Non-pharmacological Interventions to Manage Postoperative Pain After Abdominal Surgery: Protocol for a Systematic Review and Meta-Analysis

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Key message: excessive postoperative opioid prescribing results in persistent opioid use among a significant portion of abdominal surgery patients and creates a surplus of unused pills for nonmedicinal use in the community. Alternatives to opioids are often overlooked by clinicians, although they should be incorporated as the foundation of postoperative analgesia whenever possible. This knowledge synthesis has the potential to contribute practice changing evidence to improve postoperative pain management after abdominal surgery.

Introduction

Non-pharmacological intervention: interventions for pain that don't involve conventional drugs

→ **Physical modalities:** ice packs and acupuncture

→ **Cognitive-behavioral modalities:** mindfulness and meditation

- Using non-pharmacological interventions after abdominal surgery may improve pain control and reduce opioid consumption
- Lacking comprehensive knowledge syntheses to guide clinical decision-making

AIM: To what extent do **non-pharmacological interventions** impact postoperative **pain intensity** and **opioid consumption** following **abdominal surgery** in comparison to a control intervention?

- **P** Adult patients undergoing abdominal surgery
- **I** Non-pharmacological pain intervention
- **C** Placebo OR sham intervention OR standard care
- **O** Pain intensity AND opioid consumption

Methods

STUDY DESIGN: Systematic review and meta-analysis proposed in accordance with PRISMA-P guidelines

SEARCH STRATEGY: Search strategy developed by an expert medical librarian and 7 major electronic databases searched

INCLUSION CRITERIA: 1) Randomized controlled trials, 2) enrolled participants ≥ 18 years undergoing major abdominal surgery, 3) compared a non-pharmacological intervention to a control 4) assessed at least one primary or secondary outcome

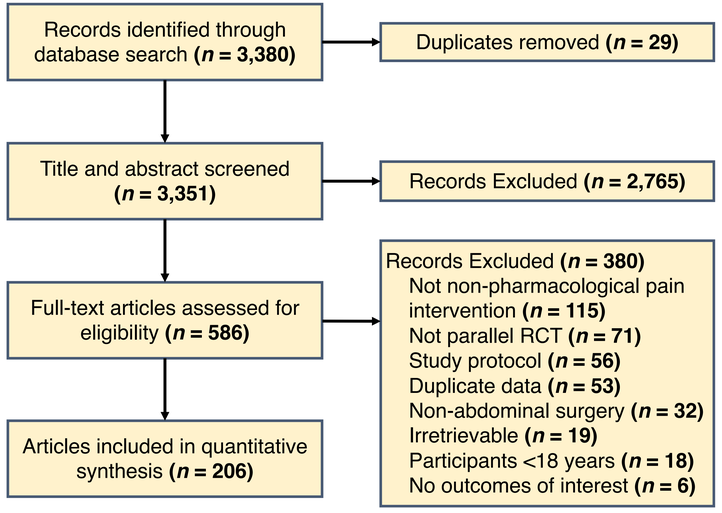
ARTICLE SCREENING & DATA EXRACTION: Conducted independently and in duplicate by pairs of reviewers

QUALITY ASSESSMENT: Risk of bias will be assessed using Cochrane Collaboration's Risk of Bias Tool and Certainty of evidence will be assessed using the GRADE Rating System

OUTCOME MEASURES: Pain intensity will be converted to the 10cm Visual Analogue Scale (VAS) and opioid consumption will be calculated in morphine milligram equivalents (MMEs)

DATA ANALYSIS: Meta-analysis will be conducted using random-effects models and performed separately for each non-pharmacological intervention, sensitivity analyses will be performed

Study Progress



Significance

Non-pharmacological pain interventions may constitute a valuable addition to routine multimodal analgesia and have the potential to improve pain control and decrease opioid requirement