

## DAFTAR PUSTAKA

- Aberle, J. H., Stiasny, K., Kundi, M., & Heinz, F. X. 2012. Mechanistic insights into the impairment of memory B cells and antibody production in the elderly. *AGE*, 35(2), 371–381. doi:10.1007/s11357-011-9371-9
- Achmad, I. 2017. Manajemen Perawatan Pasien Total Care Dan Kejadian Infeksi Nosokomial Di Ruang Icu Rsud Masohi Tahun 2016. *Global Health Science*.
- Alharthi, N. R., Kenawy, G., & Eldalo, A. S. 2019. Antibiotics' prescribing pattern in intensive care unit in Taif, Saudi Arabia. *Saudi Journal for Health Sciences* 8(1):p 47-53, Jan–Apr 2019. DOI: 10.4103/sjhs.sjhs\_12\_19
- Barbier, F., Lisboa, T., & Nseir, S. 2015. Understanding why resistant bacteria are associated with higher mortality in ICU patients. *Intensive Care Medicine*, 42(12), 2066–2069. doi:10.1007/s00134-015-4138-x.
- Barnett, A. G., Page, K., Campbell, M., Martin, E., Rashleigh-Rolls, R., Halton, K., ... Graves, N. 2013. The increased risks of death and extra lengths of hospital and ICU stay from hospital-acquired bloodstream infections: a case–control study. *BMJ Open*, 3(10), e003587. doi:10.1136/bmjopen-2013-003587
- Bekele, T.G., Melaku, B., Demisse, L.B. *et al.* 2024. Outcomes and factors associated with prolonged stays among patients admitted to adult intensive care unit in a resource-limited setting: a multicenter chart review. *Scientific Reports* 14, 13960. <https://doi.org/10.1038/s41598-024-64911-x>
- Besa, J.J.V., Masamayor, E.M.I., Tamondong-Lachica, D.R. *et al.* 2023. Prevalence and predictors of prolonged length of stay among patients admitted under general internal medicine in a tertiary government hospital in Manila, Philippines: a retrospective cross-sectional study. *BMC Health Serv Res* 23, 50 (2023). <https://doi.org/10.1186/s12913-022-08885-4>
- Blair, J., Webber, M., Baylay, A. *et al.* 2015. Molecular mechanisms of antibiotic resistance. *Nat Rev Microbiol* 13, 42–51 (2015). <https://doi.org/10.1038/nrmicro3380>.
- Bollenbach, T. 2015. Antimicrobial interactions: mechanisms and implications for drug discovery and resistance evolution. *Current Opinion in Microbiology*, 27, 1–9. doi:10.1016/j.mib.2015.05.008
- Boncea, E. E., Expert, P., Honeyford, K., Kinderlerer, A., Mitchell, C., Cooke, G. S., Mercuri, L., & Costelloe, C. E. 2021. Association between intrahospital transfer and hospital-acquired infection in the elderly: a retrospective case-control study in a UK hospital network. *BMJ quality & safety*, 30(6), 457–466. <https://doi.org/10.1136/bmjqs-2020-012124>
- Brunton L. L., & Knollmann B.C. 2022. *Goodman & Gilman's: The Pharmacological Basis of Therapeutics*, 14th Edition. McGraw-Hill Education.
- Centers for Disease Control and Prevention. 2019. Antibiotic resistance threats in the United States, 2019. Atlanta, GA: U.S. Department of Health and Human

- Services. Center for Disease control and Prevention, CDC; 2019. <http://dx.doi.org/10.15620/cdc:82532>.
- Centers for Disease Control and Prevention. 2022. Germs Live in the Environment. Center for Disease Control and Prevention. Available at: <https://www.cdc.gov/infectioncontrol/projectfirstline/healthcare/germs-environment.html> (Accessed: December 30, 2022)
- Choi, H. K., Shin, S. D., Ro, Y. S., Kim, D. K., Shin, S. H., & Kwak, Y. H. 2012. A before- and after-intervention trial for reducing unexpected events during the intrahospital transport of emergency patients. *The American journal of emergency medicine*, 30(8), 1433–1440. <https://doi.org/10.1016/j.ajem.2011.10.027>
- Clegg, A., Young, J., Iliffe, S., Rikkert, M. O., & Rockwood, K. 2013. Frailty in elderly people. *Lancet (London, England)*, 381(9868), 752–762. [https://doi.org/10.1016/S0140-6736\(12\)62167-9](https://doi.org/10.1016/S0140-6736(12)62167-9)
- Cole, A. 2014. GPs feel pressurised to prescribe unnecessary antibiotics, survey finds. *BMJ (Clinical research ed.)*, 349, g5238. <https://doi.org/10.1136/bmj.g5238>
- Costelloe, C., Metcalfe, C., Lovering, A., Mant, D., & Hay, A. D. 2010. Effect of antibiotic prescribing in primary care on antimicrobial resistance in individual patients: systematic review and meta-analysis. *BMJ*, 340(may18 2), c2096–c2096. doi:10.1136/bmj.c2096
- Cronin, J. N., Camporota, L., & Formenti, F. 2022. Mechanical ventilation in COVID-19: A physiological perspective. *Experimental physiology*, 107(7), 683–693. <https://doi.org/10.1113/EP089400>
- Curtis, V., Scott, B., & Cardosi, J. 2005. The handwashing handbook; A guide for developing a hygiene promotion program to increase handwashing with soap. *World Bank*.
- Deepashree, R., Sastry, A. S. 2019. *Essentials of Hospital Infection Control*. India: Jaypee Brothers Medical Publishers Pvt. Limited.
- Dellinger, E. P. 2016. Prevention of Hospital-Acquired Infections. *Surgical Infections*, 17(4), 422–426. <https://doi.org/10.1089/sur.2016.048>
- Dorland, W. A. M. 2011. *Dorland's illustrated medical dictionary*. 32nd ed. Philadelphia: Elsevier Saunders.
- El mekes, A., Zahlane, K., Ait said, L., Tadlaoui Ouafi, A., & Barakate, M. 2020. The clinical and epidemiological risk factors of infections due to multi-drug resistant bacteria in an adult intensive care unit of University Hospital Center in Marrakesh-Morocco. *Journal of Infection and Public Health*, 13(4), 637–643. <https://doi.org/10.1016/j.jiph.2019.08.012>.
- El-Mokhtar, M. A., & Hetta, H. F. 2018. Ambulance vehicles as a source of multidrug-resistant infections: a multicenter study in Assiut City, Egypt. *Infection and drug resistance*, 11, 587–594. <https://doi.org/10.2147/IDR.S151783>
- Eskandari, M., Alizadeh Bahmani, A.H., Mardani-Fard, H.A. *et al.* 2022. Evaluation of factors that influenced the length of hospital stay using data mining

- techniques. *BMC Med Inform Decis Mak* 22, 280 (2022). <https://doi.org/10.1186/s12911-022-02027-w>
- European Centre for Disease Prevention and Control. 2019. Healthcare-associated infections acquired in intensive care units. In: *ECDC. Annual epidemiological report for 2017*. Stockholm: ECDC.
- Ferreira, E., Pina, E., Sousa-Uva, M., & Sousa-Uva, A. 2017. Risk factors for health care-associated infections: From better knowledge to better prevention. *American journal of infection control*, 45(10), e103–e107. <https://doi.org/10.1016/j.ajic.2017.03.036>
- Fetene, D., Efa, Y., Abdela, J., Aynalem, A., Bekele, G., & Molla, E. 2022. Prolonged Length Of Hospital Stay And Associated Factors Among Patients Admitted At A Surgical Ward In Selected Public Hospitals Arsi Zone, Oromia, Ethiopia, 2022. 10.1101/2022.10.18.22281234.
- Folic, M. M., Djordjevic, Z., Folic, N., Radojevic, M. Z., & Jankovic, S. M. 2021. Epidemiology and risk factors for healthcare-associated infections caused by *Pseudomonas aeruginosa*. *Journal of chemotherapy (Florence, Italy)*, 33(5), 294–301. <https://doi.org/10.1080/1120009X.2020.1823679>
- Gahlot, R., Nigam, C., Kumar, V., Yadav, G., & Anupurba, S. 2014. Catheter-related bloodstream infections. *International journal of critical illness and injury science*, 4(2), 162–167. <https://doi.org/10.4103/2229-5151.134184>
- Gamalliel, N., Saminarsih, D. & Taher, A. 2021. Indonesia's second wave crisis: Medical doctors' political role is needed more than ever. *Lancet (London, England)* 398(10303), 839–840. [https://doi.org/10.1016/S0140-6736\(21\)01807-9](https://doi.org/10.1016/S0140-6736(21)01807-9).
- Ghosh, S., Salhotra, R., Singh, A., Lyall, A., Arora, G., Kumar, N., Chawla, A., & Gupta, M. 2022. New Antibiotic Prescription Pattern in Critically Ill Patients ("Ant-critic"): Prospective Observational Study from an Indian Intensive Care Unit. *Indian journal of critical care medicine : peer-reviewed, official publication of Indian Society of Critical Care Medicine*, 26(12), 1275–1284. <https://doi.org/10.5005/jp-journals-10071-24366>.
- Glynn, J.R. & Moss, P.A.H. 2020. Systematic analysis of infectious disease outcomes by age shows lowest severity in school-age children. *Sci Data* 7, 329 (2020). <https://doi.org/10.1038/s41597-020-00668-y>.
- Goh, L. P. W., Marbawi, H., Goh, S. M., & Gansau, A. K. 2022. The prevalence of hospital-acquired infections in Southeast Asia (1990- 2022). *J Infect Dev Ctries* 2023; 17(2):139-146. doi:10.3855/jidc.17135.
- Hadi, U. 2009. Antibiotic usage and antimicrobial resistance in indonesia. Retrieved from <https://hdl.handle.net/1887/13821>
- Hadi U., Kuntaman K., Qiptiyah M., Paraton H. 2013. Problem of antibiotic use and antimicrobial resistance in Indonesia: are we really making progress? *Indonesian Journal of Tropical and Infectious Disease* . 2013;4(4):p. 5. doi: 10.20473/ijtid.v4i4.222.
- Han, Y., Zhang, J., Zhang, H. Z., Zhang, X. Y., & Wang, Y. M. 2022. Multidrug-resistant organisms in intensive care units and logistic analysis of risk factors. *World journal of clinical cases*, 10(6), 1795–1805. <https://doi.org/10.12998/wjcc.v10.i6.1795>

- Hart, J., & Phillips, P. 2020. What out-of-hours antibiotic prescribing practices are contributing to antibiotic resistance: a literature review. *British paramedic journal*, 4(4), 25–33. <https://doi.org/10.29045/14784726.2020.12.4.4.25>
- Hepper, H. J., Sieber, C., Walger, P., Bahrmann, P., & Singler, K. 2013. Infections in the elderly. *Critical care clinics*, 29(3), 757–774. <https://doi.org/10.1016/j.ccc.2013.03.016>
- Hickey SM, Sankari A, Giwa AO. Mechanical Ventilation. [Updated 2024 Mar 30]. In: StatPearls [Internet]. *Treasure Island (FL): StatPearls Publishing*; 2024 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK539742/>
- Hossain, M. J., Jabin, N., Ahmmed, F., Sultana, A., Abdur Rahman, S. M., & Islam, M. R. 2023. Irrational use of antibiotics and factors associated with antibiotic resistance: Findings from a cross-sectional study in Bangladesh. *Health science reports*, 6(8), e1465. <https://doi.org/10.1002/hsr2.1465>
- Huang, H., Chen, B., Liu, G., Ran, J., Lian, X., Huang, X., Wang, N., & Huang, Z. 2018. A multi-center study on the risk factors of infection caused by multi-drug resistant *Acinetobacter baumannii*. *BMC Infectious Diseases*, 18(1), 11. <https://doi.org/10.1186/s12879-017-2932-5>.
- Huang, X., Li, G., Yi, L., Li, M., & Wang, J. 2015. The epidemiology of multidrug-resistant bacteria colonization and analysis of its risk factors in intensive care unit. *Zhonghua wei zhong bing ji jiu yi xue*, 27(8), 667–671. <https://doi.org/10.3760/cma.j.issn.2095-4352.2015.08.010>.
- Huppert, L. A. 2021. Huppert's Notes: Pathophysiology and Clinical Pearls for Internal Medicine. McGraw Hill.
- Hyun, H., Song, J. Y., Yoon, J. G., Seong, H., Noh, J. Y., Cheong, H. J., & Kim, W. J. 2022. Risk factor-based analysis of community-acquired pneumonia, healthcare-associated pneumonia and hospital-acquired pneumonia: Microbiological distribution, antibiotic resistance, and clinical outcomes. *PloS one*, 17(6), e0270261. <https://doi.org/10.1371/journal.pone.0270261>
- Izadi, N., Eshрати, B., Mehrabi, Y. et al. 2021. The national rate of intensive care units-acquired infections, one-year retrospective study in Iran. *BMC Public Health* 21, 609 (2021). <https://doi.org/10.1186/s12889-021-10639-6>
- Joosse, P., Saltzherr, T. P., van Lieshout, W. A., van Exter, P., Ponsen, K. J., Vandertop, W. P., Goslings, J. C., & TraumaNet AMC and collaborating hospitals. 2012. Impact of secondary transfer on patients with severe traumatic brain injury. *The journal of trauma and acute care surgery*, 72(2), 487–490. <https://doi.org/10.1097/TA.0b013e318226ed59>
- Kalluru, S., Eggers, S., Barker, A., Shirley, D., Sethi, A. K., Sengupta, S., Yeptho, K., & Safdar, N. 2018. Risk factors for infection with multidrug-resistant organisms in Haryana, India. *American journal of infection control*, 46(3), 341–345. <https://doi.org/10.1016/j.ajic.2017.08.021>
- Kalra, S., Kelkar, D., Galwankar, S. C., Papadimos, T. J., Stawicki, S. P., Arquilla, B., Hoey, B. A., Sharpe, R. P., Sabol, D., & Jahre, J. A. 2014. The emergence of ebola as a global health security threat: from 'lessons learned' to coordinated multilateral containment efforts. *Journal of global infectious diseases*, 6(4), 164–177. <https://doi.org/10.4103/0974-777X.145247>.

- Karimi, G., Kabir, K., Farrokhi, B. *et al.* 2023. Prescribing pattern of antibiotics by family physicians in primary health care. *J of Pharm Policy and Pract* 16, 11. <https://doi.org/10.1186/s40545-023-00515-6>
- Katayama, Y., Kitamura, T., Tanaka, J., Nakao, S., Nitta, M., Fujimi, S., Kuwagata, Y., Shimazu, T., & Matsuoka, T. 2021. Factors associated with prolonged hospitalization among patients transported by emergency medical services: A population-based study in Osaka, Japan. *Medicine*, 100(48), e27862. <https://doi.org/10.1097/MD.00000000000027862>
- Kementerian Kesehatan Republik Indonesia. 2013. Peraturan Menteri Kesehatan Republik Indonesia Nomor 2406/Menkes/Per/XII/2011 tentang Pedoman Umum Penggunaan Antibiotik. Jakarta: Kementerian Kesehatan Republik Indonesia.
- Kementerian Kesehatan Republik Indonesia. 2021. Peraturan menteri Kesehatan Republik Indonesia Nomor 28 Tahun 2021 tentang Pedoman Penggunaan Antibiotik. Jakarta: Kementerian Kesehatan Republik Indonesia.
- Knight, P. H., Maheshwari, N., Hussain, J., Scholl, M., Hughes, M., Papadimos, T. J., Guo, W. A., Cipolla, J., Stawicki, S. P., & Latchana, N. 2015. Complications during intrahospital transport of critically ill patients: Focus on risk identification and prevention. *International journal of critical illness and injury science*, 5(4), 256–264. <https://doi.org/10.4103/2229-5151.170840>
- Kolikof, J., Peterson, K., Baker, A. M. 2023. Central Venous Catheter. [Updated 2023 Jul 26]. In: StatPearls [Internet]. *Treasure Island (FL): StatPearls Publishing*; 2024 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK557798/>
- Kon, K. dan Rai, M. 2016. *Antibiotic Resistance: Mechanism and New Antimicrobial Approaches*. Netherlands: Elsevier Science.
- Kulshrestha, A., & Singh, J. 2016. Inter-hospital and intra-hospital patient transfer: Recent concepts. *Indian journal of anaesthesia*, 60(7), 451–457. <https://doi.org/10.4103/0019-5049.186012>
- Kurniawati, A. F., Satyabakti, P., & Arbiанти, N. 2015. Risk Difference of Multidrug Resistance Organisms (MDROs) According to Risk Factor and Hand Hygiene Compliance. *Jurnal Berkala Epidemiologi*, 3(3), 277–289. <https://doi.org/10.20473/jbe.V3I32015.277-289>
- Lastinger, L. M., Alvarez, C. R., Kofman, A., Konnor, R. Y., Kuhar, D. T., Nkwata, A. *et al.* 2022. Continued increases in HAI incidence during the second year of the COVID-19 pandemic. *Infection Control and Hospital Epidemiology* 44(6), 997–1001. <https://doi.org/10.1017/ice.2022.116>
- Li, F., Song, M., Xu, L., Deng, B., Zhu, S., & Li, X. 2018. Risk factors for catheter-associated urinary tract infection among hospitalized patients: a systematic review and meta-analysis of observational studies. *Journal of Advanced Nursing*. doi:10.1111/jan.13863
- Limato, R., Lazarus, G., Dernison, P., Mudia, M., Alamanda, M., Nelwan, E. J., Sinto, R., Anis, K., van Doorn, H. R., & Hamers, R. L. 2022. Optimizing Antibiotic Use in Indonesia: A systematic Review and Evidence Synthesis to



- Inform Opportunities for Intervention. *The Lancet Regional Health* Volume 2, 100013. DOI:<https://doi.org/10.1016/j.lansea.2022.05.002>
- Lisboa, T., Diaz, E., Sa-Borges, M., et al. 2008. The ventilator-associated pneumonia PIRO score: a tool for predicting ICU mortality and healthcare resources use in ventilator associated pneumonia. *Chest* 134:1208–1216.
- Magiorakos, A. P., Srinivasan, A., Carey, R. B., Carmeli, Y., Falagas, M. E., Giske, C. G., Harbarth, S., Hindler, J. F., Kahlmeter, G., Olsson-Liljequist, B., Paterson, D. L., Rice, L. B., Stelling, J., Struelens, M. J., Vatopoulos, A., Weber, J. T., & Monnet, D. L. 2012. Multidrug-resistant, extensively drug-resistant and pandrug-resistant bacteria: An international expert proposal for interim standard definitions for acquired resistance. *Clinical Microbiology and Infection*, 18(3), 268–281. <https://doi.org/10.1111/j.1469-0691.2011.03570.x>
- Magira, E. E., Islam, S., & Niederman, M. S. 2018. Multi-drug resistant organism infections in a medical ICU: Association to clinical features and impact upon outcome. *Medicina Intensiva (English Edition)*, 42(4), 225–234. doi:10.1016/j.medine.2017.07.003
- Marfil-Garza, B. A., Belaunzarán-Zamudio, P. F., Gullías-Herrero, A., Zuñiga, A. C., Caro-Vega, Y., Kershenovich-Stalnikowitz, D., & Sifuentes-Osornio, J. 2018. Risk factors associated with prolonged hospital length-of-stay: 18-year retrospective study of hospitalizations in a tertiary healthcare center in Mexico. *PLOS ONE*, 13(11), e0207203. doi:10.1371/journal.pone.0207203
- Marshall, J. C., Bosco, L., Adhikari, N. K., Connolly, B., Diaz, J. v., Dorman, T., Fowler, R. A., Meyfroidt, G., Nakagawa, S., Pelosi, P., Vincent, J. L., Vollman, K., & Zimmerman, J. 2017. What is an intensive care unit? A report of the task force of the World Federation of Societies of Intensive and Critical Care Medicine. *Journal of Critical Care*, 37, 270–276. <https://doi.org/10.1016/J.JCRC.2016.07.015>
- Masse, J., Elkalioubie, A., Blazejewski, C., Ledoux, G., Wallet, F., Poissy, J., ... Nseir, S. 2016. Colonization pressure as a risk factor of ICU-acquired multidrug resistant bacteria: a prospective observational study. *European Journal of Clinical Microbiology & Infectious Diseases*, 36(5), 797–805. doi:10.1007/s10096-016-2863-x.
- Medina-Polo, J., Gil-Moradillo, J., González-Díaz, A., Abad-López, P., Santos-Pérez de la Blanca, R., Hernández-Arroyo, M., Peña-Vallejo, H., Téigell-Tobar, J., Calzas-Montalvo, C., Caro-González, P., Miranda-Utrera, N., & Tejido-Sánchez, Á. 2021. Observational study over 8-year period evaluating microbiological characteristics and risk factor for isolation of multidrug-resistant organisms (MDRO) in patients with healthcare-associated infections (HAIs) hospitalized in a urology ward. *GMS infectious diseases*, 9, Doc04. <https://doi.org/10.3205/id000073>
- Monegro, A. F., Muppidi, V., & Regunath, H. 2022. *Hospital Acquired Infections. In StatPearls*. StatPearls Publishing.
- Munita, J. M., & Arias, C. A. 2016. Mechanisms of Antibiotic Resistance. *Microbiology spectrum*, 4(2), 10.1128/microbiolspec.VMBF-0016-2015. <https://doi.org/10.1128/microbiolspec.VMBF-0016-2015>

- Murray, C. J., Ikuta, K. S., Sharara, F., Swetschinski, L., Robles Aguilar, G., Gray, A., Han, C., Bisignano, C., Rao, P., Wool, E., Johnson, S. C., Browne, A. J., Chipeta, M. G., Fell, F., Hackett, S., Haines-Woodhouse, G., Kashef Hamadani, B. H., Kumaran, E. A. P., McManigal, B., ... Naghavi, M. 2022. Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis. *The Lancet*, 399(10325), 629–655. [https://doi.org/10.1016/S0140-6736\(21\)02724-0](https://doi.org/10.1016/S0140-6736(21)02724-0).
- Needham, D. M., Davidson, J., Cohen, H., Hopkins, R. O., Weinert, C., Wunsch, H., Zawistowski, C., Bemis-Dougherty, A., Berney, S. C., Bienvenu, O. J., Brady, S. L., Brodsky, M. B., Denehy, L., Elliott, D., Flatley, C., Harabin, A. L., Jones, C., Louis, D., Meltzer, W., Muldoon, S. R., ... Harvey, M. A. 2012. Improving long-term outcomes after discharge from intensive care unit: report from a stakeholders' conference. *Critical care medicine*, 40(2), 502–509. <https://doi.org/10.1097/CCM.0b013e318232da75>.
- Newman, D. K., Cumbee, R. P., Rovner, E. S. 2018. Indwelling (Transurethral and Suprapubic) Catheters. In: *Clinical Application of Urologic Catheters, Devices and Products*. Springer, Cham. [https://doi.org/10.1007/978-3-319-14821-2\\_1](https://doi.org/10.1007/978-3-319-14821-2_1).
- Notoatmodjo, S. 2014. *Metodologi Penelitian Kesehatan*. 2<sup>nd</sup> Ed. Jakarta: PT Rineka Cipta.
- Ntambi, S., Sutningsih, D., Hussein, M. A., & Laksono, B. 2023. Distribution and Prevalence of Multidrug-Resistant Organisms (MDROs) Among MDRO-Positive Individuals at Dr. Kariadi Hospital. *Jurnal Epidemiologi Kesehatan Komunitas* 8 (2), 2023, 103-109.
- Nurfikri, A. & Nurhasanah. 2022. Infection Control Risk Assessment Pelayanan Kebidanan di Klinik Pratama Kota dan Kabupaten Cirebon. *Jurnal Kesehatan Vokasional*, Vol. 7 No. 3. DOI <https://doi.org/10.22146/jkesvo.72014>.
- Ofori-Asenso, R., Liew, D., Mårtensson, J., & Jones, D. 2020. The Frequency of, and Factors Associated with Prolonged Hospitalization: A Multicentre Study in Victoria, Australia. *Journal of clinical medicine*, 9(9), 3055. <https://doi.org/10.3390/jcm9093055>
- O'Neill, J. 2016. *Nat Rev Drug Discov* 15, 526. <https://doi.org/10.1038/nrd.2016.160>.
- Oussayeh, I., Moussaid, F., Traoré, A. O., Touiti, A., Elkhayari, M., Sora, N., & Hachimi, A. 2021. Article Epidemiology, risk factors and outcomes of multidrug-resistant bacteria colonization in a Moroccan Medical Intensive Care Unit. <https://doi.org/10.11604/pamj>.
- Qureshi, S., Maria, N., Zeeshan, M., Irfan, S., & Qamar, F. N. 2021. Prevalence and risk factors associated with multi-drug resistant organisms (MDRO) carriage among pediatric patients at the time of admission in a tertiary care hospital of a developing country. A cross-sectional study. *BMC Infectious Diseases*, 21(1). <https://doi.org/10.1186/s12879-021-06275-5>
- Rosenthal, V. D., Myatra, S. N., Divatia, J. V., Biswas, S., Shrivastava, A., Al-Ruzzieh, M. A. et al. 2022. The impact of COVID-19 on health care-associated infections in intensive care units in low- and middle-income countries: International Nosocomial Infection Control Consortium (INICC)

- findings. *International Journal of Infectious Diseases* 118, 83–88. <https://doi.org/10.1016/j.ijid.2022.02.041>.
- Ryan, K. J., Ahmad, N., Alspaugh, J. A., Drew, W. L., Pottinger, P., Reller, L. B., Reller, M. E., Sterling, C. R., Weissman, S., Vedantam, G., & Steinbrink, J. M. 2022. *Sherris & Ryan's Medical Microbiology*. 8th ed. New York: Mc Graw Hill.
- Sadigov, A. 2018. Risk Factors For Multidrug-Resistant Pathogens In Hospital-Associated And Ventilator-Associated Pneumonia: Combined Therapy Is Helpful For Treatment? *Chest Journal*, 154(4), 179A. doi:10.1016/j.chest.2018.08.157
- Sapardi, *et al.* 2018. Analisis Pelaksanaan Manajemen Pencegahan dan Pengendalian Healthcare Associated Infections di RSI Ibnu Sina. *Jurnal Endurance* 3(2) Juni 2018 (358-366). <https://doi.org/10.22216/jen.v3i2.1230>.
- Sari, P. A. K. & Tola, S. M. 2020. Kajian Penggunaan Antibiotik Spektrum Luas Pada Pasien Intensive Care Unit (ICU) RS. Islam Jakarta Cempaka Putih Selama Periode 1 Januari 2016 – 31 Desember 2016. *Yarsi Journal of Pharmacology*, Vol. 1 No. 2 (2020): July 2020. <https://doi.org/10.33476/yjp.v1i2.2201>
- Sastry, A. S. & Deepashree, R. 2019. *Essentials of Hospital Infection Control*. New Delhi: Jaypee Brothers Medical Publishers.
- Savitri, A. A., Nuryastuti, T., & Puspitasari, I. 2020. Analisis Rasionalitas Penggunaan Antibiotik Empiris dan Definitif pada Terapi Pneumonia dan Profil Antibiotikogram di Rumah Sakit Akademik Universitas Gadjah Mada. *Majalah Farmaseutik* Vol. 18 No. 2: 172-178. DOI: 10.22146/farmaseutik.v1i1.60556.
- Schmidt J. M. 2012. Stopping the chain of infection in the radiology suite. *Radiologic technology*, 84(1), 31–51.
- Sinto, R., Lie, K.C., Setiati, S. *et al.* 2022. Blood culture utilization and epidemiology of antimicrobial-resistant bloodstream infections before and during the COVID-19 pandemic in the Indonesian national referral hospital. *Antimicrob Resist Infect Control* 11, 73 (2022). <https://doi.org/10.1186/s13756-022-01114-x>
- Soedarsono, S., Widyarningsih, P. D., & Mertaniasih, N. M. 2021. The Risk Factors of Multidrug-Resistant Organisms in Hospitalized Patients with Community-Acquired Pneumonia in Dr. Soetomo Hospital Surabaya, Indonesia. *Acta medica Indonesiana*, 53(2), 169–176.
- Spapen, H., Jacobs, R., Van Gorp, V., *et al.* 2011. Renal and neurological side effects of colistin in critically ill patients. *Ann Intensive Care* 1:14.
- Stewart, S., Robertson, C., Kennedy, S., Kavanagh, K., Haahr, L., Manoukian, S., Mason, H., Dancer, S., Cook, B., & Reilly, J. 2021. Personalized infection prevention and control: identifying patients at risk of healthcare-associated infection. *The Journal of hospital infection*, 114, 32–42. <https://doi.org/10.1016/j.jhin.2021.03.032>
- Stewart, S., Robertson, C., Pan, J., Kennedy, S., Haahr, L., Manoukian, S., ... Reilly, J. 2021. Impact of healthcare-associated infection on length of stay. *Journal of Hospital Infection*, 114, 23–31. doi:10.1016/j.jhin.2021.02.026



- Stiller, A., Schröder, C., Gropmann, A., Schwab, F., Behnke, M., Geffers, C., Sunder, W., Holzhausen, J., & Gastmeier, P. 2017. ICU ward design and nosocomial infection rates: a cross-sectional study in Germany. *The Journal of hospital infection*, 95(1), 71–75. <https://doi.org/10.1016/j.jhin.2016.10.011>
- Sun, L., Liu, S., Wang, J., & Wang, L. 2019. Analysis of risk factors for multiantibiotic-resistant infections among surgical patients at a children's hospital. *Microbial Drug Resistance*, 25(2), 297–303. <https://doi.org/10.1089/mdr.2018.0279>
- Taslim, E. & Maskoen, T. T. 2016. Pola Kuman Terbanyak Sebagai Agen Penyebab Infeksi di *Intensive Care Unit* pada Beberapa Rumah Sakit di Indonesia. *Anesthesia & Critical Care* Vol. 34 No. 1.
- Taylor-Robinson, A. W. 2019. Contamination of Emergency Medical Vehicles and Risk of Infection to Paramedic First Responders and Patients by Antibiotic-Resistant Bacteria: Risk Evaluation and Recommendations from Ambulance Case Studies. *Healthcare Access - Regional Overviews [Working Title]*. doi:10.5772/intechopen.87219
- Tolentino, J. C., Schadt, J., Bird, B., Yanagawa, F. S., Zanders, T. B., & Stawicki, S. P. 2018. Adverse Events during Intrahospital Transfers: Focus on Patient Safety. *Vignettes in Patient Safety - Volume 3*. doi:10.5772/intechopen.76777
- Toprak, E., Veres, A., Yildiz, S., Pedraza, J. M., Chait, R., Paulsson, J., & Kishony, R. 2013. Building a morbidostat: an automated continuous-culture device for studying bacterial drug resistance under dynamically sustained drug inhibition. *Nature Protocols*, 8(3), 555–567. doi:10.1038/nprot.2013.021
- Touat, M., Brun-Buisson, C., Opatowski, M., Salomon, J., Guillemot, D., Tuppin, P., de Lagasnerie, G., & Watier, L. 2021. Costs and Outcomes of 1-year post-discharge care trajectories of patients admitted with infection due to antibiotic-resistant bacteria. *Journal of Infection*, 82(3), 339–345. <https://doi.org/10.1016/j.jinf.2021.02.001>.
- Tsao, F. Y., Kou, H. W., & Huang, Y. C. 2015. Dissemination of methicillin-resistant *Staphylococcus aureus* sequence type 45 among nursing home residents and staff in Taiwan. *Clinical microbiology and infection : the official publication of the European Society of Clinical Microbiology and Infectious Diseases*, 21(5), 451–458. <https://doi.org/10.1016/j.cmi.2014.12.019>
- van Duin, D., & Paterson, D. L. 2016. Multidrug-Resistant Bacteria in the Community: Trends and Lessons Learned. In *Infectious Disease Clinics of North America* (Vol. 30, Issue 2, pp. 377–390). W.B. Saunders. <https://doi.org/10.1016/j.idc.2016.02.004>
- Vasudevan, A., Mukhopadhyay, A., Goh, E. Y.-Y., Li, J., & Tambyah, P. A. 2013. Risk factors for infection/colonization caused by resistant Gram negative bacilli in critically ill patients (An observational study of 1633 critically ill patients). *Preventive Medicine*, 57, S70–S73. doi:10.1016/j.ypmed.2012.12.003.
- Vincent, J. L., Sakr, Y., Singer, M., Martin-Loeches, I., MacHado, F. R., Marshall, J. C., Finfer, S., Pelosi, P., Brazzi, L., Aditjaningsih, D., Timsit, J. F., Du, B., Wittebole, X., MácA, J., Kannan, S., Gorordo-Delsol, L. A., de Waele, J. J.,

- Mehta, Y., Bonten, M. J. M., ... Angus, D. C. 2020. Prevalence and Outcomes of Infection among Patients in Intensive Care Units in 2017. *JAMA - Journal of the American Medical Association*, 323(15), 1478–1487. <https://doi.org/10.1001/jama.2020.2717>.
- Widyanita, A., & Listiowati, E. 2014. Hubungan Tingkat Pengetahuan Hand Hygiene Dengan Kepatuhan Pelaksanaan Hand Hygiene Pada Peserta Program Pendidikan Profesi Dokter. *Biomedika*. <https://doi.org/10.23917/biomedika.v6i1.281>.
- Wikantiananda, T., Tjahjadi, A. I., & Sudjud, R. W. 2019. Antibiotic Utilization Pattern in Tertiary Hospital Intensive Care Unit in West Java, Indonesia. *International Journal of Integrated Health Sciences*, 2019;7(2): 81-7. 6; [http://doi.org/10.15850/ijhs.v7n2.1633IJIHS.2019;7\(2\):81-7](http://doi.org/10.15850/ijhs.v7n2.1633IJIHS.2019;7(2):81-7).
- Witt, L. S., Howard-Anderson, J. R., Jacob, J. T., & Gottlieb, L. B. 2023. The impact of COVID-19 on multidrug-resistant organisms causing healthcare-associated infections: a narrative review. *JAC-Antimicrobial Resistance*, Volume 5, Issue 1, February 2023, dlac130. <https://doi.org/10.1093/jacamr/dlac130>.
- World Health Organization. 2011. The burden of health care-associated infection worldwide. *Infection Prevention and Control*.
- World Health Organization. 2014. *Antimicrobial Resistance: Global Report on Surveillance*. Geneva, Switzerland: World Health Organization; 2014
- World Health Organization. 2015. *Worldwide Situation Analysis Response to Antimicrobial Resistance*. USA: World Health Organization.
- World Health Organization. 2018. Antibiotic Guidelines: Cook Islands 2018. Polynesia: WHO. Available at: <https://platform.who.int/docs/default-source/mca-documents/policy-documents/guideline/COK-AD-17-05-GUIDELINE-2018-eng-Antibiotic-Guidelines.pdf>
- World Health Organization. 2020. Antibiotic resistance. World Health Organization. Available at: <https://www.who.int/news-room/fact-sheets/detail/antibiotic-resistance> (Accessed: December 26, 2022).
- World Health Organization. 2021. Antimicrobial resistance. Available at: <https://www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance>. (Accessed 6th January 2023).
- World Health Organization. 2022. The WHO AWaRe (Access, Watch, Reserve) antibiotic book. Licence: CC BY-NC-SA 3.0 IGO
- World Health Organization. 2022. Time to act to curb antimicrobial resistance now. Available at: <https://www.who.int/indonesia/news/detail/12-10-2022-time-to-act-to-curb-antimicrobial-resistance-now>. (Accessed 6th January 2023)
- World Health Organization. 2022. WHO launches first ever global report on infection prevention and control. <https://www.who.int/news/item/06-05-2022-who-launches-first-ever-global-report-on-infection-prevention-and-control>. (Accessed: January 6, 2023).
- Wulandari, L. P. L., Khan, M., Liverani, M., Ferdiana, A., Mashuri, Y. A., Probandari, A., Wibawa, T., Batura, N., Schierhout, G., Kaldor, J., Guy, R., Law, M., Day, R., Hanefeld, J., Parathon, H., Jan, S., Yeung, S., & Wiseman, V. 2021. Prevalence and determinants of inappropriate antibiotic dispensing

- at private drug retail outlets in urban and rural areas of Indonesia: a mixed methods study. *BMJ global health*, 6(8), e004993. <https://doi.org/10.1136/bmjgh-2021-004993>
- Yimenu, D. K., Emam, A., Elemineh, E., & Atalay, W. 2019. Assessment of Antibiotic Prescribing Patterns at Outpatient Pharmacy Using World Health Organization Prescribing Indicators. *Journal of Primary Care & Community Health*. 2019;10. doi:10.1177/2150132719886942
- Yoshida, K., Cologne, J. B., Cordova, K., Misumi, M., Yamaoka, M., Kyoizumi, S., Hayashi, T., Robins, H., & Kusunoki, Y. 2017. Aging-related changes in human T-cell repertoire over 20years delineated by deep sequencing of peripheral T-cell receptors. *Experimental gerontology*, 96, 29–37. <https://doi.org/10.1016/j.exger.2017.05.015>
- Zhou, Y., Yu, F., Yu, Y., Zhang, Y., & Jiang, Y. 2021. Clinical significance of MDRO screening and infection risk factor analysis in the ICU. *American journal of translational research*, 13(4), 3717–3723.
- Zilberberg, M. D., Shorr, A. F. 2011 Ventilator-associated pneumonia as a model for approaching costeffectiveness and infection prevention in the ICU. *Curr Opin Infect Dis* 24:385–389.