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Engagement and availability in shaping nurses' management of postoperative pain: a qualitative study

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Abstract

Background: Studies reporting inadequate nursing care for patients indicate that nurses are negatively affected in such situations, and research is needed to study nursing care in postoperative situations.

Objective: To describe situations of postoperative pain management in a surgical ward in Thailand.

Methods: A qualitative approach using the Critical Incident Technique was chosen to investigate situations of postoperative pain management from the perspective of surgical nurses in Thailand. Data were collected through multiple semi-structured interviews with nine nurses over a five-week period.

Results: The situations of surgical nurses described three elements that heavily influenced the quality of postoperative pain management: engagement in a trustful nurse-patient relationship, availability of pain medication and nursing care when needed, and imbalance between meeting the patient's needs and completing routine nursing duties.

Conclusion: The results help to expand our understanding of how Thai nurses manage pain in postoperative situations and indicate areas that could be improved in terms of how nurses respond to patients' pain. Nurses challenge existing guidelines and facilitate development of new nursing guidelines and/or policies in pain management.

Keywords: Nurse-Patient Relations, Postoperative pain, Pain management, Trust

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1. Introduction

Despite several studies acknowledging advantages of control in postoperative pain area, there are still disadvantages of unrelieved pain in most patients (1-3). The pain management techniques and strategies used by nurses to relieve patients' postoperative pain has been found to be insufficient (1, 2); despite intervention and education programs focusing on improved treatments, surgical procedures and/or analgesia regimens, and specific guidelines for treating postoperative pain (3). There is, therefore, a need to improve the pain management conducted by nurses in postoperative care in Thailand. Nurses have a key role in pain management, as they interact directly with patients to help alleviate their pain and improve comfort levels (1, 4, 5). Numerous studies have been conducted to understand how contextual issues impact pain management outcomes and have focused on reducing pain levels in order to

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increase the patients' level of satisfaction (6-8); these studies found both ineffective pain control and insufficient pain management practices. The International Association for the Study of Pain (9) has provided acute pain management guidelines for healthcare settings, which are designed to reduce the incidence of under-treatment of patients' pain in postoperative care. The Royal College of Anesthesiologists of Thailand and the Thai Association for the Study of Pain (9) developed a guideline for the management of chronic pain and acute pain to be implemented in Thailand. Despite access to the guidelines in healthcare settings and the push to improve pain management, the techniques used and resulting effects on managing the patients' postoperative pain remain inadequate. One of our previous studies regarding Thai Nurses' experiences of postoperative pain assessment found that nurses were using the double/triple check system as well as many forms of evidence, such as documentation and pain records, to communicate with the care team. Furthermore, the nurses have used their own previous experiences to assess pain and interpret pain intensity (10). Previous studies have revealed that nurses were limited in their abilities to manage the patients' pain due to a lack of education and skills in pain management (e.g., administration of sedation, nursing interventions) (11, 12). Nurses tend to rely on their own experiences when it comes to the assessment of patients' pain and pain management (12, 13). Therefore, effective pain management in clinical practice demands a deeper understanding of how the nurses care for patients in pain; this understanding may help to close the existing gaps between the standards outlined in the guidelines and the reality of clinical practice. Further qualitative research is needed to identify the nursing practices actually used in postoperative pain management in order to understand the nurses' perceptions of the barriers and facilitators in managing pain (14), as well as the nurse's perceptions of pain and pain management in general (13). The aim of this study was to describe situations of postoperative pain management in a surgical ward in Thailand.

2. Material and Methods

2.1. Design

This nursing research study used a prospective exploratory design with a qualitative approach and used the Critical Incident Technique (CIT), as developed by John Flanagan (15), to gather qualitative data. Flanagan proposed five steps in the CIT procedural approach: (i) determine the general aim, (ii) develop plans and specifications for collecting actual incidents, (iii) collect the data, (iv) analyze the data, and (v) interpret and report the results. The term 'incident' refers to the human behavior applied with regard to positive and/or negative events (16). CIT is a very flexible qualitative research method used to answer questions such as 'How do nurses respond to patients' needs?' or 'How do nursing care activities provide for the patients with regard to the nurses' experiences based on the given context?' (17), and several nursing studies, have used CIT to describe pain management and pain assessment among nurses in different wards (18-20). CIT was determined to be well suited for exploring the question, 'What are the successes and non-successes of the nurses working in postoperative pain management?' The study recorded nurses' descriptions of their own experiences in terms of managing patients' postoperative pain in a surgical ward.

2.2. Participants and settings

The purposive sampling was chosen. The inclusion criteria were working as a registered nurse in the chosen surgical ward and taking care of postoperative patients. All registered nurses (RNs) working on the surgical ward were invited to participate in the study; 20 RNs declared their interest to participate in the study, nine of whom were chosen based on strategic sampling that aimed at a broad representation of different levels of proficiency (21). The criterion to select nine out of the twenty nurses who showed interest in participating in the study was being able to attend interview sessions for five consecutive weeks considering the study method. The nine informants comprised six female nurses and three male nurses, ranging in age from 22 to 50 years (median 25 years) and in surgical ward experience of 2 to 29 years. Six of the participants had undergone specific training in pain management.

2.3. Data collection

The data collection phase involved individual interviews with the participating nurses. These interviews were conducted by the first author (MC), who has previous experience with qualitative interviewing approaches. The interviews were conducted every week over a 5 week period in a location at or near their working premises, and used a semi-structured interview guide that consisted of the following three items: (i) describe a situation in the last week where you were able to successfully reduce a patient's level of pain after surgery, (ii) describe a situation in the last week where you were not able to reduce a patient's level of pain after surgery, and (iii) explain what happened during that event. These open questions were followed up by more probing questions, focusing on the informants' personal experiences in situations of nursing care with regard to pain management. The interviews were tape-recorded and later transcribed verbatim, and each interview lasted between 10 and 30 minutes.

2.4 Data analysis

An inductive approach was used when analyzing the interviews. In accordance with CIT, the first step was to extract descriptions of incidents or events with regard to the pain management outcomes from the data. The transcripts were read several times in order to identify the incidents or the events pertaining to the management of the patients' pain levels by nurses and to separate them from other dimensions of feedback from informants during the interviews, such as general opinions or perceptions on the matter. In total, 69 incidents (both major and minor) where identified and then translated into English by the first author (MC), these translations were validated by parallel word-for-word readings by the second authors (AN) to confirm the accuracy of the translations. Following this translation, the meaning of the incidents was discussed with all co-authors in order to identify those incidents that are representative of clinical practice. These incidents were then analyzed individually, coded in relation to content, clustered, and then divided into categories. The process of coding and grouping incidents with regard to the emerged overall framing of the situations is presented in Table 1. This process was confirmed and discussed with all the authors during the data analysis. Issues of trustworthiness that were presented by Elo and colleagues (22) were considered in conducting the study and involved a criteria of credibility, dependability, confirmability and transferability; which were followed in accordance with the CIT method. The coded incidents, which are representative of the situation of nursing care in pain management, are presented in the findings section.

2.5 Research ethics

The study was carried out in the surgical ward of a tertiary hospital in the midland region of Thailand. The surgical ward had a capacity of fifty beds and was assigned specifically for surgical patients. Before conducting the study, ethical approval and research governance for the study was obtained from the appropriate organizations, including Thailand (Code: 16/2555) and the Ethical Review of Research Involving Humans, Sweden (EPN: Dnr 2012/383). The Head of Department at the surgical ward was contacted and permission to invite nurses working at the ward was obtained. The participants received verbal information about the study, and were told that participation was voluntary and they could withdraw at any time, without any consequences.

Table 1 Examples of the situations and codes, including the number of the critical incidents extracted from the data analysis.

Situations	Codes
Engagement (n=30)	To manage the situation using conversations in social context with the patient and/or their relatives to maintain good relationships (n=3)
	To manage the situation by sharing their own experience (n=3)
	To manage the situation by offering advice on pain management and postoperative rehabilitation (n=13)
	To mismanage the situation using inappropriate action with regard to the patients' condition (n=11)
Availability (n=30)	To manage the situation using regular morphine (MO) injections over the first 24 to 48 hours to control pain levels (n=12)
	To manage the situation by way of the physician's orders through administration of pain medication PRN (pro re nata, unscheduled dose of prescribed medicine administered as needed) (n=7)
	To mismanage the situation using inappropriate nursing care in a different manner (i.e., cancer pain, trauma pain, and neuro-surgery pain) to the patient's needs (n=11)
Imbalance (n=9)	To mismanage the situation by visiting the patient for only a very short time without considering the patients' needs (n=5)
	To mismanage the situation by focusing on completing documents rather than providing nursing care at the patients' bedside (n=4)

3. Results

All 69 situations from the interviews were used to illustrate the successful and unsuccessful aspects of managing postoperative pain in the surgical ward and included situations of engagement (n=30), availability (n=30) and imbalance (n=9) (Table 1). The situations were narrated by six female and three male nurses, ranging in age from 22 to 50 years (median 25 years). They all worked in a surgical ward with a working experience of 2 to 29 years. Six of the participants had undergone specific training in pain management.

3.1. Engagement

Participants described their experiences in actual situations in which they were engaged in managing the pain of their patients. The three engagement approaches used by the nurses include using conversations in social contexts, sharing their own experience, and offering advice on pain management and postoperative rehabilitation. The nurses believed that these approaches maintained contact with patients and family members and provided a channel to advise them on relevant pain management steps throughout the postoperative phase of recovery. Engaging with patients is key for developing a relationship with the patients and/or their relatives. The initial step involves using conversation in a social context, building trust and establishing a good relationship between the nurse and the patient/relative. A trustful relationship is beneficial as it increases the accessibility of the patient. A 50-year-old nurse who had been working at the department for 29 years described how to deal with their patient's pain level and how to interact with the relative with regard to pain relief: "I talk with him until he is relieved of pain … I have informed his relative who had been quite anxious about the symptoms of the patient. Then I felt that I had a good relationship with them."

The participants used nursing techniques such as distraction, which is in effect engaging with the patient. Some of the nurses who had previously undergone surgery themselves shared their own experiences of postoperative recovery with their patients; this allowed the nurses to inform their patients about the recovery phase through first-hand experiences. In order to prevent complications related to postoperative pain, it was important to clarify the recovery process with each patient. A 24-year-old nurse with 3 years working experience at a surgical ward explained: "I shared my experience about the rehabilitation steps to him, such as deep breathing when he felt pain, and that he should get up to walk around his bed as soon as he could …. Then, when I evaluated his pain levels, he requested less pain medication than he did before we talked."

The participants used distraction and cognitive strategies, as these were found to help reduce patients' pain. The nurses tried to establish good relationships with their patients in order to best monitor and manage their pain and to accurately communicate and coordinate with the patient and/or their relatives and the physician. This situation required a level of trust from the patient in order to recount their experiences accurately, allowing the nurses to acquire greater knowledge about their situation and to help manage their pain. However, some incidents involving patients experiencing pain were also considered to be managed unsuccessfully: A 25-year-old nurse with 4 years working experience at surgical ward explained: "In one case, the patient underwent an appendectomy …. I advised him that he should begin to ambulate as soon as possible, such as changing position, to help with bowel movements. After I gave pain relief medicine to him, I asked him if he had pain, he told me he had a pain score of around 4 to 5 (out of 10), and he was able to sit on his bedside. Participants often used non-pharmacological forms of pain treatment, such as advising patients to engage in deep breathing and/or to change position. However, if a patient continued to complain about their levels of pain and requested pain medication, these approaches were considered inappropriate for the patient's condition.

3.2. Availability

Effective analgesic approaches used by the nurses involved drug administration at regularly scheduled intervals according to the physicians' prescriptions. In the acute postoperative period (24-48 hours after surgery), the physicians' order was to provide a strong opioid such as the morphine every four or six hours. The nurses revealed that pain medication was the most common treatment for pain that they administered. This had an effect on the patients' progress in the healing process during the postoperative phase of recovery. A 32-year-old nurse with 9 years working experience at a surgical ward described situations in which they had given pain medication to their patients according to the physician's orders: "I gave nursing care to a patient who had suffered trauma with a rib fracture and hemothorax or pneumothorax.... In this case, his physician had an adequate order of pain medication as he provided morphine 3 mg intravenously every 6 hours on continuous order in addition to Tramal (tramadol), one tablet orally three times per day. The patient got better and his breathing improved, such as to be able to exercise and use the Triflow."

The participants had the authority to act as independent decision-makers for pain management and were responsible for the administration of all medication, monitoring patient recovery, and responding to patient needs. The participants administered pain medication to their patients, which was considered a positive action in promoting the patient's recovery, and also frequently used non-pharmacological methods for pain management, such as encouraging their patients to walk and to breathe deeply. There was a negative effect observed when the nurses used only non-pharmacological approaches, as demonstrated by a 23-year-old nurse with 2 years working experience at a

surgical ward: “One case underwent appendix rupture. The first day postoperative, he had received MO, 4 mg every four hours. At ten o'clock, he complained of pain. I asked him how high his pain scores were and he answered around 7 to 8 (out of 10). So, I tried to advise him to breathe deeply for five minutes. Then I assessed his pain score with him, which was still 7 to 8. Afterward, I decided to administer MO to him.”

The participants often mentioned that it could be awkward when treating patients according to the doctor’s PRN pain medication prescriptions, and they felt that these prescriptions were obstacles to achieving adequate pain management. These were considered to be negative approaches to the patient rehabilitation process. A 25-year-old nurse with 4 years working experience at a surgical ward said: “Two cases were postoperative for ruptured appendectomy. They had different physicians taking care of them. I tried to negotiate with the physician to administer a prescription of pain medication PRN. However, the physician insisted that it was necessary to give pain medication on schedule at regularly scheduled intervals (e.g., every 4 to 6 hours). I guess that providing the medication on the schedule is better than the patient just receiving pain medication PRN.

Furthermore, some of the participants had experienced situations in which it was difficult to manage their patients’ pain, despite adhering to the physician's prescription of scheduled medication. This had a negative effect on assessing, monitoring and meeting patient needs and providing adequate care. A 49-year-old nurse with 29 years working experience at a surgical ward explained: “I gave care to a patient with stomach cancer. He felt pain all the time. I gave MO 3 mg injection every 6 hours, but it did not reduce the pain, up until the doctor visited him at his bedside. The physician explained end-of-life care and that pain medication and support is provided until the pain is relieved. The physician changed the order as MO 3 mg intravenous drip (1-2 ml) every 4 hours, and to titrate up until the pain was relieved. However, it still failed to relieve his pain and he suffered until he died.

The participants sometimes adopted inappropriate nursing strategies for pain management according to the patient's condition. The needs of each patient are distinct and must be met according to the patient's condition. In the critical event, this involved palliative or end-of-life care; in such situations, the patients and their relatives need the support of nurses and physicians.

3.3. Imbalance

The participants had difficulties in achieving a balance between their responsibility to respond to the patients’ needs and their own needs as overworked individuals. The short time blocks in which they had to visit their patients did not allow enough time to attend fully to the patients’ needs; in fact, the majority of the participants’ time was spent completing the documentation rather than providing bedside nursing care. The participants felt that this documentation responsibility had a negative effect on patient care and often resulted in a delay in the administration of pain medication, as illustrated in the excerpt by a 23-year-old nurse with 2 years working experience at surgical ward: “I met three cases, postoperative, who had pain medication as needed (PRN) on order, such as MO 3 mg injection for pain PRN every 4 to 6 hours. I could not provide thorough nursing care at the bedside with them because I was overworked. The patient was afraid to breathe deeply when they had pain; this can cause complications in their lungs such as atelectasis. They also have such a long time in rehabilitation.

The nurses whose duty was to provide nursing care were unable to carry out tasks which would help prevent complications associated with the patients’ level of pain. Although the nurses are required to provide adequate bedside care and listen carefully to the patients, they gradually spend most of their time completing official documentation. The participants described critical situations in which they must handle routine care, as demonstrated by a 24-year-old nurse with 2 years working experience at surgical ward: “I'm part of the team that visits the patient for quite a short time at their bedside. Mostly, I make a brief visit and just ask 'Are you in pain or not?' to each of the patients. If they have pain scores of 2, 3, or 4 (out of 10), then I just talk with the patients and advise them to do deep breathing and/or change position. Afterwards, I talk with team members. … If the patient had a pain score of more than 5 (out of 10), we give pain medication. That involves much work, such as completing many documents and checking the physician's order. It is really not possible to complete it in this time.

In the above excerpt, the participant was acting in collaboration with the nursing team. They must manage the pain of each patient depending on the situation and find a balance between addressing the patients’ needs and completing their routine workload. The nurses have a limited amount of time in which they can visit their patients’ bedsides if they are to have enough time to complete each patient's chart. The nurses’ work capacity is affected by the

administration of pain medication as a form of routine care, but there seems to be a lack of clear information provided about when the patient is seeking pain relief.

4. Discussion

4.1. Discussion of the results

This study used CIT to explore the experiences of nurses providing postoperative pain management care. The findings illustrate that the nurses recognized successful and unsuccessful approaches in managing patients' pain in clinical practice by nursing approaches of engagement, availability, and imbalance (Figure 1).

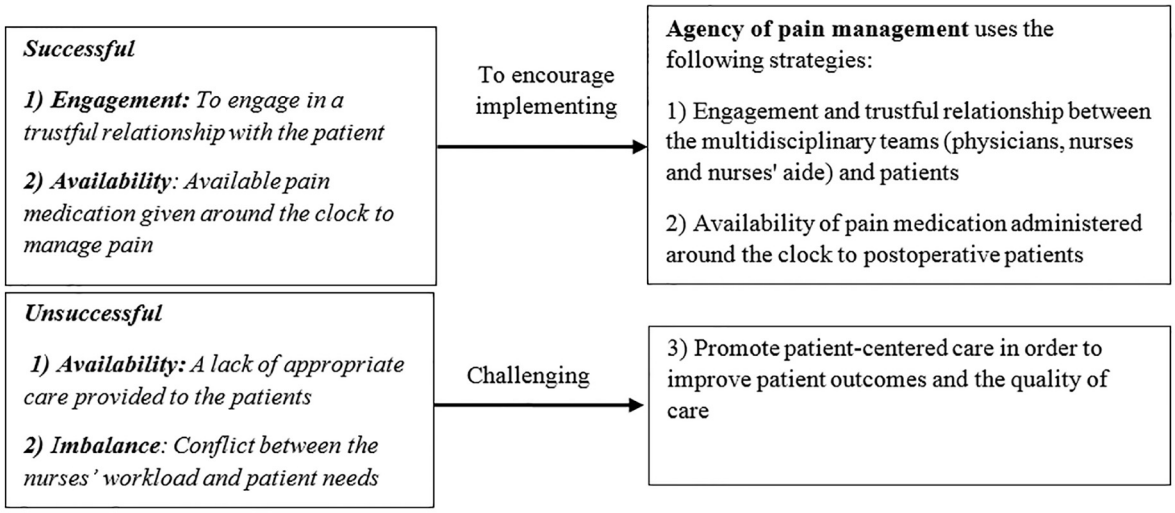

Figure 1. Overview of nursing approaches to pain management.

4.1.1. Engagement

Engagement involves building a trustful relationship with the patient, which decreases the gap in the power relationship that exists between the nurses and their patients, and facilitates successful pain management. Benner's theoretical approach emphasizes the nurse-patient relationship in order to promote successful nursing practices in dealing with existing problems (23). The participants highlighted major practical situations in which they shared their own experiences of postoperative pain management with patients, in order to advise and educate patients about their medical condition, emotional and cognitive states, and the characteristics of pain. Such patient education empowers the patient to request and receive prompt evaluation and treatment (6, 23). The importance of effective nurse-patient communication has been indicated in achieving pain management, with the focus on addressing patient needs in the context of pre-existing social attitudes and underlying complexities existing in the culture (2, 23, 24). Nevertheless, an engagement of nurses with their patients builds a trustful relationship, which is needed to adequately assess and treat the patients' pain. One problem to be considered is that nurse-patient communication is often one-way communication, in which the nurses ask questions and patients answer (25). Nurses often rely on their experiences and their relationship with the patient to make treatment decisions, though such autonomy in decision making is restrained by the physicians' prescriptions. It is important to understand how nurses experience pain management and in particular the effect of being overworked, in order to find ways to reduce the risk of errors in nursing care. The organization of nursing teams needs to be improved in order to facilitate teamwork among nurses who care for patients during the postoperative stage of recovery (Figure 1).

4.1.2. Availability

Availability refers to the capacity to administer pain medication on schedule, according to the physician's orders. The emphasis was placed on prescription medication being administered to the patient on a rigid schedule rather than according to the patient's condition. However, the availability of pain medication should coincide with an awareness of the patients' needs; nurses should administer a sufficient amount of pain medication at the appropriate time so as to achieve the peak effect of pain relief (27). The nurses' under-availability negatively affected pain management and was considered an unsuccessful nursing approach in terms of responding to the patients' needs.

4.1.3. Imbalance

Imbalance refers to the conflict between meeting the patients' needs and maintaining work routines. The findings of this study also found that routines affected pain management; nursing strategies depended on who was on duty, and

coherent procedures and treatment between shifts were found to be lacking. Routine care involves not only bedside nursing care, but also completing detailed documentation processes. The nurses indicated that their patients had requested pain medication and complained about the delay in its administration. Pain medication can often be delayed due to ineffective communication among the nurses regarding the intensity of the patient's pain (1, 2, 14, 26).

4.2. Discussion of methodological rigor

A previous article by Gremler (28) proposed caution in using CIT in light of some criticism by scholars concerning issues of reliability and validity; for instance, the possibility exists that the reporting of certain incidents could be misinterpreted or misunderstood. A limitation of the study is that the data was collected from nurses working in one surgical ward at one hospital in Thailand. However, data sets including 50 to 100 critical incidents typically involve interviews with a small number of people, as each person can describe multiple incidents (15, 29); the 69 critical incidents described by the participants were determined to be sufficient for the purposes of analysis.

5. Conclusions

The study revealed critical incidents as important layers of successful and unsuccessful interventions in situations of pain management. The results show that the relation between different critical incidents creates a specific nursing-knowledge in pain that also is dynamic and multifaceted. The results address the situated efforts and struggle to achieve a movement towards a person-centered care in pain management in their understanding of patient needs and reflection on the care they provide. The findings can serve to challenge current pain management practices and to facilitate the development of future nursing guidelines and/or policies in pain management, as well as highlight the need for further education, skills development and research concerning pain management in healthcare settings.

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Conflict of Interest:

There is no conflict of interest to be declared.

Authors' contributions:

All authors contributed to this project and article equally. All authors read and approved the final manuscript.

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