DAFTAR PUSTAKA

Alfarra, H. Y., & Omar, M. N. 2013. *Centella asiatica*: From Folk Remedy to The Medicinal Biotechnology. *International Journal of Biosciences* 6(3):49-67.

American College of Surgeons Committee on Trauma. 2018. Advanced Trauma Life Support Student Course Manual. 10th edition. Chicago: American College of Surgeons.

Anggraini, D. A. 2009. Gambaran Mikroskopis Sel Astrosit dan Sel Piramida Cerebrum pada Tikus (*Rattus norvegicus*) Galur Wistar setelah pemberian Ekstrak daun Pegagan (*Centella asiatica* (*L.*) Urban). *Skripsi*. Universitas Airlangga. Surabaya.

Arumugam, T., M. Ayyanar, Y. J .K. Pillai & Sekar, T. 2011. Phytochemical Screening and Antibacterial Activity of Leaf and Callus Extracts of *Centella Asiatica*. *Bangladesh Journal of Pharmacology* 6:55–60.

Astrand, R., & Romner B. 2012. Management of Severe Traumatic Brain Injury. Springer, Switzerland.

Babykutty, S., Padikkala, J., Sathiadevan, P. P., Vijayakurup, V., Azis, T. K. A, Srinivas, P., & Gopala, S. 2009. Apoptosis induction of *Centella asiatica* on human breast cancer cells. *African Journal of Traditional Complementary and Alternative Medicine* 6(1):9-16.

Badan POM RI. 2010. *Acuan Sediaan Herbal*. Vol. 5, Edisi I. Direktorat Obat Asli Indonesia, Badan Pengawas Obat dan Makanan Republik Indonesia, Jakarta.

Basmatika, I. A. 2013. Secondary Brain Injury. *E-Jurnal Medika Udayana* 2(3):444-464.

Berridge, M. J. 2012. Cell Stress, Inflammatory Responsesand Cell Death. *Cell Signaling Biology* 11: 1-6.

Chipuk, J. E., Moldoveanu, T., Llambi, F., Parsons, M. J. & Green, D. R. 2010. The BCL-2 Family Reunion. *Molecular Cell* 37(3): 299-310.

Cheng, G., Kong, R. H., Zhang, L. M., & Zhang J. N. 2012. Mitochondria in traumatic brain injury and mitochondrial-trageting multipotent therapeutic strategies. *British Journal Pharmacology* 167(4):699-719.

Chong, N. J. & Aziz, Z. 2011. A Systematic Review on The Chemical Constituents of Centella asiatica. *Research Journal Pharmceutical Biological Chemical Sciences* 2(3):445-59.

Dash, B. K., Faruquee, H. M, Biswas, S. K., Alam, M. K., Sisir, S. M., & Prodhan UK. 2011. Antibacterial and antifungal activities of several extracts of

Centella asiatica L. against some human pathogenic microbes. *Life Sciences and Medicine Research* 2011(35): 1-5.

Eroschenko, V. P. 2015. *Atlas histology difiore dengan korelasi fungsional edisi 12*. EGC, Jakarta.

Farhana, K. M., Malueka, R. G., Wibowo, S., & Gofir, A. 2016. Effectiveness of Gotu Kola extract 750 mg and 1000 mg compared with folic acid 3 mg in improving vascular cognitive impairment after stroke. *Evidence-Based Complementary and Alternative Medicine* 2016:1-6.

Faul, M., Xu, L., Wald, M. M., & Coronado, V. G. 2010. *Traumatic Brain Injury in the United States: Emergency Department Visits, Hospitalizations and Deaths 2002–2006*. Atlanta: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control.

Freire, M.A. Pathophysiology of neurodegeneration following traumatic brain injury. 2012. *West Indian Medical Journal* 61(7), 751-755.

George, M., Joseph, L., & Ramaswamy. 2009. Anti-allergic, anti-pruritic, and anti-inflammatory activities of *Centella asiatica* extracts. *African Journal of Traditional, Complementary and Alternative Medicines* 6(4):554-9.

Gofir, A., 2009. *Manajemen Stroke*. Pustaka Cendekia Presss, Yogyakarta.

Gohil, K. J, Patel, J. A, & Gajjar, A. K. 2010. Pharmacological review on *Centella asiatica*: A Potential Herbal Cure-All. *Indian Journal of Pharmaceutical Sciences* 72(5):546-556.

Greve, M. W., & Zink, B. J. 2009. Pathophysiology of traumatic brain injury. *Mount Sinai of Medicine*. 76:97-104.

Haleagrahara, N. & Ponnusamy, K. 2010. Neuroprotective effect of *Centella asiatica* extract (CAE) on experimentally induced parkinsonism in aged *Sprague-Dawley* rats. *Journal of the Society of Toxicology* 35(1):41-7.

Hellewell, S. C., Ziebell, J. M., Lifshitz, J. & Morganti-Kossmann, M. C. 2016. Impact acceleration model of diffuse traumatic brain injury. *Injury Models of the Central Nervous System: Methods and Protocols*: 253-266.

Hoh, N. Z., Wagner, A. K., & Alexander, S. A. 2010. BCL2 Genotypes: Functional and Neurobehavioral Outcomes after Severe Traumatic Brain Injury. *Journal of Neurotrauma* 27(8): 1413-1427.

Ito, H., Uchida, T., & Makita, K. 2015. Ketamine Causes Mitochondrial Dysfunction in Human Induced Pluripotent Stem Cell-Derived Neurons. *PLoS One* 10(5): 1-20.

Jazmi, A. F., Alfiantya, P. F., Nurarifah, S. A. H., Purmitasari, E. A. , Vitania, L. A., & Riawan, W. 2015. Spade Leaf Extract Phytosome Modulates Krox-20, Neuregulin 1 , Phospholipids, and Cognitive Function of Traumatic

Brain Injury Model in Rats. *Indonesian Journal of Cancer Chemoprevention* 6(3):105-10.

Jonas, E. A., Porter, G. A., & Alavian, K. N. 2014. Bcl-xL in neuroprotection and plasticity. *Frontiers in physiology*, 5(355):1-10.

Kalshetty, P., Aswar, U., Bodhankar, S., Sinnathambi, A., Mohan, V., & Thakurdesai, P. 2012. Antidepressant effects of standardized extract of *Centella asiatica* L in olfactory bulbectomy model. *Biomedicine and Aging Pathology* 2(2):48-53.

Kant, R., Srivastav, P. P., & Datta, A. K. 2019. The Medicinal Role of *Centella asiatica* and Its Applications in the Dahi: A Research Review. *Journal of Pharmaceutical Research International* 28(6): 1-9.

Kaspia, R. N., Hidayati, D. Y., Widayati, A. 2016. The Infection Effect of STRAIN H37Rv Mycobacterium Tuberculosis on Apoptosis of Mice's Neuron Cell Brain (Mus Musculus). *Malang Neurology Journal* 2(02):52-59.

Kass, I. S., Cottrell J. E., Lei, B. 2010. *Brain Metabolism, The Pathophysiology of Brain Injury, and Potential Beneficial Agents and Techniques.* Dalam: Cottrell J. E., Young W. L., 5th ed. Elsevier- Mosby, Philadelphia.

Keith, A. W. 2012. Mitochondrial membrane permeabilization and cell death during myocardial infarction: roles of calcium and reactive oxygen species. *Future Cardiology* 8(6): 863–884.

Kinnunen, K. M., Greenwood R, Powell, J. H., Leech, R., Hawkins, P. C., Bonnelle, V., *et al*. 2010. White matter damage and cognitive impairment after traumatic brain injury. *Brain* 134(2):449-463.

Krishnamurthy, R.G., Senut, M.C., Zemke, D., Min, J., Frenkel, M.B., Greenberg, E.J. *et al*. 2009. Asiatic acid, a pentacyclic triterpene from *Centella asiatica*, is neuroprotective in a mouse model of focal cerebral ischemia. *Journal of Neuroscience* 87(11):2541-50.

Kumalasari, H. P. 2012. Pengaruh Pemberian Sediaan Pegagan (*Centella Asiatica (L.*) Urban) Terhadap Histologis Neuron Otak Tikus (*Rattus Norvegicus*) yang Mengalami Nekrosis. *Skripsi.* Universitas Islam Negeri Malang. Malang.

Kumar, V., Abbas, A.K., & Aster, J.C. 2015. *Buku Ajar Patologi Robbins*. Edisi 9. Elsevier Saunders. Singapura.

Kumar, A., Prakash, A., & Dogra, S. 2011. *Centella asiatica* Attenuates D-Galactose-Induced Cognitive Impairment, Oxidative and Mitochondrial Dysfunction in Mice. *International Journal of Alzheimer's Disease* 9:1-9.

Kurniawan, S. N., Raisa,N., & Margareta. 2018. *Penggunaan Hewan Coba pada Penelitian di Bidang Neurologi*. UB Press, Malang.

Kuswati, Prakosa, D., Wasita, B., & Wiyono, N. 2015. *Centella asiatica* increases B-cell lymphoma 2 expression in rat prefrontal cortex. *Universa Medicina* 34(1):10-16.

Li, S., Wu, C., Zhu, L., Gao, J., Fang, J., Li, D., *et al.* 2012. By Improving Regional Cortical Blood Flow, Attenuating Mitochondrial Dysfunction and Sequential Apoptosis Galangin Acts as a Potential Neuroprotective Agent after Acute Ischemic Stroke. *Molecules* 17(11): 13403-13423.

Liu, M., Dai, Y.,Yao, X., Li, Y., Xia, Y., & Gong, Z. 2012. Anti-Rheumatoid Arthritic Effect of Madecassoside on Type II Collagen-Induced Arthritis in Mice. *International Immunopharmacology* 8:1561-1566.

Loane, D. J., Stoica, B. A, & Faden, A. I. 2015. Neuroprotection for traumatic brain injury. *Handbook of Clinical Neurology* 127:343-366.

Majid A. 2014. Neuroprotection in Stroke: Past, Present, and Future. *ISRN Neurology* 2014:1-17.

McAllister, T. W. 2011. Biological consequences of traumatic brain injury. *Translational Research* 287-300.

McConeghey, K. W., Hatton, J., Hughes, J., & Cook, A. M. 2012. A Review of neuroprotection pharmacology and therapies in patients with acute traumatic brain injury. *CNS Drugs* 26(7):613-636.

Mescher, A. L. 2012. *Histologi Dasar Junqueira edisi 12*. EGC, Jakarta.

Misbach, J. 2011. *Stroke, Aspek Diagnostik, Patofisiologi, Manajemen*. Balai Penerbit FK UI, Jakarta.

Morrison, R. S., Kinoshita, Y., Johnson, M. D., Ghatan, S., Ho, J. T., & Garden, G. 2003. Neuronal survival and cell death signaling pathways. In Molecular and Cellular Biology of Neuroprotection in the CNS. Springer, Boston, MA.

Nasir, M. N., Habsah, M., Zamzuri, I., Rammes, G., Hasnan, J., & Abdullah, J. 2011. Effects of asiatic acid on passive and active avoidance task in male Spraque - Dawley rats. *Journal of Ethnopharmacology* 134(2):203-9.

Notoatmodjo. *2014*. Metodologi *Penelitian* Kesehatan. PT. Rineka Cipta, Jakarta.

Omar, N. S., Zakaria, Z. A. C., Mian, T. S., Ngah, W. Z. W. & Mazlan, M. 2011. *Centella asiatica* modulates neuron cell survival by altering caspase-9 pathway. *Journal of Medicinal Plants Research* 5(11):2201-9

Orhan, I. E. 2012 *Centella asiatica* (L.) urban: from traditional medicine to modern medicine with neuroprotective potential. *Journal Evidence-Based Complementary and Alternative Medicine* 2012:1-8

Oyenihi, A. B., Chegou, N. N, Oguntibeju, O. O, & Masola, B. 2017. *Centella asiatica* enhances hepatic antioxidant status and regulates hepatic

inflammatory cytokines in Type 2 diabetic rats. *Pharmaceutical Biology* 55(1):1671-8.

Panomket, P., Wanram, S., & Srivoramas, T. 2011. Antimicrobial activity of extracts of Thai plant to *Burkholderia pseudomallei*. *Indian Journal of Physical Therapy and Research* 23(2): 151- 158.

Peckham, M. 2013. *At A Glance Histologi*. Erlangga, Jakarta.

Prakash, A., & Kumar, A. 2013. Mitoprotective effect of *Centella asiatica* against aluminum-induced neurotoxicity in rats: Possible relevance to its anti-oxidant and anti-apoptosis mechanism. *Neurological Sciences* 34(8):1403-9.

Priyantiningrum, A.K., Kuswati, Handayani, E.S. 2015. Pengaruh Ekstrak Etanol *Centella Asiatica* Terhadap Jumlah Sel Neuron di Korteks Prefrontalis Tikus yang diberi Perlakuan Stres. *Jurnal Kedokteran dan Kesehatan Indonesia* 6 (4):198-207).

Qi, F. Y., Le Yang, Z. T., Zhao, M. G., Liu, S. B., & An, J. Z. 2014. Neuroprotective effects of Asiaticoside. *Neural regeneration research* 9(13):1275-1282.

Raghupathi, R., Conti, A. C., Graham, D. I., Krajewski, S., Reed, J. C., Grady, M. *et al*. 2002. Mild traumatic brain injury induces apoptotic cell death in the cortex that is preceded by decreases in cellular Bcl-2 immunoreactivity. *Neuroscience* 110(4): 605-616.

Rahman, M. M, Sayeed, M. S., Haque, M. A, Hassan, M. M, & Islam, S. A. 2012. Phytochemical screening, antioxidant, anti-Alzheimer and anti-diabetic activities of *Centella asiatica*. *Journal of Natural Product and Plant Resources* 2(4):504-11.

Rai, N., Agrawal, R. C., & Khan, A. 2011. Inhibition of DMBA induced mouse skin carcinogenesis by *Centella asiatica* extract. *Pharmacology Online* 3:536-546.

Ramadhan, S.N., R. Rayit, & Ematrisy. 2015. Uji Antibakteri Ekstrak Daun Pegagan Terhadap Bakteri *Staphylococcus Aureus* dan *Salmonella Typhi* dengan Metode Bioautografi. *Jurnal Kesehatan Andalas* 4(1): 203–206.

Rastogi, R. P., Richa, dan Sinha, R. P. 2009. Apoptosis: Molecular mechanism and pathogenicity. *EXCLI Journal* 8:155-81.

Raza, S. A., Adnan, A., & Qureshi, F. 2009. Comparison of antioxidant activity of essential oil of *Centella asiatica* and Butylatedhydroxyanisole in sunflower oil at ambient conditions. *Biharean Biologist* 3(1):71-5.

RISKESDAS. 2018. *Hasil Utama RISKESDAS 2018*. Jakarta: Badan penelitian dan Pengembangan Kesehatan Kementrian Kesehatan Republik Indonesia.

Roberts, I., & Sydenham, E. 2012. Barbiturates for acute traumatic brain injury. *Cochrane Database of Systematic Reviews* Issue 12.

Ruszymah, B. H. I, Chowdhury, S. R, Manan, N. A. B. A, Fong, O. S, Adenan, M. I, & Saim, A. 2012. Aqueous Extract of *Centella asiatica* Promotes Corneal Epithelium Wound Healing in Vitro. *Journal of Ethnopharmacology*. 140:333– 338.

Sari, L. M. 2018. Apoptosis: Mekanisme Molekuler Kematian Sel. *Cakradonya Dental Journal 10(2): 65-70.*

Sayed, I. E, Zaki, A., Fayed, A. M., Shehata, G. M, & Abdelmonem, S. 2016. A meta-analysis of the effect of different neuroprotective drugs in management of patients with traumatic brain injury. *Neurosurgical Review* 41(2):427-438.

Sengupta, P. 2013. The laboratory rat: relating its age with human's. *International journal of preventive medicine* 4(6):624.

Shamas-Din, A., Kale, J., Leber, B., & Andrews, D. W. 2013. Mechanisms of Action of Bcl-2 Family Proteins. *Cold Spring Harbor Perspectives in Biology* 5(4): a008714.

Shetty, A. K., Mishra, V., Kodal, M., & Hattiangady, B. 2014. Blood brain barrier dysfunction and delayed neurological deficit in mild traumatic brain injury by blast shock waves. *Frontiers in Cellular Neuroscience* 8(32):1-10.

Sirichoat, A., Chaijaroonkhanarak, W., Prachaney, P., Pannangrong, W., Leksomboon, R., Chaichun, A., *et al*. 2015. Effects of asiatic Acid on spatial working memory and cell proliferation in the adult rat hippocampus. *Nutrients* 7(10):8413-23.

Snell, R. S. 2014. *Anatomi Klinik ed. 6*. EGC, Jakarta.

Soares, M., Madeira, S., Correia, J., Peleteiro, M., Cardoso, F., & Ferreira, F. 2016. Molecular based subtyping of feline mammary carcinomas and clinicopathological characterization. *The Breast* 27: 44-51.

Spiotta, A., Stiefel, M. F., Gracias, V. H., Garuffe, A. M., Kofke, W. A. , Maloney-Wilensky, E., *et al*. 2010. Brain Tissue Oxygen-direct ed Management and Outcome in Patients with Traumatic Brain Injury. *Journal of Neurosurgery*. 113(3): 571-580.

Stoica, B. A & Faden, A. I. 2010. Cell Death Mechanisms and Modulation in Traumatic Brain Injury. Neurotherapeutics: *The Journal of the American Society for Experimental NeuroTherapeutics* 7:3-12.

Sun, T., Liu, B., & Li, P. 2015. Nerve protective effect of asiaticoside against ischemia-hypoxia in cultured rat cortex neurons. *Medical science monitor: international medical journal of experimental and clinical research*, 21, 3036-3041.

Sutardi. 2016. Kandungan Bahan Aktif Tanaman Pegagan dan Khasiatnya untuk Meningkatkan Sistem Imun Tubuh. *Jurnal Litbang Pertanian* 35(3):121-130.

Suyatna, F. D. 2010. *Farmakologi Klinik Citicolin*. Cermin Dunia Kedokteran, Jakarta.

Tabassum, R., Vaibhav, K., Shrivastava, P., Khan, A., Ejaz, A. M, Javed, H., *et al.* 2013. *Centella asiatica* Attenuates The Neurobehavioral, Neurochemical and Histological Changes in Transient Focal Middle Cerebral Artery Occlusion Rats. *Neurological Sciences* 34:925–933.

Tan, M. L., Ooi, J. P., Ismail, N., et al. 2009. Programmed cell death pathways and current antitumor targets. *Pharm Res* 26(7):1547-1556.

Tan, H. B., Wasiak, J., Rosenfeld, J. V., O'Donohoe, T. J., & Gruen, R. L. 2014. Citicoline (CDPcholine) for traumatic brain injury (Protocol). *Cochrane Database of Systematic Reviews* Issue 8.

Umka, W. J., Sirichoat, A., Chaijaroonkhanarak, W., Prachaney, P., Pannangrong, W., Pakdeechote, P., *et al.* 2016. Asiatic acid prevents the deleterious effects of valproic acid on cognition and hippocampal cell proliferation and survival. *Nutrients* 8(5):1-11.

Upadhyay, D. 2009. Cognitive Functioning in TBI Patients: A Review of Literature. *Middle-East Journal of Scientific Research* 3(3):120-125.

Valente, G., Morani, F., Nicotra, G., Fusco, N., Peracchio, C., Titone, R., *et al*. 2014. Expression and Clinical Significance of The Autophagy Proteins BECLIN 1 and LC3 in Ovarian Cancer. *BioMed research international* 2014: 1-10.

Wanakhachornkrai, O., Pongrakhananon, V., Chunhacha, P., Wanasuntronwong, A., Vattanajun, A., Tantisira, B., *et al*. 2013. Neuritogenic Effect of Standardized Extract of *Centella Asiatica* Eca233 on Human Neuroblastoma Cells. *BMC Complementary and Alternative Medicine* 13(204):1–7.

Wong, R. 2011. Apoptosis in cancer: From pathogenesis to treatment. *Journal of Experimental and Clinical Cancer Research* 30(87):1-14.

Xu, C. L., Qu, R., Zhang, J., Li, L.F. & Ma, S. P. 2013. Neuroprotective effects of *madecassoside* in early stage of Parkinson's disease induced by MPTP in rats. *Fitoterapia* 90:112-8.

Yellinek, S., Cohen, A., Merkin, V., Shelef, I., & Benifla, M. 2016. Clinical significance of skull base fracture in patients after traumatic brain injury. *Journal of Clinical Neuroscience* 25: 111-115.

Zhang, M., Hettiarachchy, N. S., Horax, R., Kannan, A., Praisoody, M. D. A., Muhundan, A. *et al*. 2011. Phytochemicals, antioxidant and antimicrobial

activity of *Hibiscus sabdariffa, Centella asiatica, Moringa oleifera and Murraya koenigii* leaves. *Journal of Medicinal Plant Research* 5: 6672-80.