

# Perianesthesia Nurses' Knowledge, Attitude, and Intention to Promote Safe Use, Storage, and Disposal of Opioids

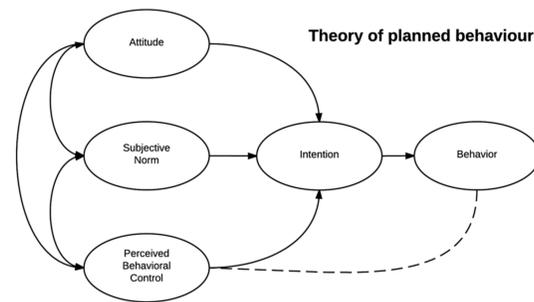
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## Background

- Every day over 130 Americans die from an opioid overdose.<sup>1</sup>
- Prescription opioids are the foundation of post-surgery pain management.
- In a national survey of 1032 adults who had recently had opioid prescriptions, only 48.7% received education about safe storage; 45.3% reported education regarding disposal of unused medication; of those with unused opioids, 61.3% kept them and over 20% shared with family or friends.<sup>2</sup>
- More than 70% of people who misuse opioids get them from family and friends; 79% of those family and friends had a prescription from a provider.<sup>3</sup>
- Nurses and other providers do not routinely discuss safe use, safe storage, or safe disposal of medications including opioids.<sup>4</sup>
- Perianesthesia nurses are more likely to discuss side effects of opioids than information regarding disposal, storage, or safe use of opioids.<sup>5</sup>

## Theory of Planned Behavior<sup>6</sup>

- Intention to perform a behavior is influenced by an individual's attitude toward the behavior, social pressure regarding behavior, and perceived behavioral control.



## Purpose

The purpose of this study is to determine if a web-based educational intervention increases knowledge, attitude, and intention of perianesthesia nurses to promote safe use, storage, and disposal of opioids to patients.



Scan to connect to interventional module, Perianesthesia Patient Education in the Promotion of Postoperative Opioid Stewardship

## Research Design, Measures, and Data Analysis

- A one group pre-test, post-test interventional study (a web-based voiceover module with patient education scenarios) was conducted using multiple surveys of perianesthesia nurse professionals.
- An evidence-based survey was developed with experts in the field of perianesthesia nursing, pain management, and anesthesia using components the Theory of Planned Behavior.
- ASPAN members who responded to an email request to participate in an intervention study: 678 completed the pre-test survey, 247 the immediate post-test, and 171 the 4-week post-test. The analysis presented is limited to the 247 who completed at least the immediate follow-up since they completed the intervention to get to the first post-test.
- Responses to the pre-survey, post-survey 1 (immediately after module) and post-survey 2 (4 weeks after completion of module) were collected and archived using the Qualtrics system on a secure server.
- Survey included a link to voluntarily include their name and address to be used for a prize drawing; names of 15 participants drawn to receive a \$50 gift card.
- Data analysis included descriptive summary, including means and standard deviations or frequency distributions; and evaluation of changes in knowledge and domains of Theory of Planned Behavior using repeated measures mixed modeling.

## Findings/Discussion

- The majority had a BSN degree as highest education (62%) and listed their position as clinical/staff nurse (82%)
- Most worked with both peds/adult patients (66%); the most typical practice setting reported was hospital based PACU (73%)
- For each of the outcomes (knowledge and the Theory of Planned Behavior constructs: perceived behavioral control, subjective norms, attitude and intention), the overall repeated measures mixed model was significant.
- For all outcomes, there was an immediate increase in the measure following the intervention; this pairwise difference (between pretest and the immediate post-test) was significant in each model.
- In all cases, both the immediate and 4-week post-test scores exceeded the corresponding pre-test score, though for perceived behavioral control, attitude, and intention, the difference between baseline and week 4 was not significant.
- For the outcomes of knowledge, attitude, and intention, the average scores at each timepoint were close to the maximum possible score, all exceeded 90%; this suggests there was little possibility for the intervention to spur growth in these variables.
- Research to develop safe post-discharge prescription practices and encourage safe opioid practices after surgery is needed. These findings suggest a more intensive intervention with possibly the inclusion of booster sessions, particularly for the outcomes of perceived behavioral control and subjective norms is where additional support may be needed.

Outcome	Time 1 Mean Percent of max	Time 2 Mean Percent of max	Time 3 Mean Percent of max	Significant Pairwise Differences (P<.05)
Knowledge Potential range: 0-7	6.18 88.3%	6.69 95.6%	6.55 93.6%	1<2, 1<3, 2>3
Perceived Behavioral Control Potential range: 3-15	10.09 67.3%	10.93 72.9%	10.55 70.3%	1<2, other differences not significant
Subjective Norms Potential range: 3-15	11.23 74.9%	11.72 78.1%	11.98 79.9%	1<2, 1<3, no difference between 2 and 3
Attitude Potential range: 12-60	57.72 96.2%	59.18 98.6%	58.29 97.2%	1<2, other differences not significant
Intention Potential range: 5-25	23.68 94.7%	24.45 97.8%	24.05 96.2%	1<2, other differences not significant



## References

- <sup>1</sup>Centers for Disease Control and Prevention. National Vital statistics System, Mortality. 2018. <https://www.cdc.gov/drugoverdose/images/data/OpioidDeathsByTypeUS.PNG>.
- <sup>2</sup>Kennedy-Hendricks A, Gielen A, McDonald E, Shields W, Barry C. Medication sharing, storage, and disposal practices for opioids medications among US adults. *JAMA Internal Medicine*. 2016; 176(7):1027-1029.
- <sup>3</sup>American Medical Association. Encourage Safe Storage & Disposal of All Rx Medications. 2017; <https://www.end-opioid-epidemic.org/storage-and-disposal/>.
- <sup>4</sup>Feliz J. New Research Uncovers Disconnect In Pain-Related Communications Between Prescribers of Pain Medications and Patients. 2015; <https://drugfree.org/newsroom/newsitem/new-research-uncovers-disconnect-pain-related-communications-prescribers-painmedications-patients/>.
- <sup>5</sup>Odom-Forren J, Brady J, Rayens MK, Sloan P. Perianesthesia nurses' knowledge and promotion of safe use, storage, and disposal of opioids. *J Perianesthes Nurs*. 2019;34:1156-1168.
- <sup>6</sup>Ajzen I. The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*. 1991;50:179-211.

## Funding

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