

DAFTAR PUSTAKA

- Agatri, N., Arjadi, F., & Rujito, L. 2020. Morphology and DNA fragmentation spermatozoa in animal models with sleep deprivation-induced stress. *Jurnal Kedokteran dan Kesehatan Indonesia*. 11(3): 232-40
- Aktar, N., Qureshi, N. K., & Ferdous, H. S. 2017. Obesity: a review of pathogenesis and management strategies in adult. *Delta Medical College Journal*. 5(1): 35-48.
- Arjadi, F., Kurniawan, D. W., Nugraha, T., Febrin, F. R., Salman, E., & Wyangsari, N. P. 2017. Pengaruh Pemberian Ekstrak Etanol Akar Purwoceng (*Pimpinella Pruatjan Molk.*) Secara Akut Terhadap Fungsi Hepar Tikus Putih (*Rattus Norvegicus*) Jantan: Uji Toksisitas Akut. *Prosiding*. 7(1).
- Arnal, P.J., Drogou, C., Sauvet, F., Regnaud, J., Dispersyn, G., Faraut, B., Millet, G. Y., Leger, D., Gomez-Merino, D., Chennaoui, M. 2016. Effect of sleep extension on the subsequent testosterone, cortisol and prolactin responses to total sleep deprivation and recovery. *Neuroendocrinology Journal*. 28(2): 1-6.
- Axelsson, J., Rehman, J. U., Akerstedt, T., Ekman, R., Miller, G. E., Höglund, C. O., & Lekander, M. 2013. Effects of sustained sleep restriction on mitogen-stimulated cytokines, chemokines and T helper 1/T helper 2 balance in humans. *PLoS One*. 8(12)
- Baehr, M., Frotscher, M. 2016. *Duus Topical Diagnosis in Neurology: Anatomy, Physiology, Signs, Symptom (4th ed)*. Mc-Graw Hill Companies: New York.
- Besedovsky, L., Lange, T., & Haack, M. 2019. *The Sleep-Immune Crosstalk in Health and Disease*. Physiological reviews.
- Brianza-Padilla, M., Sánchez-Muñoz, F., Vázquez-Palacios, G., Huang, F., Almanza-Pérez, J. C., Bojalil, R., & Bonilla-Jaime, H. 2018. Cytokine and microRNA levels during different periods of paradoxical sleep deprivation and sleep recovery in rats. *PeerJ*. 6
- Brondani, A.A, Assmann, T.S., Duarte, G.C.K., Gross, J.L., Canani, L.H., Crispim, D. 2012. The Role of the Uncoupling Protein 1 on the Development of Obesity and Type 2 Diabetes Mellitus, *Arquivos Brasileiros de Endocrinologia & Metabologia*. 56(4): 1677-83.
- Capdevila, S. 2017. Acclimatization of rats after ground transportation to a new animal facility. *Laboratory Animal*. 41(2): 255-61.
- Castanon-Cervantes, O., Wu, M., Ehlen, J. C., Paul, K., Gamble, K. L., Johnson, R. L., & Davidson, A. J. 2010. Dysregulation of inflammatory responses by chronic circadian disruption. *The Journal of Immunology*. 185(10): 5796-805.

- Chennaoui, M., Gomez-Merino, D., Drogou, C., Geoffroy, H., Dispersyn, G., Langrume, C. 2015. Effects of exercise on brain and peripheral inflammatory biomarkers induced by total sleep deprivation in rats. *Journal of Inflammation*. 12(56): 1-10.
- Choi, J. H., Lee, S. H., Bae, J. H., Shim, J. S., Park, H. S., Kim, Y. S., & Shin, C. 2016. Effect of sleep deprivation on the male reproductive system in rats. *Journal of Korean Medical Science*. 31(10): 1624-30
- Dahlan, M. S. 2014. *Statistik untuk Kedokteran dan Kesehatan* Edisi 4. Salemba Medika: Jakarta
- Dokka, S., Shi, X., Leonard, S., Wang, L., Castranova, V., & Rojanasakul, Y. 2001. Interleukin-10-mediated inhibition of free radical generation in macrophages. *American Journal of Physiology-Lung Cellular and Molecular Physiology*. 280(6): 1196-202.
- Dumbell, R., Matveeva, O., & Oster, H. 2016. Circadian clocks, stress, and immunity. *Frontiers in endocrinology*. 7 (37): 1-8.
- Dyspersyn, G., Sauvet, F., Drogou, C., Ciret, S., Gallopin, T., Chennaoui, M. 2013. Validation of total sleep deprivation model. *Sleep Medicine*. 14(1): 107-13.
- Ehiaghe, F. A., Onyenekwe, C. C., Ehiaghe, I. J., Akosile, C. O., & Agbonlahor, D. E. 2017. The role of cortisol and interleukin-10 gene expression patterns in exhaustive exercise. *International Journal of Biological and Chemical Sciences*. 11(3): 947-57.
- El-Aziz, E. A. A., Mostafa, D. G. 2012. Impact of sleep deprivation and sleep recovery on reproductive hormones and testicular oxidative stress in adult male rats. *Al-Azhar Assiut Medical Journal*. 10(3): 160-88.
- Everson, C. A. 2005. Clinical assessment of blood leukocytes, serum cytokines, and serum immunoglobulins as responses to sleep deprivation in laboratory rats. *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology*. 289(4): 1054-63.
- Everson, C.A., & Crowley, W.R. 2014. Reductions in Circulating Anabolic Hormones Induced by Sustained Sleep Deprivation in Rats. *American Journal of Physiology-Endocrinology and Metabolism*. 286(8): 1060-70.
- Federer, W. T. 1967. *Experimental Design: Theory and Application*. Oxford & IBH Publishing Company: Calcutta.
- Garyglewska, O.J. 2010. Consequences of sleep deprivation, *International Journal of Occupational Medicine and Environmental Health*. 23(1): 95-114.
- Giampá, S. Q. D. C., Mônico-Neto, M., de Mello, M. T., Souza, H. D. S., Tufik, S., Lee, K. S., *et al.* 2016. Paradoxical sleep deprivation causes cardiac dysfunction and the impairment is attenuated by resistance training. *PloS one*. 11(11): 1-22

- Hidayati, A. 2016. Pengaruh Ekstrak Biji Jantan Hitam (*Nigella Sativa* Linn) Terhadap Peningkatan Jumlah Limfosit-Studi Experimental Secara In Vivo Pada Tikus Putih Jantan Galur Wistar (*Rattus Norvegicus*) Yang Diinfeksi Oleh *Staphylococcus Aureus*. *Doctoral dissertation*. Fakultas Kedokteran UNISSULA.
- Hirotsu, C., Rydlewski, M., Araújo, M. S., Tufik, S., & Andersen, M. L. 2012. Sleep loss and cytokines levels in an experimental model of psoriasis. *PloS one*. 7(11)
- Hirshkowitz, M. Whiton, Kaitlyn. Albert, Steven M. *et al*. 2015. National Sleep Foundation's sleep time duration recommendations: methodology and results summary. *Sleep Health*. 1(1): 40–3.
- Honma, A., Revell, V. L., Gunn, P. J., Davies, S. K., Middleton, B., Raynaud, F. I., & Skene, D. J. 2020. Effect of acute total sleep deprivation on plasma melatonin, cortisol and metabolite rhythms in females. *European Journal of Neuroscience*. 51(1): 366-78.
- Hurtado-Alvarado, G., Becerril-Villanueva, E., De Oca, A. C. M., Domínguez-Salazar, E., Salinas-Jazmín, N., Pérez-Tapia, S. M., & Gómez-González, B. 2018. The yin/yang of inflammatory status: blood-brain barrier regulation during sleep. *Brain, behavior, and immunity*. 69: 154-66.
- Ioannou, M., Wartenberg, C., Greenbrook, J. T., Larson, T., Magnusson, K., Schmitz, L., *et al*. 2021. Sleep deprivation as treatment for depression: Systematic review and meta-analysis. *Acta Psychiatrica Scandinavica*. 143(1): 22-35.
- Irwin, M. R., & Cole, S. W. 2011. Reciprocal regulation of the neural and innate immune systems. *Nature Reviews Immunology*. 11(9): 625-32.
- Irwin, M. R., Olmstead, R., Breen, E. C., Witarama, T., Carrillo, C., Sadeghi, N. *et al*. 2015. Cognitive behavioral therapy and tai chi reverse cellular and genomic markers of inflammation in late-life insomnia: a randomized controlled trial. *Biological psychiatry*. 78(10): 721-9.
- Iyer SS & Cheng GH. 2012. Role of interleukin 10 transcriptional regulation in inflammation and autoimmune disease. *Crit Rev Immunol*. 32(1): 23-63
- Javaheri, S., Zhao, Y. Y., Punjabi, N. M., Quan, S. F., Gottlieb, D. J., & Redline, S. 2018. Slow-wave sleep is associated with incident hypertension: the sleep heart health study. *Sleep*. 41(1)
- Jeddi, S., Asl, A.N., Asgari, A., Ghasemi, A. 2016. Effect of sleep deprivation on cardiac function and tolerance to ischemia-reperfusion injury in male rats. *Arquivos Brasileiros de Cardiologia*. 106(13): 41-8.
- Jockers, R., Delagrange, P., Dubocovich, M. L., Markus, R. P., Renault, N., Tosini, G., *et al*. 2016. Update on melatonin receptors: IUPHAR Review 20. *British Journal of Pharmacology*. 173(18): 2702-25.

- Junaidi, J. 2010. Statistik Uji Kruskal-Wallis. *Jurnal Fakultas Ekonomi Universitas Jambi. (January 2015)*. 1-5.
- Kaida, K., Niki, K. 2014. Total sleep deprivation decreases flow experience and mood status. *Neuropsychiatric Disease and Treatment*. 10: 19–25
- Kerkhof, G. A. 2017. Epidemiology of sleep and sleep disorders in the Netherlands. *Sleep medicine*. 30: 229-39.
- King, L. A. 2010. *Psikologi Umum Sebuah Pandangan Apresiatif*. Salemba Humanika: Jakarta.
- Koban, M., Sita, L. V., Le, W. W., & Hoffman, G. E. 2008. Sleep deprivation of rats: the hyperphagic response is real. *Sleep*. 31(7): 927-33.
- Krishnan, V., & Auckley, D. 2011. Sleep deprivation: pathophysiology. *Sleep & Safety*: 13.
- Krueger, J. M., Frank, M. G., Wisor, J. P., & Roy, S. 2016. Sleep function: Toward elucidating an enigma. *Sleep medicine reviews*. 28: 46-54.
- Lira, F. S., Rosa, J. C., Yamashita, A. S., Koyama, C. H., Batista Jr, M. L., & Seelaender, M. 2009. Endurance training induces depot-specific changes in IL-10/TNF- α ratio in rat adipose tissue. *Cytokine*. 45(2): 80-5.
- Lively, S., & Schlichter, L. C. 2018. Microglia responses to pro-inflammatory stimuli (LPS, IFN γ + TNF α) and reprogramming by resolving cytokines (IL-4, IL-10). *Frontiers in cellular neuroscience*. 12: 215.
- Ma, B., Chen, J., Mu, Y., Xue, B., Zhao, A., Wang, D., & Liu, J. 2018. Proteomic analysis of rat serum revealed the effects of chronic sleep deprivation on metabolic, cardiovascular and nervous system. *PloS one*. 13(9): 199-237.
- Machado, B.R., Tufik, S., Suchecki, D. 2013. Role of Corticosterone on Sleep Homeostasis Induced by REM Sleep Deprivation in Rats. *PLoS One*. 8: 1–10.
- Mahmoudi, J., Ahmadian, N., Fereshteh, F., Majdi, A., Erfani, M. 2017. Protocol for conventional sleep deprivation method in rats. *Swedish Science Pioneers*. 4(3): 61-6.
- Martins, C., Morgan, L., Truby, H. 2010. A Review of the Effects of Exercise on Appetite Regulation: An Obesity Perspective. *International Journal of Obesity*. 32(7): 1337-47.
- Martins, P.J.F., Almeida, V.P., Nobrega, J.N. Tufik, S. 2006. A Reassessment of the Hyperphagia / Weight-Loss Paradox During Sleep Deprivation. *Sleep*. 29(9): 1233-9.
- Maslikhah, M. 2014. Pengaruh ekstrak etanol daun widuri terhadap gambaran histologis fibrosarkoma mencit (*Mus musculus*) jantan yang diinduksi 7, 12-Dimetilbenz (A) antrasena (DMBA) secara In vivo (*Doctoral dissertation*. Universitas Islam Negeri Maulana Malik Ibrahim).

- Mau, S. S., & Tallan, M. M. 2016. Gambaran Peningkatan Kadar Inter Leukin-10 (IL-10) Dan Tumor Necrosis Faktor–Alfa (TNF- α) Dengan Gejala Klinis Pada Penderita Malaria. *Indonesian Bulletin of Health Research*. 44(3): 181-6.
- Mavanji, V., Billington, C. J., Kotz, C. M., & Teske, J. A. 2012. Sleep and obesity: a focus on animal models. *Neuroscience & Biobehavioral Reviews*. 36(3): 1015-29.
- Medubi, L. J., Nwosu, N. C., Medubi, O. O., Lawal, O. R., Ama, C., Kusemiju, T. O., & Osinubi, A. A. 2020. Increased de novo glutathione production enhances sexual dysfunctions in rats subjected to paradoxical sleep deprivation. *JBRA Assisted Reproduction*. 00(0): 1-12
- Miller, R., Plessow, F., Kirschbaum, C., & Stalder, T. 2013. Classification criteria for distinguishing cortisol responders from nonresponders to psychosocial stress: evaluation of salivary cortisol pulse detection in panel designs. *Psychosomatic medicine*. 75(9): 832-40.
- Mônico-Neto, M., Dáttilo, M., Ribeiro, D. A., Lee, K. S., de Mello, M. T., Tufik, S., & Antunes, H. K. M. 2017. REM sleep deprivation impairs muscle regeneration in rats. *Growth Factors*. 35(1): 12-18.
- Murugaiyan, G., Mittal, A., Lopez-Diego, R., Maier, L. M., Anderson, D. E., & Weiner, H. L. 2009. IL-27 is a key regulator of IL-10 and IL-17 production by human CD4⁺ T cells. *The Journal of Immunology*. 183(4): 2435-43.
- Neto, J. C. R., Lira, F. S., Oyama, L. M., Zanchi, N. E., Yamashita, A. S., Batista, M. L., *et al.* 2009. Exhaustive exercise causes an anti-inflammatory effect in skeletal muscle and a pro-inflammatory effect in adipose tissue in rats. *European journal of applied physiology*. 106(5): 697-704.
- Neto, J. C. R., Lira, F. S., Venancio, D. P., Cunha, C. A., Oyama, L. M., Pimentel, G. D., *et al.* 2010. Sleep deprivation affects inflammatory marker expression in adipose tissue. *Lipids in Health and Disease*. 9(1): 1-6.
- Nollet, M., Wisden, W., & Franks, N. P. 2020. Sleep deprivation and stress: a reciprocal relationship. *Interface focus*. 10(3): 1-10
- Oh, M. M., J. W. Kim, M. H. Jin, J. J. Kim, D. G. Moon. 2012. Influence of paradoxical sleep deprivation and sleep recovery on testosterone level in rats of different ages. *Asian Journal of Andrology*. 14: 330-4
- Owens, J., & Adolescent Sleep Working Group. 2014. Insufficient sleep in adolescents and young adults: an update on causes and consequences. *Pediatrics*. 134(3): 921-32.
- Patel, S. R., Zhu, X., Storfer-Isser, A., Mehra, R., Jenny, N. S., Tracy, R., & Redline, S. 2009. Sleep duration and biomarkers of inflammation. *Sleep*. 32(2): 200-4.

- Perez, O. I., Ibanez-Pinilla, M. 2014, Night shifts, sleep deprivation, and attention performance in medical students. *International Journal Medical Education*. 5: 56–62.
- Potter, & Perry. 2012. *Buku Ajar Fundamental Keperawatan: Konsep, Proses, dan Praktik*. Alih Bahasa: Renata Komalasari, dkk. EGC: Jakarta
- Prio, Prayudo. 2015. Durasi tidur Singkat dan Obesitas. *J MAJORITY*. 4(6): 5-9.
- Putri, D. N. E., Nasrul, E., & Masri, M. 2015. Pengaruh kurang tidur terhadap berat badan pada tikus wistar jantan. *Jurnal Kesehatan Andalas*. 4(1): 78-82
- Rahmayani, T. 2019. Hubungan Antara Kadar Interleukin-10 (IL-10) Serum dengan Derajat Keparahan Akne Vulgaris.
- Reale, M., Costantini, E., D'Angelo, C., Coppeta, L., Mangifesta, R., Jagarlapoodi, S., *et al.* 2020. Network between Cytokines, Cortisol and Occupational Stress in Gas and Oilfield Workers. *International journal of molecular sciences*. 21(3): 1118.
- Rechtschaffen, A., & Bergmann, B. M. 2002. Sleep deprivation in the rat: an update of the 1989 paper. *Sleep: Journal of Sleep and Sleep Disorders Research*.
- Relf, R., Willmott, A., Mee, J., Gibson, O., Saunders, A., Hayes, M., & Maxwell, N. 2018. Females exposed to 24 h of sleep deprivation do not experience greater physiological strain, but do perceive heat illness symptoms more severely, during exercise-heat stress. *Journal of sports sciences*. 36(3): 348-55.
- Ren, W., Liu, G., Chen, S., Yin, J., Wang, J., Tan, B., *et al.* 2017. Melatonin signaling in T cells: Functions and applications. *Journal of pineal research*. 62(3): e12394.
- Rygula, N Abumaria, U Havemann-Reinecke, E Rüther, C Hiemke. 2008. Pharmacological Validation of a Chronic Social Stress Model of Depression in Rats: Effects of Reboxetine, Haloperidol and Diazepam. *Journal of Behavioural Pharmacology*. 19(3): 183-96.
- Salfi, F., Lauriola, M., Tempesta, D., Calanna, P., Socci, V., De Gennaro, L., & Ferrara, M. 2020. Effects of total and partial sleep deprivation on reflection impulsivity and risk-taking in deliberative decision-making. *Nature and Science of Sleep*. 12: 309-23
- Saraiva, M., & O'garra, A. 2010. The regulation of IL-10 production by immune cells. *Nature reviews immunology*. 10(3): 170-81.
- Schulz, A., Toedt, G., Zenz, T., Stilgenbauer, S., Lichter, P., & Seiffert, M. 2011. Inflammatory cytokines and signaling pathways are associated with survival of primary chronic lymphocytic leukemia cells in vitro: a dominant role of CCL2. *Haematologica*. 96(3): 408.
- Sengupta, P. 2013. The laboratory rat: relating its age with humans. *International*

Journal of Preventive Medicine. 4(6): 624–30

- Sherwood, L. 2015. *Human physiology: from cells to systems*. Cengage learning.
- Skuladottir, G. V., Nilsson, E. K., Mwinyi, J., & Schiöth, H. B. 2016. One-night sleep deprivation induces changes in the DNA methylation and serum activity indices of stearoyl-CoA desaturase in young healthy men. *Lipids in health and disease.* 15(1): 1-7
- Srinivasan, K., & Ramarao, P. 2007. Animal model in type 2 diabetes research: An overview. *Indian Journal of Medical Research.* 125(3): 451.
- Suhaemi, Z. 2011. *Diktat Metode Penelitian dan Rancangan Percobaan*. Padang: Program Studi Peternakan Fakultas Pertanian Universitas Tamansiswa
- Sulistyarini, T., & Santoso, D. 2016. Gambaran karakteristik lansia dengan gangguan tidur (insomnia) di RW 1 kelurahan bangsal kota kediri. *Jurnal Penelitian Keperawatan.* 2(2): 150-5
- Tista, G. N. B., 2011. Pemberian Ekstrak Buah Mengkudu (*Morinda Citrifolia* L) Menurunkan Tekanan Darah Tikus Putih Jantan Galur Wistar (*Rattus norvegicus*) yang Hipertensi. *Tesis*. Program Studi Biomedik. Universitas Udayana, Bali (Dipublikasikan).
- Tobaldini, E., Costantino, G., Solbiati, M., Cogliati, C., Kara, T., Nobili, L., & Montano, N. 2017. Sleep, sleep deprivation, autonomic nervous system and cardiovascular diseases. *Neuroscience & Biobehavioral Reviews.* 74: 321-9.
- Utami, *et. al.* 2017. Hubungan Durasi Tidur terhadap Energi dan Obesitas pada Remaja SMP di Kota Yogyakarta. Seminar Nasional Gizi 2017 Program Studi Ilmu Gizi UMS “Strategi Optimasi Tumbuh Kembang Anak”.
- Venancio DP, Suchecki D. 2015. Prolonged REM sleep restriction induces metabolic syndrome-related changes: mediation by pro-inflammatory cytokines. *Brain, Behavior, and Immunity.* 47: 109–17
- Vetrivelan, R., Fuller, P. M., Yokota, S., Lu, J., & Saper, C. B. 2012. Metabolic effects of chronic sleep restriction in rats. *Sleep.* 35(11): 1511–20.
- Villafuerte. G., Miguel-Puga. A., Murillo Rodríguez. E., Machado. S., Manjarrez. E., Arias-Carrió. O. 2015. Sleep deprivation and oxidative stress in animal models: a systematic review. *Oxidative Medicine and Cellular Longevity.* 20(15): 1-15.
- Weil, Z. M., Norman, G. J., Karelina, K., Morris, J. S., Barker, J. M., Su, A. J., *et al.* 2009. Sleep deprivation attenuates inflammatory responses and ischemic cell death. *Experimental Neurology.* 218(1): 129-36.
- Welsh, P., Murray, H. M., Ford, I., Trompet, S., de Craen, A. J., Jukema, J. W., *et al.* 2011. Circulating interleukin-10 and risk of cardiovascular events: a prospective study in the elderly at risk. *Arteriosclerosis, Thrombosis, and Vascular Biology.* 31(10): 2338-44.

- Widyaningsih, P. N., Arjadi, F., & Mahanani, E. S. 2020. Effect of various inductions of sleep deprivation stress on proinflammatory cytokine levels in gingival crevicular fluids of white male Wistar strain rats (*Rattus novvergicus*). *Dental Journal (Majalah Kedokteran Gigi)*. 53(1): 24-9.
- Wolkow, A., Ferguson, S. A., Vincent, G. E., Larsen, B., Aisbett, B., & Main, L. C. 2015. The impact of sleep restriction and simulated physical firefighting work on acute inflammatory stress responses. *PLoS One*, 10(9): 128-38
- Wright Jr, K. P., Drake, A. L., Frey, D. J., Fleshner, M., Desouza, C. A., Gronfier, C., & Czeisler, C. A. 2015. Influence of sleep deprivation and circadian misalignment on cortisol, inflammatory markers, and cytokine balance. *Brain, behavior, and immunity*. 47: 24-4.
- Wu, G. C., Peng, C. K., Liao, W. I., Pao, H. P., Huang, K. L., & Chu, S. J. 2020. Melatonin receptor agonist protects against acute lung injury induced by ventilator through up-regulation of IL-10 production. *Respiratory research*. 21(1): 1-17.
- Yaribeygi, H., Panahi, Y., Sahraei, H., Johnston, T.P., Sahebkar, A. 2017. The Impact of Stress on Body Function: A Review. *EXCLI J*. 21: 1057–72.
- Yehuda, S., Sredni, B., Carasso, R. L., & Kenigsbuch-Sredni, D. 2009. REM sleep deprivation in rats results in inflammation and interleukin-17 elevation. *Journal of Interferon and Cytokine Research*. 29(7): 393-8.
- Yirmiya, R., & Goshen, I. 2011. Immune modulation of learning, memory, neural plasticity and neurogenesis. *Brain, behavior, and immunity*. 25(2):181-213.
- Zhang, W., Zhang, W., Dai, N., Han, C., Wu, F., Wang, X., *et al.* 2018. A rat model of central fatigue using a modified multiple platform method. *JoVE (Journal of Visualized Experiments)*. 138: e57362.
- Zhao, Q., Yin, L., Zhang, L., Jiang, D., Liu, L., & Ji, H. 2020. Chitoheptaose Promotes Heart Rehabilitation in a Rat Myocarditis Model by Improving Antioxidant, Anti-Inflammatory, and Antiapoptotic Properties. *Oxidative medicine and cellular longevity*. 2020.
- Zimberg, I. Z., Dâmaso, A., Del Re, M., Carneiro, A. M., de Sá Souza, H., de Lira, F. S., *et al.* 2012. Short sleep duration and obesity: mechanisms and future perspectives. *Cell biochemistry and function*. 30(6): 524-9.