Nursing patients with acute chest pain: Practice guided by the Prince Edward Island conceptual model for nursing

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SUMMARY

Current research suggests that pain is a relatively common phenomenon with 60–90% of patients presenting to emergency departments reporting pain (e.g., chest pain, trauma, extremity fractures and migraine headache) that require treatment [Hogan, S.L., 2005. Patient satisfaction with pain management in the emergency department. Advanced Emergency Nursing Journal 27(4), 284–294]. This article explores the use of conceptual theoretical empirical (C-T-E) framework to guide a senior nursing student in a case study of patient with chest pain. The Middle Range Theory of Pain described by Good [Good, M., 1998. A middle-range theory of acute pain management: use in research. Nursing Outlook 46(3), 120–124] and Melzack's [Melzack, R., 1987. The short-form McGill pain questionnaire. Pain, 30, 191–197] short form McGill pain questionnaire were applied along with the Prince Edward Island conceptual model (PEICM) for nursing. Results indicate that the nursing student increased her ability to work in partnership, assess relevant and specific information, and identify a number of strategies to help the patient achieve pain control by using a complement of pharmacological and non-pharmacological interventions. Moreover, the C-T-E approach provided an organized and systematic theoretical approach for the nursing student to assist a patient in pain control.

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Introduction

Pain, a complex, multidimensional phenomenon, originates from sensory stimuli, has obvious motivational-affective properties, demands attention, disrupts thought and behavior and results in activity aimed to stop the pain (Melzack, 1982). More recently, the definition of pain has been expanded to include it being subjective, multifaceted and influenced by many factors such as personal experience and culture (Bourbonnais et al., 2003). However, in order for the experience of pain to occur, it has been posited that a stimulus must be strong enough to exceed patients' normal pain thresholds (Dolan, 2000).

Current research suggests that pain is a relatively common phenomenon with 60–90% of patients presenting to emergency departments reporting pain (e.g., chest pain, trauma, extremity fractures and migraine headache) that require treatment (Hogan, 2005). Although common, pain and its accompanying symptomology are complex in nature. For example, chest pain can present as myocardial infarction, angina, pericarditis, or anxiety. Accordingly, pain assessment and management should be approached using a holistic, systematic and evidence based model (Bryant, 2007).

Key physiological pain assessment factors include: location, type, intensity and duration as well as assessment of environmental, social and cultural aspects of pain (Bird, 2005).

As the research on pain has expanded, best practice standards have been established which suggest that both pharmaceutical and non-pharmaceutical measures should be used to control patients' pain symptoms (Gatlin and Schulmeister, 2007). In hospital settings, however, the use of traditional pharmaceutical measures are more common than non-pharmaceutical measures (e.g., patient repositioning, thermal measures, massage therapy, aromatherapy, and meditation).

Nursing students are challenged with the responsibility of helping to relieve patients' pain. As part of this process, students require pain assessment tools that address patients' personal experiences and environmental and social factors (e.g., culture, anxiety) that may impact this experience. While nursing students may develop a basic understanding of what constitutes pain (anything the patient says it is) in their training, students may feel ill equipped when it comes to implementing pain specific interventions. A better understanding of the assessment models designed to help guide nurses in decision making as it relates to pain symptomatology would assist students in identifying appropriate interventions and implementing best practice guidelines for pain management.
Conceptual theoretical empirical system based nursing practice

The C-T-E system can provide direction for nursing practice based on knowledge that is specific to the discipline. This framework guides nursing students in the identification of important data, the establishment of relationships between data, and the selection of appropriate clinical interventions (Fawcett, 2005). Raudonis and Acton (1997) suggest that the use of C-T-E system helps nursing students to better understand data and therefore guide appropriate interventions, to practice in a more purposeful and systemic manner resulting in better patient outcomes.

The Prince Edward Island conceptual model for nursing

**PEICM for nursing:** A nursing perspective of primary health care (Munro et al., 2000) is a reciprocal interaction worldview model in which human beings are viewed holistically. This model is congruent with the international move towards primary health care (PHC). While other nursing models have incorporated PHC as a component of their respective frameworks, (i.e. Orem’s self deficit model) it appears that the PEICM is the only conceptual model of nursing with PHC as its underlying framework.

In the PEICM, person can be an individual, group or community; health is defined as a dynamic process which incorporates both wellness and illness and is influenced by several factors called the determinants of health; the environment incorporates both internal and external environment and is affected by a combination of the determinants of health (Advisory Committee of Population Health, 1994). The PEICM discusses the five principles of PHC (accessibility, public participation, wellness promotion and illness prevention, intersectoral collaboration, appropriate technology) that guide nursing care. The goal of nursing is to work in partnership with the patient to promote wellness and prevent illness (Munro et al., 2000).

Nurse–patient partnership, one of the major concepts in the PEICM, extends our understanding of the principle of public participation (Munro et al., 2000). Partnership is the sharing of power between a health care professional and a patient (Courtney et al., 1996). The patient has the right and the duty to individually and collectively participate in their own health care. Three main concepts of partnership include: (a) the structure of relationship; (b) power sharing; and (c) negotiation. The nature of the relationship in the partnership model is that the professional actively facilitates the partner’s participation in the relationship. There is an ongoing process of negotiation of goals, roles and responsibilities, and each person in the relationship respects individual and cultural differences (Courtney et al., 1996). Power sharing is the sharing of power between partners. Strickland and Strickland (1996) propose that instead of health care providers giving up power, passive patients should be encouraged to actively participate in their health care plan. Engaging patients in the delivery of health care is essential for active negotiation of treatment options. Using power sharing and negotiation, patients and health care providers are able to create mutually agreed upon treatment plans to help best meet the patient’s individual needs.

**Partnership in training**

In a training environment, effective partnership requires the nursing student to move from the expert role in order to become a partner with the patient, play an equal role and establish goals together (Courtney et al., 1996) thereby enhancing patient empowerment (Gallant et al., 2002). Antecedents of partnership (Gallant et al., 2002) include: (a) partners must value each other as a worthwhile human being with unique needs, regardless of socioeconomic class; (b) partners must value cooperative and share responsibilities, power and accountability; (c) partners must be open and respectful towards what each member brings to a partnership; (d) the nursing student must believe in the patient’s capabilities, and be willing to step down from the status associated with being a nursing student; and (e) the nursing student must believe in the patient’s empowerment and encourage the patient’s active participation in their health care plan and decision making.

The middle range theory of pain: a balance between analgesic and side effects

MRT’s can assist practice by providing an understanding of a patient’s behavior, suggesting interventions, and discussing possible explanations for the degree of effectiveness of the interventions (Peterson and Bredow, 2004). Since it appears no middle range theory has been published from the PEICM, Good’s MRT of pain (The theory of balance between analgesic and side effects) is congruent with the philosophical underpinnings of the PEICM and therefore, was used for this case. This theory was developed from acute pain management guidelines published by the Agency for Health Care Policy and Research (Acute Pain Management Guideline Panel, 1992). Good’s MRT of pain suggests that in order to achieve a balance of analgesia and medication side effects for patients experiencing acute pain nursing students need to administer potent pain medication and provide non-pharmacologic interventions (Good, 1998). Three propositions guide this theory: (1) multimodal interventions (administering potent medication along with pharmacologic or non-pharmacologic interventions); (2) attentive care (regular pain assessment and side effect assessment); and (3) patient participation (goal setting and patient teaching) (Good, 1998). These three elements are congruent with the PEICM because they both value and believe in patient participation, partnership, holistic approach, and recognize the determinants of health using a PHC lens.

**Empirical indicator**

Empirical indicators are tools or protocols to record observations, guide and evaluate nursing practice. It is a method to collect data which can be an actual instrument, experimental condition, or clinical procedure and should be congruent with a conceptual model and middle range theory (Fawcett, 2005). The SF-MPQ chosen as the empirical indicator for this case is an extension of the
McGill Pain Questionnaire (MPQ) developed by Ronald Melzack in 1975. The SF-MPQ, which focuses on pain description and offers a methodological approach to assess the sensory, affective and evaluative components of pain, was developed to provide a brief pain assessment that takes approximately 2 min to complete.

Several studies have shown that the SF-MPQ is a valid, objective and reliable instrument. Currently, it is one of the most widely used assessment tools for measuring pain (Slooman et al., 2005; Chang et al., 2006; Kahl and Cleland, 2005). The cronbach coefficient alpha for the SF-MPQ is 0.81 (Karp et al., 2006). The SF-MPQ has been shown to have high correlations with the original version (MPQ), with correlation coefficients varying from 0.67 to 0.90 (Melzack, 1987). SF-MPQ consists of 15 pain descriptors (11 sensory and 4 affective), present pain intensity (PPI), and a visual analogue scale (VAS) (Mystakidoum et al., 2002; Melzack, 1975; Turk and Melzack, 2001).

SF-MPQ was chosen because it is complementary to the constructs of the PEICM and Good's MRT of pain. Further, the SF-MPQ is well suited for an emergency unit given that it is comprehensive, quick and easy to administer, easily understood by patients, simple to score, and most importantly the tool has the ability to measure the sensory and affective components of pain (Bondestam et al., 1987). Previous empirical use of the SF-MPQ (MacDonald and Weiskopf, 2001; Ronnevig et al., 2003) demonstrated that when interviewing patients the majority used words or synonyms of the sensory and affective word descriptors included in the SF-MPQ.

Case application

This case study describes the application of the C-T-E framework by a senior nursing student in an undergraduate nursing program and explores the nursing student’s experience of working with the C-T-E in the pain management care of a patient presenting with chest pain to the emergency department. Mr. Wood, a 50-year-old male was admitted to the Emergency Department complaining of chest pain. During his admission, the philosophy and principles of primary health described in the PEICM (Munro et al., 2000) were used to guide the nursing student’s approach to care. In accordance with the C-T-E system, Mr. Wood was viewed as a biosocial spiritual person who had many factors (determinants of health) which impacted his perception of pain. The principles of PHC were used as a lens to consider all aspects of Mr. Wood’s situation.

Partnership was a key component to guiding pain control for Mr. Wood. The five antecedents of partnership theory (Gallant et al., 2002) provided a systematic approach when assessing Mr. Wood. Partnership was used in caring for Mr. Wood in a number of ways. The nursing student encouraged Mr. Wood to participate in his own care and agreed to play an equal role in the relationship. The nursing student used language the patient could understand when explaining the SF-MPQ and procedures being done. The patient willingly agreed to complete the SF-MPQ and the results of the data gathered were used by Mr. Wood and the nursing student to identify his degree of pain. Mr. Wood played an active role in describing his pain by using the SF-MPQ and the nursing student provided for confidentiality and demonstrated empathy by recognizing his concerns. The nursing student assessed Mr. Wood’s condition frequently and intervened appropriately when necessary which led to Mr. Wood developing trust in the nursing student. The student reviewed with him and his wife the chest pain protocol. If Mr. Wood’s acuity of illness was more serious (i.e. decreased responsiveness) and could not be active in his care the nursing student would have provided care based on pain assessment data and using standard pain management protocols while keeping Mr. Wood and his family informed of the treatment plan.

Using the SF-MPQ, Mr. Wood chose appropriate descriptive words that matched his pain level and rated his pain an 8/10 on the pain scale section of the tool. The nursing student considered the three propositions of the pain control theory (multimodal interventions, attentive care and patient participation) when reviewing the results of the SF-MPQ. The student’s experience with C-T-E helped her to understand the importance of communicating with Mr. Wood about his care. By discussing the importance of all the treatments and procedures and how Mr. Wood could help the nursing student in the intervention process a rapport underscored by partnership was created.

By having Mr. Wood engage in developing an understanding of his pain, the nursing student was able to help him complete the SF-MPQ. As a result of the alliance established between the nursing student and Mr. Wood, he was able to take an active role in implementing non-pharmacological interventions and seemed to respond in a more insightful manner to the institution’s chest pain protocol. Taken together, these intervention measures resulted in Mr. Wood’s empowerment. Throughout his care, he was receptive to receiving the treatment suggested and stated that he felt included in his care by completing the SF-MPQ.

In this case, best practice standards for pain management were achieved. The nursing student worked collaboratively with Mr. Wood by providing non-pharmacological measures (e.g., assessing vital signs every 15 min, assisting Mr. Wood to a comfortable position in the stretcher, providing him with a warm blanket and giving reassurance and supportive care to him and his wife). Additionally, the physician on call ordered pharmacological interventions included in the institution chest pain protocol (i.e. electrocardiogram, oxygen, nitroglycerine, morphine).

Mr. Wood repeated the SF-MPQ 30 min after initiation of treatment and rated his pain as a 3/10 on the pain scale. The posttest results show that Mr. Wood’s pain diminished suggesting that appropriate interventions were effective. These interventions were derived from the proper use of partnership, identifying and applying the propositions of the pain control theory and using the SF-MPQ as the assessment tool. The results of the SF-MPQ were discussed with Mr. Wood and he validated that he felt understood by the nursing student.

Discussion

Four important lessons were identified from using the (C-T-E) system in this case study. First, the two way partnership allowed the nursing student to work collaboratively with Mr. Wood to enhance his care, while implementing the standardized chest pain protocol to address his pain. What made this type of health service delivery different from the usual care was the focus on informed theory on pain management. In this case, the nursing student used her knowledge of a MRT and an empirical assessment tool to work in partnership with the patient. Using this approach enabled the student to teach Mr. Wood to use and report changes in his pain assessment and encouraged him to communicate his need for pain control measures. By using this system the nursing student was able to clearly move forward with Mr. Wood in achieving pain control.

The second lesson learned is that the SF-MPQ tool provided Mr. Wood with a number of ways to describe his pain (i.e. descriptive words, numbers and visual analog scale) resulting in comprehensive, relevant and specific information. Scoring the SF-MPQ gave the nursing student direction and assisted in deciding appropriate interventions.

The third lesson was that using the C-T-E system fits well into the clinical setting. Prior to using this system the nursing student found herself not fully understanding her patient’s situation and
degree of pain and often found herself providing only pharmacological interventions for pain control. Had the nursing student not acquired the theoretical knowledge of C-T-E and had the opportunity to apply this in a practice setting, she may not have been able to gather comprehensive pain assessment data. Failure to obtain such information could have resulted in nursing care that would be considered inadequate.

Fourth lesson is the need for continuity in knowledge, tools, and resources to implement a coordinated C-T-E approach in nursing practice. Currently, there is no literature that examines the PEICM and the middle range of pain in caring for a patient with chest pain. Current assessment tools for practice are not designed to follow the PEICM and therefore it would be important to adopt appropriate tools for the setting. Further, patient care could become disorganized and the result may be nursing care that appears disjointed if the C-T-E approach is not consistently used.

Challenges and opportunities to using the C-T-E approach in nursing practice

Some challenges to using a C-T-E system might include adoption of a theoretical approach that uses terminology that is not often clear because of the complexity of the underlying theoretical postulates of the disciplines from where the theory has been derived.

The majority of the literature on C-T-E is written by and for graduate and post doctoral level practice. The complexity of the language may be the reason why there is minimal use of nursing models and theories in practice. For example, the term empirical indicator is simply another word for protocols, scripts and data assessment tools that are based on theory that can be used by nurses to collect relevant information.

This nursing student believes that if nursing models and theories are not a key component of a nursing unit mission statement, new graduate nursing students will be reluctant to use their knowledge in nursing theory and therefore opt to use more traditional and entrenched nursing care within their new work environment. Training must be provided to nurses currently working in the field. New graduates who have this enhanced knowledge could play a valuable role in such training, resulting in an enhance sense of value to the practice.

One might suggest that this inclusive and knowledge based approach to patient care is no different than what has been done by nurses for years. What is different is the C-T-E approach challenges nurses to reflect on nursing knowledge or borrow from other discipline theories that are congruent with nursing practice to provide evidence informed nursing care. By being explicit the nurse is then challenged to adopt a continuity of care approach, provide clear protocols for practice through patient care plans, nursing assessment tools and documentation of care.

Conclusion

Using the C-T-E system, this nursing student was able to consciously look at how theory can be used explicitly in practice and identify possible challenges to implementing nursing theory in patient care. The C-T-E system allowed the nurse to use knowledge from the discipline to guide her approach to Mr. Wood. She used a valid assessment tool to collect specific pain related data and then linked the findings from that assessment to guide the nursing actions for Mr. Wood. By using congruent theory, this nursing student understood the rationale behind her practice and allowed her to practice in the broader scope of her nursing practice. In the future, if nursing students use the C-T-E process they might be better able to fully assess patient’s pain in a systematic way that leads to more comprehensive nursing action. This nursing student believes that nursing models can strengthen the quality of nursing care provided to the patient by working in partnership, focusing on the priority health concern, and evaluating interventions.

References


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