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Nurse Graduates' Experiences With Pain Science – A Qualitative Study

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Cover Page Footnote

Nurse Graduates' Experiences with Pain Science – A Qualitative Study Rachel Bee, EdD, MSN, RN, Cindy Goodrich, EdD, MSN, RN, CNE Liberty University, Lynchburg, VA Corresponding author: cgoodrich@liberty.edu

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Abstract

Background: While the nursing profession has made great strides in pain management over the last 20 years, patients often report being under-assessed and undertreated for pain.
Purpose: The study purpose was to understand the lived experiences of practicing nurses who had completed a baccalaureate-level pain management course during their undergraduate training. The study aims included understanding how pain management skills were implemented in the clinical arena, determining barriers to implementing pain management skills, and identifying opportunities to improve the patient experience regarding pain management.
Design: The researchers implemented a qualitative methodology with a phenomenological design. Data collection consisted of semi-structured interviews.
Methods: The sampling approach included convenience sampling until data saturation was achieved. The final sample included eight registered nurses practicing bedside nursing in the US. Data analysis was completed via a thematic approach.
Results: Two main themes were discovered. The first was enhanced confidence related to skills in communication and collaboration. The second theme was the barrier to proper pain management practice called "the working reality."
Conclusion: The participants' lived experiences suggested that the pain management elective helped prepare them for clinical practice. Other schools of nursing may find a course of this nature to be valuable for the future practice of other nursing students. Furthermore, nursing administrators should consider opportunities to expand nurse graduates' knowledge of pain science to enhance patient care and outcomes. However, more work needs to be done to address the barriers to pain management present in the working reality of nursing practice.

Keywords: Education, Nursing, Baccalaureate, Pain Management, Qualitative Research

Nurse Graduates' Experiences with Pain Science – A Qualitative Study

Background

While the nursing profession has made great strides in pain management over the last 20 years, patients often report being under-assessed and undertreated for pain (Pasero, 2014). There are specific populations where there is failure to effectively manage chronic pain situations. There are disparities in assessing and treating chronic pain leading to self-treatment which contribute to dangerous patient outcomes (Johnson-Jennings et al, 2020). A retrospective case study conducted by Orit, et al. (2019) found chronic pain in dialysis patients is underestimated and undertreated which can contribute to higher mortality in this population. These situations, combined with the opioid crisis, has created tension in nursing practice as nurses balance the tightrope of relieving suffering while doing no harm (Payne, 2019).

In response to the initial Joint Commission's standards of 2001 (Baker, 2017), the opportunity was taken to develop a pain management elective course for a School of Nursing located at a faith-based university in the Southeastern United States (U.S.). The course addresses the cognitive and affective domains of learning while utilizing passive and active learning strategies, emphasizing active learning. Content covered includes pain theories, current event-related issues, the pathology of pain and its effect on the body, knowledge and attitudes related to pain, ethical and legal ramifications, recognizing and managing bias, review of pain medications, methods for operating safely and effectively during the current opioid crisis, and an emphasis on nonpharmacological techniques to reduce opioid usage as appropriate. The course is founded on a seminar learning environment to support critical thinking and open discussion to dispel myths and misconceptions that hinder effective pain management.

The purpose of this study was to understand the experiences of nursing graduates as they practiced pain management at the bedside. In doing so, the researchers desired to understand how pain management skills were implemented in the clinical arena, determine barriers to implementing pain management skills, and identify opportunities to improve the patient experience as it pertains to effective pain management. This transcendental phenomenological approach is supported by Husserl's philosophical approach to understand the lived experience (Moustakas, 1994).

Theoretical Framework for the Intervention

The theory guiding the study was Bandura's Self-Efficacy theory. Bandura argued self-efficacy is confidence in one's own abilities to competently perform in a given situation (Bandura, 1997). Perceived levels of self-efficacy impact individuals' thoughts and feelings as well as their motivation to perform. Self-efficacy plays a major role in enabling practitioners to provide healthcare proficiently (Burbach et al., 2019). One of the goals of nursing education involves increasing students' self-efficacy so they are confident in their abilities to provide safe patient care (Shorey & Lopez, 2021). We determined this framework to be appropriate for this study because of the characteristics of the participants. When they were enrolled in the course, they were senior-level baccalaureate students who had completed many theoretical courses, engaged in simulation experiences, and participated in hundreds of hours of clinical experience. With this past experience, the course could function to both disseminate new information as well as guide the students in synthesizing previous theoretical and experiential learning (Miles, 2018). This synthesis of learning should lay the foundation for self-efficacy in the graduates' clinical practice.

Methodology

Design

We implemented a qualitative methodology with a transcendental phenomenological design to address the following research question: What are the lived experiences of registered nurses in the practice setting after taking the pain management elective course during their baccalaureate training? Phenomenology is the qualitative approach used when a more in-depth understanding of a lived experience is being sought (Long et al., 2023). This was the best approach based on the research question and aims of the study - to describe stories as to how pain science was being integrated into the practice setting. Because our desire was to understand the subjective, thoughts, feelings, and experiences of the graduated nurses, the qualitative phenomenological approach was the best fit (Alase, 2017).

Participants

Participation in the study was voluntary. We utilized a convenience sampling approach to arrive at the final sample of eight registered nurses. All of the participants were currently practicing at the bedside in the United States. Participants were recruited using a Registrar-generated Excel spreadsheet, which included graduated nursing students who had completed the university's senior-level pain management elective. Inclusion criteria were participants with clinical practice experience as a registered nurse ranging from 1–10 years. Nurses who were no longer practicing at the bedside were excluded from participating. Participants were recruited initially via their university email. In addition, the investigators received administrative permission to post a recruitment flyer on the School of Nursing’s social media platform. All

participants were told we were researching their life experiences related to completing the pain management course and the implementation of pain science in the practice setting.

Data Collection Method

Data collection consisted of semi-structured interviews. Consent was confirmed and documented before the start of each interview. Interviews were in-person or over the phone. For interviews completed over the phone, the participants received the consent form via email, electronically or manually signed it, and then returned it to the investigators before the interview. Interviews were conducted in a location of the participants' choosing to maintain their privacy, with only the researchers and the participants present. Both researchers were present for all interviews, either in person or over the phone.

The investigators verified participants' perspectives throughout all interviews by asking clarifying questions such as the following: "So, what I am hearing is _____. Is that what you mean?" to support credibility (Long et al., 2023). This method supported a concurrent verification of the participants' stories. All interviews were audio-recorded with the participants' consent; researchers also documented field notes during the interviews to support clarity. Interview duration ranged from 30–60 minutes.

We intentionally worked to identify and bracket any potential bias towards the topic since both investigators have experience practicing and teaching pain management. This bracketing was accomplished via collaborative and self-analysis and minimizing any literature review before gathering data that could bias data interpretation. These methods support confirmability and bring credibility to the findings (Alase, 2017). Confidentiality of information

was assured by storing the records, both audio and written, in locked rooms and on password-protected computers.

Data Analysis Method

One of the researchers and a paid professional medical transcriptionist transcribed the audio-recorded interviews to Word documents. No identifiers were included in the transcriptions. Instead, all participants were assigned a pseudonym to ensure confidentiality. Pseudonyms were used while using quotes to protect the participant's privacy. The investigators then utilized an iterative thematic analysis process to discover any recurring themes and documented the themes and related quotations using *Microsoft Excel.*

Independently, both researchers read the transcriptions in an iterative process to understand the participants' subjective experiences (Alase, 2017). Individually, patterns across the interviews were identified and organized into broad categories. Then, the two researchers engaged in open discussion to review the initial independent analysis of the data, while referring back to the original transcripts. Further team analysis resulted in the identification of preliminary themes. Then, separately, the investigators reviewed the transcriptions with these set themes to determine the need for any changes by expanding or consolidating themes. Thereafter, the researchers agreed upon a final thematic reduction of two primary themes (Namey et al., 2008). Credibility and confirmability were upheld by the combined use of field notes taken during interviews, the audio taping and transcription of interviews, and the method of data analysis described above (Jarosinski, & Webster, 2016).

Protection of Human Subjects

The investigators received approval from the University institutional review board (IRB# 3018.111617) before starting the study. We completed Collaborative Institutional Training Initiative (CITI) certification for Biomedical and Health Science Researchers prior to IRB approval. During informed consent before the interviews, we ensured the nurses understood their participation was voluntary and they could withdraw at any time without any threat of repercussions. Participants were informed they were free not to answer any question if desired, and the interviews would be recorded for confirmability.

Disclosing Potential Bias

At the time of the data collection, one of the researchers was a graduate student completing a degree in nursing education, and the other researcher was a professor of nursing. Both are female. The first researcher had completed the pain management elective course as a student, and, to fulfill her education requirements, assisted in teaching the course during her graduate studies. The second researcher serves as the lead professor for the pain management elective. Our interest in this topic stemmed from our experience related to taking and teaching the course.

Results

Sample Characteristics

We confirmed data saturation after the eighth interview. Thus, the sample consisted of eight nurses (N = 8). Nursing experience ranged from 1–9 years of clinical experience after graduating from nursing school and taking the pain management course. None of the participants had taken any extra courses or continuing education on pain management after

completing the elective course at the university. No other personal identification data were collected.

Themes

The investigators discovered two primary themes. The first was the enhanced confidence in practicing pain management. The second was "the working reality," which encapsulated the barriers inhibiting pain management.

Enhanced confidence

The main areas of enhanced confidence included their abilities to communicate and collaborate with the interprofessional team, to carry out the nursing process with patients, to utilize appropriate resources available under their license to practice, to engage in health teaching and health promotion, and to monitor for ethical nursing practice. The course gave them the confidence to practice within the scope of practice their licenses allow, enabled them to provide clinical expertise, and model professional behaviors related to pain management.

Ability to Communicate and Collaborate. In communicating and collaborating with the interprofessional team, the nurses described the ability to work with all key stakeholders to ensure proper pain management. Several of the participants noted they felt confident in discussing their recommendations with the provider, and these recommendations were taken seriously. The nurses stated they valued communication and collaboration within their healthcare team to achieve patient pain management.

Ability to Carry Out the Nursing Process. The nurses described experiencing enhanced confidence in their abilities to utilize the ADPIE process (assessment, diagnosis, planning, implementation, evaluation) for pain management. Many participants particularly

emphasized pain management was a care priority and agreed on a "game plan" with patients at the beginning of their shifts to provide and evaluate pain management. That initial communication helped ensure the nurse and the patient were on the same page, which improved the patient's satisfaction and comfort with their care.

Resource Utilization. The resource utilization sub-theme involved the nurse's understanding and implementation of available tools to provide effective pain management without the need for a new provider order. Several participants specifically mentioned the use of nonpharmacological methods to include music therapy, warm compresses, ice packs, and massage. They utilized these methods to ensure they only administered opioid medications when appropriate.

Engagement in Health Teaching and Health Promotion. The majority of the participants discussed their experiences with enhanced confidence engaging in health teaching and health promotion, which involved the nurses' uses of different strategies to educate their patients to partner with them in pain management. Patients could only partner with the healthcare team on the plan of care if they received education on the orders, understood the reasoning behind them, learned about potential side effects, and agreed with the goals related to the interventions. Overall, the nurses wanted to ensure their patients could participate in the plan of care and understand the "why" behind different orders and prescriptions, which improved patient satisfaction with their care.

Ethical Nursing Practice. Most participants discussed the importance of ethical practice in pain management. The competency of ethical practice involved bracketing bias while managing pain to provide patient care. The nurses described fighting an inner war between

prejudice and compassion in practicing pain management. In discussing how the class prepared her for practice, “Flo” said, the patients “might be hurting a lot more than they are showing, and I just need to respect what they’re saying that their pain is rather than what they look like.” Most participants noted the importance of accepting patients’ reports of pain to best function as patient advocates.

Working reality

The second major theme “the working reality” encompassed a collection of variables that negatively influence the nursing practice environment. All these variables serve as barriers to proper pain management. The sub-themes of “the working reality” included the knowledge and attitude of colleagues, diminished opportunities for nursing judgment, workload, and negative nurse-physician relationships.

Knowledge And Attitude of Colleagues. Many participants noted a gap between colleagues’ knowledge and attitudes related to patients’ pain. Some noted these differences were not intentional and may stem from a lack of education in pain science. Others stated this difference was related to deep-seated bias against patients seeking pain relief. As “Maggie” noted, other nurses were distorting pain management to become an "us [nurses] versus them [patients]" situation instead of treating the patient’s pain at face value. This mentality by fellow staff created a barrier to developing trusting nurse-patient relationships and effective pain management.

Diminished Opportunities for Nursing Judgment. Regarding the theme of diminished opportunities for nursing judgment, hospital administrators drew up new policies related to the presentation of prescribers’ orders for medication administration in response to the Joint

Commission's standards. These policy changes have created barriers to nurses' abilities to make clinical judgments related to pain management. While in the past, administering a specific pain medication would fall under the nurse's judgment, hospital policies have changed this so nurse can only base medication administration on the patient's pain number rather than on their specific needs (Pasero, 2014). As "Claire" described, the hospital administration would audit her if she gave her patient acetaminophen for fever when the provider only wrote the order for pain. So, she had to learn how to function within this new policy. Some nurses noted if the provider only prescribed acetaminophen for fever, they would not call a provider about a separate order for pain. They stated providers would view that call as a waste of time as well as a disruption. These stricter guidelines made the nurses feel they consistently had to bother providers for specific medication orders.

Workload. Many participants stated workload was a barrier to pain management. Depending on their patient assignment, the nurses felt they could not administer and reassess patient's pain within the policy-allotted guidelines at their practice site. As "Claire" stated, "When you have six or seven patients – you're getting emails; you're giving blood; you're discharging… there's no way. Like, it's not going to happen." Other nurses stated the need to triage the workload within a patient group meant certain patients' pain would get left untreated for extended periods of time. This reality was especially true when the nursing units were not fully staffed.

Negative Nurse-Physician Relationships. The final sub-theme of "the working reality" was negative nurse-physician relationships. Some nurses noted certain physicians refused to order PRN pain medications altogether. Other nurses described fear in talking to providers

about pain management related to previous negative interactions. Some stated they believed negative relationships stemmed from the opioid crisis. They thought the doctors were becoming stricter in their prescribing to prevent potential drug abuse, which led to some patients' pain being neglected.

In general, the theme of "the working reality" encompassed the idea that while the nurses felt they knew how to provide effective pain management, they could not always overcome barriers to make that possible.

Discussion

Overall, the nurses felt they could serve as clinical leaders and educate others on how to enhance the practice of pain management. The first theme of enhanced confidence demonstrated that the nurses felt they could practice pain management at the top of their licenses, which is directly related to Self-Efficacy theory (Bandura, 1997). The graduates' synthesized learning from the elective course supported their self-efficacy in providing effective pain management to their patients. Areas of enhanced confidence included their abilities to communicate and collaborate with the interprofessional team to carry out the nursing process with patients, utilize appropriate resources available under their license to practice, engage in health teaching and health promotion, and monitor for ethical nursing practice. This result was consistent with findings from a scoping review, which determined pain management education programs enhanced nurses' abilities to engage in critical thinking, promote patient wellness, and serve in leadership roles (Chatchumni et al., 2020). These results were also consistent with findings reported by other researchers suggesting communication and collaboration were key in

providing effective pain management (Jordan et al., 2021; Saban et al., 2021) and education efforts can promote pain management practices among nurses (Chatchumni et al., 2020).

Even though we are decades removed from the initial standards from the Joint Commission related to pain management, the realities of everyday practice emerge as opportunities to strengthen the practice environment. The main barriers to pain management noted by the study participants included knowledge and attitude of colleagues, workload, diminished opportunities for nursing judgment, and negative nurse-provider relationships. While it is easy for professionals to minimize these issues, we must acknowledge and address them so a work environment that supports effective pain management may thrive.

These findings were consistent with previous reports related to nursing practice - that nurse education, limited nurse-to-patient ratios, and a collaborative work environment can positively influence patient outcomes (Aiken et al., 2011). The themes of workload and negative nurse-physician relationships are well-documented issues known to negatively influence the practice environment and patient outcomes (Aiken et al., 2011; Tan, Zhou, & Kelly, 2017; Vacek et al., 2021). There needs to be more of an intentional initiative to look at the Joint Commission's recommendations, especially nonpharmacological interventions, so providers may more easily integrate them into individualized patient care. In this opportune time, nursing education could serve as a means to strengthen pain management skills, ensure patient safety, and provide quality care.

Recommendations for Future Research

From this study, it is evident more research is needed on this subject. First, researchers should complete robust quantitative studies to confirm the results. Second, researchers should

study collaboration between nurses and other healthcare professionals, such as physical and occupational therapists, in the practice of pain management. Third, there should be further studies on the impact of the opioid crisis on providing pain management. Finally, researchers should address the impact of COVID-19 on nursing practice with pain management.

Implications

The results of this study suggest hospital-based nurse educators should be aware that pain science and need guidance for more targeted integration into practice. Overall, the participants noted many of their graduate nurse peers did not have the same understanding of the pathology, physiology, and patient experience surrounding pain. Reviewing pain management topics could prove beneficial in an orientation or onboarding process to close this gap in the working reality. A continuing education course could support the development of self-efficacy so other nurses may utilize all the resources available to them while also experiencing enhanced communication with the rest of the healthcare team.

Conclusion

Overall, this study highlights the importance of teaching pain management to baccalaureate nursing students. Restating the two themes identified in this study: enhanced confidence [in using pain science] and the working reality [ability to use pain science in the practice setting] profiles the opportunity to explore the use of pain science further. Even though it has been over two decades since the Joint Commission established a standard that all patients are to be assessed and reassessed, the need for pain to be evaluated and the need to implement pain science still exists and impacts all patient populations from birth to death. The participants' experiences indicated the pain management course benefitted their daily clinical practice by

enhancing confidence in their abilities to provide effective pain management. The graduates were thankful for the course and emphasized its practical application in their clinical work. The theme of "the working reality" presented areas requiring improvement in the practice setting. While the participants found the course to enhance their practice, their skills and abilities could not always overcome these barriers to provide patients with individualized pain management.

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