

DAFTAR PUSTAKA

- Adebisi, YA., Alaran, A.J., Okereke, M., 2021, COVID-19 and Antimicrobial Resistance: A Review, *Infectious Diseases: Research and Treatment*, 14, 11786337211033870.
- Agodi, A., Barchitta, M., Cipresso, R., Giaquinta, L., Romeo, M., Denaro, C., 2007, *Pseudomonas aeruginosa* carriage, colonization, and infection in ICU patients, *Intensive Care Med*, 33(7):1155-1161.
- Ahmad, M, Khan, A.U., 2019, Global economic impact of antibiotic resistance: A review, *J Glob Antimicrob Resist*, 19:313-316.
- Alcock, B.P., Huynh, W., Chalil, R., Smith, K.W., Raphenya, A.R., Wlodarski, M.A., Edalatmand, A., Petkau, A., Syed, S.A., Tsang, K.K., Baker, S.J.C., Dave, M., McCarthy, M.C., Mukiri, K.M., Nasir, J.A., Golbon, B., Imtiaz, H., Jiang, X., Kaur, K., Kwong, M., Liang, Z.C., Niu, K.C., Shan, P., Yang, J.Y.J., Gray, K.L., Hoad, G.R., Jia, B., Bhando, T., Carfrae, L.A., Farha, M.A., French, S., Gordzevich, R., Rachwalski, K., Tu, M.M., Bordeleau, E., Dooley, D., Griffiths, E., Zubyk, H.L., Brown, E.D., Maguire, F., Beiko, R.G., Hsiao, W.W.L, Brinkman, F.S.L., Van, Domselaar, G., McArthur, A.G., 2023, CARD 2023: expanded curation, support for machine learning, and resistome prediction at the Comprehensive Antibiotic Resistance Database. *Nucleic Acids Res*, 6;51(D1): D690-D699.
- Arnold, B.J., Huang, I.T., Hanage, W.P., 2022, Horizontal gene transfer and adaptive evolution in bacteria, *Nat Rev Microbiol*, 20(4):206-218.
- Asri, Rizkia., Roslaili, Edison., 2017, Identifikasi MRSA pada Diafragma Stetoskop di Ruang Rawat Inap dan HCU Bagian Penyakit Dalam. *Jurnal Kesehatan Andalas*. 6. 239.
- Ayliffe, G.A., Collins, B.J., Lowbury, E.J., 1966, Cleaning and disinfection of hospital floors, *Br Med J*. 2(5511):442-5,
- Babakhani, S., Oloomi, M., 2018, Transposons: the agents of antibiotic resistance in bacteria, *J Basic Microbiol*, 58(11), 905–917.
- Baker, M.A., Sands, K.E., Huang, S.S., Kleinman, K., Septimus, E.J., Varma, N., Blanchard, J., Poland, R.E., Coady, M.H., Yokoe, D.S., Fraker, S., Froman, A., Moody, J., Goldin, L., Isaacs, A., Kleja, K., Korwek, K.M., Stelling, J., Clark, A., Platt, R., Perlin, J.B., 2019, CDC Prevention Epicenters Program.

The Impact of Coronavirus Disease 2019 (COVID-19) on Healthcare-Associated Infections, *Clin Infect Dis*, 74(10):1748-1754.

Bakkali, M.E.L., Hmid, K., Kari, K.E., Zouhdi, M., Mzibri, M.E.L., 2015, Characterization of Bacterial Strains and their Resistance Status in Hospital Environment, *J Trop Dis*, 4:180.

Barraud, O., Ravry, C., François, B., Daix, T., Ploy, M.C., Vignon, P., 2019, Shotgun metagenomics for microbiome and resistome detection in septic patients with urinary tract infection, *Int J Antimicrob Agents*, 54(6):803-808.

Barriere, S.L., Clinical., 2015, Economic and societal impact of antibiotic resistance, *Expert Opin Pharmacother*, 16(2):151-3.

Basak S, Singh P, Rajurkar M., 2016, Multidrug Resistant and Extensively Drug Resistant Bacteria: A Study. *J Pathog*, :4065603.

Bezoen, A., Haren, W., and Hanekamp, J.C., 1999, The Emergence of a Debate: AGPs and Public Health, https://www.researchgate.net/publication/261286820_Emergence_of_a_Debate_AGPs_and_Public_Health

Bhatta, D.R., Hamal, D., Shrestha, R., Hosuru, S., Baral, N., Singh, R.K., Nayak, N., Gokhale, S., 2018, Bacterial contamination of frequently touched objects in a tertiary care hospital of Pokhara, Nepal: how safe are our hands? *Antimicrob Resist Infect Control*. 6;7:97.

Bo, Liu., Mihai, P., 2009, ARDB—Antibiotic Resistance Genes Database, *Nucleic Acids Research*, Volume 37, D443–D447.

Bradford, P., 2001, Extended spectrum beta lactamase in the 21 Century: characterization, epidemiology, and detection of this important resistant threat, *Clinical Microbiol Rev*, 14(4), 933–951.

Cai, Y., Venkatachalam, I., Tee, N.W., Tan, T.Y., Kurup, A., Wong, S.Y., Low, C.Y., Wang, Y., Lee, W., Liew, Y.X., Ang, B., Lye, D.C., Chow, A., Ling, M.L., Cuvin, C.A., Ooi, S.T., Pada, S.K., Lim, C.H., Tan, J.W.C., Chew, K.L., Nguyen, V.H., Fisher, D.A., Goossens, H., Kwa, A.L., Tambyah, P.A., Hsu, L.Y., Marimuthu, K., 2007, Prevalence of Healthcare-Associated Infections and Antimicrobial Use Among Adult Inpatients in Singapore Acute-Care Hospitals: Results From the First National Point Prevalence Survey, *Clin Infect Dis*, S61-S67.

Cassini, E. Y., Gebreab, Y. B., Achila, O. O., Tekeste, D. G., Kesete, R., Ghirmay, R., Kiflay, R., & Tesfu, T., 2019, Methicillin-Resistant *Staphylococcus aureus* (MRSA): Prevalence and Antimicrobial Sensitivity Pattern among Patients-A Multicenter Study in Asmara, Eritrea, *The Canadian journal of infectious diseases & medical microbiology*, 8321834.

Chan, 2015, Global action plan on antimicrobial resistance, *World Health Organization*, <https://apps.who.int/iris/handle/10665/193736>

- Chaudhry, T.H., Aslam, B., Arshad, M.I., Alvi, R.F., Muzammil, S., Yasmeen, N., Aslam, M.A., Khurshid, M., Rasool, M.H., Baloch, Z., 2020, Emergence of blaNDM-1 Harboring *Klebsiella pneumoniae* ST29 and ST11 in Veterinary Settings and Waste of Pakistan, *Infect Drug Resist*, 26;13:3033-3043.
- Chemaly, R.F., Simmons, S., Dale, C., Ghantaji, S.S., Rodriguez, M., Gubb, J., Stibich, M., 2014, The role of the healthcare environment in the spread of multidrug-resistant organisms: update on current best practices for containment. *Therapeutic Advances in Infectious Disease*, 2(3–4), 79–90.
- Chen, L., Yang, J., Yu, J., Yao, Z., Sun, L., Shen, Y., Jin, Q., 2005, VFDB: a reference database for bacterial virulence factors, *Nucleic Acids Res.* 1;3: D325-8.
- Cheng, N.C., Yu, Y.C., Tai, H.C., Hsueh, P.R., Chang, S.C., Lai, S.Y., Yi, W.C., Fang, C.T., 2012, Recent trend of necrotizing fasciitis in Taiwan: focus on monomicrobial *Klebsiella pneumoniae* necrotizing fasciitis, *Clin Infect Dis*, 55(7):930-9.
- Chiang, H.Y., Perencevich, E.N., Nair, R., Nelson, R.E., Samore, M., Khader, K., Chorazy, M.L., Herwaldt, L.A., Blevins, A., Ward, M.A., Schweizer, M.L., 2017, Incidence and Outcomes Associated with Infections Caused by Vancomycin-Resistant Enterococci in the United States: Systematic Literature Review and Meta-Analysis, *Infect Control Hosp Epidemiol*, 38(2):203-215.
- Chng, K.R., Li, C., and Bertrand, D., 2020, Cartography of opportunistic pathogens and antibiotic resistance genes in a tertiary hospital environment. *Nat Med* 26, 941–951.
- Christoff, A.P., Sereia, A.F., Hernandes, C., de Oliveira, L.F., 2019, Uncovering the hidden microbiota in hospital and built environments: New approaches and solutions. *Exp Biol Med*, ;244(6):534-542.
- Comar, M., D'Accolti, M., Cason, C., Soffritti, I., Campisciano, G., Lanzoni, L., Bisi, M., Volta, A., Mazzacane, S., Caselli, E., 2019, Introduction of NGS in Environmental Surveillance for Healthcare-Associated Infection Control. *Microorganisms*, 16;7(12):708.
- Corona, F., Martinez, J.L., 2013, Phenotypic Resistance to Antibiotics, *Antibiotics* 18;2(2):237-55.
- Courvalin, P., 2006, Synergism between beta-lactams and glycopeptides against VanA-type methicillin-resistant *Staphylococcus aureus* and heterologous expression of the vanA operon, *Antimicrob Agents Chemother*. 3622-30.
- Courvalin, 2006, Vancomycin Resistance in Gram-Positive Cocci, *Clinical Infectious Diseases*, Volume 42, S25–S34.

- Cowen, L.E., Sanglard, D., Howard, S.J., Rogers, P.D., and Perlin, D.S., 2004, Mechanisms of Antifungal Drug Resistance. *Cold Spring Harb Perspect Med*. 5(7), a019752.
- Cox, G., Wright G.D., 2013, Intrinsic antibiotic resistance: mechanisms, origins, challenges, and solutions. *Int J Med Microbiol*. 303(6-7):287-92.
- Creamer, E., Humphreys, H., 2008, The contribution of beds to healthcare-associated infection: the importance of adequate decontamination. *J Hosp Infect*. 69(1):823.
- Culyba, M.J., Van, Tyne, D., 2021, Bacterial evolution during human infection: Adapt and live or adapt and die. *PLoS Pathog*, vol. 17,9 e1009872.
- D'Arcy, N., 2014, Exploring the nature and diversity of microorganisms in healthcare and educational settings, Doctoral thesis , UCL (University College London). <https://discovery.ucl.ac.uk/id/eprint/1426614/>
- Dancer, S.J., 2014, Controlling hospital-acquired infection: focus on the role of the environment and new technologies for decontamination, *Clin Microbiol Rev*, 27(4):665-90.
- Dancer, S.J., 2008, Importance of the environment in meticillin-resistant *Staphylococcus aureus* acquisition: the case for hospital cleaning. *Lancet Infect Dis*, 8(2):101-13.
- Darouiche, RO., 2001, Device-associated infections: a macroproblem that starts with microadherence. *Clin Infect Dis*.1;33(9):1567-72.
- Davies, J., Davies, D., 2010, Origins and evolution of antibiotic resistance, *Microbiol Mol Biol Rev*, 74,3: 417-33.
- De, Oliveira, D.M.P., Forde, B.M., Kidd, T.J., Harris, P.N.A., Schembri, M.A., Beatson, S.A., 2022, Paterson, D.L., Walker, M.J., Antimicrobial Resistance in ESKAPE Pathogens, *Clin Microbiol Rev*, 33(3): e00181-19.
- Deshpande, A., Cadnum J.L., Fertelli, D., Sitzlar, B., Thota, P., Mana, T.S., Jencson, A., Alhmidi, H., Koganti, S., Donskey, C.J., 2017, Are hospital floors an underappreciated reservoir for transmission of health care-associated pathogens?, *Am J Infect Control*, 45(3):336-338.
- Dettenkofer, M., Wenzler, S., Amthor, S., Antes, G., Motschall, E., Daschner, F.D., 2004, Does disinfection of environmental surfaces influence nosocomial infection rates? A systematic review, *Am J Infect Control*, 32(2):84-9,
- Dewi, N.M.R.P., Tarini, N.M.A., Fatmawati, N.N.D., 2019, Deteksi Gen fimH Pada Isolat Klinis *Klebsiella pneumoniae* di RSUP Sanglah Denpasar, *E-Jurnal Medika Udayana*, 8.4.

- Diaz, G.C.A., Zimmer, S.M., Klein, M., Jernigan, J.A., 2005, Comparison of mortality associated with vancomycin-resistant and vancomycin-susceptible enterococcal bloodstream infections: a meta-analysis. *Clin Infect Dis*.41(3):327-33.
- Dicks, L.M.T., Al Gburi, A., Comito, N., Kashtanov, D., Chikindas, M.L., 2017, Control of Biofilm Formation: Antibiotics and Beyond, *Appl Environ Microbiol*, 17;83(3): e02508-16.
- Duerink, D.O., Roeshadi D, Wahjono H, Lestari ES, Hadi U, Wille JC, De Jong RM, Nagelkerke NJ, Van den Broek PJ. (2006). Study Group Antimicrobial Resistance in Indonesia Prevalence and Prevention' Amrin. Surveillance of healthcare-associated infections in Indonesian hospitals. *J Hosp Infect*:219-29.
- Duerink, D. O., Farida, H., Nagelkerke, N. J. D., Wahyono, H., Keuter, M., Lestari, E. S., Van den Broek, P. J., 2006, Preventing nosocomial infections: improving compliance with standard precautions in an Indonesian teaching hospital. *Journal of Hospital Infection*, 64(1), 36–43.
- Dwiprahasto, I., 2005, Kebijakan Untuk Meminimalkan Risiko Terjadinya Resistensi. *JMPK*, 8(4), 177–181.
- ElRakaiby, M.T., Gamal-Eldin, S., Amin, M.A., Aziz, R.K., 2019, Hospital Microbiome Variations as Analyzed by High-Throughput Sequencing, *OMICS*, 23(9):426-438.
- Esolen, L.M., Thakur, L., Layon, A.J., Fuller, T.A., Harrington, D.J., Jha, K., Kariyawasam, S., 2018, The efficacy of self-disinfecting bedrail covers in an intensive care unit, *Am J Infect Control*, 46(4):417-419.
- Etebu, Ebimieowei., Arike, K.I., 2016, Antibiotics: Classification and mechanisms of action with emphasis on molecular perspectives, *International Journal of Applied Microbiology and Biotechnology Research*, 4. 90-101.
- Fluit, A.C., Visser, M.R., Schmitz, F.J., 2001, Molecular detection of antimicrobial resistance, *Clin Microbiol Rev*, 14(4), 836–871.
- Foxman, B., & Riley, L., 2001, Molecular epidemiology: Focus on infection. *American Journal of Epidemiology*, 153 (12), 1135–1141.
- Friedman, N.D., Temkin, E., Carmeli, Y., 2016, The negative impact of antibiotic resistance. *Clin Microbiol Infect*, 22(5):416-22.
- Friedman, C., 2015, The Costs of Healthcare-Associated Infections, *IFIC Basic Concepts of Infection Control*, 3rd edition, ©International Federation of Infection Control 47 Wentworth Green Portadown, BT62 3WG, N Ireland, UK.

- Frost, L.S., Leplae, R., Summers, A.O., Toussaint, A., 2005, Mobile genetic elements: the agents of open source evolution, *Nat Rev Microbiol*, 3(9):722-32.
- Furuya, E.Y., Lowy, F.D., 2006, Antimicrobial-resistant bacteria in the community setting, *Nat Rev Microbiol*, 4(1):36-45.
- Gaikwad, S.S., Chafle, S.A., Morris, P.S., & Avari, J.G., 2016, Development and evaluation of bilayer tablets of combination of antibiotics for the treatment of sexually transmitted disease. *Brazilian Journal of Pharmaceutical Sciences*, 52, 555-566.
- Galvin, S., Dolan, A., Cahill, O., Daniels, S., 2012 Microbial monitoring of the hospital environment: why and how? *J Hosp Infect*. 82(3):143-51.
- Gao, B., Chi, L., Zhu, Y., Shi, X., Tu, P., Li, B., Yin, J., Gao, N., Shen, W., Schnabl, B., 2021, An Introduction to Next Generation Sequencing Bioinformatic Analysis in Gut Microbiome Studies, *Biomolecules*, 11(4):530.
- Gaur, A.H., Bundy, D.G., Gao, C., Werner, E.J., Billett, A.L., Hord, J.D., Siegel, J.D., Dickens, D., Winkle, C., Miller, M.R., 2013, Children's Hospital Association Hematology-Oncology Quality Transformation Collaborative Project. Surveillance of hospital-acquired central line-associated bloodstream infections in pediatric hematology-oncology patients: lessons learned, challenges ahead. *Infect Control Hosp Epidemiol*. 34(3):316-20.
- Gautret, P., Lagier, J.C., Parola, P., Hoang, V.T., Meddeb, L., Mailhe, M., Doudier, B., Courjon, J., Giordanengo, V., Vieira, V.E., Tissot, Dupont, H., Honoré, S., Colson, P., Chabrière, E., La, Scola, B., Rolain, J.M., Brouqui, P., Raoult, D., 2020, Hydroxychloroquine and azithromycin as a treatment for COVID-19: results of an open-label non-randomized clinical trial, *Int J Antimicrob Agents*. 56(1), 105949.
- Gellatly, S.L., Hancock, R.E., 2013, *Pseudomonas aeruginosa*: new insights into pathogenesis and host defenses, *Pathog Dis*, 2013 67(3):159-73.
- Grice, E.A., Segre, J.A., 2011, The skin microbiome. *Nat Rev Microbiol*, 9(4):244-53. doi: 10.1038/nrmicro2537.
- Grohmann, E., Michaelis, C., 2023, Horizontal Gene Transfer of Antibiotic Resistance Genes in Biofilms, *Antibiotics*, 12(2):328.
- Gueimonde, M., Sánchez, B., Reyes-Gavilán, C., Margolles, A., 2013, Antibiotic resistance in probiotic bacteria, *Front Microbiol*,
- Guggenbichler, J. P., Assadian, O., Boeswald, M., Kramer, A., 2011, Incidence and clinical implications of nosocomial infections associated with implantable biomaterials-catheters, ventilator-associated pneumonia, urinary tract infections, *GMS Krankenhaushygiene Interdisziplinär*, 6(1):18.

- Hadi, U., 2006, Antimicrobial Resistance and Antibiotic Use in Low-Income and Developing Countries., *Folia Medica Indonesiana*, Vol. 42, No. 3, J:183 - 195.
- Harding, C.M., Hennon, S.W., Feldman, M.F., 2018, Uncovering the mechanisms of *Acinetobacter baumannii* virulence, *Nat Rev Microbiol*, 16(2):91-102.
- Hawkey, P.M., Jones, A.M., 2009, The changing epidemiology of resistance, *J Antimicrob Chemother*, 64 Suppl 1: i3–10.
- Hawkey, P.M., 1998, The origins and molecular basis of antibiotic resistance, *British Medical Journal*, 317.
- Hayden, M.K., Blom, D.W., Lyle, E.A., Moore, C.G., Weinstein, R.A., 2008, Risk of hand or glove contamination after contact with patients colonized with vancomycin-resistant enterococcus or the colonized patients' environment. *Infect Control Hosp Epidemiol*, 29(2):149-54.
- Heller, L.C., Edelblute, C.M., 2018, Long-term metabolic persistence of gram-positive bacteria on health care-relevant plastic, *Am J Infect Control*, 46(1):50-53.
- Hsu, J., 2020, How covid-19 is accelerating the threat of antimicrobial resistance. *BMJ*. 369:m1983.
- Hu, Y., Wang, X., Tucker, J.D., Little, P., Moore, M., Fukuda, K., Zhou, X., 2018, Knowledge, Attitude, and Practice with Respect to Antibiotic Use among Chinese Medical Students: A Multicentre Cross-Sectional Study, *Int J Environ Res Public Health*, 4;15(6):1165.
- Hu, H., Johani, K., Gosbell, I. B., Jacombs, A. S. W., & Almatroudi, A., 2015, Intensive care unit environmental surfaces are contaminated by multidrug-resistant bacteria in biofilms: combined results of conventional culture, pyrosequencing, scanning electron microscopy, and confocal laser microscopy, *The Journal of hospital infection*, 91(1), 35–44.
- 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., Xiao, Y., Gao, H., Guo, L., Xie, J., Wang, G., Jiang, R., Gao, Z., Jin, Q., Wang, J., Cao, B., 2020, Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China, *Lancet*, 15;395(10223):497-506.
- Huang, S.S., Datta, R., Platt, R., 2006, Risk of acquiring antibiotic-resistant bacteria from prior room occupants. *Arch Intern Med*, 166(18):1945-51.
- Hunter, P., 2020, The spread of the COVID-19 coronavirus: Health agencies worldwide prepare for the seemingly inevitability of the COVID-19 coronavirus becoming endemic, *EMBO Rep*. 3;21(4):e50334.

- Huslage, K., Rutala, W.A., Sickbert-Bennett, E., Weber, D.J., 2010, A quantitative approach to defining "high-touch" surfaces in hospitals. *Infect Control Hosp Epidemiol*, 31(8):850-3
- Ignacio, B.V., Carlos, A.R., Purificación, P.A., Rosa, M.D., Javier, M.L., 2017, Impact on Morbidity, Mortality, and Length of Stay of Hospital-Acquired Infections by Resistant Microorganisms, *Clinical Infectious Diseases*, Vol 65, Issue 4, 644–652.
- Imperial, I.C., Ibane, J.A., 2016, Addressing the Antibiotic Resistance Problem with Probiotics: Reducing the Risk of Its Double-Edged Sword Effect, *Front Microbiol*, vol. 7/1983.
- Inweregbu, K., Dave, J., & Pittard, A., 2005, Nosocomial infections. Continuing Education in Anaesthesia, *Critical Care, and Pain*, 5(1), 14–17.
- Jaka, H.M., Liwa, A., 2015, Antimicrobial resistance: Mechanisms of action of antimicrobial agents, 10.1007/978-0.
- Jensen, C.N., Søren S., Lars., 2019, Risking Antimicrobial Resistance A collection of one-health studies of antibiotics and their social and health consequences: A collection of one-health studies of antibiotics and their social and health consequences, Palgrave Macmillan Cham, XIX, 220.
- Jeske, H.C., Tiefenthaler, W., Hohlrieder, M., Hinterberger, G., Benzer, A., 2007, Bacterial contamination of anaesthetists' hands by personal mobile phone and fixed phone use in the operating theatre, *Anaesthesia*, 62(9):904-6.
- Jose, J.M., Arias, C.A., 2016, Mechanisms of Antibiotic Resistance. *Microbiol Spectr*. VMBF-0016-2015.
- Kannan, A., Pratyusha, K., Thakur, R., Sahoo, M.R., Jindal, A., 2023, Infections in Critically Ill Children. *Indian J Pediatr*. 90(3):289-297.
- Kaoutar, B., Joly, C., L'Hériveau, F., Barbut, F., Robert, J., Denis, M., and Taright, N., 2004, Nosocomial infections and hospital mortality: A multicenter epidemiological study, *Journal of Hospital Infection*, 58(4), 268–275.
- Karami-Zarandi, M., Douraghi, M., Vaziri, B., Adibhesami, H., Rahbar, M., Yaseri, M., 2017, Variable spontaneous mutation rate in clinical strains of multidrug-resistant *Acinetobacter baumannii* and differentially expressed proteins in a hypermutator strain, *Mutat Res*. 800-802:37-45.
- Karkman, A., Do, T.T., Walsh, F., Virta, M.P.J., 2018, Antibiotic-Resistance Genes in Waste Water. *Trends Microbiol*. 26(3):220-228.
- Kemenkes, RI., 2013, Riset Kesehatan Dasar; RISKESDAS. Jakarta: Balitbang Kemenkes RI. Jakarta
- Kemenkes, RI., 2012, Persyaratan Pedoman Teknis Bangunan Rumah Sakit Ruang Perawatan Intensif. Jakarta

- Kemenkes, RI., 2017, Pedoman Pencegahan dan Pengendalian Infeksi di Fasilitas Pelayanan Kesehatan. Jakarta
- Khurshid, M., Rasool, M.H., Ashfaq, U.A., Aslam, B., Waseem, M., Xu, Q., Zhang, X., Guo, Q., Wang, M., 2020, Dissemination of blaOXA-23-harboursing carbapenem-resistant *Acinetobacter baumannii* clones in Pakistan. *J Glob Antimicrob Resist.* 21:357-362.
- Koganti. S., Alhmidi, H., Tomas, M.E., Cadnum, J.L., Jencson, A., Donskey, C.J., 2016, Evaluation of Hospital Floors as a Potential Source of Pathogen Dissemination Using a Nonpathogenic Virus as a Surrogate Marker, *Infect Control Hosp Epidemiol*, 37(11):1374-1377.
- Kollef, M.H., 1998, Improving the appropriateness and effectiveness of ICU practices. *Intensive Care Med*, 24, 201–203.
- Kramer, A., Schwebke, I., & Kampf, G., 2006, How long do nosocomial pathogens persist on inanimate surfaces? A systematic review, *BMC Infectious Diseases*, 6(1), 130.
- Kucers, A., Scrowe, S., Grayson, M.L., 2017, The Use of Antibiotics: A Clinical Review of Antibacterial, Antifungal, and Antiviral Drugs. 5th Edition, Butterworth-Heinemann, Boston, MA.
- Kunhikannan, S., Thomas, C.J., Franks, A.E., Mahadevaiah, S., Kumar, S., Petrovski, S., 2021, Environmental hotspots for antibiotic resistance genes, *Microbiologyopen*. 10(3):e1197.
- Lax, S., Sangwan, N., Smith, D., Larsen, P., Handley, K.M., Richardson, M., Guyton, K., Krezalek, M., Shogan, B.D., Defazio, J., Flemming, I., Shaksheer, B., Weber, S., Landon, E., Garcia-Houchins, S., Siegel, J., Alverdy, J., Knight, R., Stephens, B., Gilbert, J.A., 2017, Bacterial colonization and succession in a newly opened hospital, *Sci Transl Med*. 24;9(391):eaah6500.
- Laxminarayan, R., Duse, A., Wattal, C., Zaidi, A. K. M., Wertheim, H. F. L., Sumpradit, N., 2013, Antibiotic resistance-the need for global solutions, *The Lancet Infectious Diseases*, 13 (12), 1057–1098.
- Lebreton. F., van Schaik, W., McGuire, A.M., Godfrey, P., Griggs, A., Mazumdar, V., Corander, J., Cheng, L., Saif, S., Young, S., Zeng, Q., Wortman, J., Birren, B., Willems, R.J., Earl, A.M., Gilmore, M.S., 2013, Emergence of epidemic multidrug-resistant *Enterococcus faecium* from animal and commensal strains. *mBio*, 20;4(4):e00534-13.
- Lerminiaux, N.A., Cameron, A.D.S., 2019, Horizontal transfer of antibiotic resistance genes in clinical environments, *Can J Microbiol*, 65(1):34-44.

- Lestari, E.S., Severin, J.A., Filius, P.M., 2008, Antimicrobial Resistance in Indonesia: Prevalence and Prevention (AMRIN). Antimicrobial resistance among commensal isolates of *Escherichia coli* and *Staphylococcus aureus* in the Indonesian population inside and outside hospitals, *Eur J Clin Microbiol Infect Dis*; 27:45-51.
- Lestari, E. S., Severin, J.A., 2009, Antimicrobial Resistance in Indonesia: Prevalence, Determinants, and Genetic Basis [Thesis]. Rotterdam (NL): Erasmus Universiteit Rotterdam.
- Leung, E., Weil DE., Raviglione, M., Nakatani, H., 2011, World Health Organization World Health Day Antimicrobial Resistance Technical Working Group the WHO policy package to combat antimicrobial resistance Bull World Health Organ. 10.2471/BLT.11.088435.
- Li, J., Wang, J., Yang, Y., 2020, Etiology and antimicrobial resistance of secondary bacterial infections in patients hospitalized with COVID-19 in Wuhan, China: a Retrospective analysis, *Antimicrob Resist Infect Control* 9, 153.
- Lien, T.Q., Lan, P.T., Chuc, N.T.K., Hoa, N.Q., Nhung, P.H., Thoa, N.T.M., Diwan, V., Tamhankar, A.J., Stålsby, L.C., 2017, Antibiotic Resistance and Antibiotic Resistance Genes in *Escherichia coli* Isolates from Hospital Wastewater in Vietnam. *Int J Environ Res Public Health*. 29;14(7):699.
- Liu, H., Fei, C., Zhang, Y., Liu, G., Liu, J., & Dong, J., 2017, The presence, distribution and molecular epidemiology of multi-drug-resistant Gram-negative bacilli from medical personnel of intensive care units in Tianjin, China, 2007–2015. *Journal of Hospital Infection*, 96(2), 101–110.
- Llor, C., Bjerrum, L., 2014, Antimicrobial resistance: risks associated with antibiotic overuse and initiatives to reduce the problem, *Ther Adv Drug Saf*. 5(6):229-41.
- Lowe, P.S., 1982, Comment on Aminoglycoside Antibiotic Evaluation. *Drug Intelligence & Clinical Pharmacy*. 16(6):492-492.
- MacVane, S.H., 2017, Antimicrobial Resistance in the Intensive Care Unit: A Focus on Gram-Negative Bacterial Infections, *J Intensive Care Med*, 32(1):25-37.
- Magiorakos AP, Srinivasan A, Carey RB, Carmeli Y, Falagas ME, Giske CG, Harbarth S, Hindler JF, Kahlmeter G, Olsson-Liljequist B, Paterson DL, Rice LB, Stelling J, Struelens MJ, Vatopoulos A, Weber JT, Monnet DL., 2012, Multidrug-resistant, extensively drug-resistant and pandrug-resistant bacteria: an international expert proposal for interim standard definitions for acquired resistance. *Clin Microbiol Infect*. 18(3):268-81.

- Mahmood HY, Jamshidi S, Sutton JM, Rahman KM., 2016, Current Advances in Developing Inhibitors of Bacterial Multidrug Efflux Pumps. *Curr Med Chem*. 23(10):1062-81.
- Mathers, A.J., Peirano, G., Pitout, J.D., 2015, The role of epidemic resistance plasmids and international high-risk clones in the spread of multidrug-resistant Enterobacteriaceae, *Clin Microbiol Rev*, 28(3):565-91.
- Mbelle, N.M., Feldman, C., Osei, S.J., Maningi, N.E., Modipane, L., Essack, S.Y., 2019, The Resistome, Mobilome, Virulome and Phylogenomics of Multidrug-Resistant *Escherichia coli* Clinical Isolates from Pretoria, South Africa, *Sci Rep*, 11;9(1):16457.
- McCarlie, S., Boucher, C.E., Bragg, R.R., 2020, Molecular basis of bacterial disinfectant resistance, *Drug Resist Updat*. 48:100672.
- McArthur, A.G., Waglechner, N., Nizam, F., Yan, A., Azad, M.A., Baylay, A.J., Bhullar, K., Canova, M.J., De Pascale, G., Ejim, L., Kalan, L., King, A.M., Koteva, K., Morar, M., Mulvey, M.R., O'Brien, J.S., Pawlowski, A.C., Piddock, L.J., Spanogiannopoulos, P., Sutherland, A.D., Tang, I., Taylor, P.L., Thaker, M., Wang, W., Yan, M., Yu, T., Wright, G.D., 2013, The comprehensive antibiotic resistance database, *Antimicrob Agents Chemother*, 57(7):3348-57.
- McNeil, S.A., Galecki, A.T., Bradley, S.F., 2003, Mupirocin-based decolonization of Staphylococcus aureus carriers in residents of 2 long-term care facilities: a randomized, double-blind, placebo-controlled trial, *Clin Infect Dis*, 37(11):1467-74.
- Michael, A., Lane, M., Leroy, Bernard, C., Camins, M.S.C.I., 2010, Prophylactic Antibiotics in Aesthetic Surgery, *Aesthetic Surgery Journal*, Volume 30, Issue 6, Pages 859–871.
- Miller, S., Chiu, C.Y., 2019, Clinical Metagenomic Next-Generation Sequencing for Pathogen Detection, *Annu Rev Pathol*. 24; 14:319-338.
- Montero, J.G., Lerma, F.Á., Gallego, P.R., Martínez, M.P., Rocha, L.Á., Gaité, F.B., Rodríguez, J.Á., González M.C., Moreno, I.F., Baño, J.R., Campos, J., Andrés, J.M., Varela, Y.A., Gay, C.R., García, M.S., 2015, Scientific Expert Committee for Zero Resistance Project. Combatting resistance in intensive care: the multimodal approach of the Spanish ICU "Zero Resistance" program. *Crit Care*.16;19(1):114.
- Morehead, M.S., Scarbrough, C., 2018, Emergence of Global Antibiotic Resistance, *Prim Care*. 45(3):467-484.
- Munita, J.M., Arias, C.A., 2016, Mechanisms of Antibiotic Resistance, *Microbiol Spectr*. 10.1128/microbiolspec.

- Murni, I.K., Duke, T., Kinney, S., Daley, A.J., Wirawan, M.T., Soenarto, Y., 2022, Risk factors for healthcare-associated infection among children in a low-and middle-income country, *BMC Infect Dis*, 26;22(1):406.
- Murni, I. K., Duke, T., Daley, A. J., Kinney, S., & Soenarto, Y., 2016, Antibiotic Resistance and Mortality in Children with Nosocomial Bloodstream Infection in a Teaching Hospital in Indonesia. *Southeast Asian Journal of Tropical Medicine and Public Health*, 47, (5PG-983-993), 983–993.
- Muurinen, J., Muziasari, W.I., Hultman, J., Pärnänen, K., Narita, V., Lyra, C., Fadlillah, L.N., Rizki, L.P., Nurmi, W., Tiedje, J.M., Dwiprahasto, I., Hadi, P., Virta, M.P.J., 2022, Antibiotic Resistomes and Microbiomes in the Surface Water along the Code River in Indonesia Reflect Drainage Basin Anthropogenic Activities. *Environ Sci Technol*. 1;56(21):14994-15006.
- Muzslay, M., Moore, G., Alhussaini, N., & Wilson, A.P.R., 2017, ESBL-producing Gram-negative organisms in the healthcare environment as a source of genetic material for resistance in human infections, *Journal of Hospital Infection*, 95(1), 59–64.
- Niederman, M.S., 2009, Making sense of scoring systems in community acquired pneumonia, *Respirology*, 14(3):327-35.
- Nseir, S., Blazejewski, C., Lubret, R., Wallet, F., Courcol, R., Durocher, A., 2011, Risk of acquiring multidrug-resistant Gram-negative bacilli from prior room occupants in the intensive care unit, *Clin Microbiol Infect*, 17(8):1201-8.
- Olivares, J., Bernardini, A., Garcia-Leon, G., Corona, F.B., Sanchez, M., Martinez, J.L., 2013, The intrinsic resistome of bacterial pathogens, *Front Microbiol*, 30;4:103.
- Olson, R.D., Assaf, R., Brettin, T., Conrad, N., Cucinell, C., Davis, J.J., Dempsey, D.M., Dickerman, A., Dietrich, E.M., Kenyon, R.W., Kuscuoglu, M., Lefkowitz, E.J., Lu, J., Machi, D., Macken, C., Mao, C., Niewiadomska, A., Nguyen, M., Olsen, G.J., Overbeek, J.C., Parrello, B., Parrello, V., Porter, J.S., Pusch, G.D., Shukla, M., Singh, I., Stewart, L., Tan, G., Thomas, C., Van Oeffelen, M., Vonstein, V., Wallace, Z.S., Warren, A.S., Wattam, A.R., Xia, F., Yoo, H., Zhang, Y., Zmasek, C.M., Scheuermann, R.H., Stevens, R.L., 2023, Introducing the Bacterial and Viral Bioinformatics Resource Center (BV-BRC): a resource combining PATRIC, IRD and ViPR, *Nucleic Acids Res*, 2023, 6;51(D1):D678-D689.
- Paczosa, M.K., Meccas, J., 2016, *Klebsiella pneumoniae*: Going on the Offense with a Strong Defense, *Microbiol Mol Biol Rev*, 15;80(3):629-61.
- Paritosh, P., Junfeng, S., Robert, L., Danner, C., Natanson, 2012, Excess Deaths Associated with Tigecycline After Approval Based on Noninferiority Trials, *Clinical Infectious Diseases*, Volume 54, Issue 12, Pages 1699–1709.

- Patel, S.N., Memari, N., Shahinas, D., Toye, B., Jamieson, F.B., Farrell, D.J., 2013, Linezolid resistance in *Enterococcus faecium* isolated in Ontario, Canada. *Diagn Microbiol Infect Dis*, 77(4):350-3.
- Paterson, D.L., Bonomo, R.A, 2005, Extended-spectrum beta-lactamases: a clinical update. *Clin Microbiol Rev*. 18(4):657-86.
- Paterson, G.K., Morgan, F.J., Harrison, E.M., 2014, Peacock, S.J., Parkhill, J., Zadoks, R.N., Holmes, M.A., 2014, Prevalence and properties of mecC methicillin-resistant *Staphylococcus aureus* (MRSA) in bovine bulk tank milk in Great Britain *J Antimicrob Chemother*. 69(3), 598–602.
- Patrick, C.J.A., 2015, Controlled, crossover study of a persistent antiseptic to reduce hospital-acquired infection, *Afr J Infect Dis*, 9(1):6-9.
- Percival, S. L., Suleman, L., Donelli, G., 2015, Healthcare-Associated infections, medical devices, and biofilms: Risk, tolerance, and control, *Journal of Medical Microbiology*, 64(4), 323–334.
- Perez-Mon, C., Qi, W., Vikram, S., Frossard, A., Makhalanyane, T., Cowan, D., Frey, B., 2021, Shotgun metagenomics reveals distinct functional diversity and metabolic capabilities between 12000-year-old permafrost and active layers on Muot da Barba Peider (Swiss Alps), *Microb Genom*, 7(4):000558.
- Perry, J.A., Westman, E.L., Wright, G.D., 2014, The antibiotic resistome: what's new? *Curr Opin Microbiol*, :45-50.
- Pinholt, M., Larner-Svensson, H., Littauer, P., Moser, C.E., Pedersen, M., Lemming L.E., Ejlersen, T., Søndergaard, T.S., Holzknecht, B.J., Justesen, U.S., Dzajic, E., Olsen, S.S., Nielsen, J.B., Worning, P., Hammerum, A.M., Westh, H., Jakobsen, L., 2015, Multiple hospital outbreaks of vanA *Enterococcus faecium* in Denmark, 2012-13, investigated by WGS, MLST and PFGE. *J Antimicrob Chemother*, 70(9):2474-82.
- Pirzadian, J., Souhoka, T., Herweijer, M., van Heel, L., van Wamel, W.J.B., Goossens, R.H.M, Severin, J.A., Vos, M.C., 2022, Impact of sink design on bacterial transmission from hospital sink drains to the surrounding sink environment tested using a fluorescent marker, *J Hosp Infect*, 127:39-43.
- Pittet, D., Allegranzi, B., Sax, H., Dharan, S., Pessoa-Silva, C.L., Donaldson, L., Boyce, J.M., 2006, WHO Global Patient Safety Challenge, World Alliance for Patient Safety. Evidence-based model for hand transmission during patient care and the role of improved practices, *Lancet Infect Dis*, 2006, 6(10):641-52.
- Pittet, D., Dharan, S., Touveneau, S., Sauvan, V., Perneger, T.V., 1999, Bacterial contamination of the hands of hospital staff during routine patient care, *Arch Intern Med*, 26;159(8):821-6.

- Prestinaci, F., Pezzotti, P., Pantosti, A., 2015, Antimicrobial resistance: a global, multifaceted phenomenon, *Pathog Glob Health*, 109(7):309-18.
- Raro, O.H.F., Gallo, S.W., Ferreira, C.A.S, Oliveira, S.D., 2017, Carbapenem-resistant *Acinetobacter baumannii* contamination in an intensive care unit, *Rev Soc Bras Med Trop*, 167–172.
- Rasool, Mohamed, H., Adnan, A., Chang, E.R., Yury, G., Khaled, A., Mahmoud, 2016, Antibacterial Activity of Ti₃C₂Tx MXene, *ACS nano*, 10(3), 3674–3684.
- Rawson, T.M., Moore, L.S.P., Zhu, N., Ranganathan, N., Skolimowska, K., Gilchrist, M., Satta, G., Cooke, G., Holmes, A., 2020, Bacterial and Fungal Coinfection in Individuals with Coronavirus: A Rapid Review to Support COVID-19 Antimicrobial Prescribing. *Clin Infect Dis*. 71(9):2459-2468.
- Rehman, R., Ahmed, K., Shaikh, S., 2019, Stethoscope as a Vector for Nosocomial Bacterial Infections, *J Coll Physicians Surg Pak*, 29(6):592.
- Reygaert, W.C., 2018, An overview of the antimicrobial resistance mechanisms of bacteria, *AIMS Microbiol*, 482-501.
- Rodríguez-Acelas, A.L., de Abreu Almeida, M., Engelman, B., Cañon-Montañez, W., 2017, Risk factors for health care-associated infection in hospitalized adults: Systematic review and meta-analysis, *Am J Infect Control*, 45(12):e149-e156.
- Roeshadi, D., Wahjono, H., Lestari, E. S., Hadi, U., Wille, J. C., De Jong, R. M., Nagelkerke, N. J. D., Van den Broek, P. J., Gardjito, W., Kolopaking, E. P., Wirjoatmodjo, K., Suwandojo, E., Parathon, H., Zairina, N., Isbandiati, E., Deborah, K., Mertaniasih, N.M., 2006, Surveillance of healthcare-associated infections in Indonesian hospitals, *Journal of Hospital Infection*, 62(2), 219-229.
- Rohr, U., Kaminski, A., Wilhelm, M., Jurzik, L., Gatermann S, Muhr, G., 2009, Colonization of patients and contamination of the patients' environment by MRSA under conditions of single-room isolation, *Int J Hyg Environ Health*, 212(2):209-15.
- Rosenthal, Murray, Christopher, J.L., 2019, Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis, *The Lancet*, 399.10325: 629-655.
- Roux, D., Aubier, B., Cochard, H., Quentin, R., Mee-Marquet, N., 2013, HAI Prevention Group of the Réseau des Hygiénistes du Centre. Contaminated sinks in intensive care units: an underestimated source of extended-spectrum beta-lactamase-producing Enterobacteriaceae in the patient environment, *J Hosp Infect*, 2013, 85(2):106-11.

- Russotto, V., Cortegiani, A., Raineri, S.M., Giarratano, A., 2015, Bacterial contamination of inanimate surfaces and equipment in the intensive care unit, *J Intensive Care*, 10;3:54.
- Russotto, V., Cortegiani, A., Raineri, S. M., 2015, Bacterial contamination of inanimate surfaces and equipment in the intensive care unit, *Journal of Intensive Care*, 3(1), 54.
- Saharman, Y.R., Karuniawati, A., Severin, J.A., 2021, Infections and antimicrobial resistance in intensive care units in lower-middle income countries: a scoping review, *Antimicrob Resist Infect Control* 10, 22,2021.
- Sanaei, M., Setayesh, N., Sepehrizadeh, Z., Mahdavi, M., Yazdi M.H., 2020, Nanobodies in Human Infections: Prevention, Detection, and Treatment, *Immunol Invest*, 49(8):875-896.
- Sax, H., Allegranzi, B., Uçkay, I., Larson, E., Boyce, J, Pittet D., 2007, My five moments for hand hygiene': a user-centred design approach to understand, train, monitor and report hand hygiene, *J Hosp Infect*, 2007, 67(1):9-21.
- Schabrun, S., Chipchase, L., 2006, Healthcare equipment as a source of nosocomial infection: a systematic review, *J Hosp Infect*, 63(3):239-45.
- Schembri, M.A., Mavromatis, C.H., Bokil, N.J., Totsika, M., Kakkanat, A., Schaale, K., Cannistraci, C.V., Ryu, T., Beatson, S.A., Ulett, G.C., Sweet, M.J., Ravasi, T., 2015, The co-transcriptome of uropathogenic *Escherichia coli*-infected mouse macrophages reveals new insights into host-pathogen interactions, *Cell Microbiol*, 17(5):730-46.
- Sharma, P., Sudhir, K.T., Pawas, G., Vikas, S., Rameshwar, S., 2014, Antibiotic resistance among commercially available probiotics, *Food Research International*, Vol.57,176-195.
- Sharpton, T.J., 2014, An introduction to the analysis of shotgun metagenomic data. *Front Plant Sci*. Vol.5-209.
- Shih, M.J., Lee, N.Y., Lee, H.C., Chang, C.M., Wu, C.J., Chen, P.L., Ko, N.Y., Ko, W.C., 2008, Risk factors of multidrug resistance in nosocomial bacteremia due to *Acinetobacter baumannii*: a case-control study. *J Microbiol Immunol Infect*. 04-41(2):118-23.
- Shin, B., Park, W., 2017, Antibiotic resistance of pathogenic *Acinetobacter* species and emerging combination therapy, *J Microbiol*, :837-849.
- Shrivastava, S.R., Shrivastava, P.S., Ramasamy, J., 2018, World health organization releases global priority list of antibiotic-resistant bacteria to guide research, discovery, and development of new antibiotics, *J Med Soc*, 32:76-7.

- Siahaan, S., Herman, M.J., Fitri, N., 2020, Antimicrobial Resistance Situation in Indonesia: A Challenge of Multisector and Global Coordination, *J Trop Med*, 2783300.
- Siegel, J.D., Rhinehart, E., Jackson, M., Chiarello, L., 2007, Health Care Infection Control Practices Advisory Committee. 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Health Care Settings, *Am J Infect Control*, 35: S65-164.
- Singer, A.C., Xu, Q., Keller, V.D.J., 2019, Translating antibiotic prescribing into antibiotic resistance in the environment: A hazard characterisation case study, *PLoS One*, 14(9): e0221568.
- Sørensen, S.J., Bailey, M., Hansen, L.H., Kroer, N., Wuertz, S., 2005, Studying plasmid horizontal transfer in situ: a critical review, *Nat Rev Microbiol*, 3(9):700-10.
- Stefani, S., Agodi, A., 2000, Molecular epidemiology of antibiotic resistance, *Int J Antimicrob Agents*, 13(3):143-53.
- Storr, J., Twyman, A., Zingg, W., Damani, N., Kilpatrick, C., Reilly, J., Price, L., Egger, M., Grayson, M.L., Kelley, E., Allegranzi, B., 2017, WHO Guidelines Development Group. Core components for effective infection prevention and control programmes: new WHO evidence-based recommendations, *Antimicrob Resist Infect Control*, 10;6:6.
- Sugiani, Franciscus, G., Lia, K., Emmy, H.P., Ayodhia, P.P., Firza, G., Suzanne, G., Ida, P., Menno, D.D., Frank, Van, L., Constance, S., 2017, Antimicrobial resistance in uropathogens and appropriateness of empirical treatment: a population-based surveillance study in Indonesia, *Journal of Antimicrobial Chemotherapy*, 72 (5): 1469–1477.
- Sutter, Emma, M., Uzo, C., Nicole, D., Ashley, M., Maranich, D.R., 2016, Changing Susceptibility of *Staphylococcus aureus* in a US Pediatric Population. *Pediatrics*, 137 (4): e20153099.
- Tabah, A., Koulenti, D., Laupland, K., Misset, B., Valles, J., Bruzzi, C.F., Paiva, J.A., Cakar, N., Ma, X., Eggimann, P., Antonelli, M., Bonten, M.J., Csomos, A., Krueger, W.A., Mikstacki, A., Lipman, J., Depuydt, P., Vesin, A., Garrouste, O.M., Zahar, J.R., Blot, S., Carlet, J., Brun-Buisson, C., Martin, C., Rello, J., Dimopoulos, G., Timsit, J.F., 2012, Characteristics and determinants of outcome of hospital-acquired bloodstream infections in intensive care units: the EUROBACT International Cohort Study, *Intensive Care Med*. 38(12):1930-45.
- Tacconelli, E., Carrara, E., Savoldi, A., Harbarth, S., Mendelson, M., Monnet, D.L., Pulcini, C., Kahlmeter, G., Kluytmans, J., Carmeli, Y., Ouellette, M., Outterson, K., Patel, J., Cavaleri, M., Cox, E.M., Houchens, C.R., Grayson, M.L., Hansen, P., Singh, N., Theuretzbacher, U., Magrini, N., 2018, WHO Pathogens Priority List Working Group. Discovery, research, and

development of new antibiotics: the WHO priority list of antibiotic-resistant bacteria and tuberculosis, *Lancet Infect Dis*, 18(3):318-327.

Taj Z, Rasool MH, Almatroudi A, Saqalein M, Khurshid M. Extensively Drug-resistant *Acinetobacter baumannii* Belonging to International Clone II from A Pet Cat with Urinary Tract Infection; The First Report from Pakistan. *Pol J Microbiol*. 2020;69(2):1-4. doi: 10.33073/pjm-2020-017. PMID: 32343078; PMCID: PMC7324854.

Tajeddin, E., Rashidan, M., Razaghi, M., Javadi, S.S., Sherafat, S.J., Alebouyeh, M., Sarbazi, M.R., Mansouri, N., Zali, M.R., 2016, The role of the intensive care unit environment and health-care workers in the transmission of bacteria associated with hospital acquired infections. *J Infect Public Health*. 9(1):13-23.

Tan, B., Xian-Yang, X., Zhang, X., Peng-Zhou, X., Wang, P., Xue, J., Ling-Huang, Y., Li-Li, Y., Fu-Qiu, J., 2014, Epidemiology of pathogens and drug resistance of ventilator-associated pneumonia in Chinese neonatal intensive care units: a meta-analysis, *Am J Infect Control*. 42(8):902-10.

Tavares, L.C.B., de Vasconcellos, F.M., de Sousa, W.V., Rocchetti, T.T., Mondelli, A.L., Ferreira, A.M., Montelli, A.C., Sadatsune, T., Tiba-Casas, M.R., Camargo, C.H., 2019, Emergence and Persistence of High-Risk Clones Among MDR and XDR *A. baumannii* at a Brazilian Teaching Hospital, *Front Microbiol*, 4;9:2898.

Tenover, F.C., Tickler, I., Le, V.M., Dewell, S., Mendes., R.E., Goering, R.V., 2019, Updating Molecular Diagnostics for Detecting Methicillin-Susceptible and Methicillin-Resistant *Staphylococcus aureus* Isolates in Blood Culture Bottles, *J Clin Microbiol*, 69(3), 598–602.

Teuber, M., 1999, Spread of antibiotic resistance with food-borne pathogens, CMLS, *Cell. Mol. Life Sci*, 56, 755–763.

Tjaniadi, P., Lesmana, M., Subekti, D., Machpud, N., Komalarini, S., Santoso, W., Simanjuntak, C.H., Punjabi, N., Campbell, J.R., Alexander, W.K., Beecham, H.J., Corwin, A.L., Oyof, B.A., 2006, Antimicrobial resistance of bacterial pathogens associated with diarrheal patients in Indonesia, *Am J Trop Med Hyg*, 68(6):666-70.

Tong, C., Hu, H., Chen, G., Li, Z., Li, A., Zhang, J., 2021, Chlorine disinfectants promote microbial resistance in *Pseudomonas sp*, *Environ Res*, 199:111296.

Tzouveleakis, L.S., Markogiannakis, A., Psychogiou, M., Tassios, P.T., Daikos, G.L., 2012, Carbapenemases in *Klebsiella pneumoniae* and other Enterobacteriaceae: an evolving crisis of global dimensions, *Clin Microbiol Rev*, 25(4):682-707.

- Verraes, C., Van, B.S., Van Meervenne, E., Van, C.E., Butaye, P., Catry, B., de Schaetzen, M.A., Van H.X., Imberechts, H., Dierick, K., Daube, G., Saegerman, C., De Block, J., Dewulf, J., Herman, L., 2013, Antimicrobial Resistance in the food chain: a review, *Int J Environ Res Public Health*, 28;10(7):2643-69.
- Vickery, K., Deva, A., Jacombs, A., Allan, J., Valente, P., Gosbell, I.B, 2012, Presence of biofilm containing viable multiresistant organisms despite terminal cleaning on clinical surfaces in an intensive care unit, *J Hosp Infect*, 80(1):52-5.
- Vincent, J.L., Rello, J., Marshall, J., Silva, E., Anzueto, A., Martin, C.D., Moreno, R., Lipman, J., Gomersall, C., Sakr, Y., Reinhart, K., 2009, EPIC II Group of Investigators, International study of the prevalence and outcomes of infection in intensive care units, *JAMA*, 2;302(21):2323-9.
- Wang, G., Wilson, T.J., Jiang, Q., Taylor, D.E., 2001, Spontaneous mutations that confer antibiotic resistance in *Helicobacter pylori*, *Antimicrob Agents Chemother*, 45(3), 727–733.
- Wang, T.Z., Kodyanplakkal, R.P.L., Calfee, D.P., 2019, Antimicrobial resistance in nephrology, *Nat Rev Nephrol*, 15(8), 463–481.
- Weber, D.J., Rutala, W.A., Miller, M.B., Huslage, K., Sickbert, B.E., 2010, Role of hospital surfaces in the transmission of emerging health care-associated pathogens: *Norovirus*, *Clostridium difficile*, and *Acinetobacter species*, *Am J Infect Control*, 38(5):S25-33.
- Weedon, K.M., Rupp, A.H., Heffron, A.C., Kelly, S.F., Zheng, X., Shulman, S.T., Gutman, P., Wang, D., Zhou, Y., Noskin, G.A., Anderson, E.J., 2013, The impact of infection control upon hospital-acquired influenza and respiratory syncytial virus, *Scand J Infect Dis*, 45(4):297-303.
- Wilson, M.Z., Martin, J.K., Sheehan, J.P., Bratton, B.P., Moore, G.M., Mateus, A., Li, S.H., Kim, H., Rabinowitz, J.D., Typas, A., Savitski, M.M., Gitai, Z.A., 2020, Dual-Mechanism Antibiotic Kills Gram-Negative Bacteria and Avoids Drug Resistance, *Cell*, 25;181(7):1518-1532.e14.
- Worku, T., Derseh, D., Kumalo, A., 2018, Bacterial Profile and Antimicrobial Susceptibility Pattern of the Isolates from Stethoscope, Thermometer, and Inanimate Surfaces of Mizan-Tepi University Teaching Hospital, Southwest Ethiopia, *Int J Microbiol*, 27:9824251.
- WHO, 2018, Healthcare-associated infections, Fact Sheet, [Accessed April,1,2018]. Available from: http://www.who.int/gpsc/country_work/gpsc_ccisc_fact_sheet_en.pdf.
- Wright, G.D., 2019, Environmental and clinical antibiotic resistomes, same only different, *Curr Opin Microbiol*, 51:57-63.

- Xia, J., Gao, J., Tang, W., 2016, Nosocomial infection and its molecular mechanisms of antibiotic resistance, *10(1)*, 14–21.
- Xie, Y., Tian, L., Li, G., Qu, H., Sun, J., Liang, W., Li, X., Wang, X., Deng, Z., Liu, J., Ou, H.Y., 2018, Emergence of the third-generation cephalosporin-resistant hypervirulent *Klebsiella pneumoniae* due to the acquisition of a self-transferable blaDHA-1-carrying plasmid by an ST23 strain, *Virulence*, *9(1)*:838-844.
- Yiek, W.K., Coenen, O., Nillesen, M., Ingen, J., Bowles, E., Tostmann, A., 2021, Outbreaks of healthcare-associated infections linked to water-containing hospital equipment: a literature review, *Antimicrob Resist Infect Control*, *10(1)*:77.
- Ying, C., Li, Y., Wang, Y., Zheng, B., Yang, C., 2015, Investigation of the molecular epidemiology of *Acinetobacter baumannii* isolated from patients and environmental contamination, *The Journal of antibiotics*, *68(9)*, 562–567.
- Zachariah, P., Whittier, S., Reed, C., LaRussa, P., Larson, E.L., Vargas, C.Y., Saiman, L., Stockwell, M.S., 2016, Community and hospital laboratory-based surveillance for respiratory viruses. *Influenza Other Respir Viruses*. *10(5)*:361-6.
- Zaman, S.B., Hussain, M.A., Nye, R., Mehta, V., Mamun, K.T., Hossain, N., 2017, A Review on Antibiotic Resistance: Alarm Bells are Ringing, *Cureus*, *28;9(6)*:e1403.
- Zarrilli, R., Pournaras, S., Giannouli, M., Tsakris, A., 2013, Global evolution of multidrug-resistant *Acinetobacter baumannii* clonal lineages, *Int J Antimicrob Agents*, *41(1)*:11-9.
- Zucca, M., Savoia, D., 2010, The post-antibiotic era: promising developments in the therapy of infectious diseases, *Int J Biomed Sci*, *6(2)*:77-86.