

DAFTAR PUSTAKA

- Abdurahman, A., Bule, M., Bidar, S. S., Rezaei, S. (2020), “The association between sleep duration and risk of abnormal lipid profile: A systematic review and meta-analisis”, *Obesity Medicine*, Vol. 18 No. 4, doi: 10.1016/j.obmed.2020.100236.
- Alfian, S. D., Thurfah, J. N., Griselda, M., Puspitasari, I. M. (2024), “Sleep Disturbances and Depression Levels among General Indonesian Population: A National Survey”, *Clin Pract Epidemiol Ment Health*, Vol 20, doi: 10.2174/0117450179326359240903045716, 2024, 20, e17450179326359.
- Antunes, I. B., Andersen., Alvarenga, T. A. F., Tufik, S. (2007), “Effects of paradoxical sleep deprivation on blood parameters associated with cardiovascular risk in intact and ovariectomized rats compared with male rats”, *Behavioural Brain Research*, Vol. 176 No. 2, pp. 187–192, doi: 10.1016/j.bbr.2006.09.012.
- Arjadi, F., Soejono, S. K. and Pangestu, M. (2014), “Paradoxical Sleep Deprivation Decreases Serum Testosterone and Leydig Cells In Male Rats”, *In Univ Medica*, Vol. 33 No 1, pp. 27-35, doi: <https://doi.org/10.18051/UnivMed.2014.v33.27-35>.
- Arjadi, F., Wahyudin. and Joko, S. (2023), “Differences in body weight post-induction sleep deprivation and sleep recovery in white male rats (*Rattus norvegicus*)”, *Aceh Nutrition Journal*, Vol. 8 No 2, pp. 219-225, doi: 10.30867/action.v8i2.930.
- Bukareva, O. P., Pavlova, O. N., Gromova, D. S., Zakharov, A. V., Shirolapov, I. V. (2025), “Sleep deprivation and the development of oxidative stress in animal models”, *S.S. Korsakov Journal of Neurology and Psychiatry*, Vol 125 No 3, pp. 124-129, doi: <https://doi.org/10.17116/jnevro2025125031124>.
- Brianza-Padilla, M., Bonilla-Jaime, H., Almanza-Perez, J. C., Lopez-Lopez, A. L., Sanchez-Munoz, F., Vazquez-Palacios, G. (2016), “Effects of different periods of paradoxical sleep deprivation and sleep recovery on lipid and glucose metabolism and appetite hormones in rats”, *Applied Physiology, Nutrition and Metabolism*. Vol. 41 No 3, pp. 235–243. doi: <https://doi.org/10.1139/apnm-2015-0337>.
- Caron, A.M. 2020. Physiological Consequences of Sleep Loss in the Rat. *Tesis*. Toronto University, Canada.
- Ceriello, A. (2008), “Possible Role of Oxidative Stress in The Pathogenesis of Hypertension”, *Diabetes Care*. Vol. 31 No 2, pp. S181-S184. doi: 10.2337/dc08-s245 .

- Chen, H.C., Cheng, C.Y., Chen, L.Y., Chang, C.C., Yang, C.P., Mai, F.D., *et al.* (2018), "Plasmon-Activated Water Effectively Relieves Hepatic Oxidative Damage Resulting from Chronic Sleep Deprivation", *RSC Advances*. Vol. 8 No 18, pp. 9618-9626. doi: 10.1039/c7ra13559a.
- Chen, S., Xie, Y., Li, Y., Fan, X., Xing, F., Mao, Y., *et al.* (2022), "Sleep deprivation and recovery sleep affect healthy male resident's pain sensitivity and oxidative stress markers: The medial prefrontal cortex may play a role in sleep deprivation mode", *Front. Mol. Neurosci.* Vol. 15. doi: 10.3389/fnmol.2022.937468.
- Cherubini, J.M., Cheng, J. L., Williams, J. S., MacDonald, M. J. (2021), "Sleep deprivation and endothelial function: Reconciling seminal evidence with recent perspectives", *American Journal of Physiology Heart and Circulatory Physiology*. Vol. 320 No 1, pp. H29-H35. doi: 10.1152/ajpheart.00607.2020.
- Dahlan, M. S. 2014. *Statistik untuk Kedokteran dan Kesehatan Edisi 6*. Jakarta: Epidemiologi Indonesia.
- Daiber, A., Steven, S., Weber, A., Shuvaev, V.V., Muzykantov, V. R., Laher, I., *et al.* (2017), "Targeting vascular (endothelial) dysfunction", *British journal of pharmacology*. Vol. 174 No 12, pp. 1591–1619. doi: 10.1111/bph.13517.
- Darwin, E., Fithra, E., Elvira, D. 2018. *Endotel Fungsi dan Disfungsi*. Padang: Andalas University Press.
- Davinelli, S., Medoro, A., Savino, R., Scapagnini. (2024)," Sleep and Oxidative Stress: Current Perspectives on the Role of NRF2", *Cellular and Molecular Neurobiology*. Vol 44 No 1. doi: <https://doi.org/10.1007/s10571-024-01487-0>.
- Farah, T., Tengku, A., Amin, A., Aziz, C. B. A. (2017), "REM Sleep Deprivation is Associated with Morphological and Functional Changes of Vascular Endothelium", *ANNALS OF MICROSCOPY*. Vol 16.
- Federer, W. T. 1967. *Experimental Design Theory And Application* . New Delhi.
- Garbarino, S., Lanteri, P., Bragazzi, N. L., Magnavita, N., Scoditti, E. (2021), "Role of sleep deprivation in immune-related disease risk and outcomes", *Communications Biology*. Vol 4 No 1. doi: 1304. <https://doi.org/10.1038/s42003-021-02825-4>.
- Ghasemi, A., Zahediasl, S. and Azizi, F.(2010), "Reference values for serum nitric oxide metabolites in an adult population", *Clin Biochem*. Vol 43 No 43, pp. 89-94. doi: <https://doi.org/10.1016/j.clinbiochem.2009.09.011>.
- Gioia, C. R. T., Ascione, A., Carletti, R., Giordano, C. (2023), "Thoracic Aorta: Anatomy and Pathology", *MDPI*. Vol 13 No 13, pp. 2166. doi: <https://doi.org/10.3390/diagnostics13132166>.

- Gooley, J. and Chua, E. C. (2014), "Diurnal Regulation of Lipid Metabolism and Applications of Circadian Lipidomics", *Journal of Genetics and Genomics*. Vol 41, pp 231-250. doi: <http://dx.doi.org/10.1016/j.jgg.2014.04.001>.
- Grandinaru, D., Borsa, C., Ionescu, C., Prada, G.I. (2015), "Oxidized LDL and NO synthesis-Biomarkers of endothelial dysfunction and ageing", *Mechanism of Ageing and Development*, Vol 151, pp. 101-113. doi: <https://doi.org/10.1016/j.mad.2015.03.003>.
- Guerby, P., Tasta, O., Swiader, A., Pont, F., Bujold, E., Parant, O. *et al.* (2021), "Role of oxidative stress in the dysfunction of the placental endothelial nitric oxide synthase in preeclampsia", *Redox biology*, Vol 40, pp. 2213-2317. doi: <https://doi.org/10.1016/j.redox.2021.101861>.
- Gunawati, L. S., Berata, I.K. and Setiasih, N. L. E. (2019), "Struktur Histopatologi Testis Tikus Wistar dengan Aktivitas Fisik Berlebih yang Diberikan Ekstrak Daun Kelor", *Indonesia Medicus Veterinus*, Vol 8 No 5, pp. 637–646. doi: <https://doi.org/10.19087/imv.2019.8.5.637>.
- Guyton, A.C. and Hall, J.E. 2020. *Guyton and Hall Textbook of Medical Physiology*. US. Saunders Elsevier.
- Hidayat, A. R., Siswatibudi, H. and Purwokusumo, H. N. (2025), "Effect of Short Sleep Duration on the Risk of Cardiovascular Diseases: A Meta-Analysis", *Jepublichealth*, Vol 10 No 1. doi: <https://doi.org/10.26911/jepublichealth.2025.10.05.11>.
- Holmer, B. J., Lapierre, S. S. and Jake-Schoffman, D. E. (2021), "Effects of sleep deprivation on endothelial function in adult humans: a systematic review", *Gero Science*, Vol 43, pp. 137-158. doi.org/10.1007/s11357-020-00312-y.
- Hubrecht, R. and Kirkwood, J., 2010. *The UFAW Handbook on The Care And Management of Laboratory And Other Research Animals*. United Kingdom. Wiley-Blackwell.
- Ihwah, A., Deoranto, P., Wijana, S., Dewi, I. A. (2018), "Comparative Study Between Federer And Gomez Method For Number Of Replication In Complete Randomized Design Using Simulation: Study Of Areca Palm (Areca Catechu) As Organic Waste For Producing Handicraft Paper", *IOP Conference Series: Earth and Environmental Science*, Vol 131 No 1. doi: 10.1088/1755-1315/131/1/012049.
- Jiang, J., Gan, J., Li, Y., Zhao, W., Li, H., Zheng, J. P., Ke, Y. (2017), "REM sleep deprivation induces endothelial dysfunction and hypertension in middle-aged rats: Roles of the eNOS/NO/cGMP pathway and supplementation with L-arginine", *PLOS ONE*, Vol 12 No 8, pp. 40-52. doi: 10.1371/journal.pone.0182746.

- Juwita, D., Nulhakim, L., Purwanto, E. (2023), “Hubungan kecemasan dengan insomnia pada pralansia dan lansia hipertensi di posyandu lansia desa Tengkapak kabupaten Bulungan”, *Aspiration of Health Journal*, Vol 1, pp. 240-251. doi: <https://doi.org/10.55681/aohj.v1i2.104>.
- Kinser, C. 2017. The Migration of Cholesterol-Depleted and Atherosclerotic Vaskular Smooth Muscle Cells. *Tesis*. Universiti of Nebraska. 51 hal.
- Kim, T. W., Jeong, J. and Hong, S. (2015), “The Impact of Sleep and Circadian Disturbance on Hormones and Metabolism”, *International Journal of Endocrinology*. doi: <http://dx.doi.org/10.1155/2015/591729>.
- Kolluru, G. K., Bir, S. C., Kevil, C. G. (2012), “Endothelial dysfunction and diabetes: effects on angiogenesis, vascular remodeling, and wound healing”, *Int J Vasc Med*. doi: 10.1155/2012/918267.
- Konakanchi, S., Raavi, V., MI, H. K., Ms, V. S. (2023), “Impact of chronic sleep deprivation and sleep recovery on hippocampal oligodendrocytes, anxiety-like behavior, spatial learning and memory of rats”, *Brain Research Bulletin*, Vol 193, pp. 59-71. doi: <https://doi.org/10.1016/j.brainresbull.2022.12.002>.
- Kurniawan, A. and Yanni, M. (2020), “Pemeriksaan fungsi endotel pada penyakit kardiovaskuler”, *Jurnal Human Care*, Vol 5 No 3, pp. 638-649. doi: 10.32883/hcj.v5i3.817.
- Laflamme, M. A., Sebastian, M.M. and Buetow, B. S. 2012. *Comparative Anatomy And Histology A Mouse and Human Atlas*. Elsevier. pp. 151.
- Lateef, O. M. and Akintubosun, M. O. (2020), “Sleep and reproductive health”, *Journal of Circadian Rhythms*, Vol 18 No 1, pp. 1–11. doi: <https://doi.org/10.5334/jcr.190>.
- Lee, Y. and Siddiqui, J. 2023. *Cholesterol Levels*. StatPearls.
- Liu, H. and Chen, A. (2019), “Roles of sleep deprivation in cardiovascular dysfunctions”, *Life Sciences*, Vol 219, pp. 231-237. doi: <https://doi.org/10.1016/j.lfs.2019.01.006>.
- Lum, H. and Roebuck, K.A. (2001), “Oxidant stress and endothelial cell dysfunction”, *American Journal of Physiology Cell Physiology*, Vol 280 No 4, pp. C719-C741. doi: 10.1152/ajpcell.2001.280.4.C719.
- Lundberg, J. O. and Weitzberg, E. (2005), “NO Generation From Nitrite and Its Role in Vascular Control”, *Arteriosclerosis, Thrombosis, and Vascular Biology*, Vol 25 No 5, pp. 915-922. doi: <https://doi.org/10.1161/01.atv.0000161048.72004.c2>.
- Luz, P. L., Chagas, A, C, P., Dourado, P, M, M., Laurindo, F, R, M. (2018), “Endothelium in Atherosclerosis: Plaque Formation and Its Complications”, *Endothelium and Cardiovascular Disease*, Vol 33, pp. 493-512. doi: <https://doi.org/10.1016/B978-0-12-812348-5.00033-7>.

- Machado, R. B., Tufik, S. and Suchecki, D. (2013), "Role of Corticosterone on Sleep Homeostasis Induced by REM Sleep Deprivation in Rats", *Plos One*, Vol 8 No 5, doi:10.1371/journal.pone.0063520.
- Mesallamy, H. E., Rizk, K. A. and Hashad, I. M. (2011), "Role of Oxidative Stress, Inflammation and Endothelial Dysfunction in the Pathogenesis of Diabetic Retinopathy", *The IIOAB Journal*, Vol 2 No 6, pp. 91-97.
- Nadhifa, T. Y., Anwaristi, A. Y., Nugrahani, N. A., Kurniawati, D. (2023), "The Effect Of Coenzim Q10 On The Number Of Lymfocyte Cells In Male Wistar Rats With Periodontitis", *Jurnal Eduhealt*, Vol 14 No 03, pp. 1175–1184. doi: <https://doi.org/10.54209/jurnaleduhealth.v14i3.2621>.
- Najafzadeh, H., Gharibnaseri, M. K., Shahriyari, A., Aliabad, H. A. (2013), "Effect of Partial Sleep Deprivation on Lipid Profile in High Fat Diet-Fed Rats in the Presence and Absence of Vitamin C", *Zahedan Journal of Research in Medical Sciences*, Vol 15 No 7, pp. 12-18.
- Nanda, A., Mohapatra, B. B., Mahapatra, A. A. P. K., Mahapatra, A. P.K., Mahapatra, A.P. (2021), "Multiple comparison test by Tukey's honestly significant difference (HSD): Do the confident level control type I error", *International Journal of Statistics and Applied Mathematics*, Vol 6 No 1, pp. 59-65. doi: <https://doi.org/10.22271/math.2021.v6.i1a.636>.
- Neculicioiu, V. S., Colosi, I.A., Costache, C., Toc, D. A., Berghian, A. S., Colosi, H. A., et al. (2023), "Sleep Deprivation-Induced Oxidative Stress in Rat Models: A Scoping Systematic Review", *Antioxidants*, Vol 12 No 8. doi: <https://doi.org/10.3390/antiox12081600>.
- Periasamy, S., Hsu, D. Z., Fu, Y.H., Liu, M. Y. (2015), "Sleep Deprivation Induced Multi Organ Injury : Role Of Oxidative Stress and Inflammation", *EXCLI Journal*, Vol 14, pp. 672-683. doi: <https://doi.org/10.17179/excli2015-245>.
- Peters, J., Martinez, N., Lehofer, B., Prassl, R. (2017), "Low-density lipoproteins investigated under high hydrostatic pressure by elastic incoherent neutron scattering", *Eur Phys J E Soft Matter*, Vol 40 No 7. doi: 10.1140/epje/i2017-11558-8.
- Priosoeryanto, B. P. 2019. *Tata Cara Nekropsi Tikus dan Pengujian Patologi. Workshop Handling dan Etika Penggunaan Hewan Coba*. Departemen Klinik, Reproduksi dan Patologi, Fakultas Kedokteran Hewan, Institut Pertanian Bogor, Indonesia.
- Pugsley, M.K. and Tabrizchi, R. (2000), "The vascular system. An overview of structure and function", *J Pharmacol Toxicol Methods*, Vol 44 No 2, pp. 333–340. doi: [https://doi.org/10.1016/s1056-8719\(00\)00125-8](https://doi.org/10.1016/s1056-8719(00)00125-8).

Quinn, R. (2005), "Comparing rat's to human's age: How old is my rat in people years?", *Nutrition*, Vol 21 No 6, pp: 775-777. doi: <https://doi.org/10.1016/j.nut.2005.04.002>.

Rat Behaviour and Biology. 2012. *How old is a rat in human years ?*, diakses 15 Juli 2024, <http://www.ratbehavior.org/RatYears.htm>.

Ridwan, E. 2013. *Etika Pemanfaatan Hewan Percobaan dalam Penelitian Kesehatan. Artikel Pengembangan Pendidikan Keprofesian Berkelanjutan, Ikatan Dokter Indonesia (P2KB- IDI)*. Komite Etik Penelitian Kesehatan Fakultas Kedokteran Universitas Indonesi, Rumah Sakit Cipto Mangunkusumo, Jakarta, Indonesia.

Russell, J.C., Towns D.R. and Clout M.N. 2008. Review of rat invasion biology: Implications for island biosecurity. *Science for Conservation*. Department of Conservation, Wellington. 53 hal.

Sandoo, A., Zanten, J. J. C. S. V. V., Metsios, G.S., Carroll, D., Kitas, G.D. (2010), "The Endothelium and Its Role in Regulating Vascular Tone", *The Open Cardiovascular Medicine Journal*, Vol 4, pp. 302-312. doi: <https://doi.org/10.2174/1874192401004010302>.

Sarode, R. and Nikam, P. P. (2023), "The Impact of Sleep Disorders on Cardiovasculr Health: Mechanisms and Interventions", *Cureus*, Vol 15 No 11. doi: 10.7759/cureus.49703.

Scioli, M. G., Storti, G., D'Amico, F., Guzman, R. R., Centofanti, F., Doldo, E., *et al.* (2020), "*Journal of Clinical Medicine*", Vol 9 N0 6. doi: 10.3390/jcm9061995.

Sena, C. M., Pereira, M. and Seiga, R. (2013), "Endothelial dysfunction-a major mediator of diabetic vascular disease", *Biochimica et Biophysica Acta*, Vol 1832 No 12, pp. 2216-2231. doi: 10.1016/j.bbadis.2013.08.006.

Sengupta, P. (2013), "The Laboratory Rat: Relating Its Age With Human's", *International Journal Of Preventive Medicine*, Vol 4 No 6, pp. 624-630.

Sherwood, L. 2018. *Fisiologi Manusia: dari Sel ke Sistem (Edisi ke-9)*. Jakarta: EGC.

Systems Cell Biology. Blood Vessels Lab, diakses 10 Juni 2025, https://medcell.org/systems_cell_biology/blood_vessels_lab.php.

Suharti, C. 2001. Dengue Hemorrhagic Fever in Indonesia: The Role of Cytokines in Plasma Leakage, Coagulation, and Fibrinolysis. *Dissertation*. Nijmegen University Press, pp. 15-23.

Vigneswar, R., Arivalagan, A. and Mekala, P. (2021), "Sex-specific reference intervals for Wistar albino rats: hematology and clinical biochemistry", *Indian Journal of Animal Health*. Vol 60 No 1, pp. 58-65. doi: <http://dx.doi.org/10.36062/ijah.60.1.2021.58-65>.

- Virdis, A., Colucci, R., Bernardini, N., Blandizzi, C., Taddei, S., Masi, S., Notes, A. (2019), "Microvascular endothelial dysfunction in human obesity: Role of TNF- α ", *The Journal of Clinical Endocrinology & Metabolism*, Vol 104 No 2, pp. 341–348. doi: 10.1210/jc.2018-00512.
- Vyazovzkiy, V. V. (2015), "Sleep, recovery, and metaregulation: explaining the benefits of sleep", *Nature and Science of Sleep*. Vol 7, pp. 171-184. doi: <https://doi.org/10.2147/NSS.S54036>.
- Wadhera, R. K., Steen, D. L., Khan, I., Giugliano, R. P., Foody, J. M. (2016), "A review of low-density lipoprotein cholesterol, treatment strategies, and its impact on cardiovascular disease morbidity and mortality", *Journal of Clinical Lipidology*, Vol 10 No 3, pp. 472-489. doi: 10.1016/j.jacl.2015.11.010.
- Wang, D., Xu, J.Z., Kang, Y.Y., Zhang, W., Hu, L. X., Wang, J. G. (2022), "Aortic Root Diameter in Hypertensive Patients With Various Stages of Obstructive Sleep Apnea", *American Journal of Hypertension*. Vol 35 No 2, pp. 142-148. doi: 10.1093/ajh/hpab167.
- Wang, M., Chen, M., Ding, Y., Zhu, Z., Zhang, Y., Wei, P *et al.* (2015), "Pretreatment with β -Boswellic Acid Improves Blood Stasis Induced Endothelial Dysfunction: Role of eNOS Activation", *Scientific Reports*, Vol 5. doi: 10.1038/srep15357.
- Wei, R., Duan, X., Guo, L. (2022), "Effects of sleep deprivation on coronary heart disease", *The Korean Journal of Physiology & Pharmacology*, Vol 26 No 5, pp. 297-305. doi: <https://doi.org/10.4196/kjpp.2022.26.5.297>.
- Wills, O. B., Oragua, E. E., Stephens, A. C., Daramola, O. A., Dung, N. M. D., Loan, H. T., *et al.* (2002), "Coagulation Abnormalities in Dengue Hemorrhagic Fever: Serial Investigations in 167 Vietnamese Children with Dengue Shock Syndrome", *Clinical Infectious Diseases*. Vol 35 No 3, pp. 277–285. doi : <https://doi.org/10.1086/341410>.
- Yanti, H, R., Rahmita., Akram, S, R., Hasrianti.(2023), " Hubungan Kadar Nitric Oxide (NO) Terhadap Berat Badan Lahir Tikus Wistar Obesitas Hamil", *Jurnal Ilmu Kedokteran dan Kesehatan*, Vol 10 No 8, pp. 2605-2612. doi: <https://doi.org/10.33024/jikk.v10i8.10210>.
- Zhang, R., Niu, H., Wang, N., Sun, L., Xu, Y., Zhao, R., *et al.* (2012), "Daming capsule restores endothelial dysfunction induced by high-fat diet", *BMC Complementary and Alternative Medicine*, Vol 12 No 21.
- Zhang, W., Liu, H., Rojas, M., Caldwell, R.W., Caldwell, R.B. (2011), "Anti-inflammatory Therapy for Diabetic Retinopathy", *Immunotherapy*, Vol 3 No 5, pp. 609-628. doi: <https://doi.org/10.2217/imt.11.24>.