

Knowledge is the Key to Effective Pain Management-Implementing an Elective Course in a Baccalaureate Nursing Program

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Summary

Introduction: Meeting a patient's comfort need is a central focus for nurses. While in the clinical setting with students, nursing faculty noted students' frustration with the inability to provide satisfactory pain management to patients.

Aims: Because of the recognized need for more knowledge, faculty developed and offered a course on pain management as an elective class in a baccalaureate curriculum.

Methods: The pain management course was offered in a short time frame using a variety of interactive teaching methods and student assignments. A total of 30 hours of class time was devoted to assessment and management of pain. A multi-disciplinary approach was used by incorporating presentations by expert health professionals other than nurses.

Results: Senior nursing students taking this course scored significantly higher ($p = 0.0001$) on a knowledge post-test than seniors not taking the course.

Conclusions: Current pain science should be integrated into nursing curriculums to ensure competent graduate nurses.

Identification of the problem

In order for nurses to meet the needs of patients, it is imperative for them to recognize the complexity of pain. Nursing students often approach their clinical instructor frustrated due to the inability to adequately manage their patient's pain. Frustration appears to most often stem from the student not knowing what to do. Should they administer more medication, provide a different medication, or discuss with the nurse the apparent ineffectiveness of the current medication? Sometimes the patient is reluctant to accept interventions for adequate relief due to their fears and misconceptions about pain management and addiction. How can faculty teach students to be advocates for patients? Nursing faculty have observed inadequate pain management by staff while in the clinical setting and have expressed concern that nursing students are not being sufficiently prepared to provide effective pain management.

As a result of this observation, a group of faculty with a common interest in pain management decided to survey senior nursing students to evaluate knowledge and attitudes toward pain management. Using the "Pain Knowledge and Attitude

Survey," (1) average scores of senior students were determined to fall below the 80% competency score established by McCaffery. Responses of the students, faculty common interest and the findings of the survey illuminated the need for a teaching innovation, specifically the creation of an elective focused on pain management.

Course development

Two faculty volunteered to develop a new elective course for the undergraduate program. A brain-storming session resulted in a content outline based on clinical experiences and findings in the literature. Basic tenets of pain management were gleaned from McCaffery's survey tool and incorporated into the content outline (Table 1). Area hospitals were reviewing and revising policies and procedures to ensure compliance with the pain standards of the Joint Commission on the Accreditation of Healthcare Organization (2). Faculty reviewed the newly revised documents in hospitals where students completed clinical experiences. A complete syllabus was developed and a textbook selected. The students were asked to purchase *Pain Clinical Manual*, 2nd edition by McCaffery and Pasero (3). The textbook had been published for six years at

the time of selection, which was a concern of the faculty, considering their goal to provide the most current information to students. Journal reading assignments and faculty literature searches supplemented the text, since the book had the foundational information essential for the course. The textbook was chosen because of its readability, reinforcement of the principles of pain management, and the focus on nursing practice.

The format of the course was structured as a seminar to be taught in a compressed timeframe. The course was offered over two weekends one month apart with 30 hours of class time allotted. The faculty developed a variety of interactive teaching activities to engage the students and keep their attention during the extended class days of six to eight hours. Since the course was an elective, students from three of the four different levels of the program were able to enroll. The diversity in the level of clinical experiences provided a strong community of sharing and open dialogue.

Course content

A leading cause of unrelieved pain, according to the literature, is inadequate assessment by the healthcare provider (1, 4, 5, 6). Therefore, pain assessment was a central tenet of the class. Faculty provided an explanation and comparison of the types of pain, i.e. neuropathic vs. nociceptive, acute vs. chronic, suffering vs. pain. A variety of pain tools with established reliability were introduced and identified for specific populations based on age and culture. Faculty emphasized the single most reliable indicator of pain intensity is the patient's self-report (7). The patient's self-report should include location, quality, onset, duration, pattern, alleviating/aggravating factors and impact on daily life and function (8). Students were placed in small groups and assigned to create an original pain assessment tool and share the tool with the class. Students were directed to be creative, yet provide support for their design and guidelines for implementation. An example of a student created pain assessment tool was providing a series of sanding papers with increasingly more coarse grit, with the larger grit paper signifying the highest level of pain. Another student group selected a series of photographs of gorillas, with a large ferocious-looking animal representing intense pain. This was a highly entertaining learning activity with students exchanging information about accepting a patient's self-report as accurate.

Differences in assessment based on cultural or ethnic backgrounds were presented through a small

group activity, as well. Students were assigned a specific culture group, such as African-American, Native American, Chinese or Mexican, and asked to identify unique characteristics related to pain assessment. An introduction to age-related differences was also provided to the students. Pediatric pain was addressed by a guest speaker. A strong emphasis was also placed on the necessity of properly assessing the cognitively impaired adult and assessment methods to accomplish this.

A critical component of pain management is a foundational understanding of pharmacological interventions. Instrumental in developing this knowledge was a pharmacist who presented on a variety of analgesics and co-analgesics. The pharmacist reinforced the characteristics of opioid tolerance, dependence and addiction. The step approach to treating pain developed by the World Health Organization (WHO) was highlighted (9). This approach had been previously introduced by faculty and was strongly supported by a hospice nurse guest speaker during a following class. Students developed an awareness of many different medication classifications in treating pain. Equianalgesic dosing (providing an equivalent dose of medication when switching medications or changing routes) (3) was introduced and students were given the opportunity to practice calculating the appropriate dose through a case study assignment. Complementary and integrative healing therapies were presented by guest speakers who were active practitioners and clinical experts. These therapies were included to give the students alternative comfort measures to implement, other than medication.

A primary concept continually reinforced by the course faculty was that nurses are part of a multidisciplinary team with the nurse acting as the key pain manager for the patient. The nurse is responsible for communicating with the team members, including the patient, in order to develop a plan of care that best meets the patient's comfort goal. A variety of professionals were invited to speak to the class regarding their role in pain management. For instance, a physical therapist conveyed therapeutic modalities used to reduce pain such as; heat/cold, transcutaneous electrical nerve stimulator (TENS), massage, ultrasound vibration and exercises used to reduce pain. Additional disciplines represented included a pharmacist, anesthesiologist, a hospice nurse, and a pain-center practitioner.

Another key focus of the course was dispelling myths and misconceptions. Strongly held erroneous beliefs of the nurse and the patient were addressed. The beliefs of the nurse and patient may

be barriers to effective pain management (3, 10, 11). Students completed the Pain Knowledge and Attitude Survey the first day of class. Findings from the published research from over 3,000 nurses were shared with the students so that they could compare their responses to the survey with those of practicing nurses (1). Each of the 15 survey questions was reviewed to provide accurate information and clarify misconceptions. Students' misconceptions included the dependence on vital signs as a reliable means of pain assessment and the unsubstantiated concern about respiratory depression with opioids.

Students were asked to complete a reflective writing to share a personal experience with pain. Class members then verbally shared the assignment in class initiating a dialogue about misinformation and barriers in the health care system that result in inadequate pain management. The instructors observed that each guest speaker often reinforced, without prompting, the three major barriers that exist in providing effective pain relief – the health-care provider, the patient and the healthcare system.

Another major topic of discussion, driven by the student's frustration, was the issue of addiction. Faculty provided definitions and information related to the concepts of tolerance, dependence, and addiction. Patient behaviors that could be viewed as drug-seeking or addiction were openly discussed. These concepts were identified by the faculty as requiring additional information to address the students' concerns. Students' concern and interest in addiction during the first class impacted the design of subsequent offerings of the class. Reading assignments, class discussion and addiction experts were invited to class to more adequately address the issue of addiction.

Student evaluation

Evaluation of students' knowledge was measured in several ways. Students were asked to review current literature and complete two article reviews. Each student then shared one article orally in class. The assessment tool developed and presented by small groups was also a graded assignment. Three case studies, given as out-of-class assignments, emphasized advocacy for patients, equianalgesic dosing and inadequate medication dosing based on poor nursing assessment. The last case study also focused on timing of medications prior to painful procedures and selection of medication in the hospital compared to medication use at home. Students were allowed to complete the final

exam at home. Due to the compressed format of the course, faculty believed it unfair to expect students to complete an exam over material presented on the same day. Therefore, time was allowed for the students to process the course content. The majority of the test questions were short answer. Faculty were pleased to note the thoroughness of the students' responses to questions and the detailed knowledge given in their answers.

Faculty received approval from the Internal Review Board to survey all graduating seniors using the Pain Knowledge and Attitude Survey (1) in order to ascertain if students had retained knowledge gained in the elective. The survey instrument has been tested by a panel of content experts to establish a content validity of greater than 95%; retest of greater than 90% and an internal consistency of greater than 80%. Permission was obtained from McCaffery to use the instrument. The survey consisted of 15 questions with 15 being the best score. All senior students completed the survey in the month prior to graduation and several months after completing the course. The graduating seniors ($N=30$; $m = 12.63$, $p = 0.0001$) who took the elective course scored significantly better on the post-test than seniors who did not take the course ($N = 206$; $m = 10.43$). Note the average score of the seniors who took the course was above the satisfactory level of 12 (range 11-15) or 80% which was the competency score established by McCaffery. Findings supported the need for nursing faculty to deliberately integrate principles of pain management more thoroughly into the undergraduate curriculum.

Course evaluation

Course evaluations were completed by the students using the standard school form. Ratings were based on a 0 – 5 scale, with 5 being the highest. Student satisfaction scores for the course averaged 4.5. Students were given the opportunity to provide written comments. Generally, comments were favorable and students indicated they would strongly recommend the course to other classmates. One student said, "I learned a lot and I feel that by taking this class I will be a better advocate for my patients in pain." Students also indicated they enjoyed the compressed format of the course and the variety of guest speakers and classroom activities.

Faculty met at the end of each class day to process the learning activities and evaluate students' attainment of the outcomes of the course. Because the class met only four days, often modifications in the planned daily schedule were required as a result

of the interest of the students and the discussions. Ideas for course improvement were discussed and documented for future course offerings. Because the students were very focused on the issue of addiction, which often disrupted the schedule, faculty decided that a certified addictions nurse would be invited as a guest speaker for future classes. Additional emphasis on often neglected basic comfort measures such as deep breathing, dim lighting, noise reduction and the use of distraction would also be addressed.

After the first course was completed, a faculty member found a pain curriculum resource – *Core Curriculum for Pain Management Nursing* developed by the American Society of Pain Management Nurses (10). Faculty found that key course concepts paralleled primary concepts in the core curriculum textbook and that little revision of the course content was necessary for future offerings. The text is recommended as a faculty resource in developing a course in pain management.

Teaching innovations

The course has been taught three times since the Fall of 2005. In each succeeding class, new teaching innovations have been introduced. It was identified after the first class that students had not learned appropriate terminology. For the next class, students were assigned terms at the beginning of the class that were reviewed on subsequent days and then utilized in a pain “bingo” game the last day of class. Simple prizes were awarded. Games, such as competitive hangman, have been added to facilitate learning terminology. Comfort measures including aromatherapy and relaxation breathing were demonstrated in class. Illustrations of imagery through a picture/music presentation and the use of humor through cartoons were incorporated to demonstrate other available non-pharmacological nursing interventions.

One teaching innovation implemented with the second offering of the class was a “movie day”. Students watched the movie “Wit” (12). The movie followed a woman with ovarian cancer from the time of diagnosis to her death. Following the viewing, students shared their reactions. Students voiced anger toward the nurse’s early portrayal in the story, as she did not advocate for her patient. Yet, the nurse later demonstrated compassion in providing a massage to the patient near her death. Students observed that the patient had been treated as “the disease”, not as a person, by several members of the healthcare team. The movie reinforced the ethics of

treatment, problems within the healthcare system, and the impact the nurse has on patients.

Considerations for future course development

The compressed seminar format was an innovation that had not been implemented previously by the nursing school. The course has been offered in two schedule formats, either over two weekends or a five-day class during intersession. Both schedules have received positive student feedback. The optimal times for the course were the week before the fall semester begins or at the end of the spring semester. While the first course was offered on the weekend, the two subsequent classes were offered in a week-long format. The students preferred the one week course.

The course faculty proposit the course being offered as an elective course rather than integrating course content throughout the curriculum. Offering the information in one course helps control for faculty bias in presentation of the content. The two instructors that co-teach the course have been diligent in updating their own knowledge and reading the latest research to incorporate into the class in order to provide students with state-of-the-art information. The current curriculum does include basic pain theory, pharmacology and treatment of addiction which totals about seven clock hours of time. Students who are unable to take the elective consequently do not receive the expanded information included in the course. All students would benefit from the course content, considering pain is the primary reason patients seek health care.

Following the first offering, faculty identified content areas to include in future courses. Chronic nonmalignant pain is a prevalent problem nurses often encounter. Chronic nonmalignant pain, pain that is not due to cancer, lasts six months or more and does not respond well to conventional medical treatment (3). Nurses must develop assessment skills to differentiate acute pain experienced by a patient who also suffers from chronic pain. Many times the nurse is called upon to manage both acute and chronic pain in the same patient such as an individual living with arthritis (chronic pain) and having surgery (acute pain). More emphasis is needed on assessment of pain in the cognitively impaired patient. Benefits of alternative therapies such as acupuncture could be included to provide a broader variety of non-pharmacological interventions. Students expressed interest in herbal remedies and their application to provide comfort.

Additional teaching strategies have been considered. Because of lack of experience in communicating with physicians, role playing activities could enhance the student's ability to advocate for the patient. Creating scenarios for use with patient simulators could provide students with hands-on practice, more opportunity to develop communication techniques and critical thinking skills. Case studies requiring the students to select and calculate an equianalgesic dose for patients throughout the lifespan are also needed.

Conclusion

Pain management is an age old problem, and one that nurses must manage in their practice setting. Faculty have observed students who have taken the course tend to discuss and incorporate more non-pharmacologic interventions to help manage the patient's pain. An improvement in pain

assessment by the students has been observed in the clinical setting. Additionally, students are more attentive to possible side effects from opioids and are proactive in communicating ways to decrease side effects with the physician. Students have been observed in clinical clarifying behaviors with the patient to insure accurate assessment and evaluation. Some nurses might perceive these behaviors as a drug-seeking or addiction when in reality the behaviors are due to ineffective management of the patient's pain. Students who have taken the class are better able to differentiate and articulate the terms tolerance, dependence and addiction. With advances in pain science, patients should not experience unrelieved pain. It becomes imperative that nurses have the knowledge to meet the patient's comfort goal. Faculty must integrate the new pain science into the curriculum of nursing programs in order to prepare competent pain managers.

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**A hatásos fájdalomkezelés kulcsa a tudás
Egy választható tantárgy bevezetése a BSc ápolóképzésbe**

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Kulcsszavak: fájdalomkezelés, ápolói tanterv, klinikai oktatás

Összefoglalás

Bevezetés: A betegek komfortszükségletének kielégítése elsőrendű ápolói feladat. A diákok szakmai gyakorlata során az ápoló tanárok észrevették, hogy a hallgatók frusztráltak érzik magukat amiatt, hogy nem tudnak a betegeknek megfelelő fájdalomkezelést nyújtani.

Célok: Felismervén az igényt a több tudásra, a tanszék kifejlesztett és a BSc. hallgatóknak ajánl egy fájdalomkezelésről szóló választható tantárgyat.

Módszerek: A fájdalom kezelési kurzus rövid ideig tart, és többféle interaktív oktatási módszerrel valamint hallgatói feladatokkal történik az oktatás. Mind a 30 kontakt óra a fájdalom felmérésére és kezelésére lett fordítva. Multidiszciplináris módszer került alkalmazásra azzal, hogy nem ápoló szakértők is tartottak előadást.

Eredmények: Az olyan végzős hallgatók, akik elvégezték ezt a kurzust, szignifikánsan magasabb eredményt értek ($p = 0.0001$) el egy tudás alapú teszten, mint azok, akik nem végezték el.

Következtetések: A modern fájdalomkezelés tudományát integrálni kellene az ápolói tantervekbe, hogy a kompetens ápolók végezzenek.
