

Abstract

Purpose: Methadone has recently gained attention as a potent analgesic agent capable of producing long-lasting, steady pain control in many surgical patient populations. Of particular interest is its use in spinal surgeries, which are associated with intense pain in the postoperative period. This systematic review explores methadone's effects on postoperative pain control and postoperative opioid consumption in patients undergoing spinal surgery.

Methodology: An extensive literature search was conducted through six databases including Cumulated Index to Nursing and Allied Health Literature (CINHAL), Health Source: Nursing/Academic Edition, Medline, ProQuest, Ovid, and Science Direct. A total of 67 records were screened for inclusion/exclusion criteria, and the process is outlined in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram. Nine full-text articles were assessed for eligibility and critically appraised with the Joanna Briggs Institute (JBI) Critical Appraisal Checklist Tools. Four articles were ultimately excluded, and the five remaining articles were included in this systematic review.

Results: Of the five articles included, there were three randomized controlled trials, one case study, and one retrospective cohort study. The two themes presented examined the effects of methadone on postoperative pain scores and postoperative opioid consumption in patients undergoing spinal surgery. Results suggest that intraoperative methadone does decrease both postoperative pain scores and postoperative opioid consumption in this patient population.

Implications for Practice and Research: The outcomes of these studies suggest that a benefit does exist when utilizing methadone in spine surgery. However, future studies are required to determine the appropriate timing of and dosing of perioperative methadone during spinal surgery.

Accountability Statement

I, Lydia Nauck, have worked with Samantha Tanh to complete this DNP Project Systematic Review for ANES 7800. My areas of responsibility for the completed work included review of abstract and submission to Research and Scholarship Showcase. I have read and agree with the content of the entire assignment and the other member's accountability statement. Along with the other members of this group, I take accountability and responsibility for the product submitted.

I, Samantha Tanh, have worked with Lydia Nauck to complete this DNP Project Systematic Review for ANES 7800. My areas of responsibility for the completed work included writing the abstract. I have read and agree with the content of the entire assignment and the other member's accountability statement. Along with the other members of this group, I take accountability and responsibility for the product submitted.

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