

DAFTAR PUSTAKA

- Abbas, R., Chakkour, M., Zein El Dine, H., Obaseki, E.F., Obeid, S.T., Jezzini, A., *et al.* (2024). General Overview of Klebsiella pneumonia: Epidemiology and the Role of Siderophores in Its Pathogenicity. *Biol.* 13 : 1–19.
- Abdelmuktader, A. (2019). Nosocomial Infections Caused by ESBL. *VVOA* 4.
- Ahmed, S.K., Hussein, S., Qurbani, K., Ibrahim, R.H., Fareeq, A., Mahmood, K.A., *et al.* (2024). Antimicrobial resistance: Impacts, challenges, and future prospects. *J. Med. Surg. Public Health* 2 : 100081.
- Anonymous (2024). WHO Bacterial Priority Pathogens List 2024: Bacterial Pathogens of Public Health Importance, to Guide Research, Development, and Strategies to Prevent and Control Antimicrobial Resistance, 1st ed. ed. Geneva : World Health Organization.
- Arumugam, K., Karande, G.S., & Patil, S.R. (2025). Prevalence of Extended Spectrum β -lactamase and AmpC β -lactamase among Escherichia coli and Klebsiella pneumoniae in Urinary tract infections. *J. Pure Appl. Microbiol.* 19 : 1–10.
- Asvinigita, L.R.M., Tunas, K., Widhiartini, I.A.A., Widatama, A., & Noviyani, R. (2025). Evaluation of Definitive Antibiotic Therapy Effectiveness in Sepsis Patients at Tabanan Hospital, Indonesia. *Medica Hospitalia J. Clin. Med.* 12 : 34–43.
- Ávila-Núñez, M., Lima, O., Sousa, A., Represa, M., Rubiñán, P., Celestino, P., *et al.* (2023). Carbapenem alternatives for treatment of bloodstream infections due to AmpC producing enterobacterales. *Ann Clin Microbiol Antimicrob* 22 : 1–6.
- Azam, M.W., Zarrilli, R., & Khan, A.U. (2023). Updates on the Virulence Factors Produced by Multidrug-Resistant Enterobacterales and Strategies to Control Their Infections. *Microorganisms* 11 : 1901.
- Bala, R., Singh, V.A., Gupta, N., & Rakshit, P. (2020). Prevalence, multidrug-resistance and risk factors for AmpC β -lactamases producing Escherichia coli from hospitalized patients. *J Infect Dev Ctries* 14 : 1466–1469.
- Bhandari, A., Khatiwada, S., Sharma, A., Aryal, S.C., Shrestha, R., Bimali, N.K., *et al.* (2024). Prevalence of drug resistant Enterobacteriaceae in a Nepalese tertiary care hospital. *PLOS Glob Public Health* 4 : e0000858.
- Bindu, D., & Saikumar, C. (2022). Molecular Characterization of AmpC β -lactamases in Enterobacteriaceae. *J. Pure Appl. Microbiol.* 16 : 2783–2790.
- Brejijeh, Z., Jubeh, B., & Karaman, R. (2020). Resistance of Gram-Negative Bacteria to Current Antibacterial Agents and Approaches to Resolve It. *Molecules* 25 : 1340.
- Chakkour, M., Hammoud, Z., Farhat, S., El Roz, A., Ezzeddine, Z., & Ghssein, G. (2024). Overview of Proteus mirabilis pathogenicity and virulence. Insights into the role of metals. *Front. Microbiol.* 15 : 1383618.
- Chang, D., Sharma, L., Dela Cruz, C.S., & Zhang, D. (2021). Clinical Epidemiology, Risk Factors, and Control Strategies of Klebsiella pneumoniae Infection. *Front. Microbiol.* 12 : 750662.

- Herrmann, J., Burgener-Gasser, A.-V., Goldenberger, D., Roth, J., Weisser, M., Tamma, P.D., *et al.* (2024). Cefepime versus carbapenems for treatment of AmpC beta-lactamase-producing Enterobacterales bloodstream infections. *Eur J Clin Microbiol Infect Dis* 43 : 213–221.
- Husičková, V., Htoutou-Sedláková, M., Matoušková, I., Chromá, M., & Kolář, M. (2013). Analysis of <i>Enterobacteriaceae</i> Producing Broad-Spectrum Beta-Lactamases in the Intensive Care Unit Setting. *OJMM* 03 : 56–61.
- Ibe, E.C., Emeka-Nwabunnia, I., & Okechi, R.N. (2023). Prevalence of Enterobacteria Species in Different Hospital Wards of a Tertiary Health Facility in Imo State, Nigeria. *BJI* 27 : 22–33.
- Ibrahim, M.E., Abbas, M., Al-Shahrai, A.M., & Elamin, B.K. (2019). Phenotypic Characterization and Antibiotic Resistance Patterns of Extended-Spectrum β -Lactamase- and AmpC β -Lactamase-Producing Gram-Negative Bacteria in a Referral Hospital, Saudi Arabia. *Can. J. Infect. Dis. Med. Microbiol.* 2019 : 1–9.
- Inamdar, D.P., & B, A. (2020). Phenotypic methods for detection of Amp C β lactamases in Gram negative clinical isolates of a tertiary care hospital. *IJMR* 7 : 125–129.
- Jomehzadeh, N., Ahmadi, K., & Rahmani, Z. (2021). Prevalence of plasmid-mediated AmpC β -lactamases among uropathogenic Escherichia coli isolates in southwestern Iran. *Osong Public Health Res Perspect* 12 : 390–395.
- Kilinc, M. (2025). Antibiotic Resistance and Mortality in ICU Patients: A Retrospective Analysis of First Culture Growth Results. *Antibiotics* 14 : 290.
- Kim, C., Holm, M., Frost, I., Hasso-Agopsowicz, M., & Abbas, K. (2023). Global and regional burden of attributable and associated bacterial antimicrobial resistance avertable by vaccination: modelling study. *BMJ Glob Health* 8 : e011341.
- Kuinkel, S., Acharya, J., Dhungel, B., Adhikari, S., Adhikari, N., Shrestha, U.T., *et al.* (2021). Biofilm Formation and Phenotypic Detection of ESBL, MBL, KPC and AmpC Enzymes and Their Coexistence in Klebsiella spp. Isolated at the National Reference Laboratory, Kathmandu, Nepal. *Microbiol. Res.* 12 : 683–697.
- Kunz Coyne, A.J., El Ghali, A., Lucas, K., Witucki, P., Rebold, N., Holger, D.J., *et al.* (2023). High-dose Cefepime vs Carbapenems for Bacteremia Caused by Enterobacterales With Moderate to High Risk of Clinically Significant AmpC β -lactamase Production. *Open Forum Infect. Dis.* 10 : 1–9.
- Laila Alfageih (2025). Prevalence of Carbapenem-Resistant Enterobacteriaceae Isolated from Clinical Samples in Medical Tobruk Center. *Razi Med J* 126–136.
- Lazar, V., Oprea, E., & Ditu, L.-M. (2023). Resistance, Tolerance, Virulence and Bacterial Pathogen Fitness—Current State and Envisioned Solutions for the Near Future. *Pathogens* 12 : 746.

- Legese, M., Asrat, D., Aseffa, A., Hasan, B., Mihret, A., & Swedberg, G. (2022). Molecular Epidemiology of Extended-Spectrum Beta-Lactamase and AmpC Producing Enterobacteriaceae among Sepsis Patients in Ethiopia: A Prospective Multicenter Study. *Antibiotics* 11 : 131.
- Leitão, J.H. (2020). Microbial Virulence Factors. *IJMS* 21 : 5320.
- Lim, C.L., & Spelman, D. (2019). Mortality impact of empirical antimicrobial therapy in ESBL- and AmpC-producing Enterobacteriaceae bacteremia in an Australian tertiary hospital. *Infect Dis Health* 24 : 124–133.
- Liu, Y., Tong, Z., Shi, J., Jia, Y., Yang, K., & Wang, Z. (2020). Correlation between Exogenous Compounds and the Horizontal Transfer of Plasmid-Borne Antibiotic Resistance Genes. *Microorganisms* 8 : 1211.
- Mansouri, S., Savari, M., Malakian, A., & Abbasi Montazeri, E. (2024). High prevalence of multidrug-resistant Enterobacterales carrying extended-spectrum beta-lactamase and AmpC genes isolated from neonatal sepsis in Ahvaz, Iran. *BMC Microbiol* 24 : 136.
- Martins, A.P.S., Da Mata, C.P.S.M., Dos Santos, U.R., De Araújo, C.A., Leite, E.M.M., De Carvalho, L.D., *et al.* (2024). Association between multidrug-resistant bacteria and outcomes in intensive care unit patients: a non-interventional study. *Front. Public Health* 11 : 1297350.
- Meini, S., Tascini, C., Cei, M., Sozio, E., & Rossolini, G.M. (2019). AmpC β -lactamase-producing Enterobacterales: what a clinician should know. *Infection* 47 : 363–375.
- Moehario, L.H., Robertus, T., Karuniawati, A., Sedono, R., Lestari, D.C., & Yasmon, A. (2019). Gene Families of AmpC-producing Enterobacteriaceae Present in the Intensive Care Unit of Cipto Mangunkusumo Hospital Jakarta. *Indones Biomed J* 11 : 107–12.
- Monteiro, H.F., & Faciola, A.P. (2020). Ruminant acidosis, bacterial changes, and lipopolysaccharides. *J. Anim. Sci.* 98 : 1–9.
- Moxley, R.A. (2022). Family *Enterobacteriaceae*, in: McVey, D.S., Kennedy, M., Chengappa, M.M., & Wilkes, R. (Eds.), *Veterinary Microbiology*. pp. 41–55, Wiley.
- Mustafai, M.M., Hafeez, M., Munawar, S., Basha, S., Rabaan, A.A., Halwani, M.A., *et al.* (2023). Prevalence of Carbapenemase and Extended-Spectrum β -Lactamase Producing Enterobacteriaceae: A Cross-Sectional Study. *Antibiotics* 12 : 148.
- Najjuka, C.F., Kateete, D.P., Lodiongo, D.K., Mambo, O., Mocktar, C., Kayondo, W., *et al.* (2020). Prevalence of plasmid-mediated AmpC beta-lactamases in Enterobacteria isolated from urban and rural folks in Uganda. *AAS Open Res* 3 : 62.
- Octavia, S., & Lan, R. (2014). The Family Enterobacteriaceae, in: Rosenberg, E., DeLong, E.F., Lory, S., Stackebrandt, E., & Thompson, F. (Eds.), *The Prokaryotes*. pp. 225–286, Berlin, Heidelberg : Springer Berlin Heidelberg.
- Pajerski, W., Ochonska, D., Brzychczy-Wloch, M., Indyka, P., Jarosz, M., Golda-Cepa, M., *et al.* (2019). Attachment efficiency of gold nanoparticles by Gram-positive and Gram-negative bacterial strains governed by surface charges. *J Nanopart Res* 21 : 186.

- Rodríguez-Baño, J., Gutiérrez-Gutiérrez, B., Machuca, I., & Pascual, A. (2018). Treatment of Infections Caused by Extended-Spectrum-Beta-Lactamase-, AmpC-, and Carbapenemase-Producing Enterobacteriaceae. *Clin Microbiol Rev* 31 : e00079-17.
- Ruh, E., Zakka, J., Hoti, K., Fekrat, A., Guler, E., Gazi, U., *et al.* (2019). Extended-spectrum β -lactamase, plasmid-mediated AmpC β -lactamase, fluoroquinolone resistance, and decreased susceptibility to carbapenems in Enterobacteriaceae: fecal carriage rates and associated risk factors in the community of Northern Cyprus. *Antimicrob Resist Infect Control* 8 : 98.
- Russ, D., Glaser, F., Shaer Tamar, E., Yelin, I., Baym, M., Kelsic, E.D., *et al.* (2020). Escape mutations circumvent a tradeoff between resistance to a beta-lactam and resistance to a beta-lactamase inhibitor. *Nat Commun* 11 : 2029.
- Saffar, H., Asgari Niaraki, N., Ghahroudi Tali, A., Baseri, Z., Abdollahi, A., & Yalfani, R. (2016). Prevalence of AmpC β -lactamase in Clinical Isolates of Escherichia coli, Klebsiella spp., and Proteus mirabilis in a Tertiary Hospital in Tehran, Iran. *Jundishapur J Microbiol* 9.
- Salvia, T., Dolma, K.G., Dhakal, O.P., Khandelwal, B., & Singh, L.S. (2022). Phenotypic Detection of ESBL, AmpC, MBL, and Their Co-occurrence among MDR Enterobacteriaceae Isolates. *J Lab Physicians* 14 : 329–335.
- Sania, N., Saharman, Y.R., Lestari, D.C., Aditiansih, D., & Yasmon, A. (2024). Risk Factors Associated with the Colonization of Multidrug- Resistant Gram-Negative Bacteria Upon Admission to the Intensive Care Unit: A Cross-sectional Study. *Acta Med Indones* 56.
- Santiago, G.S., Gonçalves, D., Da Silva Coelho, I., De Mattos De Oliveira Coelho, S., & Neto Ferreira, H. (2020). Conjugative plasmidic AmpC detected in Escherichia coli, Proteus mirabilis and Klebsiella pneumoniae human clinical isolates from Portugal. *Braz J Microbiol* 51 : 1807–1812.
- Saparamadu, A.A.D.N.S., & Ratnayake, L. (2023). Epidemiology of Escherichia coli and Klebsiella pneumoniae bloodstream infections in a general hospital in Singapore: a retrospective cohort study. *Singapore Med. J.* 64 : 700–706.
- Shaaban, M., Elshaer, S.L., & Abd El-Rahman, O.A. (2022). Prevalence of extended-spectrum β -lactamases, AmpC, and carbapenemases in Proteus mirabilis clinical isolates. *BMC Microbiol* 22 : 247.
- Sharma, A.K., Dhasmana, N., Dubey, N., Kumar, N., Gangwal, A., Gupta, M., *et al.* (2017). Bacterial Virulence Factors: Secreted for Survival. *Indian J Microbiol* 57 : 1–10.
- Sheu, C.-C., Chang, Y.-T., Lin, S.-Y., Chen, Y.-H., & Hsueh, P.-R. (2019). Infections Caused by Carbapenem-Resistant Enterobacteriaceae: An Update on Therapeutic Options. *Front. Microbiol.* 10 : 80.
- Siahaan, S., Herman, M.J., & Fitri, N. (2022). Antimicrobial Resistance Situation in Indonesia: A Challenge of Multisector and Global Coordination. *J. Trop. Med.* 2022 : 1–10.
- Silva, A.S., Da Silva, N., Do Valle, F., Da Rocha, J., Ehrlich, S., & Martins, I. (2024). Mortality and Risk Factors of Death in Patients with AmpC β -

- Lactamase Producing Enterobacterales Bloodstream Infection: A Cohort Study. *IDR* Volume 17 : 4023–4035.
- Soni, J., Sinha, S., & Pandey, R. (2024). Understanding bacterial pathogenicity: a closer look at the journey of harmful microbes. *Front. Microbiol.* 15 : 1370818.
- Sultan, A., Gouda, N., Eldegl, H., Sultan, M., Nabeeh, M., & Nomir, M. (2019). Healthcare Associated Infections Caused by Gram-negative Bacilli in Adult Intensive Care Units: Identification of AmpC Beta-Lactamases Mediated Antimicrobial Resistance. *Egypt. J. Med. Microbiol.* 28 : 61–68.
- Tamma, Pranita D, Doi, Yohei, Bonomo, Robert A, Johnson, J.K., Simner, P.J., Antibacterial Resistance Leadership Group, *et al.* (2019). A Primer on AmpC β -Lactamases: Necessary Knowledge for an Increasingly Multidrug-resistant World. *Clin Infect Dis* 69 : 1446–1455.
- Tebano, G., Zaghi, I., Cricca, M., & Cristini, F. (2024). Antibiotic Treatment of Infections Caused by AmpC-Producing Enterobacterales. *Pharmacy* 12 : 142.
- Tiemtoré, R.Y.W., Mètuor Dabiré, A., Ouermi, D., Sougué, S., Benao, S., & Simporé, J. (2022). Isolation and Identification of Escherichia coli and Klebsiella pneumoniae Strains Resistant to the Oxyimino-Cephalosporins and the Monobactam by Production of GES Type Extended Spectrum Bêta-Lactamase (ESBL) at Saint Camille Hospital Center in Ouagadougou, Burkina Faso. *IDR* Volume 15 : 3191–3204.
- Wasfi, R., Hamed, S.M., Amer, M.A., & Fahmy, L.I. (2020). Proteus mirabilis Biofilm: Development and Therapeutic Strategies. *Front. Cell. Infect. Microbiol.* 10 : 414.
- Wen, H., Xie, S., Liu, Y., Liang, Y., Zhang, P., Wang, X., *et al.* (2023). Retrospective Analysis of Sensitivity Characteristics of Enterobacteriaceae: A Study Based on Specimen Types, Sex, and Age Bracket of Patients. *IDR* Volume 16 : 1753–1765.
- Wyres, K.L., Lam, M.M.C., & Holt, K.E. (2020). Population genomics of Klebsiella pneumoniae. *Nat Rev Microbiol* 18 : 344–359.
- Yang, A., Tian, Y., & Li, X. (2024). Unveiling the hidden arsenal: new insights into Proteus mirabilis virulence in UTIs. *Front. Cell. Infect. Microbiol.* 14 : 1465460.
- Yin, Q., Da Silva, A.C., Zorrilla, F., Almeida, A.S., Patil, K.R., & Almeida, A. (2025). Ecological dynamics of Enterobacteriaceae in the human gut microbiome across global populations. *Nat Microbiol* 10 : 541–553.