A Systematic Review of Randomised Controlled Trials on Pain Domains and Assessment Methods in Post Pancreatectomy patients

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BACKGROUND

- Pain is a multidimensional phenomenon and encompasses sensory, affective, cognitive, and functional aspects.
- Studies continue to rely on scales that often capture only pain intensity at rest or during activity.
- This systematic review aimed to identify the domains and tools for assessment of postoperative pain in randomised controlled trials following pancreatic surgery, and to identify gaps in multidimensional assessment.

METHODS

- This systematic review was conducted and reported in accordance PRISMA 2020 guidelines
- PubMed, Embase, Web of Science, and the Cochrane Library were searched without restrictions.
- Data extracted for pain assessment tools, analgesic outcomes, adverse effects, pain interference and quality- of-life measures

RESULTS

- Fifteen RCTs involving 1,034 patients were included.
- All trials assessed pain intensity using visual analogue scale (n=11) or numerical rating scale (n=4).
- Analgesic consumption was reported in 13 trials, with significant variability in the reporting, rescue analgesia and adverse effects.
- Pain interference or physical function was described in 10 trials, including pain on coughing (n=4), mobilisation (n=3), % gait speed and % peak cough flow(n=2).
- Two trials incorporated validated recovery tools QoR-15 and QoR-40.
- Multidimensional tools were rarely used, with a single RCT employing three different scales(anxiety scale, depression scale and SF36).
- Patient satisfaction was explicitly assessed in one study using the Overall Benefit of Analgesic Score (OBAS)

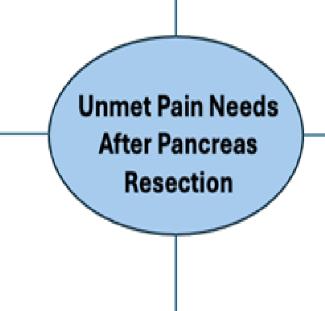
Intensity isn't enough- Know how patients recover

Analysis of current pain management options within the patient population

RCTs assessing pain management after pancreas resection use predominantly unidimensional pain scales, ignoring the multidimensional aspects of pain and limiting their conclusions to real life patients

Understanding the Psychological Aspect of Pain By better understanding the psychological

By better understanding the psychological impact of pain it would represent an opportunity to widen management of pain from pharmaceutical to social therapies such as talking therapies.



Pain management in the community

Readmission after surgery due to poor pain control at home is a significant problem after pancreas resection surgery. A better understanding of discharge practices and liaising with GPs to understand how comfortable they are up-titrating common medications used within the community, would provide valuable insight as to how to improve outcomes

Understanding the impact of poorly controlled pain

Understanding the physical and psychological impact on the patient and also the financial impact on the health service would provide an incentive to improve this aspect of care for patients

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DISCUSSION

- Most RCTs on postoperative pain after pancreatic surgery rely on unidimensional tools (VAS, NRS), which capture intensity but ignore functional and psychological dimensions.
- Only 4/15 trials used validated multidimensional instruments (QoR-15, QoR-40, OBAS, SF-36), highlighting limited adoption of patient-centered assessment.
- Analgesic use and adverse effects reporting was highly variable, limiting comparability across studies.
- Functional outcomes (mobility, pain interference) and psychological assessment (anxiety, depression) were underrepresented, despite their impact on recovery and chronic pain risk.
- There is no pancreatic surgery-specific core outcome set for postoperative pain; existing PROM frameworks (IMMPACT, StEP, IMI-Pain Care) do not fully address procedure-specific recovery profiles.
- Evidence is further limited by heterogeneity (disease type, intervention, timing of assessment), small sample sizes, and risk of bias in some studies.

CONCLUSION

- There was notable heterogeneity in pain domains assessed and the tools used across pain management RCT's post pancreatectomy.
- This highlights the need for standardized core outcome domains and multidimensional tools specific to pancreatic surgery to enable comparability of data and robust analysis.

TOOLS USED IN RCTs

- QoR-40 (Quality of Recovery-40): A 40-item validated questionnaire assessing multidimensional postoperative recovery, including physical, emotional, and functional well-being.
- QoR-15 (Quality of Recovery-15): A shorter 15-item version of QoR-40 that provides a rapid, sensitive measure of overall postoperative recovery.
- SF-36 (Short Form-36): A 36-item generic health survey measuring quality of life across eight physical and mental health domains.
- OBAS (Overall Benefit of Analgesia Score): A composite score evaluating the balance between analgesic efficacy and adverse effects in postoperative pain management.

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