

# WILL APFEL SCORE AWARENESS AMONG CAREGIVERS IMPROVE POSTOPERATIVE NAUSEA AND VOMITING (PONV ) INCIDENCE AND MANAGEMENT IN DAY SURGERY?

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## Background

- Apfel Simplified Risk Score (SRS) has been widely used in predicting postoperative nausea and vomiting (PONV) on patients receiving general anesthesia (Apfel et al., 1999)
- The study by Alejo et al. in 2019 agreed to Apfel Risk Scores effectiveness and implied if patient's risk for developing PONV is known, the perioperative team would be guided in managing this undesired side effect of anesthesia and patient care will improve
- The Fourth Consensus Guidelines for the Management of PONV provided a comprehensive and up-to-date, evidence-based guidance to perioperative practitioners for care of PONV starting from identifying patients' risk to prevention and treatment of PONV (Gan et al., 2020)
- However, use of Apfel SRS was not yet adapted in DSU and not all caregivers were aware of patient's PONV risk and no standard of care was being used to those who were at risk.

## Purpose

The study aims to make the perioperative team aware of patient's PONV risk through Apfel scoring and find out if there's a change in the practice among caregivers in the management of preventing PONV according to the recommendations set by the recent guidelines.

## Methods

A QI study was done from March 9 – June 7, 2021 in DSU. A form was used consisting of patient's Apfel SRS scores from 0-4 (0 = no risk, 1 = low risk, 2 = moderate risk and 3-4 = high risk). After assessment, scores were displayed in front of the chart and visible to all caregivers. List of medications received before, during and after surgery including anesthesia, analgesics and antiemetics and record of PONV experience after surgery and 24 hours post discharge were collected. Patients who received GA

and discharged the same day were included. Results were compared from the 2019 QI study to determine if awareness of PONV risk will improve incidence and management.

## Results/ Discussion

- There were 474 and 419 patients included in the 2019 and 2021 studies. Overall, PONV incidence decreased 8% from 2019 to 2021, with a marked decline in Apfel 4, 26%.
- Apfel 2 has the most patients in both 2019 and 2021 studies.
- Apfel 3 has the highest rate of PONV in 2021
- In decreasing baseline PONV risks, kinds of anesthesia, and opioids/non-opioids use were compared.

- The administration of either volatile gases and total IV anesthesia (TIVA) by itself decreased 9% and 24%.
- However, the use of both in combination went up 29%.
- Use of PONV prophylaxis for those at risk yielded an overall increase in the use of Zofran 18%, Dexamethasone 7%, Haldol 4% and Versed 5% between the two studies.
- A new and effective prophylaxis Aprepitant was sparingly used 0.5% in 2021 study.
- Timing of prophylaxis given and hydrations status of the patient was not studied
- Nerve blocks used decreased 4%.
- Opioids and non-opioids use increased 18% and 19%.

- 71% of patients with PONV were given prophylaxis (timing of each class not studied; only those who were given 2 antiemetics were considered as getting the prophylaxis)
- Apfel 4 patients received the most prophylaxis
- Zofran was given twice 26%-43% to those who developed PONV instead of another anti-emetic class.
- Phenergan use was 43%, Haldol 1% and a new anti-emetic Amisulpride 5%.
- Opioids use remained very high especially to Apfel 2-4 patients

## Implications for Practice

- The study supported awareness of patients' Apfel scores slightly decrease PONV incidence. PONV management was improved, but caregivers did not adhere properly to latest PONV guidelines and recommendations
- Due to more complicated surgeries in DSU, PONV risks are increasing. Therefore, there's a greater need to comply with the latest PONV guidelines.
- As nurses, we should advocate for educating the perioperative team of the latest guidelines and ensure compliance to its recommendations for increased patient satisfaction and decreased length of stay resulting in a cost-effective use of resources.
- Advocate for a multimodal prophylaxis and treatment protocol (right dose and timing of antiemetics for both prophylaxis and treatment) that will standardize the care for those with increased PONV risks.
- Implement nursing interventions that will help prevent and manage PONV

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