Problem Statement

- PDNV is nausea and vomiting occurring after discharge from post anesthesia care unit (PACU) up to seven days post-operatively
- Consequences include increased healthcare costs and low patient satisfaction
- Internal organization data demonstrated 40% of gynecological outpatient surgical patients had PDNV as reported in follow up phone calls
- The Apfel PDNV risk assessment tool is supported by ASPAN and SAMBA

Purpose of the Project

- The purpose of this quality improvement project was to:
  - Measure staff compliance in the use of the Apfel PDNV risk assessment tool
  - Implement and evaluate the effectiveness of the Apfel PDNV risk assessment tool in order to improve PDNV screening in the PACU for breast and gynecological out-patient based surgical patients

Methods

- Implementation of the Apfel simplified PDNV risk assessment tool over an eight week period in a PACU at a large mid-Atlantic academic hospital
- Inclusion criteria: Ambulatory out-patient based breast and gynecological out-patient surgical patients
- Education offering presented using handouts and PowerPoint presentation during three PACU shift meetings
- PACU registered nurses identified patients meeting inclusion criteria and completed the Apfel PDNV risk assessment tool prior to patient discharge
- Standing follow-up phone call policy was followed to call patients 24-48 hours post discharge to evaluate for PDNV and post-operative pain
- Staff compliance measured at 2, 4, 6 and 8 weeks post implementation
- Rates of patients identified with 3 or more risk factors compared to patient identified PDNV rates and pre-implementation rates

Results

- Staff compliance measured at 2, 4, 6 and 8 weeks post discharge post discharge from the PACU - seven day analysis is not available
- Follow-up phone calls not returned: 21%- corresponding Apfel PDNV risk tools were removed from final analysis
- Only female patients due to the nature of the inclusion population- female gender is an independent PDNV risk factor

Figures/Results

- Apfel PDNV Risk Assessment Tool
- Female gender
- History of PDNV
- Age <50 years
- Use of opioids in the PACU
- Nausea in the PACU
- Sum (0-5 possible)

Note: Corresponding prediction model demonstrates risk of PDNV to be 10%, 20%, 30%, 50%, 60%, 80% when zero to five risk factors present
Note: Predictive for up to seven days post-operatively when pain considered a sixth risk factor

Analysis of Overall Pain and PDNV Rates Post-Discharge on Patients Who Returned Follow-Up Post-Discharge Phone Calls

<table>
<thead>
<tr>
<th># of Risk Factors Present</th>
<th>N</th>
<th>n Pain Upon Discharge</th>
<th>% Pain Upon Discharge</th>
<th># PDNV Prophylaxis *</th>
<th>n with PDNV Upon Discharge</th>
<th>PDNV Rate (%)**</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>17</td>
<td>6</td>
<td>35</td>
<td>0</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>40</td>
<td>27</td>
<td>87</td>
<td>9</td>
<td>21</td>
<td>68</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>7</td>
<td>88</td>
<td>2</td>
<td>7</td>
<td>88</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>5</td>
<td>83</td>
<td>2</td>
<td>4</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>73</td>
<td>45</td>
<td>62</td>
<td>13</td>
<td>33</td>
<td>45</td>
</tr>
</tbody>
</table>

Note: *Prophylaxis included ondansetron prescription or scopolamine patch
**PDNV rate determined from (n with PDNV upon discharge)(N - # PDNV Prophylaxis)

Discussion

- Associations and comparisons
  - Patients with three risk factors present: 68% developed PDNV, compared to corresponding prediction model of 50%
  - Four risk factors present: 86% developed PDNV post discharge, compared to corresponding prediction model of 60%
  - Five risk factors present: 100% developed PDNV post discharge, compared to corresponding prediction model of 80%
  - Overall PDNV rate 45%, similar to pre-implementation data of 40%
  - Staff compliance remained greater than 75% throughout the implementation period

Conclusions

- The Apfel PDNV risk assessment tool adequately predicted PDNV risk
- PACU registered nurses evaluated the quality improvement project as an opportunity to take responsibility and promote evidence based practice
- Project resulted in increased compliance of standing follow-up post-discharge phone call policy
- By the end of implementation, providers started to prescribe PDNV prophylaxis to patients identified at high risk for PDNV
- Sustainment through expansion to all ambulatory out-patient based surgical populations with management protocol development

References


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Postdischarge Nausea and Vomiting Risk Assessment in Breast and Gynecological Surgical Patients

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