

Evidence-Based Education Intervention to Improve Knowledge and Attitudes of Nurses' Postoperative Pain Management for Improved Patient Satisfaction

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Disclosures

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Nonfinancial relationships:

This research was a capstone project that partially satisfied the degree requirements for the Doctor of Nursing Practice at the University of Massachusetts Dartmouth.

Learner Objectives

- Understand how to identify gaps and potential barriers in nurses' knowledge and attitudes regarding pain management.
- How to assess patient satisfaction regarding their pain management.

Background

1973 - International Association for the Study of Pain and formation of The American Pain Society US chapter in 1977, (IASP, 2013).

1987 to present – Nurses’ knowledge base and attitudes may be a barrier.

1987 to present - “Knowledge Attitudes Survey Regarding Pain” tool (Ferrell and McCaffery 1987, 20008, 2012).

2010 – Affordable Care Act assigned pain management as one of its priorities (Affordable Care Act, 2010).

2011 – 635 billion dollars spent in the US (Institute of Medicine, 2011).

2011 – Increase demand for measuring and improving patient outcomes with “Always Events” not “Never Events” (Picker Institute, 2011).

Significance

2013 – Patient centered care model coordinates all care with respect to patient, fairly and without prejudice, upholding values of the patient and supporting patient and family.

2013 – Center for Medicare and Medicaid Services (CMS) now expects patient satisfaction to impact ratings and regulation of reimbursement with patient care including pain management

2013 - Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) a nationally standardized survey for patient satisfaction results are publically reported and tied to reimbursement.

Project Design:

Johns Hopkins Nursing Evidence Based Practice Model



- **Practice Question:** Are there nurse practice deficiencies in postoperative pain management on a surgical unit in acute care and does this impact patient satisfaction?
- **Evidence:** Critical appraisal of evidence with scope of the problem, assessment tools for measuring knowledge, attitudes of nurses about postoperative pain management, and educational interventions.
- **Translation:** Educational intervention followed by a posttest generated results of statistically significant change in nurses' knowledge and attitudes with pain management.

Critical Appraisal of Evidence: Johns Hopkins Nursing Evidence Based Practice Model

- Needs Assessment: Observing and interacting with nurses on two surgical units and appraised evidence for scope of the problem.
- Concurrent to needs assessment: literature search for assessment tools prior to initiating phase one.
- Using pretest results following phase one, critically appraised evidence to develop an education intervention for content, length and interval of time.
- Reviewed the evidence to determine the significance of the results.

Summary of Evidence: Postoperative Pain Management

Strength of Evidence	Assessment Tool	Education Intervention: Length	Education: Pharmacology	Education: Pain Assessment	Education: Addiction Issues
Level I	2	4	4	4	2
Level II	2	2	2	2	1
Level III	12	9	11	9	7
Level IV	1	1	2	1	2
Total	17	16	19	16	12
Consistent	Yes	No	Yes	Yes	Yes
Recommendation	Strong	Weak	Strong	Strong	Strong

Phase 1

- IRB filed and approved with expectation an amendment for education intervention to be filed for approval prior to phase 2.
 - Pretest – posttest design
 - Administered the 36 item Knowledge Attitudes Survey Regarding Pain (Ferrell, McCaffery 2012).
 - Sixteen questions with mean scores below 75% identified as deficiencies.
 - Low scoring questions placed into 3 categories from IASP content outline from professional nurse behaviors for pain management.
 - Postoperative patients surveyed using HCAHPS pain management questions.
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Educational Intervention Development

Education intervention developed from the International Association Study of Pain (IASP) curriculum content based on pain management practice for nurses.

1. Describe the physiological mechanism of pain with different modalities to treat pain.
2. Discuss the clinical assessment pain and measurement.
3. Discuss inadequately managed pain and nurses' misbeliefs.

Phase 2

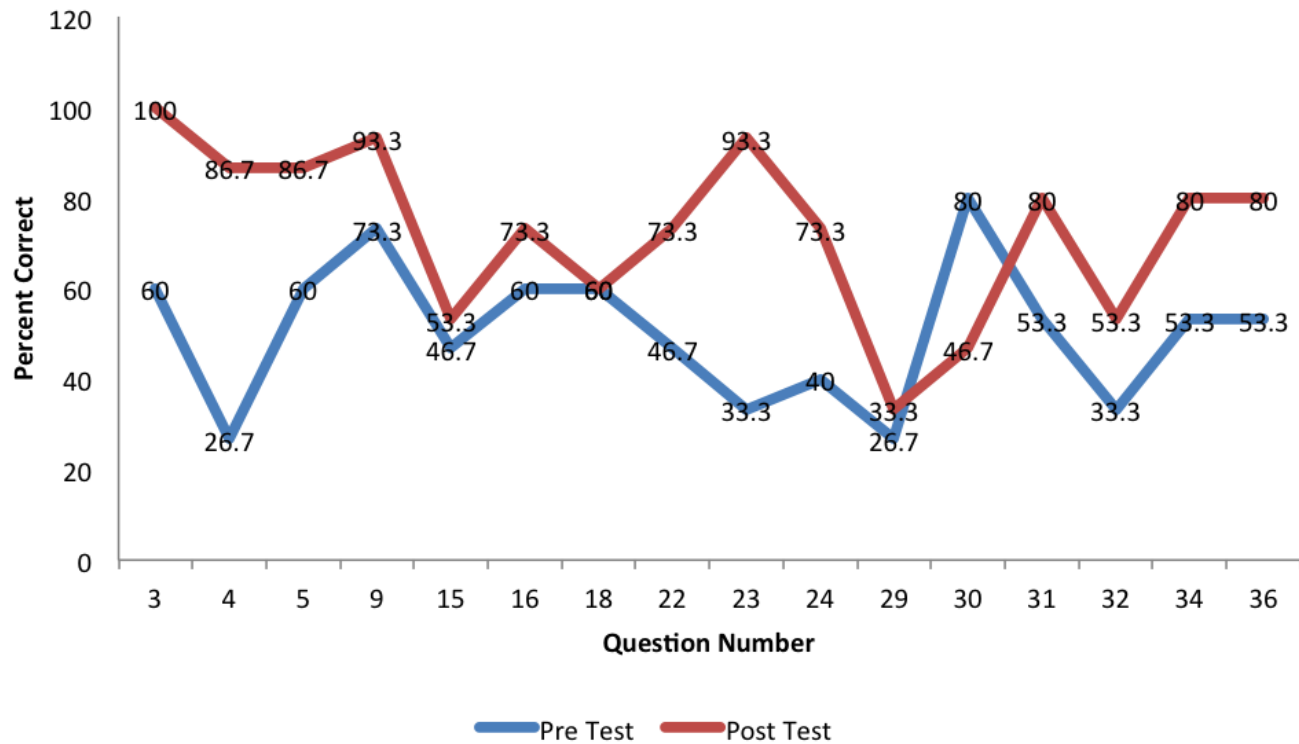
- Education intervention PowerPoint prepared.
- IRB amendment filed for education intervention and approved.
- CEU MARN application filed.
- Evaluated nurse participant schedules.
- One hours sessions.
- Offered eleven sessions.

Phase 3

- Posttest
- Readministered the 36 item Knowledge Attitudes Survey Regarding Pain (Ferrell, McCaffery 2012).
- Data analyzed using paired *t-test* to assess significant changes in mean between pretest and posttest scores.
- Open response questions were collected from the nurses about their perceived barriers to pain management.
- Postoperative patients surveyed using the same HCAHPS pain management questions during phase one.

Results

**Comparison of low scoring pre test questions to
post test (n=15)
(Scored below 75% on pre test)**



Nurse Participant Pre and Post Survey: Group Means by Unit

Unit	Mean Pre Survey	Mean Post Survey	Change in Mean Score	SD	% Change	p value
Unit A (n=3)	70.37	86.13	15.76	5.83	22.4%	.043
Unit B (n=12)	71.53	81.26	9.73	7.54	13.6%	.001
Unit A & B (n=15)	71.29	82.23	10.94	7.46	15.3%	.018

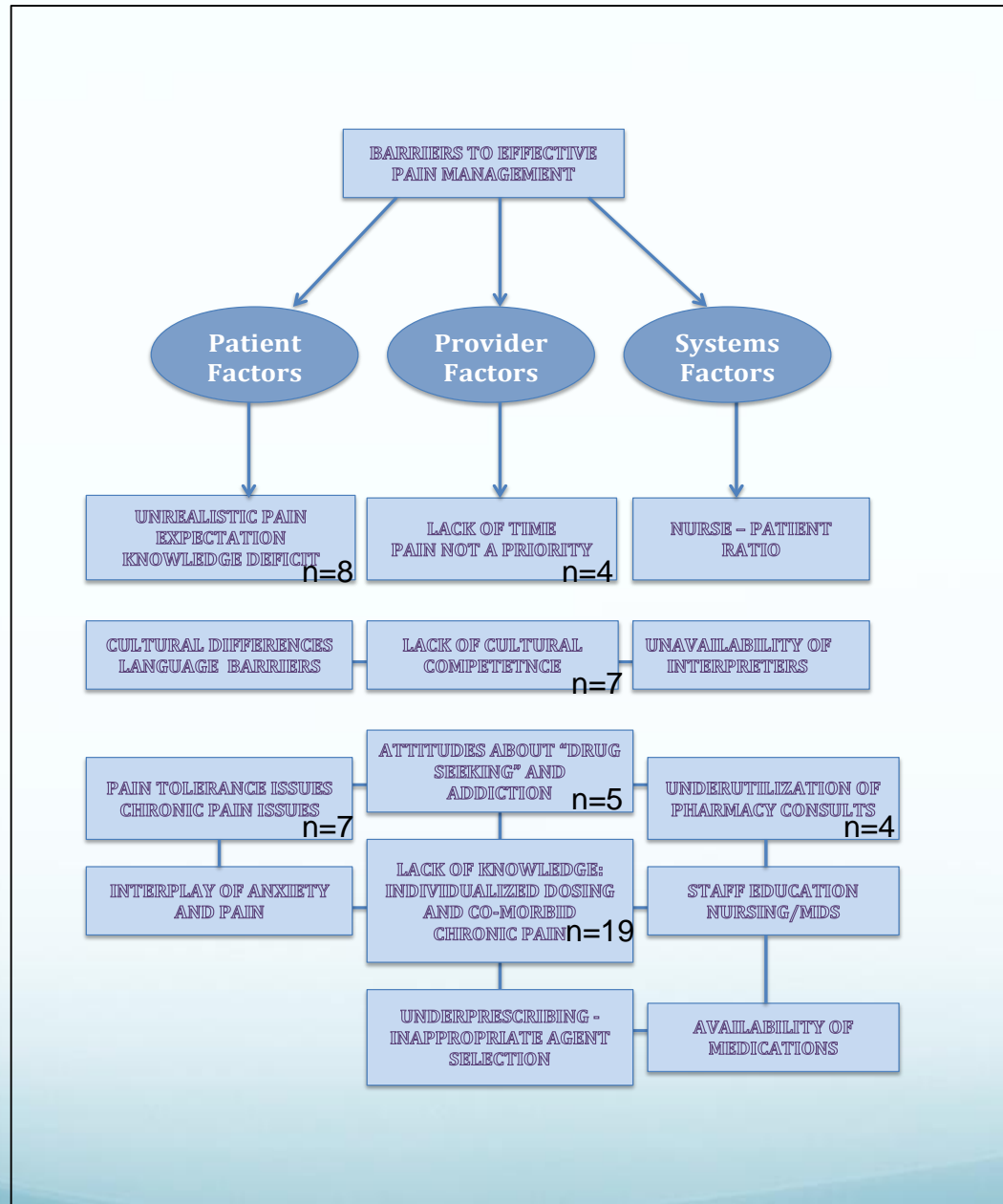
Three HCAPHS Pain Questions

#	Patient Participant Pain Question	Answer Choices
1	During your hospital stay, did you need medicine for pain?	Yes No
2	During this hospital stay, how often was your pain well controlled?	Never Sometimes Usually Always
3	During this hospital stay, how often did the hospital staff do everything they could to help you with your pain?	Never Sometimes Usually Always

Patient participant reports by unit pre and post survey timeframe.

Unit	Mean Pain Score	Mean time in minutes from last dose	Question 2 % of always
Unit A pre survey n=9	4.1111	63.3333	55.6%
Unit A post survey n=4	6.0000	37.5000	50%
Unit B pre survey n=3	6.6667	40.0000	66.7%
Unit B post survey n=4	2.5	90.0000	75%

Nurse participants open responses: barriers to pain management



Patient Participants Open Response to Their Pain Management

Patient Participant (n=20)	Open Responses Pain Management
n = 7	Too many providers taking care of them and added to confusion.
n = 7	Satisfied with the nursing care
n = 2	Adequate pain management depends on the nurse.

Recommendations:

Nurse Providers

- Ferrell, McCaffery Survey (2012) was very accurate in assessing knowledge and attitudes of postoperative pain management.
- Repeat intervention system wide.
- One CEU offered for education intervention only. Should have included the time spent with pre and posttests for 2.5 CEUs and given at the completion of the project.
- Nurse participation open responses to include barriers and successes to pain management.

Recommendations:

Patient Factors

- Survey patients in house with American Society Patient Outcome Questionnaire (APS-POQ) regularly assessing expectations, activity, emotions, side effects, treatments.
- “Pain-Out”
- Revisit the pain scales and assess for a revised pain scale that includes pain crisis (Vargas-Schaffer, 2010).

Recommendations:

System Factors

- Qualitative study to assess behaviors system wide for Evidence Based Practice Model for management and clinical practice.
- Pain committee multidisciplinary representation and regular meetings.
- Repeat intervention throughout system to all healthcare team to continually evaluate for evidence based education intervention.

Limitations

- Lack of nurse participation resulted in smaller sample size than predicted.
- Management transitioning to different positions and lacked administration continuity.
- Difficulty to find the appropriate timing of the interview with patients in postoperative period.
- Layoffs and bumps of staff caused uncertainty.
- Study took three and half months for all three phases. Too many schedule issues over that span of time and may need a tighter time table to capture more participation.

Thank you

References upon request