

DAFTAR PUSTAKA

- Abbas, A. K., Lichtman, A. H., & Pillai, S. (2007). *Cellular and Molecular Immunology*. (6th Edition). Philadelphia: Elsevier-Saunders.
- Aleem, A., Samad, A. B., & Slenker, A. K. (2022). *Emerging Variants of SARS-CoV-2 And Novel Therapeutics Against Coronavirus (COVID-19)*. Treasure Island (FL): StatPearls Publishing.
- Armstrong RA, Kane AD, Kursumovic E, Oglesby FC, Cook TM. Mortality in patients admitted to intensive care with COVID-19: an updated systematic review and meta-analysis of observational studies. *Anaesthesia*. 2021 Apr;76(4):537-548. doi: 10.1111/anae.15425. Epub 2021 Feb 1. PMID: 33525063; PMCID: PMC8013495.
- Aslan, A., Aslan, C., Zolbanin, N. M., & Jafari, R. (2021). Acute respiratory distress syndrome in COVID-19: possible mechanisms and therapeutic management. *Pneumonia*, 13(1), 1-15.
- Atkins MB. (2002). Interleukin-2: clinical applications. *Semin Oncol*; 29: Suppl 7: 12-7.
- Baden, L. R. Sahly, H. M. E., Essink, B., Kotloff, K., Frey, S., Novak, R. *et al.* (2021). Efficacy and safety of the mRNA-1273 SARS-CoV-2 vaccine. *N. Engl. J. Med.* 384, 403–416
- Bellou, V., Tzoulaki, I., van Smeden, M., Moons, K. G., Evangelou, E., & Belbasis, L. (2022). Prognostic factors for adverse outcomes in patients with COVID-19: a field-wide systematic review and meta-analysis. *Eur J Respir*, 59(2): 2002964.
- Bhardwaj, A., Sapra, L., Saini, C., Azam, Z., Mishra, P. K., Verma, B., & Srivastava, R. K. (2022). COVID-19: immunology, immunopathogenesis and potential therapies. *International reviews of immunology*, 41(2), 171-206.
- Botta, M., Tsonas, A. M., Pillay, J., Boers, L. S., Algera, A. G., Bos, L. D. *et al.* (2021). Ventilation management and clinical outcomes in invasively ventilated patients with COVID-19 (PRoVENT-COVID): a national, multicentre, observational cohort study. *Lancet Respir Med*, 9: 139–48.
- Burhan, E., Susanto, A. D., Isbaniah, F., Nasution, S. A., Ginanjar, E., Pitoyo, C. W. *et al.* (2022). *Pedoman Tatalaksana COVID-19 Edisi 4*. Jakarta: Diterbitkan bersama oleh PDPI, PERKI, PAPDI, PERDATIN, IDAI.
- Cevik, M., Bamford, C. C., & Ho, A. (2020). COVID-19 pandemic-a focused review for clinicians. *Clin Microbiol Infect*, 26: 842-7.
- Cevik, M., Kuppalli, K., Kindrachuk, J., & Peiris, M. (2020). Virology, transmission, and pathogenesis of SARS-CoV-2. *BMJ*, 371: m3862.
- Cevik, M., Marcus, J., Buckee, C., & Smith, T. (2021). Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Transmission Dynamics Should Inform Policy. *Clin Infect Dis*, 73(2): S170-6.
- Cevik, M., Tate, M., Lloyd, O., Maraolo, A. E., Schafers, J., & Ho, A. (2021). SARS-CoV-2, SARS-CoV, and MERS-CoV viral load dynamics, duration

- of viral shedding, and infectiousness: a systematic review and meta-analysis. *Lancet Microbe*, 2(1): e13-e22.
- Charitos, I. A., Ballini, A., Bottalico, L., Cantore, S., Passarelli, P. C., Inchingolo, F. *et al.* (2020). Special features of SARS-CoV-2 in daily practice. *World J. Clin. Cases*, 8: 3920–33.
- Cheng, H Y., Jian, S W., Liu, D P., Ng, T C., Huang, W T., & Lin, H H. Taiwan COVID-19 Outbreak Investigation Team. (2020). Contact tracing assessment of covid-19 transmission dynamics in Taiwan and risk at different exposure periods before and after symptom onset. *JAMA Intern Med*, 180: 1156-63.
- Chida, D., & Iwakura, Y. (2007). Peripheral TNF α , but not peripheral IL-1, requires endogenous IL-1 or TNF α induction in the brain for the febrile response. *Biochem Biophys Res Commun* 364:765–770.
- Clemens, S. A., Weckx, L., Clemens, R., Mendes, A. V., Souza, A. R., Silveira, M. B. *et al.* (2022). Heterologous versus homologous COVID-19 booster vaccination in previous recipients of two doses of CoronaVac COVID-19 vaccine in Brazil (RHH-001): a phase 4, non-inferiority, single blind, randomised study. *Lancet*, 399(10324): 521-9.
- Cummings, M. J., Baldwin, M. R., Abrams, D., Jacobson, S. D., Meyer, B. J., Balough, E. M. *et al.* (2020). Epidemiology, clinical course, and outcomes of critically ill adults with COVID-19 in New York City: a prospective cohort study. *Lancet*. 2020;395:1763–1770. *Lancet*, 395(10239): 1763–70.
- Daian e Silva, D. d., & da Fonseca, F. G. (2021). The Rise of Vectored Vaccines: A Legacy of the COVID-19 Global Crisis. *Vaccines (Basel)*, 9(10): 1101.
- Fan, Y. J., & Chan, K. H. (2021). Safety and Efficacy of COVID-19 Vaccines: A Systematic Review and Meta-Analysis of Different Vaccines at Phase 3. *Vaccines (Basel)*, 9(9): 989.
- Farrell, TW., Ferrante, LE., Brown, T., Francis, L., Widera, E., Rhodes, R. *et al.* (2020). AGS position statement: resource allocation strategies and age-related considerations in the COVID-19 era and beyond. *J Am Geriatr Soc*. 68:1136–42. doi: 10.1111/jg s.16537.
- Feikin, D.R., Higdon, M.M., Raddad, L.J., Andrews, N., Araos, R., Goldberg, Y. *et al.* (2022). Duration of effectiveness of vaccines against SARS-CoV-2 infection and COVID-19 disease: result of a systematic review and meta-regression. *Lancet*, 399(10328):924-944.
- Gidari, A., De Socio, G. V., Sabbatini, S., & Francisci, D., 2020. Predictive value of National Early Warning Score 2 (NEWS2) for intensive care unit admission in patients with SARS-CoV-2 infection. *Infectious Diseases*, 52(10), 698–704. <https://doi.org/10.1080/23744235.2020.1784457>
- Grunau, B., Goldfarb, D. M., Asamoah-Boaheng, M., Golding, L., Kirkham, T. L., Demers, P. A. *et al.* (2022). Immunogenicity of Extended mRNA SARS-CoV-2 Vaccine Dosing Intervals. *JAMA*, 327(3): 279.

- Han, X., Xu, P., & Ye, Q. (2021). Analysis of COVID-19 vaccines: Types, thoughts, and application. *J Clin Lab Anal*, 35(9): e23937.
- Hanson, Q. M., Wilson, K. M., Shen, M., Itkin, Z., Eastman, R. T., Shinn, P. *et al.* (2020). Targeting ACE2–RBD Interaction as a Platform for COVID-19 Therapeutics: Development and Drug-Repurposing Screen of an AlphaLISA Proximity Assay. *ACS Pharmacol Transl Sci*, 3(6): 1352–60.
- Harder, T., Koch, J., Vygen-Bonnet, S., Külper-Schiek, W., Pilic, A., Reda, S. *et al.* (2021). Efficacy and effectiveness of COVID-19 vaccines against SARS-CoV-2 infection: interim results of a living systematic review, 1 January to 14 May 2021. *Euro Surveill*, 26(28): 2100563.
- Hay, K. A., Hanafi, L.A., Li, D., Gust, J., Liles, W. C., Wurfel, M. M. *et al.* (2017). Kinetics and biomarkers of severe cytokine release syndrome after CD19 chimeric antigen receptor-modified T cell therapy. *Blood*.
- He, Y., Wang, J., Li, F., & Shi, Y. (2020). Main clinical features of COVID-19 and potential prognostic and therapeutic value of the microbiota in SARS-CoV-2 Infections. *Front Microbiol* 2020;11:1302. *Front Microbiol*, 11: 1302.
- Holten, A. R., Nore, K. G., Tveiten, C. E., Olasveengen, T. M., Tonby, K. (2020). Predicting severe COVID-19 in the Emergency Department. *Resuscitation Plus*. Volume 4, December 2020, 100042.
- Horita, N., & Fukumoto, T. 2022. Global case fatality rate from COVID- 19 has decreased by 96.8% during 2.5 years of the pandemic. *Journal of Medical Virology*.95(1).
- Hunter, C. A., & Jones, S. A. (2015). IL-6 as a keystone cytokine in health and disease. *Nat Immunol*. 16:448–457. doi:10.1038/ni.3153
- Hui, K. P., Cheung, M. C., Perera, R. A., Ng, K. C., Bui, C. H., Wo, J. C. *et al.* (2020). ropism, replication competence, and innate immune responses of the coronavirus SARS-CoV-2 in human respiratory tract and conjunctiva: an analysis in ex-vivo and in-vitro cultures. *Lancet Respir Med*, 8(7): 687–95.
- Jiang, Y., Xu, J., Zhou, C., Wu, Z., Zhong, S., Liu, J. *et al.* (2005). Characterization of cytokine/chemokine profiles of severe acute respiratory syndrome. *Am J Respir Crit Care Med*; 171: 850–857.
- Kherabi, Y., Fiolet, T., Rozencwajg, S., Salaün, J. P., & Peiffer-Smadjaa, N. (2021). COVID-19 vaccine boosters: What do we know so far? *Anaesth Crit Care Pain Med*, 40(6): 100959.
- Ko, Y. K., Murayama, H., Yamasaki, L., Kinoshita, R., Suzuki, M., & Nishiura, H. (2022). Age Dependent Effects of COVID-19 Vaccine and of Healthcare Burden on COVID-19 Deaths, Tokyo, Japan. *emerg infect Dis*; 28(9): 1777-1784.
- Korber, B., Fischer, W. M., Gnanakaran, S., Yoon, H., Theiler, J., Abfalterer, W., *et al.* (2020). Tracking Changes in SARS-CoV-2 Spike: Evidence that D614G Increases Infectivity of the COVID-19 Virus. *Cell*, 182(4): 812-27.

- Kuodi, P., Gorelik, Y., Zayyad, H., Wertheim, O., Wiegler, K. B., Jabal, K. A. *et al.* (2022). Association between vaccination status and reported incidence of post-acute COVID-19 symptoms in Israel: a cross-sectional study of patients tested between March 2020 and November 2021. *preprint*.
- Lavrentieva, A., Kaimakamis, E., Voutsas, V. *et al.* An observational study on factors associated with ICU mortality in Covid-19 patients and critical review of the literature. *Sci Rep* **13**, 7804 (2023). <https://doi.org/10.1038/s41598-023-34613-x>
- Leisman DE, Ronner L, Pinotti R, Taylor MD, Sinha P, Calfee CS, Hirayama AV, Mastroiani F, Turtle CJ, Harhay MO, Legrand M, Deutschman CS. Cytokine elevation in severe and critical COVID-19: a rapid systematic review, meta-analysis, and comparison with other inflammatory syndromes. *Lancet Respir Med*. 2020 Dec;8(12):1233-1244. doi: 10.1016/S2213-2600(20)30404-5. Epub 2020 Oct 16. PMID: 33075298; PMCID: PMC7567529.
- Li, Z. *et al.*, 2021. Characterization of SARS-CoV-2-Specific Humoral and Cellular Immune Responses Induced by Inactivated COVID-19 Vaccines in a Real-World Setting. *Frontiers in Immunology*, 12. <https://doi.org/10.3389/fimmu.2021.802858>.
- Lin, D. Y., Wheeler, B., Young, H., Holloway, S., Sunny, S. K., Moore, Z. *et al.* (2022). Effectiveness of Covid-19 Vaccines over a 9-Month Period in North Carolina. *N Engl J Med*, NEJMoa2117128.
- Lukashev, A. N., & Zamyatnin, A. A. (2016). Viral vectors for gene therapy: current state and clinical perspectives. *Biochemistry*, 81: 700–8.
- Lundstrom, K. (2021). Viral Vectors for COVID-19 Vaccine Development. *Viruses*, 13(2): 317.
- Macchi, J., Herskovitz, J., Senan, A. H., Dutta, D., Nath, B., Oleynikov, M. D. *et al.* (2020). The Natural History, Pathobiology, and Clinical Manifestations of SARS-CoV-2 Infections. *J Neuroimmune Pharmacol*, 21 : 1–28.
- Mangalmurti, N., & Hunter, C. A. (2020). Cytokine Storms: Understanding COVID-19. *Immunity*, 53: 19-25.
- Moghadas, S. M., Vilches, T. N., Zhang, K., Wells, C. R., Shoukat, A., Singer, B. H. *et al.* (2021). The Impact of Vaccination on Coronavirus Disease 2019 (COVID-19) Outbreaks in the United States. *Clin Infect Dis*, 73(12): 2257-64.
- Monteil, V., Kwon, H., Prado, P., Hagelkrüys, A., Wimmer, R. A., Stahl, M. *et al.* (2020). Inhibition of SARS-CoV-2 Infections in Engineered Human Tissues Using Clinical-Grade Soluble Human ACE2. *Cell*, 181(4): 905-13.
- Munro, A. P., Janani, L., Cornelius, V., Aley, P. K., Babbage, G., Baxter, D. *et al.* (2021). Safety and immunogenicity of seven COVID-19 vaccines as a third dose (booster) following two doses of ChAdOx1 nCov-19 or BNT162b2 in the UK (COV-BOOST): a blinded, multicentre, randomised, controlled, phase 2 trial. *Lancet*, 398(10318): 2258-76.

- Myrstad, M., Hansen, H. I., Tveita, A. A., Andersen, E. L., Nygard, S., Tveit, A. *et al.* (2020). National Early Warning Score 2 (NEWS2) on admission predicts severe disease and in hospital mortality from Covid-19: a prospective cohort study. *BMJ* 2(8). <https://doi.org/10.1186/s13049-020-00764-3>
- Nalbandian, A., Sehgal, K., Gupta, A., Madhavan, M. V., McGroder, C., Stevens, J. S. *et al.* (2021). Post-acute COVID-19 syndrome. *Nat Med*, 27(4): 601-15.
- National Early Warning Score (NEWS). (2012). Standardising the Assessment of Acute-Illness Severity in the NHS. Report of a working party. London: RCP: Royal College of Physicians.
- National Early Warning Score (NEWS) 2. (2017). Standardising the Assessment of Acute-Illness Severity in the NHS. Updated report of a working party. London: Royal College of Physicians: RCP.
- Paludan, SR., & Mogensen, T.H. (2022). Innate immunological pathways in COVID-19 pathogenesis. *Science Immunology*, 7(67), eabm5505.
- Parasher, A. (2021). COVID-19: Current understanding of its pathophysiology, clinical presentation and treatment. *Postgrad Med J*, 97: 312–20.
- Pardi, N., Hogan, M. J., Porter, F. W. & Weissman, D. (2018). mRNA vaccines — a new era in vaccinology. *Nat. Rev. Drug. Discov.* 17, 261–279.
- Payne, R. P., Longet, S., Austin, J. A., Skelly, D. T., Dejnirattisai, W., Adele, S. *et al.* (2021). Immunogenicity of standard and extended dosing intervals of BNT162b2 mRNA vaccine. *Cell*, 184(23): 5699.
- Peckham H, de Grujter NM, Raine C, Radziszewska A, Ciurtin C, Wedderburn LR, *et al.* (2020). Male sex identified by global COVID-19 meta-analysis as a risk factor for death and ITU admission. *Nat Commun.* 11:6317. [10.1038/s41467-020-19741-6](https://doi.org/10.1038/s41467-020-19741-6).
- Romanelli, D., Farrell MW., 2023. AVPU Score. *Stat Pearls - NCBI Bookshelf*. <https://www.ncbi.nlm.nih.gov/books/NBK538431/>
- Rummel, C., Sachot, C., Poole, S., & Luheshi, G.N. (2006). Circulating interleukin-6 induces fever through a STAT3-linked activation of COX-2 in the brain. *Am J Physiol Regul Integr Comp Physiol*. 291:R1316–R1326.
- Sahin, U., Muik, A., Dehovanessian, E., Vogler, I., Kranz, L.M., Vormehr, M. *et al.* (2020). COVID-19 vaccine BNT162b1 elicits human antibody and TH1 T cell responses. *Nature* 586, 594–599.
- Sayedahmed, E. E., Elakashif, A., Alhashimi, M., Sambhara, S. & Mittal, S. K. (2020). Adenoviral vector-based vaccine platforms for developing the next generation of influenza vaccines. *Vaccines* 8, 574.
- Singh, R., Rathore, S.S., Khan, H., Karale, S., Chawla, Y., Iqbal, K. (2022). Association of Obesity With COVID-19 Severity and Mortality: An Updated Systemic Review, Meta-Analysis, and Meta-Regression. *Front Endocrinol (Lausanne)*. 13:780872. doi: 10.3389/fendo.2022.780872. PMID: 35721716; PMCID: PMC9205425.

- Sette, A., & Crotty, S. (2021). Adaptive immunity to SARS-CoV-2 and COVID-19. *Cell*, 184(4), 861-880.
- Susilo, A., Martin Rumende, C., Pitoyo, C.W., Djoko Santoso, W., Yulianti, M., Sinto, R., Singh, G. *et al.* 2020. TINJAUAN PUSTAKA, Jurnal Penyakit Dalam Indonesia.
- Tanaka T, Narazaki M, Kishimoto T. (2016). Immunotherapeutic implications of IL-6 blockade for cytokine storm. *Immunotherapy*. 8(8):959-70.
- Tartof, S. Y., Slezak, J. M., Fischer, H., Hong, V., Ackerson, B. K., Ranasinghe, O. N. *et al.* (2021). Effectiveness of mRNA BNT162b2 COVID-19 vaccine up to 6 months in a large integrated health system in the USA: a retrospective cohort study. *Lancet*, 398(10309): 1407-16.
- Teijaro, J.R. and Farber, D.L. (2021). COVID-19 vaccines: modes of immune activation and future challenges. *Nature Reviews Immunology, Springer US*. 21(4):195–197.
- Troiano, G. & Nardi, A. (2021). Vaccine hesitancy in the era of COVID-19. *Public Health*, 194: 245-51.
- Ura, T., Yamashita, A., Mizuki, N., Okuda, K., & Shimada, M. (2021). New vaccine production platforms used in developing SARS-CoV-2 vaccine candidates. *Vaccine*, 39(2): 197–201.
- Vassalo, A., Shajahan, S., Harris, K., Hallam, L., Hockham, C., Wormersley, K. *et al.* (2021). Sex and Gender in COVID-19 Vaccine Research: Substantial Evidence Gaps Remain. PMC8593988.
- Widge, A.T., Roupheal, N.G., Jackson, L.A., Anderson, E.J., Roberets, P.C., Makhene, M. *et al.* (2021). Durability of responses after SARS-CoV-2 mRNA-1273 vaccination. *N. Engl. J. Med.* 384, 80–82.
- World Health Organization, 2021. *Interim recommendations for heterologous COVID-19 vaccine schedules*. <https://iris.who.int/bitstream/handle/10665/350635/WHO-2019-nCoV-vaccines-SAGE-recommendation-heterologous-schedules-2021-1-eng.pdf?sequence=1>. Date of access: October 3, 2023.
- Wu, D., Rao, Q., & Zhang, W. (2021). The natural course of COVID-19 patients without clinical intervention. *J Med Virol*, 93(9): 5527-37.
- Wu, D., & Yang, X.O. (2020.) TH17 responses in cytokine storm of COVID-19: an emerging target of JAK2 inhibitor fedratinib. *J Microbiol Immunol Infect*. Epub ahead of print 11 March 2020.
- Xu, Z., Shi, L., Wang, Y., Zhang, J., Huang, L., Zhang, C. *et al.* (2020). Pathological findings of COVID-19 associated with acute respiratory distress syndrome. *Lancet Respir Med*; 8: 420–422. [In Press].
- Yang, Z., Jiang, Y., Li F., Liu, D., Lin, T.F., *et al.*, (2023). Efficacy of SARS-CoV-2 vaccines and the dose–response relationship with three major antibodies: a systematic review and meta-analysis of randomised controlled trials. *The Lancet Microbe*. 4(4): 236–246.

- Yao, Y., Jeyanathan, M., Haddadi, S., Barra, N.G., Damjanovic, D., Lai, R. *et al.* (2018) Induction of autonomous memory alveolar macrophages requires t cell help and is critical to trained immunity. *Cell* 175, 1634–1650.
- Yuki, K., Fujiogi, M., & Koutsogiannaki, S. (2020). COVID-19 pathophysiology: a review. *Clin Immunol*, 215: 108427.
- Zhang, K., Zhang, X., Ding, W., Xuan, N., Tian, B., Huang, T. *et al.* (2021). The Prognostic Accuracy of National Early Warning Score 2 on Predicting Clinical Deterioration for Patients With COVID-19: A Systematic Review and Meta Analysis. *Frontiers*, 8:699880.
- Zhou, F., Yu, T., Du, R., Fan, G., Liu, Y., Liu, Z. *et al.* (2020). Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. *Lancet*, 395: 1054–62.