

DAFTAR PUSTAKA

- Ahmad Malik, J., Ahmed, S., Shinde, M., Almermesh, M.H.S., Alghamdi, S., Hussain, A., Anwar, S. 2022. The Impact of COVID-19 On Comorbidities: A Review Of Recent Updates For Combating It. *Saudi J Biol Sci*, 29(5):3586–3599.
- Aimrane, A., Laaradia, M.A., Sereno, D., Perrin, P., Draoui, A., Bougadir, B., Hadach, M., Zahir, M., Fdil, N., el Hiba, O., el Hidan, M.A., Kahime, K. 2022. Insight into COVID-19's epidemiology, pathology, and treatment. *Heliyon*, 8(1):e08799.
- Aksel, G., İslam, M.M., Algin, A., Eroğlu, S.E., Yaşar, G.B., Ademoğlu, E., Dölek, Ü.C. 2021. Early predictors of mortality for moderate to severely ill patients with Covid-19. *Am J Emerg Med*, 45(April 2020):290–296.
- Ali, H.N., Ali, K.M., Rostam, H.M., Ali, A.M., Tawfeeq, H.M., Fatah, M.H., Figueredo, G.P. 2022. Clinical laboratory parameters and comorbidities associated with severity of coronavirus disease 2019 (COVID-19) in Kurdistan Region of Iraq. *Pract Lab Med*, 31:e00294.
- Almazeedi, S., Al-Youha, S., Jamal, M.H., Al-Haddad, M., Al-Muhaini, A., Al-Ghimlas, F., Al-Sabah, S. 2020. Characteristics, risk factors and outcomes among the first consecutive 1096 patients diagnosed with COVID-19 in Kuwait. *EClinicalMedicine*, 24:100448.
- Alraddadi, B., Watson, J., Almarashi, A., Abedi, G., Turkistani, A., Sadran, M., Housa, A., Almazroa, M., Alraihan, N., Banjar, A., Albalawi, E., Alhindi, H., Choudhry, A.J., Meiman, J., Paczkowski, M., Curns, A., Mounts, A., Feikin, D., Marano, N. 2016. Risk Factors for Primary Middle East Respiratory Syndrome Coronavirus Illness in Humans, Saudi Arabia, 2014. *Emerg Infect Dis*, 22(1):49.
- Al-Saleh, M., Alotaibi, N., Schrapp, K., Alsaber, A., Pan, J., Almutairi, F., Abdullah, M., Aboelhassan, W., AlNasrallah, N., Al-Bader, B., Malhas, H., Ramadhan, M., Hamza, M., Abdelnaby, H., Alroomi, M. 2022. Risk Factors for Mortality in Patients with COVID-19: The Kuwait Experience. *Medical Principles and Practice* [Preprint].
- Annane, D. 2021. Corticosteroids for COVID-19. *Journal of Intensive Medicine*, 1(1):14–25.
- Aslani, M., Mortazavi-Jahromi, S.S., Mirshafiey, A. 2021. Cytokine storm in the pathophysiology of COVID-19: Possible functional disturbances of miRNAs. *Int Immunopharmacol*, 101:108172.
- Badawi, A., Ryoo, S.G. 2016. Prevalence of comorbidities in the Middle East respiratory syndrome coronavirus (MERS-CoV): a systematic review and meta-analysis. *Int J Infect Dis*. Elsevier B.V., 129–133.

Bakhshandeh, B., Jahanafrooz, Z., Abbasi, A., Goli, M.B., Sadeghi, M., Mottaqi, M.S., Zamani, M. 2021. Mutations in SARS-CoV-2; Consequences in structure, function, and pathogenicity of the virus. *Microb Pathog*, 154(February):104831.

Bannaga, A.S., Tabuso, M., Farrugia, A., Chandrapalan, S., Somal, K., Lim, V.K., Mohamed, S., Nia, G.J., Mannath, J., Wong, J.L.H., Noufaily, A., Disney, B.R., Arasaradnam, R.P. 2020. C-reactive protein and albumin association with mortality of hospitalised SARS-CoV-2 patients: A tertiary hospital experience. *Clin Med (Lond)*, 20(5):463–467.

Bell, T.D. 2022. COVID-19 in the Critically Ill Patient. *Infect Dis Clin North Am*, 36(2):365–377.

Bertini, P., Guarracino, F., Falcone, M., Nardelli, P., Landoni, G., Nocci, M., Paternoster, G. 2022. ECMO in COVID-19 Patients: A Systematic Review and Meta-analysis. *J Cardiothorac Vasc Anesth*, 36(8):2700.

Bhaskar, S., Sinha, A., Banach, M., Mittoo, S., Weissert, R., Kass, J.S., Rajagopal, S., Pai, A.R., Kutty, S. 2020. Cytokine Storm in COVID-19—Immunopathological Mechanisms, Clinical Considerations, and Therapeutic Approaches: The REPROGRAM Consortium Position Paper. *Front Immunol*, 11(July).

Braig, D., Nero, T.L., Koch, H.G., Kaiser, B., Wang, X., Thiele, J.R., Morton, C.J., Zeller, J., Kiefer, J., Potempa, L.A., Mellett, N.A., Miles, L.A., Du, X.J., Meikle, P.J., Huber-Lang, M., Stark, G.B., Parker, M.W., Peter, K., Eisenhardt, S.U. 2017. Transitional changes in the CRP structure lead to the exposure of proinflammatory binding sites. *Nat Commun*, 8.

Bulut, C., Kato, Y. 2020. Epidemiology of covid-19. *Turk J Med Sci*, 563–570.

Carvelli, J., Le Saux, A., Bourenne, J., Gainnier, M., Kaplanski, G. 2020. Evolution Toward Severe Covid-19 From Biological Monitoring to Therapeutic Considerations. *Front Immunol*, 11:3375.

Cortis, D. 2020. On Determining the Age Distribution of COVID-19 Pandemic. *Front Public Health*, 8(May):1–3.

Dahlan, M.S. 2009. *Besar sampel dan cara pengambilan sampel dalam penelitian kedokteran dan kesehatan*. 3rd edn. Jakarta: Salemba Medika.

Davies, N.G., Klepac, P., Liu, Y., Prem, K., Jit, M., Pearson, C.A.B., Quilty, B.J., Kucharski, A.J., Gibbs, H., Clifford, S., Gimma, A., van Zandvoort, K., Munday, J.D., Diamond, C., Edmunds, W.J., Houben, R.M.G.J., Hellewell, J., Russell, T.W., Abbott, S., et al. 2020. Age-dependent effects in the transmission and control of COVID-19 epidemics. *Nat Med*, 26(8):1205–1211.

Desirable Biological Variation Database specifications - Westgard 2014. Available at: <https://www.westgard.com/biodatabase1.htm> (Accessed: 27 September 2022).

Dessie, Z.G., Zewotir, T. 2021. Mortality-related risk factors of COVID-19: a systematic review and meta-analysis of 42 studies and 423,117 patients. *BMC Infect Dis*, 21(1).

Dooley, K.E., Chaisson, R.E. 2009. Tuberculosis and diabetes mellitus: convergence of two epidemics. *Lancet Infect Dis*, 737–746.

Endeshaw, Y., Campbell, K. 2022. Advanced age, comorbidity and the risk of mortality in COVID-19 infection. *J Natl Med Assoc*, 114(5):512–517.

García, L.F. 2020. Immune Response, Inflammation, and the Clinical Spectrum of COVID-19. *Front Immunol*, 11(June):4–8.

Guan, W., Liang, W., Zhao, Y., Liang, H., Chen, Z., Li Yi-min, Liu Xiao-qing. 2020. Comorbidity and its impact on 1590 patients with COVID-19 in China: a nationwide analysis. *Eur Respir J*, 55(2000547):1–14.

Guo, L., Wei, D., Zhang, X., Wu, Y., Li, Q., Zhou, M., Qu, J. 2019. Clinical Features Predicting Mortality Risk in Patients With Viral Pneumonia: The MuLBSTA Score. *Front Microbiol*, 10.

Hagman, K., Hedenstierna, M., Rudling, J., Gille-Johnson, P., Hammas, B., Grabbe, M., Jakobsson, J., Dillner, J., Ursing, J. 2022. Duration of SARS-CoV-2 viremia and its correlation to mortality and inflammatory parameters in patients hospitalized for COVID-19: a cohort study. *Diagn Microbiol Infect Dis*, 102(3):115595.

He, F., Deng, Y., Li, W. 2020. Coronavirus disease 2019: What we know? *J Med Virol*, 92(7):719–725.

Hein, T.W., Singh, U., Vasquez-Vivar, J., Devaraj, S., Kuo, L., Jialal, I. 2009. Human C-Reactive Protein Induces Endothelial Dysfunction and Uncoupling of eNOS In-Vivo. *Atherosclerosis*, 206(1):61.

Herold, T., Jurinovic, V., Arnreich, C., Lipworth, B.J., Hellmuth, J.C., von Bergwelt-Baildon, M., Klein, M., Weinberger, T. 2020. Elevated levels of IL-6 and CRP predict the need for mechanical ventilation in COVID-19. *Journal of Allergy and Clinical Immunology*, 146(1):128-136.e4.

Hirano, T., Murakami, M. 2020. COVID-19: A New Virus, but a Familiar Receptor and Cytokine Release Syndrome. *Immunity*, 52(5):731–733.

Hong, K.-W., Cheong, H.J., Choi, W.S., Lee, J., Wie, S.-H., Baek, J.H., Kim, H.Y., Jeong, H.W., Kim, W.J. 2014. Clinical courses and outcomes of hospitalized adult

patients with seasonal influenza in Korea, 2011–2012: Hospital-based Influenza Morbidity & Mortality (HIMM) surveillance. *Journal of Infection and Chemotherapy*, 20(1):9–14.

Huang, C., Wang, Y., Li, X., Ren, L., Zhao, J., Hu, Y., Zhang, L., Fan, G., Xu, J., Gu, X., Cheng, Z., Yu, T., Xia, J., Wei, Y., Wu, W., Xie, X., Yin, W., Li, H., Liu, M., et al. 2020. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *The Lancet*, 395(10223):497–506.

Inal, T.C., Goruroglu Ozturk, O., Kibar, F., Cetiner, S., Matyar, S., Daglioglu, G., Yaman, A. 2018. Lean six sigma methodologies improve clinical laboratory efficiency and reduce turnaround times. *J Clin Lab Anal*, 32(1).

Jafrin, S., Aziz, M.A., Islam, M.S. 2022. Elevated Levels of Pleiotropic Interleukin-6 (IL-6) and Interleukin-10 (IL-10) are Critically Involved With the Severity and Mortality of COVID-19: An Updated Longitudinal Meta-Analysis and Systematic Review on 147 Studies. *Biomark Insights*, 17.

Jayaraj, V.J., Rampal, S., Ng, C.W., Chong, D.W.Q. 2021. The Epidemiology of COVID-19 in Malaysia. *Lancet Reg Health West Pac*, 17:100295.

Jesenak, M., Brndiarova, M., Urbancikova, I., Rennerova, Z., Vojtkova, J., Bobcakova, A., Ostro, R., Banovcin, P. 2020. Immune Parameters and COVID-19 Infection – Associations With Clinical Severity and Disease Prognosis. *Front Cell Infect Microbiol*, 10(June):1–10.

Johanis, Aryati, Dominicus Husada, Djoko Marsudi, M. Y. Probohoesodo. 2012. DIAGNOSTIC OF C-REACTIVE PROTEIN IN FEBRILE CHILDREN. *INDONESIAN JOURNAL OF CLINICAL PATHOLOGY AND MEDICAL LABORATORY*, 18(2).

Junejo, Y., Ozaslan, M., Safdar, M., Khailany, R.A., Rehman, S.U., Yousaf, W., Khan, M.A. 2020. Novel SARS-CoV-2/COVID-19: Origin, pathogenesis, genes and genetic variations, immune responses and phylogenetic analysis. *Gene Rep*, 20(June):100752.

Kementerian Kesehatan RI. 2020. *Pedoman Tatalaksana COVID-19*. edisi 2. Jakarta: Kementerian Kesehatan RI.

Kementerian Kesehatan RI. 2022. *Situasi COVID-19* | *Covid19.go.id*. Available at: <https://covid19.go.id/situasi> (Accessed: 26 September 2022).

Kingsley, A., Jones, V. 2008. Diagnosing wound infection: The use of C-reactive protein. *Wounds UK*, 4(4):32–46.

Kukoč, A., Mihelčić, A., Miko, I., Romić, A., Pražetina, M., Tipura, D., Drmić, Ž., Čučković, M., Čurčić, M., Blagaj, V., Lasić, H., Dolenc, E., Hleb, S., Almahariq, H., Peršec, J., Šribar, A. 2022. Clinical and laboratory predictors at ICU admission

affecting course of illness and mortality rates in a tertiary COVID-19 center. *Heart and Lung*, 53(March 2020):1–10.

Laine, C., Hillarp, A., Macwan, A.S., Gustafsson, K.M., Lindahl, T.L., Holmstr, M. 2022. Associations between hemostatic markers and mortality in COVID-19 – Compounding effects of D-dimer , antithrombin and PAP complex. *Thromb Res*, 213(March):97–104.

Li, Q., Guan, X., Wu, P., Wang, X., Zhou, L., Tong, Y., Ren, R., Leung, K.S.M., Lau, E.H.Y., Wong, J.Y., Xing, X., Xiang, N., Wu, Y., Li, C., Chen, Q., Li, D., Liu, T., Zhao, J., Liu, M., et al. 2020. Early Transmission Dynamics in Wuhan, China, of Novel Coronavirus–Infected Pneumonia. *New England Journal of Medicine*, 382(13):1199–1207.

Liao, Y.-C., Liang, W.-G., Chen, F.-W., Hsu, J.-H., Yang, J.-J., Chang, M.-S. 2002. IL-19 Induces Production of IL-6 and TNF- α and Results in Cell Apoptosis Through TNF- α . *The Journal of Immunology*, 169(8):4288–4297.

Liu, F., Li, L., Xu, M., Wu, J., Luo, D., Zhu, Y., Li, B., Song, X. 2020. Prognostic value of IL-6, CRP, and PCT in patients with COVID-19. *J Clin Virology* [Preprint], (January).

Mainous, A.G., Rooks, B.J., Orlando, F.A. 2022. The Impact of Initial COVID-19 Episode Inflammation Among Adults on Mortality Within 12 Months Post-hospital Discharge. *Front Med (Lausanne)*, 9.

Mikami, T., Miyashita, H., Yamada, T., Harrington, M., Steinberg, D., Dunn, A., Siau, E. 2021. Risk Factors for Mortality in Patients with COVID-19 in New York City. *J Gen Intern Med*, 36(1):17–26.

Milenkovic, M., Hadzibegovic, A., Kovac, M., Jovanovic, B., Stanisavljevic, J., Djikic, M., Sijan, D., Ladjovic, N., Palibrk, I., Djukanovic, M., Velickovic, J., Ratkovic, S., Brajkovic, M., Popadic, V., Klasnja, S., Toskovic, B., Zdravkovic, D., Crnokrak, B. 2022. D-dimer , CRP , PCT , and IL-6 Levels at Admission to ICU Can Predict In-Hospital Mortality in Patients with COVID-19 Pneumonia. *Oxid Med Cell Longev*, 2022.

Mir, T., Almas, T., Kaur, J., Faisaluddin, M., Song, D., Ullah, W., Mamtani, S., Rauf, H., Yadav, S., Latchana, S., Michaelson, N.M., Connerney, M., Sattar, Y. 2021. Coronavirus disease 2019 (COVID-19): Multisystem review of pathophysiology. *Annals of Medicine and Surgery*, 69(July):102745.

Mosquera-Sulbaran, J.A., Pedreañez, A., Carrero, Y., Callejas, D. 2021. C-reactive protein as an effector molecule in Covid-19 pathogenesis. *Rev Med Virol*. John Wiley and Sons Ltd.

Nehring, S.M., Goyal, A., Patel, B.C. 2022. *C Reactive Protein*. StatPearls Publishing, Treasure Island (FL). Available at: https://www.ncbi.nlm.nih.gov/books/NBK441843/?report=reader#_NBK441843_pubdet_ (Accessed: 29 September 2022).

Nimkar, A., Naaraayan, A., Hasan, A., Pant, S., Durdevic, M., Suarez, C.N., Elenius, H., Hambardzumyan, A., Lakshmi, K., Mandel, M., Jesmajian, S. 2020. Incidence and Risk Factors for Acute Kidney Injury and Its Effect on Mortality in Patients Hospitalized From COVID-19. *Mayo Clin Proc Innov Qual Outcomes*, 4(6):687–695.

Odegaard, J.I., Chawla, A. 2012. Connecting type 1 and type 2 diabetes through innate immunity. *Cold Spring Harb Perspect Med*, 2(3).

Oliveira, D.S., Medeiros, N.I., Gomes, J.A.S. 2020. Immune response in COVID-19: What do we currently know?. *Microb Pathog*, 148(July):104484.

Onder, G., Rezza, G., Brusaferro, S. 2020. Case-Fatality Rate and Characteristics of Patients Dying in Relation to COVID-19 in Italy. *JAMA - Journal of the American Medical Association*. American Medical Association, 1775–1776.

Pepys, M.B., Hirschfield, G.M. 2003. C-reactive protein: A critical update. *Journal of Clinical Investigation*, 1805–1812.

Prabowo, N.A., Apriningsih, H., Dirgahayu, P. 2020. The Decrease in Hospital Visits at Universitas Sebelas Maret Hospital Due to the Level of Stress and Fear of COVID 19 Tonang Dwi Ardyanto.in *Proceedings of the 4th International Conference on Sustainable Innovation 2020–HealthScience and Nursing (ICoSIHSN 2020)*. Atlantis Press, 101–104.

Quan, C., Li, C., Ma, H., Li, Y., Zhang, H. 2021. Immunopathogenesis of Coronavirus-Induced Acute Respiratory Distress Syndrome (ARDS): Potential Infection-Associated Hemophagocytic Lymphohistiocytosis. *Clin Microbiol Rev*, 34(1):1–27.

Rajab, I.M., Hart, P.C., Potempa, L.A. 2020. How C-Reactive Protein Structural Isoforms With Distinctive Bioactivities Affect Disease Progression. *Front Immunol*, 11:2126.

RECOVERY Collaborative Group. 2022. Baricitinib in patients admitted to hospital with COVID-19 (RECOVERY): a randomised, controlled, open-label, platform trial and updated meta-analysis. *The Lancet*, 400(10349):359–368.

Riley, R.D., Ensor, J., Snell, K.I.E., Harrell, F.E., Martin, G.P., Reitsma, J.B., Moons, K.G.M., Collins, G., Van Smeden, M. 2020. Calculating the sample size required for developing a clinical prediction model. *The BMJ*, 368(March):1–12.

Roche. 2020. *CRP4 Package Inserts*. Indianapolis.

Ronco, C., Reis, T. 2020. Kidney involvement in COVID-19 and rationale for extracorporeal therapies. *Nat Rev Nephrol*, 16(6):308–310.

Rozaliyani, A., Savitri, A.I., Setianingrum, F., Shelly, T.N., Ratnasari, V., Kuswindarti, R., Salama, N., Oktavia, D., Widyastuti, W., Handayani, D. 2020. Factors Associated with Death in COVID-19 Patients in Jakarta, Indonesia: An Epidemiological Study. *Acta Med Indones*, 52(3):246–254.

Salahshoori, I., Mobaraki-Asl, N., Seyfaee, A., Mirzaei Nasirabad, N., Dehghan, Z., Faraji, M., Ganjkhani, M., Babapoor, A., Shadmehr, S.Z., Hamrang, A. 2021. Overview of COVID-19 Disease: Virology, Epidemiology, Prevention Diagnosis, Treatment, and Vaccines. *Biologics*, 1(1):2–40.

Samprathi, M., Jayashree, M. 2021. Biomarkers in COVID-19: An Up-To-Date Review. *Front Pediatr*, 8(December 2019):1–12.

Satuan Tugas Penanganan COVID-19. 2022. *Situasi COVID-19 Nasional. Satgas COVID-19*. Available at: <https://covid19.go.id/> (Accessed: 7 April 2022).

Sharifpour, M., Rangaraju, S., Liu, M., Alabyad, D., Nahab, F.B., Creel-Bulos, C.M., Jabaley, C.S. 2020. C-Reactive protein as a prognostic indicator in hospitalized patients with COVID-19. *PLoS One*, 15(11 November):1–10.

Shi, Y., Wang, Y., Shao, C., Huang, J., Gan, J., Huang, X., Bucci, E., Piacentini, M., Ippolito, G., Melino, G. 2020. COVID-19 infection: the perspectives on immune responses. *Cell Death Differ*, 27(5):1451–1454.

Shilpa, H.S., Ashwini, B.S., Krishnamurthy, V. 2021. Correlation of CRP levels with severity of COVID-19 patients. *Indian J Med Microbiol*, 39:S65.

Simonnet, A., Chetboun, M., Poissy, J., Raverdy, V., Noulette, J., Duhamel, A., Labreuche, J., Mathieu, D., Pattou, F., Jourdain, M., Caizzo, R., Caplan, M., Cousin, N., Duburcq, T., Durand, A., el kalioubie, A., Favory, R., Garcia, B., Girardie, P., et al. 2020. High Prevalence of Obesity in Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) Requiring Invasive Mechanical Ventilation. *Obesity*, 28(7):1195–1199.

Sitorus, R.J., Yudi Antara, N., Elviani, R., Ahmad, Z., Hudari, H., Sangalang, R. V. 2021. Risk Factor for Mortality in COVID-19 Patients in Mohammad Hoesin Hospital, Palembang, Indonesia. *Jurnal Ilmu Kesehatan Masyarakat*, 12(1):69–76.

Sproston, N.R., Ashworth, J.J. 2018. Role of C-Reactive Protein at Sites of Inflammation and Infection. *Front Immunol*, 9(APR).

Sriram, K., Insel, P.A. 2020. A hypothesis for pathobiology and treatment of COVID-19: The centrality of ACE1/ACE2 imbalance. *Br J Pharmacol*, 177(21):4825–4844.

Statsenko, Y., Al Zahmi, F., Habuza, T., Gorkom, K.N. Van, Zaki, N. 2021. Prediction of COVID-19 severity using laboratory findings on admission: Informative values, thresholds, ML model performance. *BMJ Open*, 11(2).

Sterne, J.A.C., Murthy, S., Diaz, J. v., Slutsky, A.S., Villar, J., Angus, D.C., Annane, D., Azevedo, L.C.P., Berwanger, O., Cavalcanti, A.B., Dequin, P.F., Du, B., Emberson, J., Fisher, D., Giraudeau, B., Gordon, A.C., Granholm, A., Green, C., Haynes, R., et al. 2020. Association Between Administration of Systemic Corticosteroids and Mortality Among Critically Ill Patients With COVID-19: A Meta-analysis. *JAMA*, 324(13):1330–1341.

Surendra, H., Elyazar, I.R., Djaafara, B.A., Ekawati, L.L., Saraswati, K., Adrian, V., Widyastuti, Oktavia, D., Salama, N., Lina, R.N., Andrianto, A., Lestari, K.D., Burhan, E., Shankar, A.H., Thwaites, G., Baird, J.K., Hamers, R.L. 2021. Clinical characteristics and mortality associated with COVID-19 in Jakarta, Indonesia: A hospital-based retrospective cohort study. *Lancet Reg Health West Pac*, 9:100108.

Swenson, K.E., Swenson, E.R. 2021. Pathophysiology of Acute Respiratory Distress Syndrome and COVID-19 Lung Injury. *Crit Care Clin*, 37(4):749–776.

Tan, C., Huang, Y., Shi, F., Tan, K., Ma, Q., Chen, Y., Jiang, X., Li, X. 2020. C-reactive protein correlates with computed tomographic findings and predicts severe COVID-19 early. *J Med Virol*, 92(7):856–862.

Tan, L., Wang, Qi, Zhang, D., Ding, J., Huang, Q., Tang, Y.Q., Wang, Qiongsu, Miao, H. 2020. Lymphopenia predicts disease severity of COVID-19: a descriptive and predictive study. *Signal Transduct Target Ther*, 5(1):16–18.

Tsai, P.H., Lai, W.Y., Lin, Y.Y., Luo, Y.H., Lin, Y.T., Chen, H.K., Chen, Y.M., Lai, Y.C., Kuo, L.C., Chen, S.D., Chang, K.J., Liu, C.H., Chang, S.C., Wang, F. der, Yang, Y.P. 2021. Clinical manifestation and disease progression in COVID-19 infection. *Journal of the Chinese Medical Association*, 84(1):3–8.

Villoteau, A., Asfar, M., Otekpo, M., Loison, J., Gautier, J., Annweiler, C. 2021. Elevated C-reactive protein in early COVID-19 predicts worse survival among hospitalized geriatric patients. *PLoS One*, 16(9).

Wang, L., He, W., Yu, X., Hu, D., Bao, M., Liu, H., Zhou, J., Jiang, H. 2020. Coronavirus disease 2019 in elderly patients: Characteristics and prognostic factors based on 4-week follow-up. *Journal of Infection*, 80(6):639–645.

Wang, L. 2020. C-reactive protein levels in the early stage of COVID-19. *Med Mal Infect*, 50(4):332–334.

Ware, L.B., Matthay, M.A. 2001. Alveolar fluid clearance is impaired in the majority of patients with acute lung injury and the acute respiratory distress syndrome. *Am J Respir Crit Care Med*, 163(6):1376–1383.

Wauthier, L., di Chiaro, L., Favresse, J. 2022. Sigma metrics in laboratory medicine: A call for harmonization. *Clinica Chimica Acta*, 532:13–20.

Wiencek, J.R., Duh, S.-H., Christenson, R.H. 2020. Proteins: analysis and interpretation in serum, urine, and cerebrospinal fluid. *Contemporary Practice in Clinical Chemistry*, 365–390.

World Health Organization. 2020. *Clinical Management of COVID-19*. New York: WHO.

World Health Organization. 2022. *WHO Coronavirus (COVID-19) Dashboard With Vaccination Data*. WHO. Available at: <https://covid19.who.int/> (Accessed: 7 April 2022).

Yamada, T., Wakabayashi, M., Yamaji, T., Chopra, N. 2020. Value of leukocytosis and elevated C-reactive protein in predicting severe coronavirus 2019 (COVID-19): A systematic review and meta-analysis. *Clinica Chimica Acta*, 509(January):235–243.

Yang, J., Zheng, Y., Gou, X., Pu, K., Chen, Z., Guo, Q., Ji, R., Wang, H., Wang, Y., Zhou, Y. 2020. Prevalence of comorbidities and its effects in coronavirus disease 2019 patients: A systematic review and meta-analysis. *International Journal of Infectious Diseases*, 94:91–95.

Yuki, K., Fujiogi, M., Koutsogiannaki, S. 2020. COVID-19 pathophysiology: A review. *Clin Immunol*, 215(June).

Yustinawati, R., Achadi, A. 2020. Risk Factors for Mortality in Patients with Covid-19: A Systematic Review.in *The 7th International Conference on Public Health*. Solo, 1–11.

Zhang, W., Zhao, Y., Zhang, F., Wang, Q., Li, T., Liu, Z., Wang, J., Qin, Y., Zhang, X., Yan, X., Zeng, X., Zhang, S. 2020. The use of anti-inflammatory drugs in the treatment of people with severe coronavirus disease 2019 (COVID-19): The Perspectives of clinical immunologists from China. *Clin Immunol*, 214:108393.

Zhao, M. 2020. Cytokine storm and immunomodulatory therapy in COVID-19: Role of chloroquine and anti-IL-6 monoclonal antibodies. *Int J Antimicrob Agents*, 55(6):105982.

Zou, X., Chen, K., Zou, J., Han, P., Hao, J., Han, Z. 2020. Single-cell RNA-seq data analysis on the receptor ACE2 expression reveals the potential risk of different human organs vulnerable to 2019-nCoV infection. *Frontiers of Medicine* 2020 14:2, 14(2):185–192.