A Mixed Methods Study to Determine How Narcotic Knowledge for Post-Surgical, Opioid-Naïve Patients' Influences their Experience of Self-Medication after Hospital Discharge

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Deborah Vickers is a doctoral candidate at the University of Washington - School of Nursing. She has been practicing as a registered nurse for several years, much of that time in intensive care. Along with being a member of MMIRA, she belongs to the American Society for Pain Management Nursing. Her dissertation research will utilize a mixed methods approach to examine the relationship between knowledge of narcotics for opioid-naïve patients at the time of discharge from the hospital and their subsequent experience with self-medication when they return home. Ms Vickers expects to graduate in 2016 and looks forward to teaching and continuing research in the area of pain management.

ABSTRACT
Narcotic pain management for an opioid-naïve person can be a significant challenge after surgery. It is clear from the literature, however, that adequate discharge teaching does not always happen, or happens when patients are groggy, stressed, and possibly cognitively impaired.

The purpose of this study is to determine if there is a correlation between: 1) the change in patients' narcotic knowledge from admission to discharge from the hospital, and 2) the quality and experience of pain management for the patient after they return home.

This research will involve mixed methods methodology. The first strand comprises a convenience sample of 100 surgical patients who will complete a quantitative admission and discharge survey measuring the change in narcotic knowledge, an indication of the teaching received in the hospital. The second strand includes qualitative and quantitative data collection with 24 volunteers from the first strand using patient journal entries, medication record, observer notes, and a final semi-structured interview. The interview will be conducted two weeks after the patient has completed all narcotic pain medication.

At the conclusion of data collection for the second strand, a phenomenological analysis will be done, followed by quantitative and mixed methods analyses. The measurement of the narcotic knowledge from the surveys will be analyzed with the pain and pain quality scales to explore the quality of pain management and its relationship to narcotic knowledge. The scores from the surveys will then be analyzed with the QOL scores and the coded themes and from the qualitative data to determine the numerical experience of pain management and its relationship to narcotic knowledge. Phenomenological results will be shared with participants to verify that what was written was what they actually experienced.

I am interested in discussing the validity, reliability, and qualitative rigor in the analysis of the second strand of this research.
A Mixed Methods Study to Explore the Relationship between Narcotic Knowledge for Postoperative Patients and the Transitional Experience of Pain Management after Hospital Discharge

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Study Purpose
The purpose of this study is to determine if there is a correlation among:
1) the change in patients’ narcotic knowledge from the time of admission to the time of discharge from the hospital
2) their narcotic knowledge alone at the time of discharge
3) the quality of pain management for the patient
4) the experience of pain management for the patient when they return home

Background
1) Studies show that patients express fear over the potential for the development of tolerance, dependence, and addiction associated with their opiate medications
2) Unrelieved pain causes an increase in stress hormones which can affect:
   • every organ system in the human body
   • the immune system
   • the sleep cycle
   • the body’s ability to heal itself
Background

3) Unrelieved pain causes a decrease in mobility leading to:
   - the possibility of deep vein thrombosis
   - postoperative pneumonia
   - ↓ range of motion (joint replacement surgery)
4) Pain management is a multidimensional task and more complex than realized until it is looked at step-by-step
5) *Iatrogenic addiction* can occur without adequate follow-up of surgical healing and pain management

Background

6) Many physicians do not feel that they have adequate training to manage severe pain in their patients
7) Nurses are responsible for the final assessment of patients' narcotic knowledge but studies show that discharge teaching does not always happen
8) Studies have shown that patients are not satisfied with the amount/type of information they receive on discharge, with respect to their medications
9) Only recently has the concept of educating patients about the addictive properties of their pain medications been seen in the literature

Quantitative Questions

1) What is the *change* in narcotic knowledge from admission to discharge from the hospital?

2) What is the *level* of narcotic knowledge at the time of discharge from the hospital?
Qualitative Questions

1) How did the patient perceive their experience of pain management after discharge from the hospital?
2) How has their ability to control their pain affected their perceived quality of life?
3) What aspects of their pain management did they find to be unusually difficult?
4) What do the patients wish they had known, but did not know, prior to beginning self-medication for pain at home?

Mixed Methods Questions

1) Is there a relationship between narcotic knowledge at the time of discharge and the quality of pain management?
2) Is there a relationship between the amount of change in narcotic knowledge during hospitalization and the quality of pain management?
3) Is there a relationship between narcotic knowledge at the time of discharge and the experience of pain management?
4) Is there a relationship between the amount of change in narcotic knowledge during hospitalization and the experience of pain management?

Worldview - Pragmatism

1) Pragmatism has been described as the one best worldview for MMR because it draws on “what works”
2) Pragmatism uses diverse approaches, multiple ideas, and equally values subjective and objective knowledge – privileges the research question
3) Pragmatism – philosophical foundation or philosophical support?
**Worldview - Pragmatism**

1) Both QUAN and QUAL research methods may be used in a single study
2) Research question should be of primary importance
3) Forced-choice dichotomy between post-positivism and constructivism should be abandoned
4) Use of metaphysical concepts such as "truth" and "reality" should also be abandoned
5) Practical and applied research philosophy should guide methodological choices

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**Transitions Theory**

1) Definition of “transitions”
   - Change or passage from one state or stage to another
   - Period of time from which something changes from one state or stage to another
2) Linear process vs. cyclical and/or back-and-forth process
3) Always have a beginning but may or may not have an ending
Quantitative Methods

Phase 1
- Admission Survey
- Discharge Survey

Phase 2
- Medication Record
  - Pain Scale
  - Pain Quality Scale
  - Pain Type
- Quality of Life Scale (journal)

Qualitative Methods

Phase 2
- Narrative Comments (journal)
- Interviews
  - Phenomenological Interview
  - Participant Audit Interview
- Field Notes
- Researcher Journal

Mixed Methods Design
Methodology

1) Level of interaction
2) Theoretical drive (or “priority”) given to the research paradigms
3) Determination of the timing of the QUAN and QUAL strands
   - Sequential
   - Concurrent
   - Multiphase
4) Determination of where and how to mix the strands
   - Level of design
   - Data collection
   - Data analysis
   - Interpretation

Quantitative Data

What the quantitative data can do
1) Give a general sense of what people know about narcotics
2) Show correlation among pain/pain quality scales and QOL
3) Demonstrate the effectiveness of discharge teaching, to a degree
4) Show whether there is a correlation with pain quality and QOL

What the quantitative data cannot do
1) Define the meaning that the terminology has for participants
2) Delineate between guesses and thoughtful responses
3) Guarantee honest responses

Phenomenological Data

What the phenomenological data can do
1) Provide a richer source of information
2) Demonstrate the process of change as patients move through the transition experience
3) Provide the researcher with the opportunity to make needed changes when new ideas or issues emerge

What the phenomenological data cannot do
1) Contribute much to the generalizability of the findings
2) Limit all researcher bias - difficult to prove validity/reliability
3) Provide the conclusive empirical results important to policy-makers
Significance for Patients

1) Increases self-efficacy when patients have the tools to successfully manage their own pain
2) Decreases the chances of re-admission for uncontrolled pain, infection, or poor wound healing
3) Results in fewer under-medication situations
4) Decreases chances of patients developing iatrogenic addiction
5) Provides improved quality of life for patients healing from surgery

Significance for Health Care

1) Provides data as to the relationship between narcotic knowledge and successful pain management by the patient
2) Provides data that physicians can use to improve pain management education for medical students and each other
3) May decrease 30-day readmission rates for hospitals, improving the economic situation of the institution
4) May decrease patient adverse events after discharge, protecting the hospitals from legal repercussions
5) Provides for improved practitioner-patient relationships

Significance for Nursing

1) Indicates whether discharge teaching is adequate to meet patients' informational needs
2) Provides an impetus for nurses to develop discharge teaching tools that fit their busy schedules as well as patient needs
3) Illustrates the importance of encouraging the patient to have a second pair of "ears" available for discharge teaching
4) Encourages nurses to explore the concept of pain and its management from the perspective of their patients
5) Encourages further descriptive, exploratory, and interventional research on a larger and broader scale
"Not only should we be questing for new knowledge but we should be questing for new ways of discovering knowledge and understanding."

Patricia L. Munhall
Revisioning Phenomenology: Nursing and Health Science Research, 1994 (p. 194)