunia Kedokteran. No. 140. Departemen Kesehatan RI. Surabaya.
- Suyasa, I. N. G., Jana, I. W., & Santhi, D. G. D. D. (2018). Faktor-Faktor Yang Berhubungan Dengan Keberadaan Bahan Berbahaya Bisphenol A (BPA) Yang Terkandung Dalam Kontainer Plastik Makanan Dan Minuman. *Jurnal Skala Husada: The Journal of Health*, 15(1): 34-42.
- Tainaka, H., Takahashi, H., Umezawa, M., Tanaka, H., Nishimune, Y., Oshio, S., & Takeda, K. (2012). Evaluation of the testicular toxicity of prenatal exposure to bisphenol A based on microarray analysis combined with MeSH annotation. *The Journal of toxicological sciences*, 37(3): 539-548.
- Tandi, J., Rizky, M., Mariani, R., & Alan, F. (2017). Uji efek ekstrak etanol daun sukun (*Artocarpus altilis* (Parkinson Ex FA Zorn) terhadap penurunan kadar glukosa darah, kolesterol total dan gambaran histopatologi pankreas tikus putih jantan (*rattus norvegicus*) hiperkolesterolemia-diabetes. *Jurnal Sains dan Kesehatan*, 1(8): 384-396.
- Telaumbanua, C.S. & Rahmadianto, F. (2022). Analisa Kualitas Hasil Pembentukan Lembaran *Polycarbonate* Terhadap Pengaruh Variasi Tekanan, Variasi *Temperature*, Dan Variasi Waktu Pemanasan Pada Proses *Vacum Forming* Dengan Metode Taguchi. *Prosiding Seniati*, 6(1): 62-67. <https://doi.org/10.36040/seniati.v6i1.4879>.
- Tian, J., Ding, Y., She, R., Ma, L., Du, F., Xia, K., & Chen, L. (2017). Histologic study of testis injury after bisphenol a exposure in mice: Direct evidence for impairment of the genital system by endocrine disruptors. *Toxicology and Industrial Health*, 33(1): 36–45. <https://doi.org/10.1177/0748233716658579>.
- Tiwari, D., & Vanage, G. (2013). Mutagenic effect of Bisphenol A on adult rat male germ cells and their fertility. *Reproductive Toxicology*, 40: 60-68.
- Tortora, Gerard., J, Derrickson. (2009). *Principle of Anatomy and Physiology*. Jakarta: EGC.

- Utami, E. T., Fitrianti, R. & Fajariyah, S. (2009). Efek kondisi hiperglikemik terhadap struktur ovarium dan siklus estrus mencit (*Mus musculus*). *Jurnal Ilmu Dasar*, 10(2): 219-224.
- Utami, S., Sudarma, I. M., Hamdin, C. D. (2019). Efek Pemberian Eugenol Isolat Bunga Cengkeh (*Syzygium aromaticum*) terhadap Histologi Pankreas Tikus Diabetes. *Jurnal Ilmu Keafirmasian Indonesia*, 17(1), 160-163.
- Vaibhav, V., Meshram, R., Shukla, P. K., Kalonia, T & Bhute, A. R. (2002). A preliminary study of organ weight after histological exclusion of abnormality during autopsy in the adult population of uttarakhand, 14(7): 1-11. <https://doi.org/10.7759/cureus.27044>.
- Vasiljevic, T., & Harner, T. (2021). Bisphenol A and its analogues in outdoor and indoor air: Properties, sources and global levels. *Science of the Total Environment*, 789, 148013.
- Vikash, Sakshi, & Upadhyay, S. (2019). Anatomy and Histology of the Pancreas: A Review Article. *World Journal of Pharmaceutical and Medical Research*, 5(10), 52-54.
- Wardiyah, A., Aryanti, L., Marliyana, M., Oktaliana, O., Khoirudin, P., & Dea, M. A. (2022). Penyuluhan kesehatan pentingnya menjaga kesehatan alat reproduksi. *Journal Of Public Health Concerns*, 2(1): 41-53.
- Weinbauer, G. F., & Luetjens, C. M. (2010). *Physiology of testicular function*. <https://doi.org/10.1007/978-3-540-78355-8>.
- WHO, F. & A. O. of the U. N. (2010). Toxicological and health aspects of bisphenol a. *World Health Organization*, 60.
- Wisesa, IBGR., Sukoco, H., & Siswanto, FM. (2020). The Oxidant Effect of Bisphenol A (BPA) Can be Decoupled from its Endocrine Disruptor Property. *Journal of Physics: Conference Series* 1430, 012007.
- Wistar Institute. (2016). *Our History Philadelphia: The Wistar Institute* [Internet]. [diunduh 2023 Nov 5]. Tersedia pada: <http://www.wistar.org>.
- Wolfensohn, S., & Lloyd, M. (2013). *Handbook of Laboratory Animal Management and Welfare Eight Edition*. Oxford: Blackwell Science Ltd.
- Xi, W., Lee, C. K. F., Yeung, W. S. B., Giesy, J. P., Wong, M. H., Zhang, X., Hecker, M., & Wong, C. K. (2011). Effect of perinatal and postnatal bisphenol A exposure to the regulatory circuits at the hypothalamus–pituitary–gonadal axis of CD-1 mice. *Reproductive toxicology*, 31(4): 409-417.

- Yamada, T., Hasler, W. L., & Inadomi, J. M. (2005). "Structural anomalies and hereditary diseases of the pancreas," in *Gastroenter-ology*, ed. Y. Yamada (Philadelphia, PA: Lippincott Williams & Wilkins), 80–90.
- Yamasaki, K., Sawaki, M., Noda, S., Imatanaka, N., & Takatsuki, M. (2002). Subacute oral toxicity study of ethynylestradiol and bisphenol A, based on the draft protocol for the Enhanced OECD Test Guideline no. 407'. *Archives of toxicology*, 76, 65-74.
- Yang, W., Pan, F., Zhao, T., Chen, F., Shao, W., Wang, J., Wang, S., Zhao, Z., Liu, K., Zhao, S., & Zhao, L. (2025). Bisphenol A induces apoptosis and disrupts testosterone synthesis in TM3 cells via reactive oxygen species-mediated mitochondrial pathway and autophagic flux inhibition. *Ecotoxicology and Environmental Safety*, 289, 117691.
- Yuriska, A. (2009). *Efek Alokasan Terhadap Kadar Glukosa Darah Tikus Wistar*. Universitas Diponegoro. Semarang.
- Zahra, A., Kerslake, R., Kyrou, I., Randeva, H. S., Sisu, C. & Karteris, E. (2022). Impact of environmentally relevant concentrations of bisphenol a (BPA) on the gene expression profile in an in vitro model of the normal human ovary. *International Journal of Molecular Sciences*, 23(10): 1–14. <https://doi.org/10.3390/ijms23105334>.
- Zammel, N., Saeed, M., Bouali, N., Elkahoui, S., Alam, J. M., Rebai, T., Kausar, M. A., Adnan, M., Siddiqui, A. J. & Badraoui, R. (2021). Antioxidant and anti-inflammatory effects of Zingiber officinale roscoe and Allium subhirsutum: In silico, biochemical and histological Study. *Foods*, 10(6), 1383.
- Zhi, X., Du, L., Zhang, P., Guo, X., Li, W., Wang, Y., He, Q., Wu, P., Lei, X., & Qu, B. (2024). BPA Induces Testicular Damage in Male Rodents via Apoptosis, Autophagy, and Ferroptosis. *Food and Chemical Toxicology*, 114984.