

Daftar Pustaka

1. Coupland AP, Thapar A, Qureshi MI, Jenkins H, Davies AH. The definition of stroke. *J R Soc Med*. 2017;110(1):9–12.
2. Sacco RL, Kasner SE, Broderick JP, Caplan LR, Connors JJB, Culebras A, et al. An updated definition of stroke for the 21st century: a statement for healthcare professionals from the American Heart Association/American Stroke Association. *Stroke*. 2013 Jul;44(7):2064–89.
3. Hui C, Tadi P, Patti L. Ischemic Stroke. *StatPearls* [Internet]. 2022 May 1 [cited 2022 Jun 5];1–14. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK499997/>
4. Donkor ES. Stroke in the 21st Century: A Snapshot of the Burden, Epidemiology, and Quality of Life. *Stroke Res Treat* [Internet]. 2018 [cited 2022 Jun 10];2018. Available from: </pmc/articles/PMC6288566/>
5. Feigin VL, Stark BA, Johnson CO, Roth GA, Bisignano C, Abady GG, et al. Global, regional, and national burden of stroke and its risk factors, 1990-2019: A systematic analysis for the Global Burden of Disease Study 2019. *Lancet Neurol* [Internet]. 2021 Oct 1 [cited 2022 Jun 10];20(10):1–26. Available from: <http://www.thelancet.com/article/S1474442221002520/fulltext>
6. Venketasubramanian N, Yoon BW, Pandian J, Navarro JC. Stroke Epidemiology in South, East, and South-East Asia: A Review. *J Stroke* [Internet]. 2017 Sep 1 [cited 2022 Jun 10];19(3):286. Available from: </pmc/articles/PMC5647629/>
7. Kuriakose D, Xiao Z. Pathophysiology and Treatment of Stroke: Present Status and Future Perspectives. *Int J Mol Sci* [Internet]. 2020 Oct 2 [cited 2022 Jun 5];21(20):1–24. Available from: </pmc/articles/PMC7589849/>
8. Nair R, Maseeh A. Vitamin D: The “sunshine” vitamin. *J Pharmacol Pharmacother* [Internet]. 2012 Apr [cited 2022 Jun 9];3(2):118. Available from: </pmc/articles/PMC3356951/>

9. Wrzosek M, Lukaszkiwicz J, Wrzosek M, Jakubczyk A, Matsumoto H, Piatkiewicz P, et al. Vitamin D and the central nervous system. *Pharmacol Rep* [Internet]. 2013 [cited 2022 Jun 9];65(2):271–8. Available from: <https://pubmed.ncbi.nlm.nih.gov/23744412/>
10. Pilz S, Tomaschitz A, Drechsler C, Zittermann A, M. Dekker J, Marz W. Vitamin D supplementation: a promising approach for the prevention and treatment of strokes. *Curr Drug Targets* [Internet]. 2011 Dec 10 [cited 2022 Jun 9];12(1):88–96. Available from: <https://pubmed.ncbi.nlm.nih.gov/20795935/>
11. Caplan, L., Biller, J., Leary, M., Lo, E., Thomas, A., Yenari, M., 2017. *Primer on Cerebrovascular Disease*, 2 nd. ed. Elsevier, London.
12. Moretti R, Morelli ME, Caruso P. Vitamin D in Neurological Diseases: A Rationale for a Pathogenic Impact. *Int J Mol Sci* [Internet]. 2018 Jul 31 [cited 2022 Jun 9];19(8). Available from: </pmc/articles/PMC6121649/>
13. Yarlagadda K, Ma N, Doré S. Vitamin D and Stroke: Effects on Incidence, Severity, and Outcome and the Potential Benefits of Supplementation. *Front Neurol* [Internet]. 2020;11. Available from: <https://www.frontiersin.org/article/10.3389/fneur.2020.00384>
14. Perez, A., Casas, S., Tourreilles, M., Gonzales, C., Gimenez, J., Cabrera, L., 2016. Neutrophils/Lymphocytes Ratio and Platelets/Lymphocytes Ratio and Its Relationship with Severity and Functional Prognosis in Patients with Acute Ischemic Stroke. *Neurology* 86, 5235.
15. Chapman, K., Dale, V., Denes, A., Benett, G., Rothwell, N., Allan, S., Mccoll, B., 2009. A rapid and transient peripheral inflammatory response precedes brain inflammation after experimental stroke. *Journal of cerebral blood flow & metabolism* 29, 1764–1768.
16. Chamorro, A., Meisel, A., Planas, A., Urra, X., Van de Beek, D., 2012. The immunology of acute stroke. *Nat Rev Neurol* 8, 401–402.
17. Aninditha, T., Wiratman, W., 2017. *Buku Ajar Neurologi*, 1 st. ed. Departemen Neurologi Fakultas Kedokteran Universitas Indonesia, Jakarta.

18. Strecker, J.-K., Schmidt, A., Schabitz, W.R., Minnerup, Jens, 2016. Neutrophil granulocytes in cerebral ischemia e Evolution from killers to key players. *Neuint* 107, 117–126.
19. De Meyer, S., Denorme, F., Langhauser, F., Geuss, E., Fluri, F., Kleinschnitz, 2016. Thromboinflammation in Stroke Brain Damage. *Stroke* 47, 1165–1172.
20. Song, S.Y., Zhao, X.X., Rajah, G., Hua, C., Kang, R.J., 2019. Clinical Significance of Baseline Neutrophil-to-Lymphocyte Ratio in Patients With Ischemic Stroke or Hemorrhagic Stroke: An Updated Meta-Analysis. *Frontier* 10, 1032.
21. Allen L, Hasso A, *et al.* (2012) 'Sequence-specific MR Imaging Finding That Are Usefull in Dating Ischemic Stroke', *Radiographics.rsna*, pp. 1297-1299.
22. Boehme AK, Esenwa C, Elkind MS V, Fisher M, Iadecola C, Sacco R. Stroke Risk Factors, Genetics, and Prevention. *Circ Res* [Internet]. 2017 Feb 3 [cited 2022 Jun 5];120(3):472–95. Available from: <https://www.ahajournals.org/doi/abs/10.1161/CIRCRESAHA.116.308398>
23. Wu, L., Wang, C., Tan, X., Yu, M., 2019. Neutrophil-to-lymphocyte and platelet-to-lymphocyte ratio in Chinese Han population from Chaoshan region in South China. *BMC Cardiovasc Disord* 19, 125.
24. Chugh C. Acute Ischemic Stroke: Management Approach. *Indian J Crit Care Med* [Internet]. 2019 [cited 2022 Jun 5];23(Suppl 2):S140. Available from: </pmc/articles/PMC6707502/>
25. Campbell BCV, De Silva DA, Macleod MR, Coutts SB, Schwamm LH, Davis SM, *et al.* Ischaemic stroke. *Nat Rev Dis Prim* [Internet]. 2019;5(1). Available from: <http://dx.doi.org/10.1038/s41572-019-0118-8>
26. Zera K, Buckwalter M. The Local and Peripheral immune Responses to Stroke: Implication for Therapeutic Development. 2020
27. Yew KS, Cheng EM. Diagnosis of acute stroke. *Am Fam Physician*. 2015 Apr;91(8):528–36.

28. Verdoia M, Schaffer A, *et al.* (2015) 'Impact of gender difference on vitamin D status and its relationship with the extent of coronary artery disease', *Nutrition, Metabolism & Cardiovascular Diseases*, PII: S0939-4753(15)00027-7. DOI: 10.1016/j.numecd.2015.01.009
29. Montemayor L, Castillo E, *et al.* (2017) 'Seasonal Variation in Vitamin D in Association with Age, Inflammatory Cytokines, Anthropometric Parameters, and Lifestyle Factors in Older Adults', *Hindawi*, Volume 2017, 14 pages. <https://doi.org/10.1155/2017/5719461>
30. Chalos V, van der Ende NAM, Lingsma HF, Mulder MJHL, Venema E, Dijkland SA, *et al.* National Institutes of Health Stroke Scale: An Alternative Primary Outcome Measure for Trials of Acute Treatment for Ischemic Stroke. *Stroke* [Internet]. 2020 Jan 1 [cited 2022 Jun 6];51(1):282–90. Available from: <https://www.ahajournals.org/doi/abs/10.1161/STROKEAHA.119.026791>
31. Ramasamy, I. (2020) 'Vitamin D Metabolism and Guidelines for Vitamin D Supplementation', *Clinical Biochemist Reviews*, 41(3), pp. 93–102. doi: 10.33176/AACB-20-00006.
32. Zadeh T, *et al.* Supplementation of High Dose Vitamin d in Adolescent Girl. 2017
33. Lappe JM, Travers-Gustafson D, Davies KM, Recker RR, Heaney RP. Vitamin D and calcium supplementation reduces cancer risk: results of a randomized trial. *Am J Clin Nutr* [Internet]. 2007 Jun 1 [cited 2022 Jun 9];85(6):1586–91. Available from: <https://pubmed.ncbi.nlm.nih.gov/17556697/>
34. Vitamin D: A Rapid Review [Internet]. [cited 2022 Jun 9]. Available from: https://www.medscape.com/viewarticle/589256_10
35. Lips P, Hosking D, Lippuner K, Norquist JM, Wehren L, Maalouf G, *et al.* The prevalence of vitamin D inadequacy amongst women with osteoporosis: an international epidemiological investigation. *J Intern Med* [Internet]. 2006 Sep [cited 2022 Jun 9];260(3):245–54. Available from: <https://pubmed.ncbi.nlm.nih.gov/16918822/>

36. Lefevre ML, Siu AL, Bibbins-Domingo K, Baumann LC, Curry SJ, Davidson KW, et al. Screening for vitamin D deficiency in adults: U.S. Preventive services task force recommendation statement. *Ann Intern Med.* 2015 Jan 20;162(2):133–40.
37. Huang Y, Fu L, Yang Y. Age-Related Vitamin D Deficiency Is Associated with the Immune Response in Children with Community-Acquired Pneumonia. 2017
38. Holick MF, Chen TC. Vitamin D deficiency: a worldwide problem with health consequences. *Am J Clin Nutr [Internet].* 2008 Apr 1 [cited 2022 Jun 9];87(4). Available from: <https://pubmed.ncbi.nlm.nih.gov/18400738/>
39. Gil A, Plaza-Diaz J, Mesa MD. Vitamin D: Classic and Novel Actions. *Ann Nutr Metab [Internet].* 2018;72(2):87–95. Available from: <https://www.karger.com/DOI/10.1159/000486536>
40. Kim, H. A. *et al.* (2020) 'Vitamin D deficiency and the risk of cerebrovascular disease', *Antioxidants*, 9(4), pp. 1–22. doi: 10.3390/antiox9040327.
41. Christakos S, Dhawan P, Verstuyf A, Verlinden L, Carmeliet G. Vitamin D: Metabolism, Molecular Mechanism of Action, and Pleiotropic Effects. *Physiol Rev [Internet].* 2016 Dec 16 [cited 2022 Jun 9];96(1):365–408. Available from: <https://pubmed.ncbi.nlm.nih.gov/26681795/>
42. Orme RP, Middleditch C, Waite L, Fricker RA. The Role of Vitamin D₃ in the Development and Neuroprotection of Midbrain Dopamine Neurons. *Vitam Horm [Internet].* 2016 [cited 2022 Jun 9];100:273–97. Available from: <https://pubmed.ncbi.nlm.nih.gov/26827956/>
43. DeLuca HF. Vitamin D: Historical Overview. *Vitam Horm [Internet].* 2016 [cited 2022 Jun 9];100:1–20. Available from: <https://pubmed.ncbi.nlm.nih.gov/26827946/>
44. Holick MF, Binkley NC, Bischoff-Ferrari HA, Gordon CM, Hanley DA, Heaney RP, et al. Evaluation, treatment, and prevention of vitamin D deficiency: an Endocrine Society clinical practice guideline. *J Clin Endocrinol Metab.* 2011 Jul;96(7):1911–30.

45. Spiro A, Buttriss JL. Vitamin D: An overview of vitamin D status and intake in Europe. *Nutr Bull* [Internet]. 2014 Dec 1 [cited 2022 Jun 9];39(4):322. Available from: [/pmc/articles/PMC4288313/](#)
46. Del Valle HB, Yaktine AL, Taylor CL, Ross AC. Dietary reference intakes for calcium and vitamin D. 2011;
47. Sizar O, Khare S, Goyal A, Givler A. Vitamin D Deficiency. *Endocrinol Diabetes A Probl Approach* [Internet]. 2022 May 1 [cited 2022 Jun 9];9781461486848:293–304. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK532266/>
48. Green TJ, Skeaff CM, Rockell JEP, Venn BJ, Lambert A, Todd J, et al. Vitamin D status and its association with parathyroid hormone concentrations in women of child-bearing age living in Jakarta and Kuala Lumpur. *Eur J Clin Nutr* [Internet]. 2008 Mar [cited 2022 Jun 9];62(3):373–8. Available from: <https://pubmed.ncbi.nlm.nih.gov/17342165/>
49. Holick MF. VITAMIN D STATUS: MEASUREMENT, INTERPRETATION AND CLINICAL APPLICATION. *Ann Epidemiol* [Internet]. 2009 Feb [cited 2022 Jun 9];19(2):73. Available from: [/pmc/articles/PMC2665033/](#)
50. Park KY, Chung PW, Kim YB, Moon HS, Suh BC, Won YS, et al. Serum Vitamin D Status as a Predictor of Prognosis in Patients with Acute Ischemic Stroke. *Cerebrovasc Dis* [Internet]. 2015 Aug 20 [cited 2022 Jun 9];40(1–2):73–80. Available from: <https://www.karger.com/Article/FullText/434691>
51. Narasimhan S, Balasubramanian P. Role of Vitamin D in the Outcome of Ischemic Stroke- A Randomized Controlled Trial. *J Clin Diagn Res* [Internet]. 2017 [cited 2022 Jun 9];11(2):CC06. Available from: [/pmc/articles/PMC5376887/](#)
52. Rezaei O, Ramezani M, Roozbeh M, Fazeli B, Hajjesmaeili M, Pakdaman H, et al. Does vitamin D administration play a role in outcome of patients with acute ischemic stroke? A randomized controlled trial. *Curr J Neurol* [Internet]. 2021 Jan 1 [cited 2022 Jun 9];20(1):8. Available from: [/pmc/articles/PMC8511603/](#)

53. Chen H, Liu Y, Huang G, Zhu J, Feng W, He J. Association between vitamin D status and cognitive impairment in acute ischemic stroke patients: A prospective cohort study. *Clin Interv Aging*. 2018;13:2503–9.
54. Akbas E, Gungor A, Ozcicek A, et al. Vitamin D and Inflammation : evaluation with Neutrophil to Lymphocyte ratio and Platelet to Lymphocyte ratio. Department of Internal Medicine , Division of Endocrinology , Erzican University, Turkey, 20116 ; 12,4 : 721-727
- 55.. Wang Yang S, Shen T, Xi L, et all. Vitamin D affects neutrophil to lymphocyte ratio with type 2 diabetes mellitus. Department of Geriatrics, Shanghai Xuhui Central Hospital, 2018.
56. Huang G, cheng H, Wu Y, et al. Reduced Vitamin D Levels are Associated with Stroke -Associated Pneumonia inPatients with Acute Ischemic Stroke. Department of Neurology, hospital of Wenzhou, Medical University, China. 2019.
57. Wang Q, Zhu Z, Liu Y, et al. Relationship between serum vitamin D Levels and Inflammatory markers in acute stroke patients. Departement of Neurology, hospital Wenzhou, Zhejiang China. 2015
58. Dziedzic E, Gasior J, tuzimek A, et al. Neutrofil to Lymphocyte Ratio is Not Associated with Severity of coronary Artery Disease and Is Not Correlated with Vitamin D level in Patients with a History of an Acute coronary Syndrome. 2017
- 59 Johnson K, *et al.* (2012) 'Impact of gender on vitamin D deficiency in morbidly obese patients: a cross-sectional study', *European Journal of Clinical Nutrition* 66, 83–90
- 60 Kiran S. (2012) 'What Is The Nature of Poststroke Language Recovery and Reorganization?', *International Scholarly Research Network Neurology*, volume 2012, 13 pages. Doi: 10.5402/2012/786872.

LAMPIRAN

TABEL KADAR VITAMIN D SERUM

Result	1	2	3	4	5	6	7	8	9	10
A		14,9878	13,8934	12,6138	13,2661	27,1873	23,4809	35,6329	38,9850	28,8886
B		14,7985	13,5038	20,6079	19,8807	10,8369	11,3073	19,2149	20,1639	29,5958
C		14,7528	15,6119	26,7706	27,3079	21,9930	22,8668	12,7251	12,9366	27,3887
D		27,6228	24,7710	28,4050	29,5733	16,2161	16,0013	40,4510	45,6003	57,0418
E		29,1841	28,9866	26,9283	26,1039	45,7724	32,2686	28,5008	28,2251	15,6708
F		19,9838	21,2393	13,3171	13,6594	15,3258	15,9194	18,8168	22,6665	20,7511
G	62,4309	21,6652	23,1673	11,8219	11,4880	24,3314	20,9827	15,7622	16,8142	18,7396
H	9,9594	19,4274	21,4324	49,6711	51,1885	13,6547	14,1162	12,3716	13,7927	31,8790