The Adolescent Surgery Experience: A Mixed Methods Analysis

Presenter: Trishna Mohite
Mentor: Dr. Tori Sutherland
TABLE OF CONTENTS

01 BACKGROUND
02 OBJECTIVE & METHODS
03 RESULTS ANALYSIS
04 FUTURE DIRECTIONS & TAKEAWAY
Persistent Opioid Use Among Pediatric Patients After Surgery

Calista M. Harbaugh, MD, a Jay S. Lee, MD, b Hsou Mei Hu, PhD, b Sean Esteban McCabe, PhD, c Terri Voepel-Lewis, PhD, RN e Michael J. Feneleshe, MD e Chad M. Brummett, MD e Jennifer F. Waljee, MD, MPH

Study: Half of pediatric opioid prescriptions are “high risk”

The top 5% of prescribers account for half of opioid prescriptions and high risk prescriptions to children and young adults.


“New chronic opioid use - >3 months after surgery - was found in 4.8% of adolescents who received an opioid prescription after surgery (compared with 0.1% of those in the nonsurgical group).”

—Harbaugh (2018)
BACKGROUND: 2014 - Present

Ten hospitals reduced opioid prescriptions for children who underwent appendectomy through a quality improvement initiative.

Unwise and unnecessary: Opioids for wisdom teeth extractions

Opioid prescriptions for pediatric patients following surgical procedures have dropped significantly: Study suggests larger trend of moving away from routine opioid prescriptions after surgery.
BACKGROUND: 2014 - Present (cont.)

- Decline in opioid prescriptions between 2014-2019 within the 11-17 age group

While opioid prescriptions for young patients have declined in the past 7 years, what is still not fully understood is how and if pain experience and pain medication taken post surgery are associated with one another.
STUDY OBJECTIVES

PRIMARY OBJECTIVES
- Characterize development of new chronic pain within the first 6 months post surgery
- Quantify the implications of postsurgical pain and pain treatment

SECONDARY OBJECTIVES
- Determine factors associated with prolonged opioid use after surgery compared to peers
- Characterize factors associated with delayed recovery (higher pain scores) from surgery compared to peers
STUDY POPULATION

- Patients undergoing surgery at CHOP surgical sites
  - Ages 11-21
  - Without a prior history of chronic pain (pain >3 months)
  - Without prior history of opioid use (greater than 5-10 days)
  - English speaking
  - Emphasis on enrolling patients undergoing procedures associated with “severe” pain (i.e. spinal fusion, nuss bar insertion, abdominal surgery and reconstructive plastic surgery)
METHODS

PRE-SURGERY
Patient consents and completes baseline, PHQ and GAD survey

WEEK 1 (POST-SURGERY)
Recovery experience and medication use survey

WEEK 2
Recovery experience and medication use survey

MONTH 1
Recovery experience, medication use, PHQ and GAD surveys. Qualitative interview for selected patients

MONTH 2
Recovery experience and medication use survey

MONTH 3
Recovery experience, medication use, PHQ and GAD surveys. Qualitative interview for selected patients

MONTH 4
Recovery experience and medication use survey

MONTH 5
Recovery experience, medication use (misuse/diversion)

MONTH 6
Recovery experience and medication use survey
FUTURE DIRECTIONS

- Data analysis
- Writing an abstract focused on a subset of CHOP patients undergoing oral-facial procedures
  - Extractions
  - Mandibular fractures/repairs
  - LeFort 1 Osteotomies
“A filled perioperative opioid prescription after wisdom tooth extraction was associated with higher odds of persistent opioid use among opioid-naive patients.” - Harbaugh (2018)
Persistent opioid use occurred at an adjusted rate of 13 per 1000 patients with a filled opioid prescription.

Among 70,942 patients who underwent wisdom tooth extraction, 56,686 patients filled perioperative opioid prescription.
● Dentists were the second-leading opioid prescribers for children and adolescents

● In 2018, the recommended standard of care shifted to combination acetaminophen and ibuprofen for acute dental pain
PRELIMINARY DATA ANALYSIS

- None of the CHOP patients who underwent surgical tooth extraction were prescribed opioids/reported using opioids.

- All of the CHOP patients undergoing surgical tooth extraction reported low pain scores post-operatively.

- This is consistent with the Journal of the American Dental Association’s 2018 recommendation of combining acetaminophen and ibuprofen as the standard of care for acute dental pain.

TAKEAWAYS

● Exposure to clinical research

● Strengthened patient interaction skills within pediatric patient population

● Participated in collaboration across differing healthcare professions and students

● Gained further insight into hospital-based dentistry and anesthesia
ACKNOWLEDGEMENTS

Joanne Levy
Dr. Tori Sutherland
Korey Henderson
Paula Hu

CREDITS: This presentation template was created by Slidesgo, including icons by Flaticon, and infographics & images by Freepik.