

DAFTAR PUSTAKA

1. Khan HA, Baig FK, Mehboob R. Nosocomial infections: Epidemiology, prevention, control and surveillance. *Asian Pac J Trop Biomed.* 2017;7(5):478–82.
2. Suleman L, Archer D, Cochrane CA, Percival SL. Healthcare-Associated Infections and Biofilms. *Biofilms in Infection Prevention and Control: A Healthcare Handbook.* Elsevier Inc.; 2014. 165–184 p.
3. WHO. Situational Analysis on Antimicrobial Resistance in the South-East Asia Region. 2016;11.
4. Magill SS, O'Leary E, Janelle SJ, Thompson DL, Dumyati G, Nadle J, et al. Changes in prevalence of health care-associated infections in U.S. Hospitals. *N Engl J Med.* 2018;379(18):1732–44.
5. WHO. Report on the Burden of Endemic Health Care-Associated Infection Worldwide Clean Care is Safer Care. World Health Organization. 2011. p. 8.
6. Al-Mousa HH, Omar AA, Rosenthal VD, Salama MF, Aly NY, El-Dossoky Noweir M, et al. Device-associated infection rates, bacterial resistance, length of stay, and mortality in Kuwait: International Nosocomial Infection Consortium findings. *Am J Infect Control.* 2016;44(4):444–9.
7. Weiner-Lastinger MPH LM, Abner S, Benin AL, Edwards MStat JR, Kallen AJ, Karlsson M, et al. Antimicrobial-resistant pathogens associated with pediatric healthcare-associated infections: Summary of data reported to the National Healthcare Safety Network, 2015-2017. *Infect Control Hosp Epidemiol.* 2019;1–12.
8. Weiner LM, Webb AK, Limbago B, Dudeck MA, Patel J, Kallen AJ, et al. Antimicrobial-Resistant Pathogens Associated with Healthcare-Associated Infections: Summary of Data Reported to the National Healthcare Safety Network at the Centers for Disease Control and Prevention, 2011-2014. *Infect Control Hosp Epidemiol.* 2016;37(11):1288–301.
9. Al-Tawfiq JA, Tambyah PA. Healthcare associated infections (HAI) perspectives. *J Infect Public Health.* 2014;7(4):339–44.
10. Howard A, O'Donoghue M, Feeney A, Sleator RD. *Acinetobacter baumannii*

- An emerging opportunistic pathogen. *Virulence*. 2012;3(3):5.
11. World Health Organization. WHO Publishes List of Bacteria for Which New Antibiotics Are Urgently Needed. [Internet]. Geneva. 2017 [cited 2019 Dec 9]. Available from: <https://www.who.int/en/news-room/detail/27-02-2017-who-publishes-list-of-bacteria-for-which-new-antibiotics-are-urgently-needed>
 12. Frieden T. Antibiotic resistance threats in the United States. *Centers Dis Control Prev*. 2013;114.
 13. Raro OHF, Gallo SW, Ferreira CAS, de Oliveira SD. Carbapenem-resistant *Acinetobacter baumannii* contamination in an intensive care unit. *Rev Soc Bras Med Trop*. 2010;50(2):167–72.
 14. Ramette A, Kronenberg A, Burnens A, Cherkaoui A, Dubuis O, Egli A, et al. Prevalence of carbapenem-resistant *Acinetobacter baumannii* from 2005 to 2016 in Switzerland. *BMC Infect Dis*. 2018;18(1):1–6.
 15. Nikoo HR, Ardebili A, Mardaneh J. Systematic review of antimicrobial resistance of clinical *acinetobacter baumannii* isolates in iran: An update. *Microb Drug Resist*. 2017;23(6):744–56.
 16. Uwingabiye J, Frikh M, Lemnouer A, Bssaibis F, Belefquih B, Maleb A, et al. Acinetobacter infections prevalence and frequency of the antibiotics resistance: Comparative study of intensive care units versus other hospital units. *Pan Afr Med J*. 2016;23:1–10.
 17. Sylviani D. Hubungan Faktor Risiko dengan Kejadian Infeksi MDR *Acinetobacter baumannii* pada Pasien Rawat Inap di RSUP DR. M. Djamil Padang. Fakultas Kedokteran Universitas Andalas. Universitas Andalas; 2018.
 18. Gao L, Lyu Y, Li Y. Trends in drug resistance of *Acinetobacter baumannii* over a 10-year period: Nationwide data from the China surveillance of antimicrobial resistance program. *Chin Med J (Engl)*. 2017;130(6):659–64.
 19. Boom CE, Dharmawan A, Layanto N, Kardiovaskuler FA, Kita RH, Anestesi K. Mekanisme Resistensi *Acinetobacter* Antibiotik Golongan Karbapenem. 2018;24(68):67–72.
 20. Rani FM, Rahman NIA, Ismail S, Alatraqchi AG, Cleary DW, Clarke SC,

- et al. *Acinetobacter* spp. infections in Malaysia: A review of antimicrobial resistance trends, mechanisms and epidemiology. *Front Microbiol.* 2017;8(DEC):1–13.
21. Rosenthal VD, Al-Abdely HM, El-Kholy AA, AlKhawaja SAA, Leblebicioglu H, Mehta Y, et al. International Nosocomial Infection Control Consortium report, data summary of 50 countries for 2010-2015: Device-associated module. *Am J Infect Control.* 2016;44(12):1495–504.
 22. Rahman V, Anggraini D, Fauziah D. Pola Resistensi *Acinetobacter baumannii* yang di Isolasi di Intensive Care Unit (ICU) RSUD Arifin Achmad Provinsi Riau Periode 1 Januari Hingga 31 Desember 2014. *Jom FK.* 2015;2(2):1–2.
 23. Lee CR, Lee JH, Park M, Park KS, Bae IK, Kim YB, et al. Biology of *Acinetobacter baumannii*: Pathogenesis, antibiotic resistance mechanisms, and prospective treatment options. *Front Cell Infect Microbiol.* 2017;7(MAR).
 24. Boral B, Unaldi Ö, Ergin A, Durmaz R, Eser ÖK, Zarakolu P, et al. A prospective multicenter study on the evaluation of antimicrobial resistance and molecular epidemiology of multidrug-resistant *Acinetobacter baumannii* infections in intensive care units with clinical and environmental features. *Ann Clin Microbiol Antimicrob.* 2019;18(1):1–9.
 25. Try N, Pertiwi Y, Nyoman N, Budayanti S. Studi Molekuler gen OXA-23 pada Isolat Bakteri *Acinetobacter baumannii* Resisten Terhadap Antibiotik Karbapenem di RSUP Sanglah Denpasar. *E-Jurnal Med Udayana.* 2018;7(6).
 26. Dahdouh E, Hajjar M, Suarez M, Daoud Z. *Acinetobacter baumannii* isolated from lebanese patients: Phenotypes and genotypes of resistance, clonality, and determinants of pathogenicity. *Front Cell Infect Microbiol.* 2016;6(NOV):1–10.
 27. Jain M, Sharma A, Sen MK, Rani V, Gaind R, Suri JC. Phenotypic and molecular characterization of *Acinetobacter baumannii* isolates causing lower respiratory infections among ICU patients. *Microb Pathog.* 2019;128:75–81.
 28. Iinuma Y. *Acinetobacter*. Nippon rinsho Japanese J Clin Med.

- 2002;60(11):2161–5.
29. Saharman YR, Karuniawati A, Sedono R, Aditianingsih D, Sudarmono P, Goessens WHF, et al. Endemic carbapenem-nonsusceptible *Acinetobacter baumannii*-calcoaceticus complex in intensive care units of the national referral hospital in Jakarta, Indonesia. *Antimicrob Resist Infect Control*. 2018;7(1):1–12.
 30. Nasution LH. Infeksi Nosokomial. Mdvi. 2012;39(1):36–41.
 31. Protic D, Pejovic A, Andjelkovic D, Djukanovic N, Savic D, Piperac P, et al. Nosocomial infections caused by *acinetobacter baumannii*: Are we losing the battle? *Surg Infect (Larchmt)*. 2016;17(2):236–42.
 32. Nyoman N. Pola bakteri dan kepekaan bakteri terhadap antibiotik di RSUP Sanglah periode Juli-Desember 2013. [Bali]: Universitas Udayana; 2013.
 33. Singh H, Thangaraj P, Chakrabarti A. *Acinetobacter baumannii*: A brief account of mechanisms of multidrug resistance and current and future therapeutic management. *J Clin Diagnostic Res*. 2013;7(11):2602–5.
 34. Almasaudi SB. *Acinetobacter* spp. as nosocomial pathogens: Epidemiology and resistance features. *Saudi J Biol Sci*. 2018;25(3):586–96.
 35. Sari Wijaya R, Cucunawangsih. Bakteri *Acinetobacter baumannii*. *J Kedokt Univ Pelita Harapan*. 2012;3(10):11.
 36. Baumann P, Doudoroff M, Stanier RY. A study of the Moraxella group. II. Oxidative-negative species (genus *Acinetobacter*). *J Bacteriol*. 1968;95(5):1520–41.
 37. Lorente C, Del Castillo Y, Rello J. Prevention of infection in the intensive care unit: Current advances and opportunities for the future. *Curr Opin Crit Care*. 2002;8(5):461–4.
 38. Choi CH, Lee EY, Lee YC, Park TI, Kim HJ, Hyun SH, et al. Outer membrane protein 38 of *Acinetobacter baumannii* localizes to the mitochondria and induces apoptosis of epithelial cells. *Cell Microbiol*. 2005;7(8):1127–38.
 39. Gaddy JA, Actis LA. Regulation of *Acinetobacter baumannii* biofilm formation. *Future Microbiol*. 2009;4(3):273–8.
 40. Zeighami H, Valadkhani F, Shapouri R, Samadi E, Haghi F. Virulence

- characteristics of multidrug resistant biofilm forming *Acinetobacter baumannii* isolated from intensive care unit patients. *BMC Infect Dis.* 2019;19(1):1–9.
41. Thummeepak R, Kongthai P, Leungtongkam U, Sitthisak S. Distribution of virulence genes involved in biofilm formation in multi-drug resistant *acinetobacter Baumannii* clinical isolates. *Int Microbiol.* 2016;19(2):121–9.
 42. Jacobs AC, Hood I, Boyd KL, Olson PD, Morrison JM, Carson S, et al. Inactivation of phospholipase D diminishes *Acinetobacter baumannii* pathogenesis. *Infect Immun.* 2010;78(5):1952–62.
 43. Muhammad IW. Pola Kepakaan Antimikroba Terhadap *Acinetobacter baumannii* Dari Isolat Klinik di RSUP Dr. Muhammad Hoesin Palembang Bulan Oktober-Desember 2016. Universitas Sriwijaya; 2016.
 44. Mussi, Maria A, Limansky AS, Viale AM. Acquisition of Resistance to Carbapenems in Multidrug-Resistant Clinical Strains of. *Am Soc Microbiol.* 2005;49(4):1432–40.
 45. Li J, Nation RL, Milne RW, Turnidge JD, Coulthard K. Evaluation of colistin as an agent against multi-resistant Gram-negative bacteria. *Int J Antimicrob Agents.* 2005;25(1):11–25.
 46. Peleg AY, Seifert H, Paterson DL. *Acinetobacter baumannii*: Emergence of a successful pathogen. *Clin Microbiol Rev.* 2008;21(3):538–82.
 47. Kwon KT, Oh WS, Song JH, Chang HH, Jung SI, Kim SW, et al. Impact of imipenem resistance on mortality in patients with *Acinetobacter* bacteraemia. *J Antimicrob Chemother.* 2007;59(3):525–30.
 48. Magiorakos A, Srinivasan A, Carey RB, Carmeli Y, Falagas ME, Giske CG, et al. Bacteria : an International Expert Proposal for Interim Standard Definitions for Acquired Resistance. *Clin Microbiol Infect.* 2011;8(3):268–71.
 49. Poirel L, Nordmann P. Carbapenem resistance in *Acinetobacter baumannii*: Mechanisms and epidemiology. Vol. 12, *Clinical Microbiology and Infection*. European Society of Clinical Infectious Diseases; 2006. p. 826–36.
 50. Queenan AM, Bush K. Carbapenemases: The versatile β-lactamases. *Clin*

- Microbiol Rev. 2007;20(3):440–58.
51. Hsu LY, Apisarnthanarak A, Khan E, Suwantarat N, Ghafur A, Tambyah P. Carbapenem-resistant *acinetobacter baumannii* and *enterobacteriaceae* in South and Southeast Asia. Vol. 30, American Society for Microbiology. 2017. p. 1–22.
 52. Shah MW, Yasir M, Farman M, Jiman-Fatani AA, Almasaudi SB, Alawi M, et al. Antimicrobial Susceptibility and Molecular Characterization of Clinical Strains of *Acinetobacter baumannii* in Western Saudi Arabia. *Microb Drug Resist.* 2019;25(9):1297–305.
 53. Lyon JA. Imipenem/Cilastatin: The First Carbapenem Antibiotic. *Drug Intell Clin Pharm.* 1985;19(180):894–9.
 54. Evans BA, Amyes SGB. OXA β -lactamases. *Clin Microbiol Rev.* 2014;27(2):241–63.
 55. Poirel L, Figueiredo S, Cattoir V, Carattoli A, Nordmann P. *Acinetobacter radioresistens* as a silent source of carbapenem resistance for *Acinetobacter* spp. *Antimicrob Agents Chemother.* 2008;52(4):1252–6.
 56. Boo TW, Crowley B. Detection of blaOXA-58 and blaOXA-23-like genes in carbapenem-susceptible *Acinetobacter* clinical isolates: Should we be concerned? *J Med Microbiol.* 2009;58(6):839–41.
 57. Da Silva G, Domingues S. Insights on the Horizontal Gene Transfer of Carbapenemase Determinants in the Opportunistic Pathogen *Acinetobacter baumannii*. *Microorganisms.* 2016;4(3):29.
 58. Swe-Han KS, Pillay M, Schnugh D, Mlisana KP, Baba K, Pillay M. Horizontal transfer of OXA-23-carbapenemase-producing *Acinetobacter* species in intensive care units at an academic complex hospital, Durban, KwaZulu-Natal, South Africa . *South African J Infect Dis* [Internet]. 2017;32(4):119–26. Available from: <http://doi.org/10.1080/23120053.2017.1335482>
 59. Smith CA, Antunes NT, Stewart NK, Toth M, Kumarasiri M, Chang M, et al. Structural basis for carbapenemase activity of the OXA-23 β -Lactamase from *acinetobacter baumannii*. *Chem Biol.* 2013;20(9):1107–15.
 60. Héritier C, Poirel L, Lambert T, Nordmann P. Contribution of acquired

- carbapenem-hydrolyzing oxacillinases to carbapenem resistance in *Acinetobacter baumannii*. *Antimicrob Agents Chemother*. 2005;49(8):3198–202.
61. Brunton L, Lazo J, Parker K. Goodman & Gilman's The Pharmacological Basis of Therapeutics. 11th ed. New York: McGraw-Hill Education; 2005. 709 p.
 62. Centers for Disease Control and Prevention (CDC). Carbapenem-resistant *Acinetobacter*. US Departement of Health and Human Services. 2019;2.
 63. Menteri Kesehatan Republik Indonesia. Keputusan Menteri Kesehatan Republik Indonesia Nomor HK.01.07/Menkes/707/2018 Tentang Formularium Nasional. 2018. p. 9–10.
 64. Rasyid R, Suharti N. Deteksi dan Identifikasi Enzim Metallo-Beta Lactamase Pada Bakteri Patogen yang Resisten Terhadap Antibiotika Carbapenem. 2012. p. 9.
 65. Aksoy MD, Çavuşlu Ş, Tuğrul HM. Investigation of metallo beta lactamases and oxacillinases in carbapenem resistant *Acinetobacter baumannii* strains isolated from inpatients. *Balkan Med J*. 2015;32(1):79–83.
 66. Jefry, Nirwati H, Nuryastuti T. Pola Kepekaan Isolat Klinik A.Baumannii di RSUP Dr. Soeradji Tirtonegoro Terhadap Berbagai Macam Antibiotik. Universitas Gajah Mada; 2016.
 67. Yunita S, Sukrama D. Karakteristik Penderita Hospital Acquired Pneumonia Dan Ventilator Associated Pneumonia Yang Disebabkan *Acinetobacter Baumannii* Di Intensive Care Unitrsup Sanglah Dan Pola Kepekaannya Terhadap Antibiotik Selama November 2014 - Januari 2015. E-Jurnal Med Udayana. 2015;4(11):1–11.
 68. Sutandhio S, Dwi Wahyu Widodo A, Alimsardjono L, Bagus Wasito E. Perbandingan Distribusi dan Pola Kepekaan *Acinetobacter baumannii* Terhadap Antimikroba di RSUD Dr. Soetomo Surabaya Periode Januari-Maret 2015, April-Juni2015, dan Januari-Maret 2016. *Widya Med Surabaya*. 2018;4(1):18–22.
 69. Wahid H. Identifikasi Extended Spectrum Beta Laktamase (ESBL) Antibiotika Golongan Sefalosporin pada Bakteri *Acinetobacter baumannii*

[Internet]. Vol. 4, Jurnal Sains dan Informatika. 2020 [cited 2020 Aug 10].

Available

from:

<https://jsk.farmasi.unmul.ac.id/index.php/jsk/article/view/188>

70. Fishbain J, Peleg AY. Treatment of Acinetobacter Infections . Clin Infect Dis. 2010;51(1):79–84.
71. Anane A Y, Apalata T, Vasaikar S, Okuthe GE, Songca S. Prevalence and molecular analysis of multidrug-resistant *Acinetobacter baumannii* in the extra-hospital environment in Mthatha, South Africa. Brazilian J Infect Dis. 2019;23(6):371–80.
72. Ma Z, Zhou LQ, Wang H, Luo LP, Investigations on the genomic diversity of OXA from isolated *Acinetobacter baumannii*. Genet Mol Res. 2015;14(4):14711–6.
73. Terzi HA, Atasoy AR, Aykan SB, Karakece E, Asik G, Ciftci IH. Association of doripenem resistance with OXA-type carbapenemases in *Acinetobacter baumannii* isolates. Saudi Med J. 2016;37(1):43–7.
74. Higgins PG, Dammhayn C, Hackel M, Seifert H. Global spread of carbapenem-resistant *Acinetobacter baumannii*. J Antimicrob Chemother. 2009;65(2):233–8.
75. Sohrabi N, Farajnia S, Akhi MT, Nahaei MR, Naghili B, Peymani A, et al. Prevalence of oxa-type β-lactamases among *Acinetobacter baumannii* isolates from northwest of Iran. Microb Drug Resist. 2012;18(4):385–9.
76. Handal R, Qunibi L, Sahouri I, Juhari M, Dawodi R, Marzouqa H, et al. Characterization of Carbapenem-Resistant *Acinetobacter baumannii* Strains Isolated from Hospitalized Patients in Palestine. Int J Microbiol. 2017;2017(2006).
77. Abouelfetouh A, Torky AS, Aboulmagd E. Phenotypic and genotypic characterization of carbapenem-resistant *Acinetobacter baumannii* isolates from Egypt. Antimicrob Resist Infect Control. 2019;8(1):1–9.
78. Mathlouthi N, Ben Lamine Y, Somai R, Bouhalila-Besbes S, Bakour S, Rolain JM, et al. Incidence of OXA-23 and OXA-58 Carbapenemases Coexpressed in Clinical Isolates of *Acinetobacter baumannii* in Tunisia. Microb Drug Resist. 2018;24(2):136–41.

79. Alsultan AA, Aboulmagd E, Evans BA, Amyes SGB. Clonal diversity of *Acinetobacter baumannii* from diabetic patients in Saudi Arabian hospitals. *J Med Microbiol.* 2014;63:1460–6.
80. Simo Tchuinte PL, Rabenandrasana MAN, Kowalewicz C, Andrianoelina VH, Rakotondrasoa A, Andrianirina ZZ, et al. Phenotypic and molecular characterisations of carbapenem-resistant *Acinetobacter baumannii* strains isolated in Madagascar. *Antimicrob Resist Infect Control.* 2019;8(1):1–9.
81. T E, S R. Effect of Antibiotic Combinations on the Sensitivity of Carbapenem Resistant *Acinetobacter baumannii* Strains. *J Microb Biochem Technol.* 2017;09(03):132–7.
82. Safari M, Mozaffari Nejad AS, Bahador A, Jafari R, Alikhani MY. Prevalence of ESBL and MBL encoding genes in *Acinetobacter baumannii* strains isolated from patients of intensive care units (ICU). *Saudi J Biol Sci.* 2015;22(4):424–9.
83. Rezaei A, Fazeli H, Halaji M, Moghadampour M, Faghri J. Prevalence of metallo-beta-lactamase producing *Acinetobacter baumannii* isolated from intensive care unit in tertiary care hospitals. *Ann di Ig.* 2018;30(4):330–6.
84. Siroy A, Molle V, Lemaître-Guillier C, Vallenet D, Pestel-Caron M, Cozzone AJ, et al. Channel formation by CarO, the carbapenem resistance-associated outer membrane protein of *Acinetobacter baumannii*. *Antimicrob Agents Chemother.* 2005;49(12):4876–83.
85. Soto SM. Role of efflux pumps in the antibiotic resistance of bacteria embedded in a biofilm. *Virulence.* 2013;4(3):223–9.