24-hour Oral Morphine Equivalent Based Opioid Prescribing After Surgery—A Pilot Randomized Clinical Trial

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BACKGROUND

• Cesarean section is the most common major operating room procedure performed in the US, with 1.2 million performed in 2018, which accounts for 32% of all births [1].
• Opioids are commonly prescribed as the primary mode of analgesia to women following childbirth, providing an opportunity for meaningful intervention to reduce excess opioid prescriptions.
• We have previously shown that 83% of patients following Cesarean section report taking half or less of opioids prescribed, with 77% of those opioids stored in unlocked locations [2].
• Effective strategies to maximize non-opioid pain therapy and to limit the pool of unused opioids in the community are lacking.
• In-hospital opioid use 24 hours prior to discharge serves as a strong indicator to correctly estimate needs for analgesic medications at home [3].

AIM: Basing on-discharge analgesic prescriptions on pre-discharge use recorded in the electronic medical record would reduce the amount of opioid medications prescribed while maintaining adequate post-operative pain control.

METHODS

• COMIRB Protocol 18-2098, NIH Grant K23DA040923
• 55 female inpatients at a single tertiary hospital who underwent Cesarean section were randomized into two groups: prescription as usual and prescription per best practice alert (BPA)
• Eligibility: 24-hour before-discharge opioid intake of 22.5 milligram morphine equivalents (MME)—the equivalent of 3 oxycodone 5 milligram tablets or less. Those who completed at least one survey were included in the analysis.

Surveys were administered to patients for each of the 4 weeks following discharge.

- Pain Intensity and Pain Interference T-Scores Over 4 Weeks

<table>
<thead>
<tr>
<th>Week 1</th>
<th>Week 2</th>
<th>Week 3</th>
<th>Week 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>58.3 to 45.2</td>
<td>56.4 to 43.7</td>
<td>58.4 to 43.3</td>
</tr>
<tr>
<td>Usual Care</td>
<td>58.0 to 46.3</td>
<td>57.5 to 45.6</td>
<td>58.4 to 43.8</td>
</tr>
</tbody>
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1 point in T score reflects a 1 point change in self-report, or a 0.64 point change in the US general population [4].

Consider prescribing the usual medications for pain management after discharge

Arm 1: Prescription as Usual (n = 23)

Arm 2: Prescription Best Practice Alert Tool (n = 22)

Result: There was no difference in the amount of opioids prescribed on discharge between the intervention group compared to the control group.

Primary Outcome: There was no difference in the amount of opioids prescribed on discharge between the intervention group compared to the control group.

Arm 1: Prescription as Usual 55.3 MMEs, SD 37.1

Arm 2: Prescription BPA Tool 62.8 MMEs, SD 32.8

P = 0.65

Secondary Outcomes:

- PredischARGE: The majority of patients took NSAIDs (92.5 vs. 100%) and 100% of patients took acetaminophen
- In the 4 weeks following discharge, patients continued to take NSAIDs (77.8 to 21.4%) and acetaminophen (82.2 to 21.4%)
- By week 4, 50% of patients reported having left over opioid pills
- 1 patient received an additional opioid prescription following discharge

DISCUSSION

• Shortly after design and approval of this study, our labor and delivery ward instituted a protocol based on current recommendations for appropriate opioid prescribing on discharge and the use of multimodal analgesia including NSAIDs and acetaminophen. The impact of this quality improvement project is reflected by our findings.

CONCLUSIONS

- The authors have no conflicts of interest

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