

DAFTAR PUSTAKA

1. Galo Guillermo Farfán-Cano, Viveiros-Rosa SG. Resuscitation goals in septic shock: fluid therapy and vasoactive drugs, an integrative review. *Trends Infect Glob Heal.* 2023;3(1):89–99.
2. Huang M, Cai S, Su J. The pathogenesis of sepsis and potential therapeutic targets. *Int J Mol Sci.* 2019;20(21).
3. Turcato G, Zaboli A, Sibilio S, Mian M, Brigo F. Estimated plasma volume status can help identify patients with sepsis at risk of death within 30 days in the emergency department. *Emerg Care J.* 2023;19(4).
4. Worapratya P, Wuthisuthimethawee P. Septic shock in the ER: Diagnostic and management challenges. *Open Access Emerg Med.* 2019;11:77–86.
5. Nagi AI, Shafik AM, Fatah AMA, Selima WZ, Hefny AF. Inferior vena cava collapsibility index as a predictor of fluid responsiveness in sepsis-related acute circulatory failure. *Ain-Shams J Anesthesiol.* 2021;13(1).
6. Qayyum S, Shahid K. Fluid Resuscitation in Septic Patients. *Cureus.* 2023;15(8):1–7.
7. Caraballo C, Jaimes F. Organ dysfunction in sepsis: An ominous trajectory from infection to death. *Yale J Biol Med.* 2019;92(4):629–40.
8. Jaffee W, Hodgins S, McGee WT. Tissue Edema, Fluid Balance, and Patient Outcomes in Severe Sepsis: An Organ Systems Review. *J Intensive Care Med.* 2018;33(9):502–9.
9. Moschopoulos CD, Dimopoulou D, Dimopoulou A, Dimopoulou K, Protopapas K, Zavras N, et al. New Insights into the Fluid Management in Patients with Septic Shock. *Medicina (B Aires)* [Internet]. 2018;365(1):2. Available from: <https://www.scopus.com/inward/record.uri?eid=2-s2.0-0032126564&doi=10.1016%2FS0306-3623%2897%2900424-2&partnerID=40&md5=e70f13173e905d39509a5672ebc09801>
10. Di Nicolò P, Tavazzi G, Nannoni L, Corradi F. Inferior Vena Cava Ultrasonography for Volume Status Evaluation: An Intriguing Promise Never Fulfilled. *J Clin Med.*

- 2023;12(6).
11. Shamsavarinia K, Taqizadieh A, Moharramzadeh P, Amirchoupani R, Mahmoodpoor A. Comparison of cardiac output, IVC diameters and lactate levels in prediction of mortality in patients in emergency department; an observational study. *Pakistan J Med Sci.* 2020;36(4):788–92.
 12. Pinsky MR, Cecconi M, Chew MS, De Backer D, Douglas I, Edwards M, et al. Effective hemodynamic monitoring. *Crit Care* [Internet]. 2022;26(1):1–10. Available from: <https://doi.org/10.1186/s13054-022-04173-z>
 13. Cleymaet R, D'Hondt M, Scheinok T, Malbrain L, De Laet I, Schoonheydt K, et al. Comparison of Bioelectrical Impedance Analysis (BIA)-Derived Parameters in Healthy Volunteers and Critically Ill Patients. *Life.* 2024;14(1):1–19.
 14. Chung YJ, Kim EY. Usefulness of bioelectrical impedance analysis and ECW ratio as a guidance for fluid management in critically ill patients after operation. *Sci Rep* [Internet]. 2021;11(1):1–10. Available from: <https://doi.org/10.1038/s41598-021-91819-7>
 15. Madsen JM, Itenov TS, Koch EB, Bestle MH. Bioimpedance as a measure of fluids in patients with septic shock. A prospective observational study. *Acta Anaesthesiol Scand.* 2023;67(3):319–28.
 16. Park JH, Jo Y II, Lee JH. Clinical usefulness of bioimpedance analysis for assessing volume status in patients receiving maintenance dialysis. *Korean J Intern Med.* 2018;33(4):660–9.
 17. Jeong H, Park I, Lee JH, Kim D, Baek S, Kim S, et al. Feasibility study using longitudinal bioelectrical impedance analysis to evaluate body water status during fluid resuscitation in a swine sepsis model. *Intensive Care Med Exp* [Internet]. 2022;10(1). Available from: <https://doi.org/10.1186/s40635-022-00480-5>
 18. Lee EP, Wu HP, Chan OW, Lin JJ, Hsia SH. Hemodynamic monitoring and management of pediatric septic shock. *Biomed J* [Internet]. 2022;45(1):63–73. Available from: <https://doi.org/10.1016/j.bj.2021.10.004>
 19. Virág M, Leiner T, Rottler M, Ocskay K, Molnar Z. Individualized hemodynamic

- management in sepsis. *J Pers Med*. 2021;11(2):1–10.
20. Suh SW, Park HJ, Choi YS. Preoperative volume assessment using bioelectrical impedance analysis for minimizing blood loss during hepatic resection. *Hpb* [Internet]. 2022;24(4):568–74. Available from: <https://doi.org/10.1016/j.hpb.2021.09.009>
 21. Shin J, Park I, Lee JH, Han JS, Kim B, Jang DH, et al. Comparison of body water status and its distribution in patients with non-septic infection, patients with sepsis, and healthy controls. *Clin Exp Emerg Med*. 2021;8(3):173–81.
 22. Kharadi N, Mehreen T, Habib M, Rasheed G, Ilyas A, Akhtar A, et al. Evaluating the Impact of Positive Fluid Balance on Mortality and Length of Stay in Septic Shock Patients. *Cureus*. 2022;14(5):6–10.
 23. Kyosebekirov E, Kazakov D, Nikolova-Kamburova S, Stoilov V, Mitkovski E, Pavlov G, et al. Bioimpedance Analysis for Fluid Status Assessment in Critically Ill Septic Patients. *Folia Med (Plovdiv)*. 2024;66(3):323–31.
 24. Mohammed Y, El Shahed G, Galal I, Gomaa A, Zaki B. Assessment of Inferior Vena Cava Diameter Measured By Ultra-Sonography in Correlation With Central Venous Pressure Value in Patients With Sepsis. *Ain Shams Med J*. 2019;70(4):285–97.
 25. Marik PE, Byrne L, van Haren F. Fluid resuscitation in sepsis: The great 30 mL per kg hoax. *J Thorac Dis*. 2020;2(1):S37–47.
 26. Gopalan P. Pathophysiology of Sepsis. *The Sepsis Codex*. 2022;28(5):17–28.
 27. Marques A, Torre C, Pinto R, Sepodes B, Rocha J. Treatment Advances in Sepsis and Septic Shock: Modulating Pro- and Anti-Inflammatory Mechanisms. *J Clin Med*. 2023;12(8).
 28. Gotts JE, Matthay MA. Sepsis: Pathophysiology and clinical management. *BMJ* [Internet]. 2016;353. Available from: <http://dx.doi.org/doi:10.1136/bmj.i1585>
 29. Wang M, Jiang L, Zhu B, Li W, Du B, Kang Y, et al. The Prevalence, Risk Factors, and Outcomes of Sepsis in Critically Ill Patients in China: A Multicenter Prospective Cohort Study. *Front Med*. 2020;7(December):1–11.

30. Bladon S, Ashiru-Oredope D, Cunningham N, Pate A, Martin GP, Zhong X, et al. Rapid systematic review on risks and outcomes of sepsis: the influence of risk factors associated with health inequalities. *Int J Equity Health*. 2024;23(1):1–17.
31. Vincent JL. The Clinical Challenge of Sepsis Identification and Monitoring. *PLoS Med*. 2016;13(5):1–10.
32. Arora J, Mendelson AA, Fox-Robichaud A. Sepsis: network pathophysiology and implications for early diagnosis. *Am J Physiol - Regul Integr Comp Physiol*. 2023;324(5):R613–24.
33. Ladzinski AT, Thind GS, Siuba MT. Rational Fluid Resuscitation in Sepsis for the Hospitalist: A Narrative Review. *Mayo Clin Proc [Internet]*. 2021;96(9):2464–73. Available from: <https://doi.org/10.1016/j.mayocp.2021.05.020>
34. Guarino M, Perna B, Cesaro AE, Maritati M, Spampinato MD, Contini C, et al. 2023 Update on Sepsis and Septic Shock in Adult Patients: Management in the Emergency Department. *J Clin Med*. 2023;12(9).
35. Macdonald S. Fluid Resuscitation in Patients Presenting with Sepsis: Current Insights. *Open Access Emerg Med*. 2022;14(November):633–8.
36. Vaeli Zadeh A, Wong A, Crawford AC, Collado E, Larned JM. Guideline-based and restricted fluid resuscitation strategy in sepsis patients with heart failure: A systematic review and meta-analysis. *Am J Emerg Med [Internet]*. 2023;73:34–9. Available from: <https://doi.org/10.1016/j.ajem.2023.08.006>
37. Marik PE, Taeb AM. SIRS, qSOFA and new sepsis definition. *J Thorac Dis*. 2017;9(4):943–5.
38. Durand F, Kellum JA, Nadim MK. Fluid resuscitation in patients with cirrhosis and sepsis: A multidisciplinary perspective. *J Hepatol [Internet]*. 2023;79(1):240–6. Available from: <https://doi.org/10.1016/j.jhep.2023.02.024>
39. Prezioso C, Trotta R, Cavallo E, Fusina F, Malpetti E, Albani F, et al. Central venous pressure and dynamic indices to assess fluid appropriateness in critically ill patients: A pilot study. *PLoS One [Internet]*. 2023;18(5 May):1–9. Available from: <http://dx.doi.org/10.1371/journal.pone.0285935>

40. Abd el-Hamid AM, Khashaba MA, Twfik SM. Intravascular Volume Assessment What Is New? *Benha J Appl Sci.* 2021;6(4):43–7.
41. Kaptein EM, Kaptein MJ. Inferior vena cava ultrasound and other techniques for assessment of intravascular and extravascular volume: an update. *Clin Kidney J* [Internet]. 2023;16(11):1861–77. Available from: <https://doi.org/10.1093/ckj/sfad156>
42. Kalantari K, Chang JN, Ronco C, Rosner MH. Assessment of intravascular volume status and volume responsiveness in critically ill patients. *Kidney Int* [Internet]. 2013;83(6):1017–28. Available from: <http://dx.doi.org/10.1038/ki.2012.424>
43. Mulasi U, Kuchnia AJ, Cole AJ, Earthman CP. Bioimpedance at the bedside: Current applications, limitations, and opportunities. *Nutr Clin Pract.* 2015;30(2):180–93.
44. Van Der Sande FM, Van De Wal-Visscher ER, Stuard S, Moissl U, Kooman JP. Using Bioimpedance Spectroscopy to Assess Volume Status in Dialysis Patients. *Blood Purif.* 2020;49(1–2):178–84.
45. Chae B, Shin YS, Hong SI, Kim SM, Kim YJ, Ryoo SM, et al. Extracellular water to total body water ratio in septic shock patients receiving protocol-driven resuscitation bundle therapy. *J Clin Med.* 2021;10(13).
46. Khalil SF, Mohktar MS, Ibrahim F. The theory and fundamentals of bioimpedance analysis in clinical status monitoring and diagnosis of diseases. *Sensors (Switzerland).* 2014;14(6):10895–928.
47. Shah P, Louis MA. Physiology, Central Venous Pressure. *StatPearls* [Internet] Treasure Isl StatPearls Publ. 2023;
48. Russell A, Rivers EP, Giri PC, Jaehne AK, Nguyen HB. A physiologic approach to hemodynamic monitoring and optimizing oxygen delivery in shock resuscitation. *J Clin Med.* 2020;9(7):1–18.
49. Piccoli A, Pittoni G, Facco E, Favaro E, Pillon L. Relationship between central venous pressure and bioimpedance vector analysis in critically ill patients. *Crit*

- Care Med. 2000;28(1):132–7.
50. Traves KP, Studdiford JS, Pickle S, Tully AS. Edema: Diagnosis and management. *Am Fam Physician*. 2013;88(2):102–10.
 51. Yanagisawa N, Koshiyama M, Watanabe Y, Sato S, Sakamoto SI. A quantitative method to measure skin thickness in leg edema in pregnant women using B-scan portable ultrasonography: A comparison between obese and non-obese women. *Med Sci Monit*. 2019;25:1–9.
 52. Manvak J, Schreiber M, Matulová H, Šlemrová M, Cerman J, Šitina M, et al. Does generalized edema in sepsis increase muscular tissue pressure? *Crit Care*. 2003;7(Supp.2):33–4.
 53. Takahashi Y, Morisawa T, Okamoto H, Matsumoto N, Saitoh M, Takahashi T, et al. Relationship Between Skeletal Muscle Quality and Hospital-Acquired Disability in Patients With Sepsis Admitted to the ICU: A Pilot Study. *Crit Care Explor*. 2023;5(1):E0835.
 54. Pittard MG, Huang SJ, McLean AS, Orde SR. Association of Positive Fluid Balance and Mortality in Sepsis and Septic Shock in An Australian Cohort. *Anaesth Intensive Care*. 2017;45(6):737–43.
 55. Balik M, Sedivy J, Waldauf P, Kolar M, Smejkalova V, Pacht J. Can bioimpedance determine the volume of distribution of antibiotics in sepsis? *Anaesth Intensive Care*. 2005;33(3):345–50.
 56. Gusriadi B, Salam SH, Hisbullah H, Arif SK, Rum M, Palinrungi AS. The Association of Cumulative Fluid Balance and Sepsis Patient Mortality During Treatment in the Intensive Care Unit. *Nusant Med Sci J*. 2022;7(2):88–97.
 57. Zhang B, Guo S, Fu Z, Wu N, Liu Z. Association between fluid balance and mortality for heart failure and sepsis: a propensity score-matching analysis. *BMC Anesthesiol*. 2022;22(1):1–9.
 58. Sugiyono. *Metode Penelitian Kuantitatif Kualitatif & RND*. Bandung: Alfabeta; 2016.
 59. Meghanathan N. Assortativity Analysis of Real-World Network Graphs based on

- Centrality Metrics. *Comput Inf Sci*. 2016;9(3):7.
60. Nair R, Bhandary NM, D'Souza AD. Initial Sequential Organ Failure Assessment score versus Simplified Acute Physiology score to analyze multiple organ dysfunction in infectious diseases in Intensive Care Unit. *Indian J Crit Care Med*. 2016;20(4):210–5.
 61. Yuniar I, Karyanti MR, Kurniati N, Handayani D. The clinical and biomarker approach to predict sepsis mortality in pediatric patients. *Paediatr Indones Indones*. 2023;63(1):37–44.
 62. Fadrian F, Muharramah DH, Pradana G, Putri VY. In-hospital mortality and its determinant factors among patients with sepsis. *Universa Med*. 2025;44(1):3–15.
 63. Sakaguchi T, Hirata A, Kashiwase K, Higuchi Y, Ohtani T, Sakata Y, et al. Relationship of Central Venous Pressure to Body Fluid Volume Status and Its Prognostic Implication in Patients With Acute Decompensated Heart Failure. *J Card Fail* [Internet]. 2020;26(1):15–23. Available from: <https://doi.org/10.1016/j.cardfail.2018.06.001>
 64. Karpaviciute J, Skarupskiene I, Balciuviene V, Vaiciunien R, Žiginskiene E, Bumblyte IA. Assessment of Fluid Status by Bioimpedance Analysis and Central Venous Pressure Measurement and Their Association with the Outcomes of Severe Acute Kidney Injury. *Medicina (B Aires)*. 2021;57:518.
 65. Mohammedin AS, AlSaid AH, Almalki AM, Alsaiani AR, Alghamdi FN, Jalalah AA, et al. Assessment of Hydration Status and Blood Pressure in a Tertiary Care Hospital at Al-Khobar. *Cureus*. 2022;14(8):10–5.
 66. Xu Y, Ling S, Liu Z, Luo D, Qi A, Zeng Y. The ability of phase angle and body composition to predict risk of death in maintenance hemodialysis patients. *Int Urol Nephrol* [Internet]. 2024;56(2):731–7. Available from: <https://doi.org/10.1007/s11255-023-03708-9>
 67. González-Barba F, Balderas-Peña LMA, Trujillo-Hernández B, Cervantes-González LM, González-Rodríguez JA, Gutiérrez-Rodríguez LX, et al. Phase Angle and Nutritional Status: The Impact on Survival and Health-Related Quality of Life in Locally Advanced Uterine Cervical Cancer. *Healthc*. 2023;11(2).

68. da Silva¹ BR, Orsso¹ CE, Gonzalez² MC, Sicchieri³ JMF, Mialich³ MS, Jordao³ AA, et al. Phase angle and cellular health: inflammation and oxidative damage. *Rev Endocr Metab Disord*. 2023;24(3):543–62.
69. Mayne KJ, Shemilt R, Keane DF, Lees JS, Mark PB, Herrington WG. Bioimpedance Indices of Fluid Overload and Cardiorenal Outcomes in Heart Failure and Chronic Kidney Disease: a Systematic Review: Bioimpedance and cardiorenal outcomes. *J Card Fail*. 2022;28(11):1628–41.
70. Nakanishi N, Tsutsumi R, Okayama Y, Takashima T, Ueno Y, Itagaki T, et al. Monitoring of muscle mass in critically ill patients: Comparison of ultrasound and two bioelectrical impedance analysis devices. *J Intensive Care*. 2019;7(1):1–8.
71. Kusaka Y, Ueno T, Minami T. Effect of restrictive versus liberal fluid therapy for laparoscopic gastric surgery on postoperative complications: a randomized controlled trial. *J Anesth* [Internet]. 2024;39(1):101–10. Available from: <https://doi.org/10.1007/s00540-024-03439-w>
72. Yajima T, Yajima K. Association of extracellular water/total body water ratio with protein-energy wasting and mortality in patients on hemodialysis. *Sci Rep* [Internet]. 2023;13(1):1–7. Available from: <https://doi.org/10.1038/s41598-023-41131-3>
73. Gracia-Iguacel C, González-Parra E, Mahillo I, Ortiz A. Low intracellular water, overhydration, and mortality in hemodialysis patients. *J Clin Med*. 2020;9(11):1–11.
74. Park KH, Shin J, Hwang JH, Kim SH. Utility of Volume Assessment Using Bioelectrical Impedance Analysis in Critically Ill Patients Receiving Continuous Renal Replacement Therapy: A Prospective Observational Study. *Korean J Crit Care Med*. 2017;32(3):256–64.
75. Razzera EL, Marcadenti A, Rovedder SW, Alves FD, Fink J da S, Silva FM. Parameters of Bioelectrical Impedance Are Good Predictors of Nutrition Risk, Length of Stay, and Mortality in Critically Ill Patients: A Prospective Cohort Study. *J Parenter Enter Nutr*. 2020;44(5):849–54.
76. Moonen HPFX, Van Zanten ARH. Bioelectric impedance analysis for body

- composition measurement and other potential clinical applications in critical illness. *Curr Opin Crit Care*. 2021;27(4):344–53.
77. Lee Y, Kwon O, Shin CS, Lee SM. Use of bioelectrical impedance analysis for the assessment of nutritional status in critically ill patients. *Clin Nutr Res*. 2015;4:32–40.
78. Xiong ZH, Zheng XM, Zhang GY, Wu MJ, Qu Y. The Use of Bioelectrical Impedance Analysis Measures for Predicting Clinical Outcomes in Critically Ill Children. *Front Nutr*. 2022;9(June):1–7.