NEW PERSISTENT OPIOID USE AFTER BARIATRIC SURGERY: A SYSTEMATIC REVIEW AND POOLED PROPORTION META-ANALYSIS

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BACKGROUND, SIGNIFICANCE AND AIMS

Background:
Surgical patients are at a 5.9%-6.5% risk of developing new persistent opioid use (NPOU) following major, or minor surgical procedures.

Risk may be higher in bariatric surgery patients due to:

- higher prescription opioid doses at discharge
- a high risk for "addiction transfer" post-surgery
- seemingly overrepresentation in substance use treatment facilities.
- a linear relationship between increasing body mass index (BMI) and chronic pain and opioid use, that persists due to ongoing chronic pain following metabolic surgery

Significance:
Few studies have characterized the rate of NPOU or evaluated patient and procedural factors associated with NPOU after bariatric surgery.

Understanding the rate of NPOU in these patients and risk factors for its development will enable surgeons to understand its prevalence, and characterize patients most at risk of NPOU in order to evaluate preventative strategies in these high-risk groups.

Aims:
Perform a systematic review examining NPOU following bariatric surgery to better characterize its occurrence and risk factors for development in patients most at risk.

Outcomes from this study can help guide pre-operative patient screening and alternative analgesia tactics for patients most at risk.

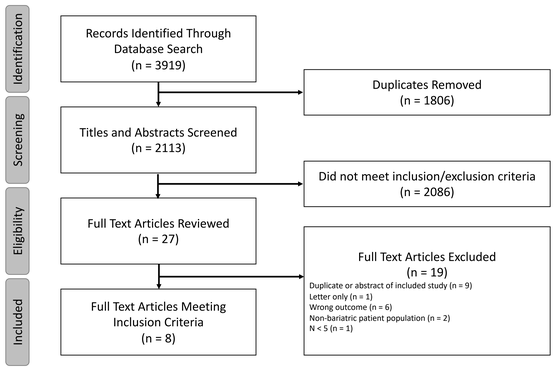
METHODS

Systematic Review and Pooled Proportion Analysis Following MOOSE and PRISMA Guidelines

Primary Outcome: Rate of NPOU in patients following bariatric surgery.
Secondary Outcomes: Patient and surgical factors associated with NPOU.

Inclusion criteria
(1) Adult patients who have undergone elective bariatric surgery
(2) Enrolled greater than five patients.
*Non-English studies, animal studies, abstracts, and review type articles were excluded.

RESULTS



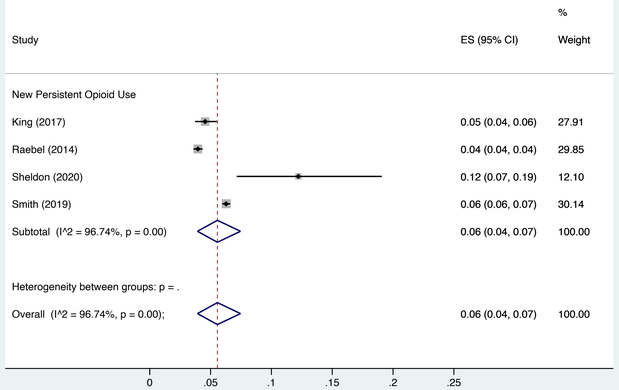
RESULTS

Demographics

Studies Included	Patients Included	Female in studies reporting sex (%)	Weighted mean age	Weighted mean BMI, kg/m2	Type of Bariatric Procedure Performed (in 2 studies reporting type)
8	70 286	38 624 (79.8)	44.2	43.5	RYGB: 8483 SG: 234 Other*: 4144

*Other includes gastric banding, BPD-DS, other unspecified

Outcome Results:



Primary outcome: Pooled prevalence of NPOU after bariatric surgery: 6.0% (n = 4 studies, 95% CI 4.0%-7.0%, I2 = 96.7%).

Secondary outcomes:

1) Patient factors associated with NPOU: prior substance use (tobacco, alcohol, other prescription analgesics), preoperative mental health disorder (anxiety, mood disorders, eating disorders), and public health insurance coverage.
2) Surgical factors associated with NPOU: severe post-operative complications and peri or post operative opioid use.

CONCLUSIONS

1) NPOU is an uncommon but important complication following bariatric surgery, occurring in approximately 6.0% of patients.

2) Factors associated with NPOU include patient factors such as prior substance abuse, mental health disorders, and use of public health insurance. Surgical factors include severe post-operative complications, and peri or post operative opioid use.

- With limited studies available in this area, we highlight a scarcity of original research in this area with further investigation needed.

- Studies evaluating techniques to reduce NPOU in these high-risk populations are also needed.