

DAFTAR PUSTAKA

- Abi-Dargham, A. (2007). Alterations of Serotonin Transmission in Schizophrenia. *Integrating the Neurobiology of Schizophrenia*, 133–164. [https://doi.org/10.1016/s0074-7742\(06\)78005-9](https://doi.org/10.1016/s0074-7742(06)78005-9)
- Acuna Castroviejo, D. et al. (2012) "Melatonin-mitochondria Interplay in Health and Disease," *Current Topics in Medicinal Chemistry*, 11(2), hal. 221–240. doi: 10.2174/156802611794863517.
- Akdis, M., Aab, A., Altunbulakli, C., Azkur, K., Costa, R. A., Cramer, R., Duan, S., Eiwegger, T., Eljaszewicz, A., Ferstl, R., Frei, R., Garbani, M., Globinska, A., Hess, L., Huitema, C., Kubo, T., Komlosi, Z., Konieczna, P., Kovacs, N., ... Akdis, C. A. (2016). Interleukins (from IL-1 to IL-38), interferons, transforming growth factor β , and TNF- α : Receptors, functions, and roles in diseases. *Journal of Allergy and Clinical Immunology*, 138(4), 984–1010. <https://doi.org/10.1016/j.jaci.2016.06.033>
- Amir, 2005. Skizofrenia. Ins. Elvira & G. Hadisukanto (Eds), Buku Ajar Psikiatri (2nd ed., pp.173-198). Badan Penerbit Fakultas Kedokteran Indonesia
- APA, 2013. The Diagnostic and statistical manual of mental disorders (5th.ed). American psychiatric Association Publishing
- Aryutova, K., & Stoyanov, D. (2021). Pharmaco-magnetic resonance as a tool for monitoring the medication-related effects in the brain may provide potential biomarkers for psychotic disorders. *International Journal of Molecular Sciences*, 22(17). <https://doi.org/10.3390/ijms22179309>
- Auld, F., Maschauer, E. L., Morrison, I., Skene, D. J., & Riha, R. L. (2017). Evidence for the efficacy of melatonin in the treatment of primary adult sleep disorders. *Sleep Medicine Reviews*, 34, 10–22. <https://doi.org/10.1016/j.smr.2016.06.005>
- Azmanova, M., Pitto-Barry, A., & Barry, N. P. E. (2018). Schizophrenia: synthetic strategies and recent advances in drug design. *MedChemComm*, 9(5), 759–782. doi:10.1039/c7md00448f
- Banach, M., Gurdziel, E., Jędrych, M., & Borowicz, K. K. (2011). Melatonin in experimental seizures and epilepsy. *Pharmacological Reports*, 63, 1–11.

- Behrouzian, F., Abdi, L., Nazarinasab, M., Sadegh, A. M., Anooosheh, S., & Moradi, M. (2023). Evaluating the Effect of Melatonin on Positive and Negative Symptoms of Schizophrenic Patients: A Randomized Placebo-Controlled Study. *Iranian Journal of Psychiatry*, 18(2), 119–126. <https://doi.org/10.18502/ijps.v18i2.12362>
- Birnbaum, R., & Weinberger, D. R. (2017). Genetic insights into the neurodevelopmental origins of schizophrenia. *Nature Reviews Neuroscience*, 18(12), 727–740. <https://doi.org/10.1038/nrn.2017.125>
- Brunzell, D. H., & McIntosh, J. M. (2011). Alpha7 Nicotinic Acetylcholine Receptors Modulate Motivation to Self-Administer Nicotine :Implications for Smoking and Schizophrenia. *Neuropsychopharmacology*, 37(5), 1134–1143. <https://doi.org/10.1038/npp.2011.299>
- Çakici, N. (2019). An update on the efficacy of anti-inflammatory agents for patients with schizophrenia : a meta-analysis.
- Charlson, F. J., Ferrari, A. J., Santomauro, D. F., Diminic, S., Stockings, E., Scott, J. G., McGrath, J. J., & Whiteford, H. A. (2018). Global epidemiology and burden of schizophrenia: Findings from the global burden of disease study 2016. *Schizophrenia Bulletin*, 44(6), 1195–1203. <https://doi.org/10.1093/schbul/sby058>
- Chen, F., Liu, H., Wang, B., Yang, L., Cai, W., Jiao, Z., Yang, Z., Chen, Y., Quan, Y., Xiang, X., & Wang, H. (2020). Physiologically based pharmacokinetic modeling to understand the absorption of risperidone orodispersible film. *Frontiers in Pharmacology*, 10(February), 1–10. <https://doi.org/10.3389/fphar.2019.01692>
- Chen, S., Lee, S., Chang, Y., Chen, S., Chu, H., Tzeng, N., Lee, I., Chen, P., & Yeh, T. L. (2013). NIH Public Access. 7(3), 656–664. <https://doi.org/10.1007/s11481-012-9382-z.Inflammation>
- Cheng, X., Xie, Y., Wang, A., Zhu, C., Yan, F., Pei, W., & Zhang, X. (2023). Correlation between elevated serum interleukin-1 β , interleukin-16 levels and psychiatric symptoms in patients with schizophrenia at different stages. *BMC Psychiatry*, 23(1), 1–10. <https://doi.org/10.1186/s12888-023-04896-5>
- Chong, H. Y., Teoh, S. L., Wu, D. B. C., Kotirum, S., Chiou, C. F., & Chaiyakunapruk, N. (2016). Global economic burden of schizophrenia: A systematic review. *Neuropsychiatric Disease and Treatment*, 12, 357–373. <https://doi.org/10.2147/NDT.S96649>
- Chopko, T. C., & Lindsley, C. W. (2018). Classics in Chemical Neuroscience: Risperidone. *ACS Chemical Neuroscience*, 9(7), 1520–

1529. <https://doi.org/10.1021/acchemneuro.8b00159>

Coyle, Donald C. Goff, J. T. (2001). The Emerging Role of Glutamate in the Pathophysiology and Treatment of Schizophrenia Donald. *American Journal of Psychiatry*, 75(6), 1005. <https://doi.org/10.1176/appi.ajp.158.9.1367>

Davis, J., Eyre, H., Jacka, F. N., Dodd, S., Dean, O., McEwen, S., Debnath, M., McGrath, J., Maes, M., Amminger, P., McGorry, P. D., Pantelis, C., & Berk, M. (2016). A review of vulnerability and risks for schizophrenia: Beyond the two hit hypothesis. *Neuroscience and Biobehavioral Reviews*, 65, 185–194. <https://doi.org/10.1016/j.neubiorev.2016.03.017>

Dawidowski, B., Górnaiak, A., Podwalski, P., Lebiecka, Z., & Samochowiec, J. (2021). The Role of Cytokines in the Pathogenesis of Schizophrenia. *Immunologiya*, 41(3), 262–268. <https://doi.org/10.33029/0206-4952-2020-41-3-262-268>

De Luca, V., Tharmalingam, S., Müller, D. J., Wong, G., de Bartolomeis, A., & Kennedy, J. L. (2006). Gene-gene interaction between MAOA and COMT in suicidal behavior: Analysis in schizophrenia. *Brain Research*, 1097(1), 26–30. <https://doi.org/10.1016/j.brainres.2006.04.053>

Dickson, H., Hedges, E., Ma, S., Cullen, A., MacCabe, J., & Kempton, M. (2020). Academic achievement and schizophrenia: a systematic meta-analysis. *Psychological Medicine*, 1–17. <https://doi.org/10.1017/S0033291720002354>

Eggers, A. E. (2013). A serotonin hypothesis of schizophrenia. *Medical Hypotheses*, 80(6), 791–794. <https://doi.org/10.1016/j.mehy.2013.03.013>

Etti, A. E., & Assy, N. (2018). *Interleukin-1*. November. <https://doi.org/10.1002/9780470015902.a0028193>

Favero, G., Franceschetti, L., Bonomini, F., Rodella, L. F., & Rezzani, R. (2017). Review Article Melatonin as an Anti-Inflammatory Agent Modulating Inflammasome Activation. 2017, 17–19.

Fumero, A. L. M., & Gonzalez, P. A. (2013). Role of melatonin in schizophrenia. *International Journal of Molecular Sciences*, 14(5), 9037–9050. <https://doi.org/10.3390/ijms14059037>

Goldsmith, D. R., & Rapaport, M. H. (2020). Inflammation and Negative Symptoms of Schizophrenia: Implications for Reward Processing and

Motivational Deficits. *Frontiers in Psychiatry*, 11(February), 1–14. <https://doi.org/10.3389/fpsy.2020.00046>

Goldsmith, D., MH Rapaport, & Miller, B. (2016). A meta-analysis of blood cytokine network alterations in psychiatric patients: comparisons between schizophrenia, bipolar disorder and depression. *Physiology & Behavior*, 176(1), 139–148. <https://doi.org/10.1038/mp.2016.3.A>

Hany, M. et al. (2021) Schizophrenia, StatPearls.

Hardeland, R. (2012). Neurobiology, pathophysiology, and treatment of melatonin deficiency and dysfunction. *The Scientific World Journal*, 2012. <https://doi.org/10.1100/2012/640389>

Hardman, S., & O'Mahony, E. (2022). Is there a role for melatonin in the treatment of schizophrenia? *Progress in Neurology and Psychiatry*, 26(3), 16–19. <https://doi.org/10.1002/pnp.755>

Herman, A. P., Bochenek, J., Skipor, J., Król, K., Krawczyńska, A., Antushevich, H., Pawlina, B., Marciniak, E., & Tomaszewska-Zaremba, D. (2015). Interleukin-1 β Modulates Melatonin Secretion in Ovine Pineal Gland: Ex Vivo Study. *BioMed Research International*, 2015. <https://doi.org/10.1155/2015/526464>

Kaplan & Sadock's. (2022). A Synopsis of Psychiatry Twelfth Edition. In *Postgraduate Medical Journal* (Vol. 59, Issue 694).

Kato, T., Monji, A., Hashioka, S., & Kanba, S. (2007). Risperidone significantly inhibits interferon- γ -induced microglial activation in vitro. *Schizophrenia Research*, 92(1–3), 108–115. <https://doi.org/10.1016/j.schres.2007.01.019>

Khandaker, G. M., Cousins, L., Deakin, J., Lennox, B. R., Yolken, R., & Jones, P. B. (2015). Inflammation and immunity in schizophrenia: Implications for pathophysiology and treatment. *The Lancet Psychiatry*, 2(3), 258–270. [https://doi.org/10.1016/S2215-0366\(14\)00122-9](https://doi.org/10.1016/S2215-0366(14)00122-9)

Kirkbride, J. B., Errazuriz, A., Croudace, T. J., Morgan, C., Jackson, D., Boydell, J., Murray, R. M., & Jones, P. B. (2012). Incidence of schizophrenia and other psychoses in England, 1950-2009: A systematic review and meta-analyses. *PLoS ONE*, 7(3). <https://doi.org/10.1371/journal.pone.0031660>

Kirkpatrick B, Miller BJ. Inflammation and schizophrenia. *Schizophr Bull* 2013;39(6):1174-9.

- Kosten, T. R. *et al.* (2018) 'Minocycline adjunctive treatment to risperidone for negative symptoms in schizophrenia : association with pro-inflammatory cytokine levels', *Progress in Neuropsychopharmacology & Biological Psychiatry*, p. #pagerange#. doi: 10.1016/j.pnpbp.2018.04.004.
- Kroken, R. A., Løberg, E. M., Drønen, T., Grüner, R., Hugdahl, K., Kompus, K., Skrede, S., & Johnsen, E. (2014). A critical review of pro-cognitive drug targets in psychosis: Convergence on myelination and inflammation. *Frontiers in Psychiatry*, 5(FEB), 1–13. <https://doi.org/10.3389/fpsy.2014.00011>
- Kusumawardhani, A.A.A., Dharmono, S., Diatri, H. (2011). Konsensus Skizofrenia. Perhimpunan Dokter Spesialis Kedokteran Jiwa Indonesia (PDSKJI)
- Leza, J. C. *et al.* (2015) 'Neuroscience and Biobehavioral Reviews Inflammation in schizophrenia : A question of balance', *Neuroscience and Biobehavioral Reviews*, 55, pp. 612–626. doi: 10.1016/j.neubiorev.2015.05.014.
- Li, R. *et al.* (2016) *Why sex differences in schizophrenia? HHS Public Access, J Transl Neurosci (Beijing)*.
- Liu, X. *et al.* (2013) "Melatonin mediates protective effects on inflammatory response induced by interleukin-1 beta in human mesenchymal stem cells," *Journal of Pineal Research*, 55(1), hal. 14–25. <https://doi.org/10.1111/jpi.12045>
- Lopez-Castejon, G., & Brough, D. (2011). Understanding the mechanism of IL-1 β secretion. *Cytokine and Growth Factor Reviews*, 22(4), 189–195. <https://doi.org/10.1016/j.cytogfr.2011.10.001>
- Lü, L. X., Guo, S. Q., Chen, W., Li, Q., Cheng, J., & Guo, J. H. (2004). Effect of clozapine and risperidone on serum cytokine levels in patients with first-episode paranoid schizophrenia. *Dì 1 jun yi da xue xue bao= Academic journal of the first medical college of PLA*, 24(11), 1251-1254.
- Luo, X., Zhang, Z., Zheng, Z., Qian Ye, M., Wang, J., Wu, Q., & Huang, G. (2022). Art therapy as an adjuvant treatment for schizophrenia. *Medicine*, 101.
- MacDowell, K. S., García-Bueno, B., Madrigal, J. L. M., Parellada, M., Arango, C., Micó, J. A., & Leza, J. C. (2013). Risperidone normalizes increased inflammatory parameters and restores anti-inflammatory

pathways in a model of neuroinflammation. *International Journal of Neuropsychopharmacology*, 16(1), 121–135.
<https://doi.org/10.1017/S1461145711001775>

Madaan, V. (2009). Risperidone: a review of efficacy studies in adolescents with schizophrenia. *Drugs of today* (Barcelona, Spain : 1998), 45(1), 55–62. <https://doi.org/10.1358/dot.2009.45.1.1315074>

Mahmoud, G. S., & El-Deek, H. E. (2019). Melatonin modulates inflammatory mediators and improves olanzapine-induced hepatic steatosis in rat model of schizophrenia. *International Journal of Physiology, Pathophysiology and Pharmacology*, 11(3), 64–75. <http://www.ncbi.nlm.nih.gov/pubmed/31333809%0Ahttp://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=PMC6628014>

Maiti, R., Mishra, B. R., Jena, M., Mishra, A., & Nath, S. (2021). Effect of haloperidol and risperidone on serum melatonin and GAP-43 in patients with schizophrenia: A prospective cohort study. *Clinical Psychopharmacology and Neuroscience*, 19(1), 125–134. <https://doi.org/10.9758/CPN.2021.19.1.125>

Marder, S. R., & Galderisi, S. (2017). The current conceptualization of negative symptoms in schizophrenia. *World Psychiatry*, 16(1), 14–24. <https://doi.org/10.1002/wps.20385>

McIntosh, A. M., Gow, A., Luciano, M., Davies, G., Liewald, D. C., Harris, S. E., Corley, J., Hall, J., Starr, J. M., Porteous, D. J., Tenesa, A., Visscher, P. M., & Deary, I. J. (2013). Polygenic risk for schizophrenia is associated with cognitive change between childhood and old age. *Biological Psychiatry*, 73(10), 938–943. <https://doi.org/10.1016/j.biopsych.2013.01.011>

McNeil, S., Gibbons, J., & Cogburn, M. (2022). Risperidone. StatPearls Publishing LLC.

Mediavilla, M. D., Reiter, R. J., & Emilio, J. S. (2011). Clinical Uses of Melatonin in Pediatrics. *International Journal Of Pediatrics*, 1–11. <https://doi.org/10.1155/2011/892624>

Messias, E. L., Chen, C. Y., & Eaton, W. W. (2007). Epidemiology of Schizophrenia: Review of Findings and Myths. *Psychiatric Clinics of North America*, 30(3), 323–338. <https://doi.org/10.1016/j.psc.2007.04.007>

Meyer et al., 2011. Inflammatory processes in schizophrenia: A promising neuroimmunological target for the treatment of negative/cognitive

symptoms and beyond. *Pharmacology & Therapeutics*.
<https://doi.org/10.1016/j.pharmthera.2011.06.003>

Mihardja, M. et al. (2020) "Therapeutic potential of neurogenesis and melatonin regulation in Alzheimer's disease," *Annals of the New York Academy of Sciences*, 1478(1), hal. 43–62.
<https://doi.org/10.1111/nyas.14436>

Miller, B., Buckley, P., Seabolt, W., Mellor, A., & Kirkpatrick, B. (2011). Meta-Analysis of Cytokine Alterations in Schizophrenia: Clinical Status and Antipsychotic Effects. *Biol Psychiatry*, 70, 663–671.
<https://doi.org/10.1016/j.biopsych.2011.04.013>

Modabbernia, A., Heidari, P., Soleimani, R., Sobhani, A., Roshan, Z. A., Taslimi, S., Ashrafi, M., & Modabbernia, M. J. (2014). Melatonin for prevention of metabolic side-effects of olanzapine in patients with first-episode schizophrenia: Randomized double-blind placebo-controlled study. *Journal of Psychiatric Research*, 53(1), 133–140.
<https://doi.org/10.1016/j.jpsychires.2014.02.013>

Momtazmanesh, S., Zare-shahabadi, A., & Rezaei, N. (2019). Cytokine Alterations in Schizophrenia : An Updated Review. 10(December), 1–12. <https://doi.org/10.3389/fpsy.2019.00892>

Monji, A., Kato, T. A., Mizoguchi, Y., Horikawa, H., Seki, Y., Kasai, M., Yamauchi, Y., Yamada, S., & Kanba, S. (2013). Neuroinflammation in schizophrenia especially focused on the role of microglia. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 42, 115–121.
<https://doi.org/10.1016/j.pnpbp.2011.12.002>

Müller et al., 2015. The role of inflammation in schizophrenia. *Frontiers in neuroscience*,9(oct). <https://doi.org/10.3389/fnins.2015.00372>

Müller, N. (2018). Inflammation in schizophrenia: Pathogenetic aspects and therapeutic considerations. *Schizophrenia Bulletin*, 44(5), 973–982.
<https://doi.org/10.1093/schbul/sby024>

Murray, A. J., Rogers, J. C., Katshu, M. Z. U. H., Liddle, P. F., & Uptegrove, R. (2021). Oxidative Stress and the Pathophysiology and Symptom Profile of Schizophrenia Spectrum Disorders. *Frontiers in Psychiatry*, 12(July), 1–16. <https://doi.org/10.3389/fpsy.2021.703452>

Na, K. S., Jung, H. Y., & Kim, Y. K. (2014). The role of pro-inflammatory cytokines in the neuroinflammation and neurogenesis of schizophrenia. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 48, 277–286.

<https://doi.org/10.1016/j.pnpbp.2012.10.022>

- Noto, C. S., Gadelha, A., Belangero, S. I., Smith, M. A. C., de Aguiar, B. W., Panizzuti, B., Mari, J. de J., Gama, C. S., Bressan, R. A., & Brietzke, E. (2011). Association of biomarkers and depressive symptoms in schizophrenia. *Neuroscience Letters*, 505(3), 282–285. <https://doi.org/10.1016/j.neulet.2011.10.042>
- Paprocka, J., Kijonka, M., & Sokół, M. (2018). Melatonin in Childhood Epilepsy and in Child Neurology. In *Melatonin - Molecular Biology, Clinical and Pharmaceutical Approaches* (pp. 123–141).
- Patel, K. R., Cherian, J., Gohil, K., & Atkinson, D. (2014). Schizophrenia: Overview and treatment options. *P and T*, 39(9), 638–645.
- Potes, Y., Cachán-Vega, C., Antuña, E., García-González, C., Menéndez-Coto, N., Boga, J. A., Gutiérrez-Rodríguez, J., Bermúdez, M., Sierra, V., Vega-Naredo, I., Coto-Montes, A., & Caballero, B. (2023). Benefits of the Neurogenic Potential of Melatonin for Treating Neurological and Neuropsychiatric Disorders. *International Journal of Molecular Sciences*, 24(5). <https://doi.org/10.3390/ijms24054803>
- Reale, M., Costantini, E., & Greig, N. H. (2021). Cytokine Imbalance in Schizophrenia. From Research to Clinic: Potential Implications for Treatment. *Frontiers in Psychiatry*, 12(March), 1–17. <https://doi.org/10.3389/fpsy.2021.536257>
- Réus, G. Z. *et al.* (2015) 'The role of inflammation and microglial activation in the pathophysiology of psychiatric disorders', *Neuroscience*, 300(May), pp. 141–154. doi: 10.1016/j.neuroscience.2015.05.018.
- Riskesdas (2018) "Riset Kesehatan Dasar Badan Penelitian dan Pengembangan Kesehatan Kementerian RI."
- Ropper, A. H., Marder, S. R., & Cannon, T. D. (2019). Schizophrenia. *NEJM Review Marder*. *N Engl J Med*, 18, 1753–1761. <https://doi.org/10.1056/NEJMra1808803>
- Sadock, B., Sadock, V., & Ruiz, P. (2015). Schizophrenia spectrum and other Psychotic Disorder. In *Kaplan & Sadock's Synopsis of Psychiatry Behavioural Sciences/Clinical Psychiatry* (11th ed., pp. 300–323). Lippincott Williams & Wilkins
- Saperstein, A. M., Fiszdon, J. M., & Bell, M. D. (2011). Intrinsic motivation as a predictor of work outcome after vocational rehabilitation in schizophrenia. *Journal of Nervous and Mental Disease*, 199(9), 672–677. <https://doi.org/10.1097/NMD.0b013e318229d0eb>

- Saxvig, I. W. et al. (2013) "Objective measures of sleep and dim light melatonin onset in adolescents and young adults with delayed sleep phase disorder compared to healthy controls," *Journal of Sleep Research*, 22(4), hal. 365–372. <https://doi.org/10.1111/jsr.12030>
- Saxvig, I. W., Wilhelmsen-Langeland, A., Pallesen, S., Vedaa, Ø., Nordhus, I. H., Sørensen, E., & Bjorvatn, B. (2013). Objective measures of sleep and dim light melatonin onset in adolescents and young adults with delayed sleep phase disorder compared to healthy controls. *Journal of Sleep Research*, 22(4), 365–372. <https://doi.org/10.1111/jsr.12030>
- Schmitt, A., Bertsch, T., Tost, H., Bergmann, A., Henning, U., Klimke, A., & Falkai, P. (2005). Increased serum interleukin-1 β and interleukin-6 in elderly, chronic schizophrenic patients on stable antipsychotic medication. *Neuropsychiatric Disease and Treatment*, 1(2), 171–177. <https://doi.org/10.2147/ndt.1.2.171.61048>
- Sinaga, B. R. (2007). Skizofrenia dan diagnosis banding. In Jakarta: Balai Penerbit FKUI. FKUI.
- Slominski, A. T. (2018) "Melatonin: A Cutaneous Perspective on Its Production, Metabolism, and Functions," *J Invest Dermatol*, 138(3), hal. 490–499. <https://doi.org/10.1016/j.jphysbeh.2017.03.040>.
- Song, X. Q., Lv, L. X., Li, W. Q., Hao, Y. H., & Zhao, J. P. (2009). The Interaction of Nuclear Factor-Kappa B and Cytokines Is Associated with Schizophrenia. *Biological Psychiatry*, 65(6), 481–488. <https://doi.org/10.1016/j.biopsych.2008.10.018>
- Song, X., Fan, X., Li, X., Zhang, W., Gao, J., Zhao, J., Harrington, A., Ziedonis, D., & Lv, L. (2013). Changes in pro-inflammatory cytokines and body weight during 6-month risperidone treatment in drug naïve, first-episode schizophrenia. *Psychopharmacology*, 231(2), 319–325. <https://doi.org/10.1007/s00213-013-3382-4>
- Srinivasan, V., Brzezinski, A., Oter, S., & Shillcutt, S. D. (2013). Melatonin and melatonergic drugs in clinical practice. In *Melatonin and Melatonergic Drugs in Clinical Practice*. <https://doi.org/10.1007/978-81-322-0825-9>
- Stephen M. Stahl. (2021). Stahl ' s Essential Psychopharmacology. Cambridge University Press
- Stępnicki, P., Kondej, M., & Kaczor, A. A. (2018). Current Concepts and Treatments of Schizophrenia. *Molecules (Basel, Switzerland)*, 23(8),

2087. <https://doi.org/10.3390/molecules23082087>

Tanra et al.,2022, Skizofrenia Dari Berbagai Aspek. Unhas press.

Tordjman, S., Chokron, S., Delorme, R., Charrier, A., Bellissant, E., Jaafari, N., & Fougrou, C. (2017). Send Orders for Reprints to reprints@benthamscience.ae Melatonin: Pharmacology, Functions and Therapeutic Benefits. *Current Neuropharmacology*, 15, 434–443. <https://doi.org/10.2174/1570159X14666161228122>

Trovão N., Prata J., Vondoellinger O., Santos S., Barbosa M., Coelho R. Peripheral biomarkers for first-episode psychosis-opportunities from the neuroinflammatory hypothesis of schizophrenia. *Psychiatry Investig.* 2019;16:177–184. <https://doi.org/10.30773/pi.2018.12.19.1>

Trovão, N., Prata, J., Vondoellinger, O., Santos, S., Barbosa, M., & Coelho, R. (2019). Peripheral biomarkers for first-episode psychosis-opportunities from the neuroinflammatory hypothesis of schizophrenia. *Psychiatry Investigation*, 16(3), 177–184. <https://doi.org/10.30773/pi.2018.12.19.1>

Tso, I. F., Fang, Y., Phan, K. L., Welsh, R. C., Taylor, S. F., Arbor, A., & Arbor, A. (2016). Abnormal GABAergic Function and Face Processing in Schizophrenia: A Pharmacologic-fMRI Study. *HHS Public Access*, 168(0), 338–344. <https://doi.org/10.1016/j.schres.2015.08.022.Abnormal>

Upthegrove and Khandaker, 2014. R. Upthegrove, N. Manzanares Teson, N.M. Barnes Cytokine function in medication-naive first episode psychosis: a systematic review and meta-analysis *Schizophr. Res.*, 155 (1–3) (2014), pp. 101-108

Vallée, A. (2022). Neuroinflammation in Schizophrenia: The Key Role of the WNT/ β -Catenin Pathway. *International Journal of Molecular Sciences*, 23(5). <https://doi.org/10.3390/ijms23052810>

van Os, J., & Kapur, S. (2009). Schizophrenia. *The Lancet*, 374(9690), 635–645. [https://doi.org/10.1016/S0140-6736\(09\)60995-8](https://doi.org/10.1016/S0140-6736(09)60995-8)

Veerman, S. R. T., Schulte, P. F. J., & De Haan, L. (2014). The glutamate hypothesis: A pathogenic pathway from which pharmacological interventions have emerged. *Pharmacopsychiatry*, 47(4–5), 121–130. <https://doi.org/10.1055/s-0034-1383657>

Wallace, T. L., & Bertrand, D. (2015). Neuronal $\alpha 7$ Nicotinic Receptors as a Target for the Treatment of Schizophrenia. In *International Review of Neurobiology* (1st ed., Vol. 124). Elsevier Inc.

<https://doi.org/10.1016/bs.irm.2015.08.003>

Watkins & Andrews, 2016. Clinical studies of neuroinflammatory mechanism in schizophrenia. *Schizophrenia research*, 176(1), 14-22. <https://doi.org/10.1016/j.schres.2015.07.018>

Weickert, T. W., Jacomb, I., Lenroot, R., Lappin, J., Weinberg, D., Brooks, W. S., Brown, D., Pellen, D., Kindler, J., Mohan, A., Wakefield, D., Lloyd, A. R., Stanton, C., O'Donnell, M., Liu, D., Galletly, C., & Shannon Weickert, C. (2023). Adjunctive canakinumab reduces peripheral inflammation markers and improves positive symptoms in people with schizophrenia and inflammation: A randomized control trial. *Brain, Behavior, and Immunity*, 115, 191–200. <https://doi.org/10.1016/j.bbi.2023.10.012>

Widyarti, E. P., Limantara, S., & Khatimah, H. (2019). Gambaran Faktor Prognosis Pada Pasien Skizofrenia Di Rumah Sakit Jiwa Sambang Lihum. *Homeostatis*, 2(3), 509–518.

Zamanpoor, M. (2020). Schizophrenia in a genomic era: A review from the pathogenesis, genetic and environmental etiology to diagnosis and treatment insights. *Psychiatric Genetics*, 1–9. <https://doi.org/10.1097/YPG.0000000000000245>

Zhu, F., Zhang, L., Liu, F., Wu, R., Guo, W., Ou, J., Zhang, X., & Zhao, J. (2018). Altered serum tumor necrosis factor and interleukin-1 β in first-episode drug-naive and chronic schizophrenia. *Frontiers in Neuroscience*, 12(MAY), 1–6. <https://doi.org/10.3389/fnins.2018.00296>

Lampiran 1: Formulir Inform Consent

Setelah membaca informasi penelitian dan menyadari pentingnya penelitian : **“PENGARUH PEMBERIAN ADJUVANT TERAPI MELATONIN TERHADAP PERBAIKAN GEJALA KLINIS & NILAI IL-1 β PADA PASIEN SKIZOFRENIA”**

Maka saya yang bertanda tangan dibawah ini:

Nama :
Umur :
Jenis Kelamin :
Pekerjaan :
Alamat :

Saya bersedia untuk melakukan **pengisian kuesioner** dengan data yang sebenar- benarnya dan **berpartisipasi** dalam penelitian. Saya mengerti sepenuhnya data yang diambil tidak akan mempengaruhi kondisi kesehatan saya dan hal ini semata – mata dilakukan untuk kepentingan penelitian serta tidak akan disalahgunakan. Saya mengetahui bahwa saya berhak untuk menolak ikut serta dalam penelitian ini. Semua efek samping yang terjadi sehubungan dengan penelitian ini, biaya kompensasi perawatannya akan ditanggung oleh peneliti.

Demikian persetujuan ini saya buat dengan penuh kesadaran tanpa paksaan.

Makassar,.....2023

Pelaksana Penelitian

Responden

(dr. Ottorian Palinggi)

(.....)

Lampiran 2 : PANSS

THE POSITIVE AND NEGATIVE SYNDROME SCALE (PANSS)

Nama :

Umur :

Gejala Positif (P)

Gejala	1	2	3	4	5	6	7
P1. Waham							
P2. Kekacauan proses pikir							
P3. Halusinasi							
P4. Gaduh gelisah							
P5. Waham kebesaran							
P6. Kecurigaan atau kejaran							
P7. Permusuhan							

Gejala Negatif (N)

Gejala	1	2	3	4	5	6	7
N1. Afek tumpul							
N2. Penarikan emosi							
N3. Kemiskinan <i>rapport</i>							
N4. Penarikan diri							
N5. Pemikiran abstrak							
N6. Spontanitas dan arus percakapan							
N7. Pemikiran stereotipik							

Skala Psikopatologi Umum (G)

Gejala	1	2	3	4	5	6	7
G1. Kekhawatiran somatik							
G2. Ansietas							
G3. Rasa bersalah							
G4. Ketegangan							
G5. Manerisme dan sikap tubuh							
G6. Depresi							
G7. Retardasi motorik							
G8. Ketidakkoperatipan							
G9. Isi pikiran yang tidak biasa							
G10. Disorientasi							
G11. Perhatian buruk							
G12. Kurangnya daya nilai dan tilikan							
G13. Gangguan dorongan kehendak							
G14. Pengendalian impuls yg buruk							
G15. Preokupasi							
G16. Penghindaran sosial secara aktif							

Keterangan :

- Nilai 1 : Tidak ada gejala
- Nilai 2 : Gejala minimal, gejalanya masih diragukan keberadaannya, atau masih cenderung tampak normal.
- Nilai 3 : Gejala ringan, keberadaan gejala yang jelas, tetapi tidak terlalu berpengaruh pada fungsi keseharian.
- Nilai 4 : Gejala sedang, adanya gejala yang menimbulkan masalah serius sehingga kadang-kadang cukup mengganggu aktivitas keseharian.
- Nilai 5 : Gejala agak berat, manifestasi gejala bermakna yang mempengaruhi fungsi seseorang, tetapi tidak keseluruhan hidup, dan masih dapat diatasi.
- Nilai 6 : Gejala berat, psikopatologi yang berat dan frekuensinya sering, sangat mengganggu kehidupan seseorang dan selalu membutuhkan pengawasan langsung.
- Nilai 7 : Gejala sangat berat, merujuk pada psikopatologi dengan level serius sangat mempengaruhi hampir seluruh fungsi kehidupan sehingga membutuhkan pengawasan ketat.

Lampiran 3 : Persetujuan Etik Penelitian



KEMENTERIAN PENDIDIKAN, KEBUDAYAAN, RISET DAN TEKNOLOGI
 UNIVERSITAS HASANUDDIN FAKULTAS KEDOKTERAN
 KOMITE ETIK PENELITIAN UNIVERSITAS HASANUDDIN
 RSPTN UNIVERSITAS HASANUDDIN
 RSUP Dr. WAHIDIN SUDIROHUSODO MAKASSAR
 Sekretariat : Lantai 2 Gedung Laboratorium Terpadu
 JL.PERINTIS KEMERDEKAAN KAMPUS TAMALANREA KM.10 MAKASSAR 90245.
 Contact Person: dr. Agussalim Bukhari, MMed, PhD, SpGK. TELP. 081241850858, 0411 5780103, Fax : 0411-581431



REKOMENDASI PERSETUJUAN ETIK

Nomor : 478/UN4.6.4.5.31/ PP36/ 2023

Tanggal: 12 Juli 2023

Dengan ini Menyatakan bahwa Protokol dan Dokumen yang Berhubungan Dengan Protokol berikut ini telah mendapatkan Persetujuan Etik :

No Protokol	UH23060366		No Sponsor	
Peneliti Utama	dr. Ottorian Palinggi		Sponsor	
Judul Peneliti	Pengaruh Pemberian Adjuvant Terapi Melatonin Terhadap Perbaikan Gejala Klinis Dan Kadar IL-1 β Pada Pasien Skizofrenia Yang Mendapatkan Terapi Risperidone			
No Versi Protokol	1	Tanggal Versi	4 Juni 2023	
No Versi PSP	1	Tanggal Versi	4 Juni 2023	
Tempat Penelitian	RSKD Provinsi Sulawesi Selatan			
Jenis Review	<input type="checkbox"/> Exempted <input type="checkbox"/> Expedited <input checked="" type="checkbox"/> Fullboard Tanggal 12 Juli 2023		Masa Berlaku 12 Juli 2023 sampai 12 Juli 2024	Frekuensi review lanjutan
Ketua KEP Universitas Hasanuddin	Nama Prof.Dr.dr. Suryani As'ad, M.Sc.,Sp.GK (K)	Tanda tangan		
Sekretaris KEP Universitas Hasanuddin	Nama dr. Agussalim Bukhari, M.Med.,Ph.D.,Sp.GK (K)	Tanda tangan		

Kewajiban Peneliti Utama:

- Menyerahkan Amandemen Protokol untuk persetujuan sebelum di implementasikan
- Menyerahkan Laporan SAE ke Komisi Etik dalam 24 Jam dan dilengkapi dalam 7 hari dan Lapo SUSAR dalam 72 Jam setelah Peneliti Utama menerima laporan
- Menyerahkan Laporan Kemajuan (progress report) setiap 6 bulan untuk penelitian resiko tinggi dan setiap setahun untuk penelitian resiko rendah
- Menyerahkan laporan akhir setelah Penelitian berakhir
- Melaporkan penyimpangan dari prokol yang disetujui (protocol deviation / violation)
- Mematuhi semua peraturan yang ditentukan

Lampiran 4 : Izin Melakukan Penelitian



KEMENTERIAN PENDIDIKAN, KEBUDAYAAN,
RISET, DAN TEKNOLOGI
UNIVERSITAS HASANUDDIN
FAKULTAS KEDOKTERAN
PROGRAM STUDI SPESIALIS KEDOKTERAN JIWA
Jl. Perintis Kemerdekaan Km. 11, Makassar, Rumah Sakit Unhas Gedung A Lantai V
Email : psychiatry.fkuh@gmail.com

SURAT PERSETUJUAN ATASAN No : 9192/UN.4.6.8/PT.01.04/2023

Yang bertanda tangan di bawah ini

Nama Lengkap : Dr. dr. Saidah Syamsuddin, SpKJ
NIP : 19700114 200112 2 001
Jabatan : Ketua Program Studi Ilmu Kedokteran Jiwa
Fakultas Kedokteran Universitas Hasanuddin

Sebagai atasan dari :

Nama : dr. Ottorian Palinggi
NIM : C065192004
Pekerjaan : Mahasiswa Program Pendidikan Spesialis Kedokteran Jiwa
Fakultas Kedokteran Universitas Hasanuddin

Menyatakan menyetujui yang bersangkutan melakukan penelitian dengan judul :

“Pengaruh Pemberian Adjuvant Terapi Melatonin Terhadap Perbaikan Gejala Klinis dan Kadar IL-1 β Pada pasien Skizofrenia Yang Mendapatkan Terapi Risperidone”

Makassar, 12 April 2023

Ketua Program Studi

Dr. dr. Saidah Syamsuddin, Sp.KJ
NIP 197001142001122001

Lampiran 5 : Izin Melakukan Penelitian RSKD Dadi



PEMERINTAH PROVINSI SULAWESI SELATAN
DINAS PENANAMAN MODAL DAN PELAYANAN TERPADU SATU PINTU

Jl. Bougenville No.5 Telp. (0411) 441077 Fax. (0411) 448936
Website : <http://simap-new.sulselprov.go.id> Email : ptsp@sulselprov.go.id
Makassar 90231

Nomor : 17709/S.01/PTSP/2023
Lampiran : -
Perihal : Izin penelitian

Kepada Yth.
Direktur Rumah Sakit Khusus Daerah
DADI Prov. Sulsel

di-
Tempat

Berdasarkan surat Ketua Prog. Studi Ilmu Kedokteran Jiwa Fak. Kedokteran UNHAS Makassar Nomor : 9193/UN4.6.8/PT.01.04/2023 tanggal 12 April 2023 perihal tersebut diatas, mahasiswa/peneliti dibawah ini:

Nama : DR. OTTORIAN PALINGGI
Nomor Pokok : C065192004
Program Studi : Ilmu Kedokteran Jiwa
Pekerjaan/Lembaga : Mahasiswa (S2)
Alamat : Jl. P. Kemerdekaan Km,. 10 Makassar

PROVINSI SULAWESI SELATAN

Bermaksud untuk melakukan penelitian di daerah/kantor saudara dalam rangka menyusun Tesis, dengan judul :

" PENGARUH PEMBERIAN ADJUVANT TERAPI MELATONIN TERHADAP PERBAIKAN GEJALA KLINIS & NILAI IL-1? PADA PASIEN SKIZOFRENIA YANG MENDAPATKAN TERAPI RISPERIDONE "

Yang akan dilaksanakan dari : Tgl. *01 Juni s/d 01 September 2022*

Sehubungan dengan hal tersebut diatas, pada prinsipnya kami *menyetujui* kegiatan dimaksud dengan ketentuan yang tertera di belakang surat izin penelitian.

Demikian Surat Keterangan ini diberikan agar dipergunakan sebagaimana mestinya.

Diterbitkan di Makassar
Pada Tanggal 26 Mei 2023

A.n. GUBERNUR SULAWESI SELATAN
PLT. KEPALA DINAS PENANAMAN MODAL DAN PELAYANAN TERPADU
SATU PINTU PROVINSI SULAWESI SELATAN



Drs. MUH SALEH, M.Si.
Pangkat : PEMBINA UTAMA MUDA
Nip : 19690717 199112 1002

Tembusan Yth

1. Ketua Prog. Studi Ilmu Kedokteran Jiwa Fak. Kedokteran UNHAS Makassar di Makassar;
2. *Pertinggal.*

Lampiran 6 : Surat Keterangan Selesai Pengambilan Data

	ADMINISTRASI	FORMULIR 2
	Nomor : 557/12/FR2/2023	Tanggal : 14 Desember 2023
SURAT KETERANGAN SELESAI PENGAMBILAN DATA/ ANALISA BAHAN HAYATI		

Dengan hormat,

Dengan ini menerangkan bahwa peneliti/mahasiswa berikut ini :

Nama : Ottorian Palinggi
NIM : C065192005
Institusi : Dept. Ilmu Kedokteran Jiwa Fakultas Kedokteran UNHAS
Judul Penelitian : Pengaruh Pemberian Adjuvan Terapi Melatonin Terhadap Perbaikan Gejala Klinis dan Kadar Interleukin 1 Beta Pasien Skizofrenia yang Mendapat Terapi Risperidone

Telah selesai melakukan pengambilan data/ analisa bahan hayati :

Pada tanggal : 26 September 2023
Jumlah subjek : ± 22 sampel
Jenis data : Data Primer

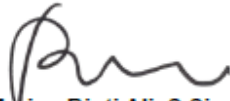
Dengan staf pendamping/pembimbing :

Nama : Marina Binti Ali, S.Si
Konsultan : -

Surat keterangan ini juga merupakan penjelasan bahwa peneliti/mahasiswa diatas tidak mempunyai sangkutan lagi pada unit/laboratorium kami.

Demikian surat ini dibuat untuk dipergunakan sebagaimana mestinya.

Pendamping/Pembimbing


Marina Binti Ali, S.Si
NIP

Mengetahui,
Kepala Laboratorium

HUM-RC
science for a better future
dr. Rusdina Bte Ladju, Ph.D
NIP 198108302012122002

Lampiran 7 : Dokumentasi Penelitian





BIODATA PENULIS

A. Data Pribadi

- Nama Lengkap : Ottorian Palinggi, dr.
- Tempat, tanggal lahir : Rantepao, 08 Oktober 1985
- Jenis Kelamin : Laki-Laki
- NIK : 7326150810850001
- Status Perkawinan : Belum Menikah
- Agama : Kristen Protestan
- Hobi : Berenang
- Alamat : Perumahan BTP Blok A No. 213
Makassar
- No. HP : 081342298327
- Email : rian.gbu@gmail.com

B. Riwayat Pendidikan

Pendidikan Formal :

- SD V Kristen 5 Rantepao (1991 - 1997)
- SMP Negeri 2 – Rantepao (1997 - 2000)
- SMA Negeri 2 – Rantepao (2000 - 2003)
- Fakultas Kedokteran UNHAS Makassar (2004 - 2009)
- Program Pendidikan Dokter Spesialis (Januari 2020 - sekarang)
(PPDS) I Prodi Kedokteran Jiwa, FK UNHAS

C. Riwayat Pekerjaan

- Dokter di UPK Puskesmas Tombang Kalua' (2011-2013)
- Dokter di UPK Puskesmas Buntao' (2013-2017)
- Dokter di UPK Puskesmas Tondon (2017-2019)

D. Makalah pada Seminar / Konferensi Ilmiah Nasional & Internasional

1. Hubungan Antara Kepatuhan Minum Obat Dengan Gejala Klinis Pasien Skizofrenia Di Poliklinik Jiwa RSKD Propinsi Sulawesi Selatan (Presentasi E-Poster PIT VII PDSKJI SUMUT, tanggal 7 Agustus 2022).
2. Pengaruh Pemberian Terapi Adjuvan Melatonin Terhadap Kadar IL-1 β Serum Dan Perbaikan Gejala Klinis Pada Pasien Skizofrenia Yang Mendapatkan Terapi Risperidone (Presentasi Oral pada Pertemuan Ilmiah Berkala Ke-22 Dalam Rangka Dies Natalis Fakultas Kedokteran UNHAS Ke 68, tanggal 26 Januari 2024)