

DAFTAR PUSTAKA

1. Bajwa, S.J.S. & Haldar, R. (2015) 'Pain management following spinal surgeries: An appraisal of the available options', *J Craniovertebr Junction Spine*, vol. 6, no. 3, pp. 105–110.
2. Kundra, S., Taneja, S., Choudhary, A.K., Katyal, I.G. & Roy, R. (2019) 'Effect of a low dose dexmedetomidine infusion on intraoperative hemodynamics, anesthetic requirements and recovery profile in patients undergoing lumbar spine surgery', *J Anaesthesiol Clin Pharmacol*, vol. 34, no. 3, pp. 46–50.
3. Srivastava, V.K., Mishra, A., Agrawal, S., Kumar, S., Sharma, S. & Kumar, R. (2016) 'Comparative evaluation of dexmedetomidine and magnesium sulphate on propofol consumption, haemodynamics and postoperative recovery in spine surgery: A prospective, randomized, placebo controlled, double-blind study', *Adv Pharm Bull*, vol. 6, no. 1, pp. 75–81.
4. Gabay, C. (2006) 'Interleukin-6 and chronic inflammation', *Arthritis Res Ther*, vol. 8, no. 2, pp. 1–6..
5. Kaye, A.D., Chernobylsky, D.J., Thakur, P., Siddaiah, H., Kaye, R.J., Eng, L.K., et al. (2020) 'Dexmedetomidine in Enhanced Recovery After Surgery (ERAS) Protocols for Postoperative Pain', *Curr Pain Headache Rep*, vol. 24, no. 5.
6. Farouk, I., Hassan, M.M., Fetouh, A.M., Elgayed, A.E.A., Eldin, M.H. & Abdelhamid, B.M. (2021) 'Analgesic and hemodynamic effects of intravenous infusion of magnesium sulphate versus dexmedetomidine in patients undergoing bilateral inguinal hernial surgeries under spinal anesthesia: a randomized controlled study', *Brazilian J Anesthesiol (English Ed)*, vol. 71, no. 5, pp. 489–497.
7. Aboelsuod, M.A.A. & Seyam, S.H. (2023) 'Dexmedetomidine versus magnesium sulfate for controlled hypotension during rhinoplasty surgeries: A prospective randomized comparative study', *Egypt J Anaesth*, vol. 39, no. 1, pp. 657–664.
8. Oommen, T.G., Segaran, S., Zachariah, M., Ranjan, R.V., Pillai, A.R., Valasareddy, S., et al. (2018) 'Effect of magnesium sulphate and dexmedetomidine on blood loss during lumbar spinal fusion surgeries', *J Clin Diagnostic Res*, vol. 12, no. 8, pp. UC01–UC05.
9. Peng, Y.N., Sung, F.C., Huang, M.L., Lin, C.L. & Kao, C.H. (2018) 'The use of intravenous magnesium sulfate on postoperative analgesia in orthopedic surgery: A systematic review of randomized controlled trials', *Medicine (United States)*, vol. 97, no. 50.
10. Tesch, F., Lange, T., Dröge, P., Günster, C., Flechtenmacher, J. & Lembeck, B. (2022) 'Indication for spinal surgery: associated factors and regional differences in Germany', *BMC Health Serv Res*, vol. 22, no. 1, pp. 1–8.
11. Evans, L., O'Donohoe, T., Morokoff, A. & Drummond, K. (2023) 'The role of spinal surgery in the treatment of low back pain', *Medical Journal of Australia*, 218(1), pp. 40–45.
12. Khanna, P., Sarkar, S. & Garg, B. (2020) 'Anesthetic considerations in spine surgery: What orthopaedic surgeon should know!', *Journal of Clinical Orthopaedics and Trauma*, 11(5), pp. 742–748.

13. Poon, K.S., Wu, K.C., Chen, C.C., Fung, S.T., Lau, A.W.C., Huang, C.C. et al. (2008) 'Hemodynamic changes during spinal surgery in the prone position', *Acta Anaesthesiologica Taiwanica*, 46(2), pp. 57–60.
14. Merenkov, V.V., Kovalev, A.N. & Gorbunov, V.V. (2012) 'Acute hemodynamic disturbances during lumbar spine surgery', *Journal of Neurosurgical Anesthesiology*, 24(1), pp. 80–81.
15. Lan, V. & Bardia, A. (2021) 'Hemodynamic Monitoring', in *Anesthesia Equipment (Third Edition): Principles and Applications*.
16. Jo, Y.Y. & Kwak, H.J. (2019) 'Sedation strategies for procedures outside the operating room', *Yonsei Medical Journal*, 60(6), pp. 491–499.
17. Barbanti-Brodano, G., Griffoni, C., Halme, J., Tedesco, G., Terzi, S., Bandiera, S. et al. (2020) 'Spinal surgery complications: an unsolved problem—Is the World Health Organization Safety Surgical Checklist a useful tool to reduce them?', *European Spine Journal*, 29(5), pp. 927–936.
18. Alshammari, H.S., Alshammari, A.S., Alshammari, S.A. & Ahamed, S.S. (2023) 'Prevalence of chronic pain after spinal surgery: A systematic review and meta-analysis', *Cureus*, 15(7).
19. Lange, N., Stadtmüller, T., Scheibel, S., Reischer, G., Wagner, A., Meyer, B. et al. (2022) 'Analysis of risk factors for perioperative complications in spine surgery', *Scientific Reports*, 12(1), pp. 1–12.
20. Garg, B., Ahuja, K. & Sharan, A.D. (2022) 'Regional anesthesia for spine surgery', *Journal of the American Academy of Orthopaedic Surgeons*, 30(17), pp. 809–819.
21. Licina, A., Silvers, A., Laughlin, H., Russell, J. & Wan, C. (2021) 'Pathway for enhanced recovery after spinal surgery—a systematic review of evidence for use of individual components', *BMC Anesthesiology*, 21(1), pp. 1–21.
22. Nelson, L.E., Lu, J., Guo, T., Saper, C.B., Franks, N.P. & Maze, M. (2003) 'The sedative component of anesthesia is mediated by GABA-A receptors in an endogenous sleep pathway', *Nature Neuroscience*, 6(9), pp. 974–979.
23. Virtanen, R., Savola, J.M., Saano, V. & Nyman, L. (1988) 'Characterization of the selectivity, specificity, and potency of medetomidine as an alpha 2-adrenoceptor agonist', *European Journal of Pharmacology*, 150(1–2), pp. 9–14.
24. Bohringer, C. & Liu, H. (2018) 'Is it time for an expanded role of dexmedetomidine in contemporary anesthesia practice? A clinician's perspective', *Translational Perioperative Pain Medicine*, 5, pp. 55–62.
25. Ebert, T.J., Hall, J.E., Barney, J.A., Uhrich, T.D. & Colino, M.D. (2000) 'The effects of increasing plasma concentrations of dexmedetomidine in humans', *Anesthesiology*, 93(2), pp. 382–384.
26. Koyyalamudi, V., Sen, S., Patil, S., Creel, J.B., Cornett, E.M., Fox, C.J. & Kaye, A.D. (2017) 'Adjuvant agents in regional anesthesia in the ambulatory setting', *Current Pain and Headache Reports*, 21(1), p. 6.
27. Kamibayashi, T. & Maze, M. (2000) 'Clinical uses of alpha-2 adrenergic agonists',

- Anesthesiology*, 93(5), pp. 1345–1349.
28. Venn, R.M., Grounds, R.M. & Bennet, D.J. (2002) 'Dexmedetomidine versus propofol for sedation in the intensive care unit: Patient and clinician perceptions', *British Journal of Anaesthesia*, 88(5), pp. 669–674.
 29. Riker, R.R., Shehabi, Y., Bokesch, P.M., *et al.* (2009) 'Dexmedetomidine vs midazolam for sedation of critically ill patients: A randomized trial', *JAMA*, 301(5), pp. 489–499.
 30. Blaudszun, G., Lysakowski, C., Elia, N. & Tramèr, M.R. (2012) 'Effect of perioperative systemic alpha-2 agonists on postoperative morphine consumption and pain intensity', *Anesthesiology*, 116(6), pp. 1312–1314.
 31. Tan, J.A. & Ho, K.M. (2009) 'Use of dexmedetomidine as a sedative and analgesic agent in critically ill adult patients: A meta-analysis', *Intensive Care Medicine*, 35(5), pp. 925–929.
 32. Gertler, R., Brown, H.C., Mitchell, D.H. & Silvius, E.N. (2001) 'Dexmedetomidine: A novel sedative-analgesic agent', *Proceedings of the Baylor University Medical Center*, 14(1), pp. 13–21.
 33. Kaur, M. & Singh, P.M. (2011) 'Current role of dexmedetomidine in clinical anesthesia and intensive care', *Anesthesia: Essays and Researches*, 5(2), pp. 128–133.
 34. Jiang, X., Tang, X., Liu, S. & Liu, L. (2023) 'Effects of dexmedetomidine on evoked potentials in spinal surgery under combined intravenous inhalation anesthesia: A randomized controlled trial', *BMC Anesthesiology*, 23(1), pp. 1–10.
 35. Zhang, L.Y., Zhang, Y.H., Shen, J. & Luo, Y. (2019) 'Effects of dexmedetomidine on postoperative recovery and mental status in patients receiving robotic-assisted thoracic surgery', *Annals of Palliative Medicine*, 8(4), pp. 401–410.
 36. Miao, M., Xu, Y., Li, B., Chang, E., Zhang, L. & Zhang, J. (2020) 'Intravenous administration of dexmedetomidine and quality of recovery after elective surgery in adult patients: A meta-analysis of randomized controlled trials', *Journal of Clinical Anesthesia*, 65(March), p. 109849.
 37. Ramsay, M.A. & Luterman, D.L. (2004) 'Dexmedetomidine as a total intravenous anesthetic agent', *Anesthesiology Clinics of North America*, 22(2), pp. 251–267.
 38. Bing-Yan, L., Zhi-Yu, G. & Dong-Xin, W. (2016) 'Effect of dexmedetomidine infusion on postoperative recovery for patients undergoing major spinal surgery during propofol anesthesia', *Journal of Peking University*, 48(3), p. 530.
 39. Mohammed, N.S., Habib, M.K., Abbas, E.A., Mahmoud, S.M. & Ramadan, I.A. (2020) 'Comparative study between the effect of dexmedetomidine and lidocaine infusion in lumbar fixation on hemodynamics, fentanyl requirements, and postoperative analgesia', *Ain-Shams Journal of Anesthesiology*, 12(1), pp. 1–9.
 40. Gutiérrez-Román, C.I., Carrillo-Torres, O. & Pérez-Meléndez, E.S. (2022) 'Use of magnesium sulfate in anesthesiology', *Revista Médica del Hospital General de México*, 85(1), pp. 25–30.
 41. Do, S.H. (2013) 'Magnesium: A versatile drug for anesthesiologists', *Korean Journal of Anesthesiology*, 65(1), pp. 4–8.

42. Vyklicky, V., Korinek, M., Smejkalova, T., Balik, A., Krausova, B., Kaniakova, M., et al. (2014) 'Structure, function, and pharmacology of NMDA receptor channels', *Physiological Research*, 63(Suppl 1), pp. S191–203.
43. Glasgow, N.G., Siegler Retchless, B. & Johnson, J.W. (2015) 'Molecular bases of NMDA receptor subtype-dependent properties', *Journal of Physiology*, 593(1), pp. 83–95.
44. Noland, A. (2019) 'Intravenous magnesium sulfate for multimodal analgesia', *Anesthesia eJournal (AEJ)*, 7(6), pp. 17–18.
45. Aboeela, M. & Alrefaey, A. (2022) 'Lidocaine versus magnesium sulfate infusion during isoflurane anesthesia for brain tumor resection, effect on minimum alveolar concentration reduction guided by bispectral index: A prospective randomized controlled trial', *Signa Vitae*, 18(1), pp. 108–114.
46. Lomate, P., Kumbhar, G. & Paranjpe, J. (2022) 'Evaluation of the efficacy of propofol-magnesium sulfate combination for sedation in paediatric magnetic resonance imaging of brain: A randomized controlled trial', *Sri Lankan Journal of Anaesthesiology*, 30(1), pp. 46–51.
47. Meena, K., Singh, A., Meena, R.K. & Singh, D.K. (2020) 'Comparison of two doses of magnesium sulphate as sedative during awake fiberoptic intubation for patients undergoing maxillofacial surgery: A prospective RCT', *Anaesthesia, Pain & Intensive Care*, 24(2), pp. 175–182.
48. Hobbs, N. & Turnbull, J. (2024) 'Magnesium and pain', *Anaesthesia Tutorial of the Week (ATOTW)*, 531, pp. 1–5.
49. Babaie, S., Taghvimi, A. & Hong, J.H. (2022) 'Recent advances in pain management based on nanoparticle technologies', *Journal of Nanobiotechnology*, 20, p. 290.
50. Sohn, H.M., Kim, B.Y., Bae, Y.K., Seo, W.S. & Jeon, Y.T. (2021) 'Magnesium sulfate enables patient immobilization during moderate block and ameliorates the pain and analgesic requirements in spine surgery, which cannot be achieved with opioid-only protocol: A randomized double-blind placebo-controlled study', *Journal of Clinical Medicine*, 10(19).
51. Yue, L., Lin, Z.M., Mu, G.Z. & Sun, H.L. (2022) 'Impact of intraoperative intravenous magnesium on spine surgery: A systematic review and meta-analysis of randomized controlled trials', *eClinicalMedicine*, 43, p. 101246.
52. Shah, P.N. & Dhengle, Y. (2016) 'Magnesium sulfate for postoperative analgesia after surgery under spinal anesthesia', *Acta Anaesthesiologica Taiwanica*, 54(2), pp. 62–64.
53. Ghaffaripour, S., Mahmoudi, H., Eghbal, H. & Rahimi, A. (2016) 'The effect of intravenous magnesium sulfate on post-operative analgesia during laminectomy', *Cureus*, 8(6), pp. 6–11.
54. Kolte, D., Vijayaraghavan, K., Khera, S., Sica, D.A. & Frishman, W.H. (2014) 'Role of magnesium in cardiovascular diseases', *Cardiology in Review*, 22(4), pp. 182–192.
55. Ko, S.H., Lim, H.R., Kim, D.C., Han, Y.J. & Choe, H. (2014) 'Magnesium sulfate does not attenuate the cardiovascular responses to tracheal intubation', *Korean Journal of Anesthesiology*, 67(3), pp. 205–210.

56. Koinig, H., Wallner, T., Marhofer, P., Andel, H., Horauf, K. & Mayer, N. (1998) 'Magnesium sulfate reduces intra- and postoperative analgesic requirements', *Anesthesia & Analgesia*, 87(1), pp. 206–210.
57. Albrecht, E., Kirkham, K.R., Liu, S.S., Brull, R. & Perlas, A. (2013) 'The analgesic efficacy and safety of magnesium sulfate in addition to systemic analgesia for perioperative pain control: A systematic review and meta-analysis', *Anesthesia & Analgesia*, 117(1), pp. 228–236.
58. Rahimi, Z., Masoudifar, M., Nazemroaya, B., Norouzi, M. & Mousavi, A. (2023) 'Effects of perioperative use of two doses of magnesium sulfate infusion on intraoperative blood loss in patients undergoing lumbar spinal fusion surgery', *Journal of Emergency Practice and Trauma*, 9(1), pp. 25–31.
59. Kumar, D., Arora, K.K. & Jain, P. (2019) 'To evaluate the effectiveness of magnesium sulphate as an agent to induce hypotensive anaesthesia in lumbar spine surgery: A prospective randomized, placebo-control study', *International Journal of Contemporary Medical Research*, 6(4), pp. 4–7.
60. Telci, L., Esen, F., Akcora, D., Erden, T., Canbolat, A.T. & Akpir, K. (2002) 'Evaluation of effects of magnesium sulfate in reducing intraoperative anesthetic requirements', *British Journal of Anaesthesia*, 89(4), pp. 594–598.
61. Ersal, M. & Altan, A. (2023) 'The effects of intravenous magnesium sulfate infusion on perioperative hemodynamics, postoperative recovery, and analgesia in arthroscopic knee surgery during spinal anesthesia', *Journal of Bursa Medicine*, 1(2), pp. 57–64.
62. Benevides, M.L., Fialho, D.C., Linck, D., Oliveira, A.L., Ramalho, D.H.V. & Benevides, M.M. (2021) 'Intravenous magnesium sulfate for postoperative analgesia after abdominal hysterectomy under spinal anesthesia: a randomized, double-blind trial', *Brazilian Journal of Anesthesiology (English Edition)*, 71(5), pp. 498–504.
63. Kourilovitch, M. & Galarza-Maldonado, C. (2023) 'Could a simple biomarker as neutrophil-to-lymphocyte ratio reflect complex processes orchestrated by neutrophils?', *Journal of Translational Autoimmunity*, 6, pp. 159–165.
64. Choy, E. & Rose-John, S. (2017) 'Interleukin-6 as a multifunctional regulator: inflammation, immune response, and fibrosis', *Journal of Scleroderma and Related Disorders*, 2, pp. 1–5.
65. Caiello, I., Minnone, G., Holzinger, D., Vogl, T., Prencipe, G. & Manzo, A. et al. (2014) 'IL-6 amplifies TLR-mediated cytokine and chemokine production: implications for the pathogenesis of rheumatic inflammatory diseases', *PLoS One*, 9(10), pp. 1–5.
66. Rose-John, S., Winthrop, K. & Calabrese, L. (2017) 'The role of IL-6 in host defence against infections: immunobiology and clinical implications', *Nature Reviews Rheumatology*, 13(7), pp. 399–409.
67. Zhou, Y.Q., Liu, Z., Liu, Z.H., Chen, S.P., Li, M., Shahveranov, A. et al. (2016) 'Interleukin-6: an emerging regulator of pathological pain', *Journal of Neuroinflammation*, 13(1), pp. 1–5.
68. Manion, J., Waller, M.A., Clark, T., Massingham, J.N. & Neely, G.G. (2019) 'Developing modern pain therapies', *Frontiers in Neuroscience*, 13, pp. 1–5.

69. Cook, A.D., Christensen, A.D., Tewari, D., McMahon, S.B. & Hamilton, J.A. (2018) 'Immune cytokines and their receptors in inflammatory pain', *Trends in Immunology*, 39(3), pp. 240–255.
70. Lei, D., Sha, Y., Wen, S., Xie, S., Liu, L. & Han, C. (2020) 'Dexmedetomidine may reduce IL-6 level and the risk of postoperative cognitive dysfunction in patients after surgery: a meta-analysis', *Dose-Response*, 18(1), p. 1559325820902345.
71. Etezadi, F., Aklamli, M., Najafi, A., Khajavi, M., Shariat Moharari, R., Mirrahimi, B., Mortazavi, S.A. & Mojtahedzadeh, M. (2014) 'Evaluation of the anti-inflammatory effects of peri-operative infusion of magnesium sulfate on the microsurgical procedures for intracranial tumors', *Anesthesia and Pain Medicine*, 4(5), p. e22379.
72. Aryana, P., Rajaei, S., Bagheri, A., Karimi, F. & Dabbagh, A. (2014) 'Acute effect of intravenous administration of magnesium sulfate on serum levels of interleukin-6 and tumor necrosis factor- α in patients undergoing elective coronary bypass graft with cardiopulmonary bypass', *Anesthesiology and Pain Medicine*, 4(3), p. e16316.
73. Zhang, W., Wang, T., Wang, G., Yang, M., Zhou, Y. & Yuan, Y. (2020) 'Effects of dexmedetomidine on postoperative delirium and expression of IL-1 β , IL-6, and TNF- α in elderly patients after hip fracture operation', *Frontiers in Pharmacology*, 11, p. 678.
74. Xu, S., Wang, S., Hu, S., Ju, X., Li, Q. & Li, Y. (2021) 'Effects of intravenous lidocaine, dexmedetomidine, and their combination infusion on postoperative nausea and vomiting following laparoscopic hysterectomy: a randomized controlled trial', *BMC Anesthesiology*, 21(1), p. 199.
75. Guerrero-Romero, F. & Rodriguez-Moran, M. (2002) 'Magnesium improves the beta-cell function to compensate variation of insulin sensitivity', *European Journal of Clinical Investigation*, 32(1), pp. 100–107.
76. Ryu, J.H., Kang, M.H., Park, K.S. & Do, S.H. (2009) 'Effects of magnesium sulfate on intraoperative anesthetic requirements and postoperative analgesia in gynecologic surgery', *British Journal of Anaesthesia*, 103(6), pp. 861–866.
77. Menshawi, M.A. & Fahim, H.M. (2020) 'Dexmedetomidine versus remifentanil infusion for controlled hypotension in shoulder arthroscopy: a comparative study', *Ain-Shams Journal of Anesthesiology*, 12(1).
78. Vicković, S., Pjević, M., Uvelin, A., Pap, D., Nikolić, D. & Lalić, I. (2016) 'Magnesium sulfate as an adjuvant to anesthesia in patients with arterial hypertension', *Acta Clinica Croatica*, 55, pp. 490–496.
79. Ryu, J.H., Sohn, I.S. & Do, S.H. (2009) 'Controlled hypotension for middle ear surgery: a comparison between remifentanil and magnesium sulphate', *British Journal of Anaesthesia*, 103(4), pp. 490–495.
80. Lang, B., Zhang, L., Lin, Y., Zhang, W., Li, F.S. & Chen, S. (2020) 'Comparison of effects and safety in providing controlled hypotension during surgery between dexmedetomidine and

magnesium sulphate: a meta-analysis of randomized controlled trials', *PLoS One*, 15(1), pp. 1–18.

81. Bayoumy, A.A., Zeid, G.S.A., El Deek, A.M. & Elbeialy, M.A. (2020) 'Comparison between magnesium sulphate and dexmedetomidine in controlled hypotension during functional endoscopic sinus surgery', *MedPulse International Journal of Anesthesiology*, 16(3), pp. 71–75.
82. Steinlechner, B., Dworschak, M., Birkenberg, G., et al. (2006) 'Magnesium moderately decreases remifentanil dosage required for pain management after cardiac surgery', *British Journal of Anaesthesia*, 96(4), pp. 444–449.
83. Sharma, S., Mudgal, S., Thakur, K. & Gaur, R. (2019) 'How to calculate sample size for observational and experiential nursing research studies?', *National Journal of Physiology, Pharmacy and Pharmacology*, 10(0), p. 1.