Quality of peri-operative pain management

Multi-disciplinary project

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Today

- High incidence of pain after general anesthesia awakening.
- Delay due to lack of pain orders
- Repeated cases of partial pain relief
- This situation causes dissatisfaction among nurses
- Low quality of care
Negative physiological consequences of pain:

- Changes in pulse and blood pressure.
- Rapid shallow breathing.
- Hypoxia
- Co$_2$ retention
- Arrhythmia
- Restlessness
- Prolonged suffering

(Buss & Melderis, 2002)
Evaluation of Pain characteristics in P.A.C.U

- Assessment of patient’s state of consciousness.
- Respiratory evaluation and circulation.
- Early identification of pain intensity.
- Immediate treatment of pain - high priority.
- Prophylactic treatment of pain by multi-modal treatment (Buss & Melderis, 2002).
Pain treatment in P.A.C.U

The conventional way to treat pain in P.A.C.U is titration of intravenous morphine.

(American society of anesthesiologists, task force on acute pain management, 2004)
Literary background

Prospective research which examine titration of I.V morphine administrated by nurses.
- Research duration: two years
- 1600 operated patients included.
- Only one patients required Naloxone.
- All participating research nurses underwent a training program.

Aubrun, 2001
Method

- Time between giving doses of morphine.
- Number of doses patient needed to relieve pain.
- Side effects.
- Time spent in P.A.C.U.

Aubrun, 2001
The use of pain protocol driven by nurses reduced:
- The pain intensity
- Reduce patients waiting time suffering acute pain
- Increase % of the patients achieving complete pain relief.

Aubrun, 2001
Mapping our situation in P.A.C.U

The method: systematic testing
Test population: patients after orthopedic surgery or abdominal surgery after general anesthesia without regional anesthesia.
Test was performed in quality assurance process as a basis for mapping needs.
The mapping included:

- Pain treatment during the operation
- Pain orders in P.A.C.U
- Pain intensity at 15 minutes, 30 minutes after the arrival to and at discharge from P.A.C.U.
Data collection from 100 patients in two P.A.C.U at 2 campuses at our Medical Center, found differences in characteristics of pain treatment between the units.
% pts receiving pain medication in OR

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<tr>
<th></th>
<th>ein karem</th>
<th>mt scopus</th>
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<tr>
<td>0%</td>
<td>70%</td>
<td>98%</td>
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<tr>
<td>100%</td>
<td>20%</td>
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<td>120%</td>
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<td>60%</td>
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% of patients with pain orders upon arrival in PACU

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<tr>
<th></th>
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Graph showing the percentage of patients with pain orders upon arrival in PACU, comparing 'ein kerem' and 'Mt Scopus'.
Average VAS 15 mins in RR

Ein Kerem

Mt Scopus
Average VAS 30 mins in RR

ein kerem

mt scopus
Average morphine dosage given in PACU

Average MO dosage

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<th>ein kerem</th>
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<td>7.3</td>
<td>2.55</td>
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MG MO
Discussion

- There are several explanations for the differences between the P.A.C.Us.
  
  In unit 1 all the anesthetists are seniors, while in unit 2 the anesthetists are a mix residents and seniors.
  
  % of pts in unit 1 received more pain medication in O.R and average pain intensity was lower.
Discussion

- % of pts in Mount Scopus who received quicker pain relief was higher: due to immediate pain orders pain (99% of pts).

- The standard pain orders here – multi-modal combination of opiate and NSAIDS

This empowered nurses to autonomously manage pain treatment
Implications of non-multi-modal treatment

1. More MO per patients = higher incidence of adverse events
2. Patient dissatisfaction and prolonged suffering
3. More MO per patients = Higher costs per patient
4. More time spent in PACU = Higher costs
Implications

5- PACU blocked - bottleneck - less patients can be released from OR to PACU
6- Cancelation of OR - Less Operations can be done
7- Loss of revenue
8- Staff frustration = low efficacy = low quality of care
Action!!!!

Problem Solving

- In Depth Literature search
- Multidisciplinary meetings to develop evidenced based nurse driven pain control protocol in PACU
Patient arrived PACU

Pain assessment & VS
0-3 VAS 4-10

NSAID NSAID+MO

0-3 Stop protocol
4-10 Continue MO titration 12 mg

Every 5-10 min vital signs
VAS adverse events
Barriers faced and overcome

- Implementing change
- Physicians hesitancy to give nurses authority and control
- Intense public relation campaign
- Science and evidence – can’t argue !!!
- Support from nursing administration
Evaluation

- Prospective research study to evaluate protocol effectiveness
Conclusion

- Nurses courage, determination, and evidenced based process can lead to change and improve quality of care
- Staff satisfaction
- Patient satisfaction
- Dissemination of practice
- Research publication
thank you