

DAFTAR PUSTAKA

1. Global Prevention on Infection Strategy and Control. Geneva: World Health Organization; 2023.
2. Global Antimicrobial Resistance and Use Surveillance System (GLASS) report. Geneva: World Health Organization; 2025.
3. Kemenkes. Profil Kesehatan Indonesia 2022. Jakarta: Kementrian Kesehatan Republik Indonesia; 2023.
4. Sharma K, Verma R. Urinary tract infections : A review. 2023;02:189–192.
5. Flores-Mireles AL, Walker JN, Caparon M, Hultgren SJ. Urinary tract infections: epidemiology, mechanisms of infection and treatment options. Nat Rev Microbiol. 2015;13(5):269–84.
6. Ahmed AE, Abdelkarim S, Zenida M, Baiti MAH, Alhazmi AAY, Alfaifi BAH, et al. Prevalence and Associated Risk Factors of Urinary Tract Infection among Diabetic Patients: A Cross-Sectional Study. Healthc. 2023;11(6):1–11.
7. He Y, Zhao J, Wang L, Han C, Yan R, Zhu P, et al. Epidemiological trends and predictions of urinary tract infections in the global burden of disease study 2021. Sci Rep. 2025;15(1):1–12.
8. Depkes. Waspada Infeksi Saluran Kemih [Internet]. 2014 [cited 2025 Sep 21]. Available from: <http://www.depkes.go.id/index.php/wasada+infeksi+saluran+kemih/>
9. Fan Z. Antibiotics Managment an Treatment for Urinary Tract Infection. 2023;14(1000060):1–2.
10. Kemenkes. Pedoman Umum Penggunaan Antibiotik. Kementrian Kesehatan RI; 2013.

11. Gupta K, Hooton TM, Naber KG, Wullt B, Colgan R, Miller LG, et al. International clinical practice guidelines for the treatment of acute uncomplicated cystitis and pyelonephritis in women: A 2010 update by the Infectious Diseases Society of America and the European Society for Microbiology and Infectious Diseases. *Clin Infect Dis*. 2011;52(5):103–20.
12. Fitrianda E, Novelni R, Lestrari H. Pola Resistensi Bakteri pada Pasien Infeksi Saluran Kemih (ISK) di Bangsal Interne RSUP Dr.M.Djamil Padang. 2021;4(2):145–51.
13. Clark AW, J M, MD D. Rural-urban differences in antibiotic prescribing for uncomplicated urinary tract infection Abbye. *EAU Updat Ser*. 2021;42(12):1437–1444.
14. Trimayanti Y, Nuryastuti T, Yuniarti N. Evaluasi Kesesuaian Antibiotik Empiris Terhadap Clinical Outcome Pada Pasien Infeksi Saluran Kemih (ISK) di RSUD Sijunjung, Sumatera Barat. *Maj Farm*. 2022;18(3):307.
15. Bilsen MP, Jongeneel RMH, Schneeberger C, Platteel TN, Van Nieuwkoop C, Mody L, et al. Definitions of Urinary Tract Infection in Current Research: A Systematic Review. *Open Forum Infect Dis*. 2023;10(7):1–8.
16. Dipiro JT, Tee GC, Haines ST, Nolin TD, Ellingrod V., Posey LM. *Dipiro'SPharmacotherapy Pathophysiologic Approach 12Th Edition*. 2023.
17. Bonkat G, Bartoletti R, Bruyère F, Cai T, Geerlings SE, Köves B, et al. *EAU Guidelines on Urological Infections (pocket)*. Eur Assoc Urol 2024. 2024;(March):1–184.
18. Panduan Tatalaksana Infeksi Saluran Kemih dan Genitalia Pria. Ikatan Ahli Urologi Indonesia; 2020. 148 p.
19. Yang X, Chen H, Zheng Y, Qu S, Wang H, Yi F. Disease burden and long-term trends of urinary tract infections: A worldwide report. *Front Public Heal*. 2022;10.

20. Kumala I, Farich A, Yanti DE, Hermawan D, Amirus K. Faktor Risiko Yang Berhubungan Dengan Kejadian Infeksi Saluran Kemih Pada Pasien Yang Terpasang Kateter Di Ruang Rawat Inap Penyakit Dalam Rsud Dr. H. Abdul Moeloek Provinsi Lampung. *J Med Malahayati*. 2024;7(4):1109–16.
21. Prastiyanto ME, Iswara A, Khairunnisa A, Sofyantoro F, Siregar AR, Mafiroh WU, et al. Prevalence and antimicrobial resistance profiles of multidrug-resistant bacterial isolates from urinary tract infections in Indonesian patients: A cross-sectional study. *Clin Infect Pract*. 2024;22(April):100359.
22. Dhanashri Santosh Mane, Pramod Motiram Bhosale. A review on prevalence of bacteria in urinary tract infection. *World J Adv Eng Technol Sci*. 2023;14(1):231–8.
23. Setyorini H, Mardiana N, Tjempakasari A. Risk Factors for Urinary Tract Infection in Hospitalized Patients. *Biomol Heal Sci J*. 2019;2(1):4.
24. Perdana MA, Wahyuni DD, Yunita R. Characteristics and susceptibility pattern of catheter-associated urinary tract infections (CAUTI) bacteria in Indonesia: A study in a national reference hospital of Sumatra region 2020–2021. *Narra J*. 2023;3(3):1–7.
25. Kaur R, Kaur R. Symptoms, risk factors, diagnosis and treatment of urinary tract infections. *Postgrad Med J*. 2021;97(1154):803–12.
26. Zhou Y, Zhou Z, Zheng L, Gong Z, Li Y, Jin Y, et al. Urinary Tract Infections Caused by Uropathogenic Escherichia coli: Mechanisms of Infection and Treatment Options. *Int J Mol Sci*. 2023;24(13).
27. Sujith S, Solomon AP, Rayappan JBB. Comprehensive insights into UTIs: from pathophysiology to precision diagnosis and management. *Front Cell Infect Microbiol*. 2024;14(September).
28. Kemenkes. Pedoman Nasional Pelayanan Klinis Tata Laksana Infeksi Saluran Kemih. Jakarta; 2025.

29. Muteeb G, Rehman T, Shahwan M, Aatif M. Origin of Antibiotics and Antibiotic Resistance , and Their Impacts on Drug Development : A Narrative Review. 2023;1–54.
30. Hanindy MH, Rachman BE. The role of antibiotics in the treatment of bacterial infections : A literature review. 2024;4–7.
31. Ishak A, Mazonakis N, Spernovasilis N, Tsioutis C, Akinosoglou K. Bactericidal versus bacteriostatic antibacterials: clinical significance , differences and synergistic potential in clinical practice. J Antimicrob Chemother. 2025;80(1):1–17.
32. Khurana MP, Sebastian JC, Bhatt S, Knight GM. Modelling the implementation of narrow versus broader spectrum antibiotics in the empiric treatment of E . coli bacteraemia. Sci Rep. 2024;1–12.
33. Hauser AR. Antibiotic Basics for Clinicians:The ABCs of Choosing the Right Antibacterial Agent. 2018.
34. Anggita D, Nuraisyah S, Wiriansya EP. Mekanisme Kerja Antibiotik. 2022;7(1):46–58.
35. Keuler N, Johnson Y, Coetzee R. Treating urinary tract infections in public sector primary healthcare facilities in Cape Town, South Africa: A pharmaceutical perspective. South African Med J. 2022;112(7):487–93.
36. Dason S, Dason JT, Kapoor A. Guidelines for the diagnosis and management of recurrent urinary tract infection in women. J Can Urol Assoc. 2011;5(5):316–22.
37. Warzecha D, Pietrzak B, Urban A, Wielgoś M. How to avoid drug resistance during treatment and prevention of urinary tract infections. Prz Menopauzalny. 2021;20(4):217–21.
38. Jent P, Berger J, Kuhn A, Trautner BW, Atkinson A, Marschall J. Antibiotics

for Preventing Recurrent Urinary Tract Infection: Systematic Review and Meta-analysis. *Open Forum Infect Dis.* 2022;9(7):1–8.

39. Verananda SY, Gama SI, Fadraersada J. Studi Pola Penggunaan Antibiotik dan Analgesik Pada Pasien Infeksi Saluran Kemih (ISK) (Studi Dilaksanakan di Instalasi Rawat Inap RSUD Abdul Wahab Sjahranie). *Proceeding Mulawarman Pharm Conf.* 2017;6(November):173–8.
40. Wawrysiuk S, Naber K, Rechberger T, Miotla P. Prevention and treatment of uncomplicated lower urinary tract infections in the era of increasing antimicrobial resistance—non-antibiotic approaches: a systemic review. *Arch Gynecol Obstet.* 2019;300(4):821–8.
41. Selifiana N, Irwanti D, Lisni I. Saluran Kemih Di Salah Satu Rumah Sakit Kota Bandung. *J Ners.* 2023;7(754):284–92.
42. Ramadheni P, Tobat SR, Zahro F. Analysis of Parenteral Antimicrobial Usage in Patients with Urinary Tract Infection at dr. M. Djamil Padang Hospital. *Indones J Clin Pharm.* 2016;5(3):184–95.
43. Deltourbe L, Lacerda Mariano L, Hreha TN, Hunstad DA, Ingersoll MA. The impact of biological sex on diseases of the urinary tract. *Mucosal Immunol.* 2022;15(5):857–66.
44. Hooton TM, Scholes D, Hughes JP, Winter C, Roberts PL, Stapleton AE, et al. A Prospective Study of Risk Factors for Symptomatic Urinary Tract Infection in Young Women. *N Engl J Med.* 1996;335(7):468–74.
45. Moore EE, Hawes SE, Scholes D, Boyko EJ, Hughes JP, Fihn SD. Sexual intercourse and risk of symptomatic urinary tract infection in post-menopausal women. *J Gen Intern Med.* 2008;23(5):595–9.
46. Indra I, Sartika S, Maryadi M, Purwanto E. Kebiasaan Menahan Kemih dan Kebersihan Genitalia Sebagai Faktor Risiko Infeksi Saluran Kemih. *J Penelit Kesehat Suara Forikes.* 2024;16(7):2020–2.

47. Akhtar A, Ahmad Hassali MA, Zainal H, Ali I, Khan AH. A Cross-Sectional Assessment of Urinary Tract Infections Among Geriatric Patients: Prevalence, Medication Regimen Complexity, and Factors Associated With Treatment Outcomes. *Front Public Heal*. 2021;9(October):1–7.
48. Neugent ML, Kumar A, Hulyalkar N V, Zimmern PE, Palmer KL, Nisco NJ De. Article Recurrent urinary tract infection and estrogen shape the taxonomic ecology and function of the postmenopausal urogenital microbiome In brief II Recurrent urinary tract infection and estrogen shape the taxonomic ecology and function of the postmeno. *Cell Reports Med*. 2022;3(10):100753.
49. Salari N, Karami MM, Bokaei S, Chalesghar M, Shohaimi S, Akbari H, et al. The prevalence of urinary tract infections in type 2 diabetic patients: a systematic review and meta-analysis. *Eur J Med Res*. 2022;27(1):1–13.
50. Tolani MA, Suleiman A, Awaisu M, Abdulaziz MM, Lawal AT, Bello A. Acute urinary tract infection in patients with underlying benign prostatic hyperplasia and prostate cancer. *Pan Afr Med J*. 2020;36(169):1–9.
51. Schlager TA. Urinary Tract Infections in Infants and Children. *Microbiol Spectr*. 2016 Oct;4(5).
52. Fitria B, Indah H, Tjekyan R. Prevalensi Anemia pada Anak yang Menderita Infeksi Saluran Kemih. *Maj Kedokt Sriwij*. 2014;46(4):250–2.
53. Ayoya MA, Ngnie-Teta I, Séraphin MN, Mamadoultai bou A, Boldon E, Saint-Fleur JE, et al. Prevalence and risk factors of anemia among children 6-59 months old in Haiti. *Anemia*. 2013;2013:10–2.
54. Hussain D, Barnwal J. Association between urinary tract infections and anemia among the elderly in India : Insights from the longitudinal aging study. 2025; Available from: <https://doi.org/10.1371/journal.pgph.0004390>
55. Shankar M, Narasimhappa S, N.S. M. Urinary Tract Infection in Chronic Kidney Disease Population: A Clinical Observational Study. *Cureus*. 2021;13(1):1–9.

56. Hsiao C yen, Chen T hsien, Lee Y chien, Hsiao M chang, Wang M cheng. Urolithiasis Is a Risk Factor for Uroseptic Shock and Acute Kidney Injury in Patients With Urinary Tract Infection. 2019;6(December):1–7.
57. Ruckle AF, Maulana A, Ghinowara T. Faktor Resiko Infeksi Saluran Kemih Pada Pasien Dengan Batu Saluran Kemih. Biomedika. 2020;12(2):124–30.
58. Jia H, Su W, Zhang J, Wei Z, Tsikwa P, Wang Y. Risk factors for urinary tract infection in elderly patients with type 2 diabetes: A protocol for systematic review and meta-analysis. PLoS One. 2024 Sep 26;19(9):e0310903.
59. Panta U. Utilization Of Antibiotics In Patients With Urinary Tract Infections. Indones J Heal Sci Res Dev. 2022;4(2):38–48.
60. Bhayangkara S, Iii T, Titus D, Kupang U. Costa EMD, Rengga MPE, Oktavia N. Rasionalitas Penggunaan Antibiotik Pada Pasien Infeksi Saluran Kemih (ISK) Di Rumah Sakit Bhayangkara Tk. III Drs. Titus Uly Kupang (Doctoral dissertation, Universitas Citra Bangsa).2020. 2018;276–81.
61. Katzung BG, Masters SB, Trevor AJ. Basic and Clinical Pharmacology. McGraw-Hill Education; 2012. (LANGE Basic Science).
62. Administration USF and D. Ceftriaxone for Injection, USP. 2014.
63. Sean C Sweetman, BPharm Frp. Martindale-The-Complete-Drug-Reference_- 36th-Edition. J Chem Inf Model. 2019;53(9):1689–99.
64. IDSA. Complicated UTI Guidelines [Internet]. 2024. Available from: <https://www.idsociety.org/>
65. Sari RN, Irawan Y, Dwi P, Jaluri C. Pola Penggunaan Obat Antibiotik pada Pasien Infeksi Saluran Kemih (ISK) di Instalasi Rawat Inap RSUD Sultan Imanuddin Pangkalan Bun Tahun 2018. 2022;6(1):97–107.
66. Puspitasari CE, Suryani D. Pola Peresepan Antibiotik Pasien Infeksi Saluran Kemih (ISK) Rawat Inap di RSUD Provinsi NTB Tahun 2019 Realist

Evaluation View project Designing ELT for Students of Medicine View project.
Arch Pharm. 2022;4(1).

67. Pham TDM, Ziora ZM, Blaskovich MAT. Quinolone antibiotics. Medchemcomm. 2019;10(10):1719–39.
68. Spencer S, Ipema H, Hartke P, Krueger C, Rodriguez R, Gross AE, et al. Intravenous Push Administration of Antibiotics: Literature and Considerations. Hosp Pharm. 2018;53(3):157–69.
69. Hashemian SMR, Farhadi Z, Farhadi T. Fosfomycin: The characteristics, activity, and use in critical care. Ther Clin Risk Manag. 2019;15:525–30.
70. Artigao FB, Rabes T del R. Fosfomycin in the pediatric setting. Off J Spanish Soc Chemother. 2019;32:55–61.
71. Dhillon S. Meropenem/Vaborbactam: A Review in Complicated Urinary Tract Infections. Drugs. 2018;78(12):1259–70.
72. A. Abdul Khaleq M, H. Abd A, A. Dhahi M. Efficacy of Combination of Meropenem with Gentamicin, and Amikacin against Resistant E. coli Isolated from Patients with UTIs: in vitro Study. Iraqi J Pharm Sci (P-ISSN 1683 - 3597 E-ISSN 2521 - 3512). 2017;20(2):66–74.
73. Al-Hasan MN, Wilson JW, Lahr BD, Thomsen KM, Eckel-Passow JE, Vetter EA, et al. Szlig;-Lactam and Fluoroquinolone Combination Antibiotic Therapy for Bacteremia Caused By Gram-Negative Bacilli. Antimicrob Agents Chemother. 2009;53(4):1386–94.