

DAFTAR PUSTAKA

- Agarwal, A. K., Raja, A., Brown, B. D. 2023. *Chronic Obstructive Pulmonary Disease*. Treasure Island (FL): StatPearls Publishing.
- Akhmad, A.F., Ulfa, M. and Azuma, M. 2024. Antibiotic susceptibility patterns among Indonesian adults hospitalized with pneumonia. *J Respi.* 10(01): 6–13.
- Alotaibi, G.F. and Bukhari, M.A., 2021. Factors Influencing Bacterial Biofilm Formation and Development. *Am. J. Biomed. Sci. Res.* 12(6): pp 617-2.
- Aprilia, R. and Faisal, F., 2024. Tinjauan Literatur: Faktor Risiko dan Epidemiologi Pneumonia pada Balita. *Scientific Journal.* 3(3): pp 166-73.
- Broaddus, VC et al. 2022. *COPD: Pathogenesis and natural history*. Murray and Nadel's Textbook of Respiratory Medicine. 7th edn, Elsevier, Philadelphia.
- Cangui-Panchi, S.P., Ñacato-Toapanta, A.L., Enríquez-Martínez, L.J., Salinas-Delgado, G.A., Reyes, J., Garzon-Chavez, D. and Machado, A. 2023. Battle royale: Immune response on biofilms – host-pathogen interactions. *Current Research in Immunology.* 4: 100057.
- Cartuliales, J.D., Haidich, A.B., Diamantopoulos, P.T., Papakonstantinou, E., Pouloupoulou, S., Tsiakalou, M., Tsara, V. and Tsiakalos, A. 2023. Gram stain and culture of sputum samples detect only few pathogens in community-acquired lower respiratory tract infections: A secondary analysis of a prospective cohort. *Diagnostics.* 13(21): 3350.
- Chao, Y., Mørch, M., Håkansson, A.P. and Shannon, O. 2024. Biofilm-Dispersed Pneumococci Induce Elevated Leukocyte and Platelet Activation. *Frontiers in cellular and infection microbiology.* 14: p 1405333.
- Chatterjee, U. and Butina, M., 2020. Biomarkers of Infection and Inflammation. *American Society for Clinical Laboratory Science.* 32(4): 149 - 55.
- Clinton, A. and Carter, T., 2015. Chronic Wound Biofilms: Pathogenesis and Potential Therapies. *Laboratory medicine.* 46(4): pp 277-84.
- Cojocar, E., Haliga, R.E., Ene, G.V.B. and Cojocar, C., 2025. Mortality Predictors in Patients with Severe COPD Exacerbation. *Journal of Clinical Medicine.* 14(9): 3028.

- Corica, B., Tartaglia, F., D'Amico, T., Romiti, G.F. and Cangemi, R. 2022. Sex and Gender Differences in Community-Acquired Pneumonia. *Internal and Emergency Medicine*. 17: 1575–1588.
- De, S., Busch, L.M., Burchhardt, G., Gesell Salazar, M., Schlüter, R., Steil, L., Völker, U. and Hammerschmidt, S., 2025. The global proteome of *Streptococcus pneumoniae* EF3030 Under Nutrient-defined in Vitro Conditions. *bioRxiv*. PP: 2025-04.
- Del Rio-Pertuz, G., Gutierrez, J.F., Triana, A.J., Molinares, J.L., Robledo-Solano, A.B., Meza, J.L., Ariza-Bolívar, O.M., Acosta-Reyes, J., Garavito, A., Viasus, D. and Carratalà, J. 2019. Usefulness of sputum Gram stain for etiologic diagnosis in community-acquired pneumonia: A systematic review and meta-analysis. *BMC Infectious Diseases*. 19(403): 1–12.
- Dharmawan, A., Karuniawati, A., Sudarmono, P. P., Lestari, D. C. & Rumende, C. M. 2020. Epithelial Cells Count and the Ratio of Leukocytes and Epithelial Cells as the Criteria to Determine Qualified Specimen for Community-Acquired Pneumonia (CAP)-Causing Pathogens Identification. *The Indonesian Biomedical Journal*. 12(1): pp 34-9.
- Dias, S.P., Brouwer, M.C. and van de Beek, D. 2022. Sex and gender differences in bacterial infections. *Infection and Immunity*. 90(10).
- Dinas Kesehatan Kabupaten Banyumas. 2023. *Profil Kesehatan Kabupaten Banyumas Tahun 2023*. Dinas Kesehatan, Banyumas. 254 hal.
- Duy, T.N., Huu, X.D., Phi, P.N. and Tuan, V.P., 2025. Maternal Knowledge and Practices in Caring for Children under Five with Pneumonia: A Cross-Sectional Study in Vietnam. *Igmin Research*. 3(2): 091-6.
- Dwi, M., Syarifah, M. C. Viantry, P., Damawiyah, S., Agnovianto, Y. 2023. Pengenalan dan Pencegahan Potensi Bakteri Penyebab Pneumonia Di PP. Al Hikam Bangkalan. *Community Development Journal*. 4(5): 10846-9.
- Fadhilah, M. A. 2024. Chronic Obstructive Pulmonary Disease. *Jurnal Medika Nusantara*. 2(2): 117-125.
- Fukuyama, H., Yamashiro, S., Kinjo, K., Tamaki, H. and Kishaba, T. 2014. Validation of sputum Gram stain for treatment of community-acquired

- pneumonia and healthcare-associated pneumonia: A prospective observational study. *BMC Infectious Diseases*. 14: 534.
- Gallucci, M., Pedretti, M., Giannetti, A., di Palmo, E., Bertelli, L., Pession, A., Ricci, G. 2020. When the Cough Does Not Improve: A Review on Protracted Bacterial Bronchitis in Children. *Front Pediatr*. 7(8):433.
- Gallucci, M., Pedretti, M., Giannetti, A., Di Palmo, E., Bertelli, L., Pession, A. and Ricci, G. 2020. When the cough does not improve: a review on protracted bacterial bronchitis in children. *Frontiers in Pediatrics* 8: 433.
- Ghoneim, A.H., Mohammad, M.A., Elghamrawy, M.A. and Embarak, S., 2020. Platelet Count as a Predictor of Outcome of Hospitalized Patients with Community-Acquired Pneumonia at Zagazig University Hospitals, Egypt. *The Egyptian Journal of Bronchology*. 14: pp 1-7.
- Global Burden of Disease Collaborative Network. 2023. *Global Burden of disease Study 2023*. Seattle: Institute of Health Metrics and Evaluation.
- Global Initiative for Chronic Obstructive Lung Disease. 2024. *Global Strategy for the Prevention, Diagnosis and Management of Chronic Obstructive Pulmonary Disease* (2024 Report).
- Grooters, K. E., Ku, J. C., Richter, D. M., Krinock, M. J., Minor, A., Li, P., *et al.* 2024. Strategies for Combating Antibiotic Resistance in Bacterial Biofilms. *Frontiers in Cellular & Infection Microbiology*. 14: 1352273.
- Han, A., Zhang, Y., Li, J., Wang, Y., Zhao, Z. and Yang, X. 2023 ‘An overview of in vitro biofilm formation and quantification methods’, *Frontiers in Microbiology*, **14**, pp. 1–14.
- Hibatullah, M.A., Rahayu, R., Masfiah, M. and Arif, M. 2024. Jumlah Neutrofil Pewarnaan Gram Sampel Sputum dan Gambaran Radiologis Paru. *Jurnal Penelitian Kesehatan* "SUARA FORIKES". 15(2): 229-232.
- Homenta, H., 2016. Infeksi biofilm bakterial. *eBiomedik*. 4(1).
- Huang, X., Li, Y., Zhang, Q., & Wang, Z. 2022. Strong Biofilm-Forming Ability is Associated with Poor Clinical Outcomes in Ventilator-Associated Pneumonia: A Prospective Cohort Study. *The Journal of Infectious Diseases*. 225(8): 1420-1428.

- Jahn, K., Kohler, T. P., Swiatek, L. S., Wiebe, S. and Hammerschmidt, S. 2022. Platelets, Bacterial Adhesins and the Pneumococcus. *Cells*. 11(7): p 1121.
- Jain, V., Vashisht, R., Yilmaz, G., Bhardwaj, A. 2023. *Pneumonia Pathology*. Treasure Island (FL): Statpearls Publishing.
- Jensen, P.Ø., Rybtke, M. and Tolker-Nielsen, T. 2025. Biofilm-associated molecular patterns (BAMPs). *Infection and Immunity*. 93(3): 00304-25.
- Jnana, A., Sadiya, S. S., Satyamoorthy, K. & Murali, T. S., 2023. Extracellular Vesicles in Bacterial and Fungal Diseases – Pathogenesis to Diagnostic Biomarkers. *Virulence*. 14(1): 2180934.
- Julianti, D. A., Sangging, P. R. A. & Pardilawati, C. Y., 2023. Aspek Pemeriksaan Laboratorium pada Pasien Pneumonia. *Medical Profession Journal of Lampung*. 13(2): pp 147-52.
- Kahnert, K., Jörres, R.A., Behr, J., Welte, T. 2023. The Diagnosis and Treatment of COPD and Its Comorbidities. *Deutsches Arzteblatt, Dtsch Arztebl Int*, 23(25): 434-444
- Kahnert, K., Jörres, R.A., Behr, J., Welte, T. 2023. The Diagnosis and Treatment of COPD and Its Comorbidities. *Deutsches Arzteblatt, Dtsch Arztebl Int*. 23(25): 434-444.
- Kementrian Kesehatan Republik Indonesia. 2023. *Survei Kesehatan Indonesia (SKI) 2023*. Badan Kebijakan Pembangunan Kesehatan, Jakarta. 965 hal.
- Kementrian Kesehatan Republik Indonesia. 2024. *Profil Kesehatan Indonesia 2022 [Indonesia Health Profile 2022]*.
- Li, R., Li, J. and Zhou, X. 2024. Lung microbiome: new insights into the pathogenesis of respiratory diseases. *Signal transduction and targeted therapy*. 9(1): 19.
- Li, M., Cruz, C.D., Ilina, P. and Tammela, P., 2024. High-throughput combination assay for studying biofilm formation of uropathogenic *Escherichia coli*. *Archives of Microbiology*, 206(8), p.344.
- Lim, W.S., 2021. Pneumonia overview. *Encyclopedia of Respiratory Medicine*. p 185.

- Lin, M. M., Yang, S. S., Huang, Q. Y. & Cui, G. H. 2024. Effect and mechanism of Qingre Huashi Decoction on Drug-Resistant *Helicobacter pylori*. *World Journal of Gastroenterology, NIH*.
- Listyowati, R., & Qurrohman, M. T. 2024. Pengaruh Kualitas Sputum Terhadap Hasil Pemeriksaan Test Cepat Molekuler Dan Kultur Media Cair Pada Pasien Rawat Inap Di RS Paru dr Ario Wirawan Salatiga. *Journal of Nursing and Health*. 9(4): 471-476.
- Long, M. E., Mallampalli, R. K., & Horowitz, J. C. 2022. Pathogenesis of Pneumonia and Acute Lung Injury. *Clinical Science*. 136(10): 747-61.
- Malešević, M. and Jovčić, B. 2025. Targeting gram-negative bacterial biofilm with innovative therapies: Communication silencing strategies. *Future Pharmacology*, 5(3): 35.
- Meliefste, H.M., van der Mei, H.C., Busscher, H.J. and Krom, B.P. 2024. 'Quantification of viable cells in bacterial biofilms: strengths and limitations of CFU-based approaches', *Frontiers in Microbiology*, **15**, pp. 1–11.
- Marsh, R.L., Binks, M.J., Smith-Vaughan, H.C., Janka, M., Clark, S., Richmond, P., Chang, A.B. and Thornton, R.B. 2022. Prevalence and subtyping of biofilms present in bronchoalveolar lavage from children with protracted bacterial bronchitis or non-cystic fibrosis bronchiectasis: a cross-sectional study. *The Lancet Microbe*. 3(3):215-223.
- Mendhe, S., Deshmukh, K.C., Thombare, R.U., Gawai, R., Jagdale, G., Kuthe, S. & Masare, M., 2023. Impact of Biofilms on Chronic Infections and Medical Challenges. *Cureus*. 15(6): 1–10.
- Metlay, J.P., Waterer, G.W., Long, A.C., Anzueto, A., Brozek, J., Crothers, K. *et al.* 2019. Diagnosis and treatment of adults with community-acquired pneumonia. *American Journal of Respiratory and Critical Care Medicine*, 200(7): 45–67.
- Meyer Sauter, P.M., 2024. Childhood Community-Acquired Pneumonia. *European journal of pediatrics*. 183(3): pp 1129-36.

- Mountcastle, S.E., Kwon, T., Ahn, S.J. and Burne, R.A. 2021 ‘Biofilm viability checker: automated quantification of live and dead biofilms using confocal microscopy’, *npj Biofilms and Microbiomes*, 7(1), pp. 1–10.
- Motamed, H., Bashiri, H., Yari, F., Bozorgomid, A., Rostamian, M., Azarakhsh, Y., Hosseini, A. and Lorestani, R.C., 2021. Association between Community-Acquired Pneumonia and Platelet Indices: A case-control study. *Journal of Acute Disease*. 10(1): 23-27.
- Nairz, M. & Weiss, G. 2025. How to Identify Respiratory Pathogens in Primary Health Care-AReview on the Benefits, Prospects and Pitfalls in Using Point of Care Tests. *Infection*. pp.1-20.
- Natasya, F.A., 2022. Management of Pneumonia. *Jurnal Medika Hutama*. 3: pp 2392-9.
- Nurhayati., Rahmanto, A. P. N., Septiani, D., Mufida, D. C., Khariri, M.Biomed. , Sanjaya, B. R. L., et al. 2025. *Mikrobiologi Kedokteran*. Azzia Karya Bersama, Padang, Sumatera Barat.
- PDPI. 2022. *Pneumonia Komunitas Pedoman Diagnosis dan Penatalaksanaan di Indonesia*. Jakarta. Penerbit Perhimpunan Dokter Paru Indonesia.
- Pecoraro, C., Carbone, D., Deng, D., Cascioferro, S.M., Diana, P. and Giovannetti, E., 2022. Biofilm Formation as Valuable Target to Fight Against Severe Chronic Infections. *Current Medicinal Chemistry*. 29(25): 4307-1.
- Phuong, N.Q., Thach, P.N. and Giang, T.V. 2025. Characteristics and trends of antibiotic resistance in several gram-negative bacteria responsible for pneumonia in intensive care patients in Northern Vietnam, 2022–2024. *IJID Regions*, 16, pp. 6–13.
- Pires, D. P., Meneses, L., Brandao, A. C., Azeredo, J. 2022. An Overview of the Current State of Phage Therapy for the Treatment of Biofilm-Related Infections. *Current Opinion in Virology*. 53: 101209.
- Pokharel, K., Dawadi, B.R. and Shrestha, L.B., 2022. Role of Biofilm in Bacterial Infection and Antimicrobial Resistance. *JNMA: Journal of the Nepal Medical Association*. 60(253): 836.
- Póvoa, P., Coelho, L., Cidade, J. P., Ceccato, A., Morris, A. C., Salluh, J., Nobre, V., Nseir, S., Martin-Loeches, I., Lisboa, T. and Ramirez, P., 2024.

- Biomarkers in Pulmonary Infections: A Clinical Approach. *Annals of Intensive Care*. 14(1): 113.
- Rahman, M. A., Akter, S., Ashrafudoulla, M., Chowdhury, M. A. H., Mahamud, A. S. U., Park, S. H. & Ha, S. D., 2024. Insights into the Mechanisms and Key Factors Influencing Biofilm Formation by *Aeromonas hydrophila* in the Food Industry: A comprehensive Review and Bibliometric Analysis. *Food Research International*. 175: 113671.
- Ramelina, A.S. and Sari, R., 2022. Pneumonia pada Perempuan Usia 56 Tahun: Laporan Kasus. *Proceeding Book Call for Papers Fakultas Kedokteran Universitas Muhammadiyah Surakarta*. 712-19.
- Rather, M.A., Gupta, K. and Mandal, M., 2021. Microbial Biofilm: Formation, Architecture, Antibiotic Resistance, and Control Strategies. *Brazilian Journal of Microbiology*. 1-18.
- Rossaint, J. and Zarbock, A., 2015. Platelets in Leucocyte Recruitment and Function. *Cardiovascular research*. 107(3): 386-95.
- Ryan, R. M., & Mukherjee, D. 2024. The Spectrum of Pneumonia among Intubated Neonates in the Neonatal Intensive Care Unit. *Journal of Perinatology*. 44: 1973–82.
- Sakharnov, N.A., Filatova, E.N., Suslov, N.A. and Utkin, O.V., 2025. Microarrays in the Diagnostics of Community-Acquired Pneumonia Pathogens. *Opera Medica et Physiologica*. 12(1): 136-54.
- Sam, N. A., Sumarni., Sabir, A., Syamsi, N. 2023. Pneumonia: Case Report. *Jurnal Medical Profession (MedPro)*. 5(2): 146-53.
- Sastroasmoro, S., Ismael, S. 2014. *Dasar-Dasar Metodologi Penelitian Klinis*. Sagung Seto, Jakarta.
- Schrottmaier, W.C., Schmuckenschlager, A., Pirabe, A. and Assinger, A. 2022. Platelets in Viral Infections–Brave Soldiers or Trojan Horses. *Frontiers in Immunology*. 13: 856713.
- Setarehaseman, A., Mohammadi, A. and Maitta, R.W., 2025. Thrombocytopenia in sepsis. *Life*. 15(2): .274.
- Shebl, E. and Gulick, P.G., 2023. *Nosocomial Pneumonia*. In StatPearls [Internet]. StatPearls Publishing.

- Silva, N. B. S., Marques, L. A., Roder, D. D. B. 2021. Diagnosis of Biofilm Infections: Current Methods Used, Challenges and Perspectives for the Future. *Journal of Applied Microbiology*. 131: 2148-60.
- Singh, A., Avula, A., Zahn, E. 2024. *Acute Bronchitis*. Treasure Island (FL): StatPearls Publishing.
- Suci, L.N., 2020. Pendekatan Diagnosis dan Tata Laksana Pneumonia pada Anak. *Jurnal Kedokteran Nanggroe Medika*. 3(1): 30-8.
- Sulistiyawati, I., Wahyono, D.J. and Siswandari, W., 2024. Produksi Biofilm oleh Strain *Klebsiella pneumoniae* Resistan Antibiotik. *BioWallacea: Jurnal Penelitian Biologi (Journal of Biological Research)*. 11(2): pp 154-66.
- Suryanto, A.A., 2020. Sistem Pakar Penentuan Pemeriksaan Laboratorium Metode Case Base Reasoning. *SAINTEKBU*, 12(1), pp.18-30
- Thomsen, K., Høiby, N., Jensen, P.Ø., Ciofu, O. and Moser, C. 2022. Immune response to biofilm-growing pulmonary *Pseudomonas aeruginosa* infection. *Biomedicines*. 10(9): 2064.
- Ticona, J.H., Zacccone, V.M. and McFarlane, I.M., 2021. Community-Acquired Pneumonia: A focused review. *Am J Med Case Rep*. 9(1): pp 45-2.
- Tishkowski, K., Zubari, M., 2023. *Erythrocyte Sedimentation Rate*. Treasure Island (FL): StatPearls Publishing.
- Tomic, J., Jakovac, S., Zovko, T., Ljevak, I., Karabatic, S., Mucic, M. & Pravdic, D. 2024. Platelet Indices in Patients With Gram-Negative and Gram-Positive Sepsis: A Retrospective Cross-Sectional Study. *Cureus*. 16(10).
- Ventureira, V.F. and Vera, C.G. 2020. Protracted bacterial bronchitis: a condition to be considered in children. *Anales de Pediatría (English Edition)*. 93(6): .413-415.
- Wiltingh, H., Marchant, J.M. and Goyal, V. 2024. Cough in Protracted Bacterial Bronchitis and Bronchiectasis. *Journal of Clinical Medicine*. 13(11): 3305.
- World Health Organization (WHO). 2019. *Disease Burden And Mortality Estimates*.
- World Health Organization (WHO). 2021. *Global Pneumonia Report 2021*. Geneva: World Health Organization.

- Xu, L., Ji, X., Lin, M., Chen, X. and Su, C. 2025. Respiratory microbiota diversity and composition in recurrent protracted bacterial bronchitis: a cross-sectional study. *Frontiers in Cellular and Infection Microbiology*. 15: 1524116.
- Xu, Y., Dhaouadi, Y., Stoodley, P. and Ren, D., 2020. Sensing the Unreachable: Challenges and Opportunities in Biofilm Detection. *Current opinion in biotechnology*. 64: 79-84.
- Yang, Z., Nair, R.R., Kappachery, S. and Abu-El-Haija, M. 2024 ‘Classical and modern models for biofilm studies’, *Antibiotics*, **13**(12), 1228.
- Yuskawati, D., Astuty, D.A. and Wahyudi, W., 2024. Faktor-Faktor yang Berhubungan dengan Length of Stay Pasien Pneumonia di Rumah Sakit Umum Haji Medan. *MAHESA: Malahayati Health Student Journal*. 4(5): 1649-4.
- Zaki, H.A., Alkahlout, B.H., Shaban, E., Mohamed, E.H., Basharat, K., Elsayed, W.A., et al. 2023. The Battle of the Pneumonia Predictor: A Comprehensive Meta-Analysis Comparing the Pneumonia Severity Index(PSI) and the CURB-65 Score in Predicting Mortality and the Need for ICU Support. *Cureus*. 15(7): e42672.
- Zhang, J., Wurzel, D.F., Perret, J.P., Lodge, C.J., Walters, E.h., Dharmage, S.c. 2024. *Chronic Bronchitis in Childern and Adults : Definitions, Pathophysiology, Pravalence, Risk Factors, and Consequances*. 13(8): 2413