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Staff Education to Improve Pain Management in Skilled Nursing Patients

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This is to certify that the doctoral study by

Keitta Evans

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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Walden University
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Abstract

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by

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MSN, Jacksonville University, 2014

BSN, Georgia Southern University, 2008

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

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Abstract

One of the key ethical principles in nursing is the promotion of health and wellness and ensuring that patients are free from unnecessary pain and suffering. It is estimated that at least 65% of patients in skilled nursing centers in the United States report the presence of pain, indicating that there are opportunities for improvement with effective pain management within this practice setting. A key factor that has been identified as an opportunity for improvement is education for clinical staff who practice within this setting. This Doctorate of Nursing Practice (DNP) project provided education to a group of clinical team members to determine its impact on knowledge related to effective pain management. This education was provided in a skilled nursing center located in a rural area of central Georgia. A review of the center's publicly reported quality indicators in pain management, baseline knowledge test, and an interview with the center's nursing director assisted in the identification of practice gaps requiring additional education. The goal of the education was to ensure that the clinical team members were educated on appropriate assessment, effective interventions, and the importance of interprofessional collaboration for effective pain management. Participants in this education included 26 licensed nurses. After completion of the education, results from pre- and post-tests were analyzed and showed that 31% of the participants increased their level of pain management knowledge. This increase in knowledge can support improved patient outcomes and positive social change by ensuring that effective strategies for managing pain are present to improve the overall quality of life for patients in skilled nursing settings.

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Dedication

This project is dedicated to the remembrance of my late grandfather for always instilling in me the importance of having morals, values, and a solid educational foundation. The knowledge and guidance that you provided has been essential in helping me to develop into the talented, driven individual that I am today.

Acknowledgments

I could not have been successful in this endeavor without the support of so many people. I am eternally grateful to all for the encouragement and support provided. I would like to take this opportunity to express my sincere appreciation to Dr. Mark Wells for the support and mentorship provided throughout this doctoral program.

I would also like to thank my children, Ashtyn, Aiden, and Akiria, for being my motivation to complete this journey. I hope that this inspires you all to always pursue your dreams, despite any obstacles that you may encounter.

Lastly, I would like to thank my wonderful husband, who has always been my biggest supporter and has always encouraged me to pursue my goals. Thank you for all the sacrifices you have made to assist me in achieving this educational goal. I pray that the completion of this goal opens many doors and opportunities for both of us.

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Section 1: Nature of the Project

Introduction

Effective pain management is a global health concern that continues to impact the quality of life for many Americans. At least 100 million adults in the United States alone are impacted daily by the presence of chronic pain (Davenport, 2017). It is expected that this crisis will continue to grow exponentially due to increased life span and the increased presence of diseases and comorbidities that cause acute or chronic pain (Centers for Disease Control and Prevention [CDC], 2019). Lack of effective pain management is even more profound within skilled nursing centers throughout the United States. It is estimated that over 4 million Americans are admitted to or reside in skilled nursing centers annually (CDC, 2019). Of these residents, 6.9% report experiencing moderate to severe pain frequently within a 7 day look back period (Centers for Medicare and Medicaid Services [CMS], 2019). Inadequate pain management within this patient population can negatively impact their overall quality of life and negatively impact their ability to rehabilitate and return to the community (Farrel, 2014). Ineffective pain management in this population may also exacerbate other conditions, such as increased depressive moods and decreased mobility and range of motion (Farrel, 2014). Because of these potentially negative impacts of ineffective pain management, it is important that clinical education is received by those responsible for providing care to this vulnerable population.

One of the most important human rights of an individual is the right to be free from unnecessary pain and suffering. Without adequate pain management, the quality of

life of these individuals in skilled nursing settings may decline, resulting in unwanted healthcare outcomes. This project supported social change in the United States by ensuring that healthcare professionals embrace their responsibility regarding patient advocacy and by providing healthcare professionals with needed education to ensure that patients were properly assessed for the presence of pain. This education assisted in closing the knowledge gap and identifying effective patient-centered interventions for pain management.

Problem Statement

The average skilled nursing patient is 65 years of age or above. This age group continues to grow rapidly, with 16% of Americans making up this population. On average, this equates to approximately 52 million Americans (U.S. Census Bureau, 2018). Many of these individuals suffer from comorbidities that require chronic pain management. These include osteoarthritis, rheumatoid arthritis, peripheral vascular disease, and diabetes mellitus. When these patients reside in skilled nursing settings, they often rely on staff observations and interventions to assist in their pain management. For this reason, it is important that these clinicians are able to recognize and respond appropriately to the patient's pain.

In skilled nursing centers, key quality metrics are measured nationally to benchmark quality performance in key clinical areas. These benchmarks are established by the CMS and are publicly reported to consumers and stakeholders. These metrics are used to provide data that closely reflect clinical care and outcomes within a skilled nursing center. Included in these metrics are performance metrics related to effective

pain management. To validate the existence of a practice gap, the project site evaluated its performance in this key clinical area by reviewing its publicly reported quality measures for pain management. An interview with the center's nursing director revealed the results of the analysis, and it was noted that the percentage of patients experiencing moderate to severe pain was above the national average used to benchmark performance. This reflected that there were areas of opportunity to improve on effectively managing pain in their patient population. After conducting a root cause analysis to determine what performance areas could be improved, it was determined that opportunities for improvement existed in the areas of assessment and implementation of patient-centered interventions. The root cause analysis also determined that the presence of ineffective communication in reporting pain and current interventions implemented to manage pain among the clinical care team and the lack of interprofessional collaboration were also contributory factors. For the purposes of this project, the interprofessional team members included physicians, nurse practitioners, licensed nurses, certified nursing assistants, physical and occupational therapists, social workers, and recreational professionals.

Proper staff education and knowledge are important components of improving patient outcomes for effective pain management. Yet, the nursing curricula in many nursing programs provide only basic, generic education on pain management (Booker, 2017). There are several challenges that prevent adequate training in nursing programs. Some include student perception, lack of exposure to or interaction with chronic pain patients, and lack of evidence-based education (Booker, 2017). It is important to nursing

practice that these students receive the necessary education needed to adequately conduct an assessment, implement appropriate interventions, and re-evaluate efforts related to pain management. This education should also encourage nursing students to begin evaluating their own personal values and beliefs around pain and recognize that these should not hinder implementation of effective pain management plans for their patients. This serves as an area of opportunity for nursing education and nursing practice. This current lack of education makes it important for healthcare providers to have comprehensive pain management programs and to continue education for nurses to improve patient outcomes in this area. Providers must ensure that education in pain management is performed and validated during the new-hire orientation period for nurses and is ongoing to positively impact patient outcomes.

Purpose Statement

Nurses play a vital role in alleviating suffering and ensuring adequate pain relief for the patients they provide care for. Evidence suggests that as illnesses progress, the prevalence of pain increases (Paice, 2018). Patients residing in skilled nursing centers are often afflicted with chronic, progressive illnesses, which often increase the level of pain experienced. Therefore, CMS uses quality indicators to measure the clinical performance of nursing centers in the area of pain management. These measures are publicly reported for stakeholders to review and consider when selecting a skilled nursing center. To ensure quality care delivery for their patients, skilled nursing centers must establish evidence-based practices to effectively manage pain. Key components to effective clinical management of pain are identification of pain symptoms, safe and effective treatment as

defined by the patient, and frequent re-evaluation of the treatment plan. Research suggests that one contributing factor to ineffective pain management is a lack of education among skilled nursing clinicians in these areas. In a study conducted by Paice et al. (2018), findings revealed that there was a significant correlation between management and control of pain symptoms and nurse/clinician education. The study concluded that participants indicated that continued education provided a comprehensive understanding of the components of effective pain management and therefore increased the knowledge and confidence needed to improve patient outcomes in this area (Paice, 2018).

The practice-focused question that guided this project was as follows: Will staff education on assessment, effective interventions, and interprofessional collaboration improve pain management knowledge for nurses working with skilled nursing patients? The leadership team at the skilled nursing center in which this project was conducted identified the need to enhance their education and training around effective pain management for members of the interprofessional clinical team to include licensed nurses. Key areas for education that were identified included assessment, implementation of effective patient-centered interventions, and communication of patient plans of care. This need was validated by a review of the center's current publicly reported benchmarks for performance that are provided by the CMS. Their benchmarks reflect that of the patients in their care during the period under study; moreover, 8.2% of their patients stated that they experienced moderate pain within the last 7 days (CMS, 2020). This is greater than the national average or benchmark of 6.8%.

Barriers to effective pain management can include caregiver perceptions, attitudes, beliefs, or education, as well as a lack of assessment, fear of addiction to pain medication, and ineffective pharmacological management (Dogan, 2018). The barriers that were addressed in this project were assessment, appropriate interventions, and interprofessional collaboration to improve treatment. Validating staff competency in these areas could assist in removing barriers and improving patient outcomes. The education provided was inclusive of the center's established pain management protocols or practice guidelines. These guidelines have been established from evidence-based research and best practices from The Joint Commission (TJC) and the American Medical Director's Association (AMDA) for long-term/post-acute care. The practice guidelines utilize an interprofessional approach to ensure effective pain management.

Nature of the Doctoral Project

Sources of evidence include evidence-based, peer-reviewed literature retrieved through the Walden University online databases. Specific databases searched were CINAHL, MEDLINE, Ovid Nursing Journal, ProQuest, CMS, and PubMed. Search terms used included *pain management*, *chronic pain*, *clinical education*, *nurse education*, *interprofessional collaboration*, *quality indicators*, and *pain management interventions*. Walden University Institutional Review Board (IRB) approval was obtained before data collection from the project site (Walden IRB 03-12-21-0721285).

The setting for this project was a skilled nursing facility in rural Georgia. The skilled nursing setting is home to patients living with comorbidities and chronic disease. Many of the chronic conditions for which they receive treatment can cause acute or

chronic pain. The nursing center has 54 patients and employs 23 full-time nursing staff members and seven part-time/per diem nursing staff members. This includes six registered nurses and 24 licensed practical nurses. The nursing center also contracts with a medical group that provides nurse practitioners and physicians to support the center. In this setting, an interdisciplinary team of caregivers, such as physicians, nurses, nursing assistants, physical therapists, and so on, handles the development and implementation of interventions and treatments that can assist in managing pain. The education that is received by these interprofessional team members is often driven by their respective educational programs. The skilled nursing center had the opportunity to provide education that was specific to the long-term care setting and its elderly population. Pain management education is delivered to interdisciplinary team members to include licensed nurses, certified nursing assistants, nurse practitioners, physicians, and physical and occupational therapists upon hire into the facility. The goal of this orientation is to ensure that they were educated on the evidence-based practice guidelines that govern how pain is managed within the center.

The project followed the guidelines of the Walden University DNP staff education manual. An interprofessional education activity was developed based on the current evidence-based literature and included information to address identified gaps in knowledge. The nursing center utilizes practice guidelines established from best practices and research from the Joint Commission (TJC), the Agency for Healthcare and Quality Research (AHRQ), and the American Medical Directors Association (AMDA). The guidelines focus on the appropriate assessment and recognition of signs of pain. They

also focus on the implementation of effective interventions to manage pain. The goal of the practice guidelines is to promote early recognition, early intervention, and continuous assessment for changes. The AMDA establishes evidence-based practice to guide care administered by physicians and nurse practitioners who serve as physician extenders in long-term care centers. These guidelines were utilized by the organization to develop its current practice guidelines for pain management. The organization's practice guidelines were used within the content of the education for this project. The goal for its use was to educate each interprofessional team members on their role in ensuring appropriate assessment and interventions for effective pain management.

Significance

Research has shown that effective pain management is essential to a patient's overall quality of life of a patient. Over 50% of community-dwelling older adults and up to 80% of patients living in skilled nursing centers suffer from conditions that may contribute to chronic pain (Cheng et al., 2017). These data indicate significant prevalence of pain among older adults. There are many factors that have the potential to interfere with effective pain management. These include patients' level of cognition, cultural beliefs, myths that pain is a normal part of the aging process, patient and family education, and staff education (Cheng et al., 2017).

Studies have shown that the education provided in healthcare programs is not sufficient to provide an adequate understanding of effective pain management (Booker, 2017). Because of this, healthcare employers must ensure that adequate training and education on the topic are provided on the job. Lack of education can prevent the

development of patient-centered pain management interventions. It may also impede the effectiveness of these interventions due to a lack of awareness. The implications of this project also assist in setting the standard for ensuring an interprofessional approach to education delivery for other clinical systems. This approach helped foster collaboration on patient care and overall improvement in outcomes.

Summary

Section 1 identifies concerns regarding effective pain management in skilled nursing centers. This includes gaps in knowledge in the areas of assessment, implementing effective interventions, and lack of interprofessional collaboration. In this section, the problem question was identified as follows: Does staff education improve pain management in skilled nursing patients? The skilled nursing center's current patient outcomes over the past 6 months were reviewed to determine overall performance in this area. As a longer-term goal, these data will be reviewed during post-project implementation to determine the potential impact of education that was delivered. Initial review of the literature was also explored and revealed that providing education to clinical team members on standards of practice for effective pain management can assist in improving overall patient health and outcomes. Section 2 includes an exploration of the theoretical underpinnings of this project.

Section 2: Background and Context

Introduction

Ineffectively managed pain is a threat to an individual's state of mind, body, and soul. A study conducted by Arnstein et al. (2017) asserted that poorly managed pain also affects the patient's social interaction. As aforementioned, since pain affects a significant population of people in the United States and other countries, it implies that the impact on the general quality of life is negative. As such, progressive pain management education for nursing staff is a crucial initial step toward alleviating the clinical problem in acute care facilities as well as skilled nursing centers (Kress et al., 2014). Addressing the essence of implementing this educational project to a team of clinicians while investigating pain management challenges was deemed imperative to improve nurses' knowledge of pain management strategies. This section discusses the models, concepts, and theories used in the study. It also includes implications for nursing practice, the context, and background, as well as the role of DNP students in relation to pain management.

Concepts, Models, and Theories

Currently, recommendations from associations accredited with care for patients in skilled nursing centers have had implications for nurses providing care for patients. The increasing number of patients reporting pain in skilled nursing care settings and long-term care facilities drives the need to ensure competency in enhancing pain management for the population (Latchman, 2014). Changing healthcare needs and technological

advancements necessitate the need for progressive knowledge acquisition for the nursing staff.

The theory appropriate to enhance education for nurses for this project was Knowles's adult learning theory, which guides a learner toward self-learning. In the nursing care setting, competence may vary from skilled to unskilled nursing experience and may include varying educational levels. According to Cook et al. (2014), nurses' experiences, beliefs, and values may influence health outcomes for patients in their care. As such, new knowledge and skills are crucial for nurses to gather valuable resources to employ in care provision. In Knowles's adult learning theory, the learning process has six components (Knowles, 2007), which were adopted to educate the nursing staff at the rural nursing center in Georgia for effective pain assessment and management. Knowles's adult learning theory in the context of this project explains the aspects necessary for the effective implementation of an education program nurses can pass through.

- **The necessity to know:** The nurses need to know that the rural nursing center lacks an approved tool for assessing patients reporting pain and that the number of patients reporting cases are rising. Moreover, the absence of a formal procedure for assessing pain in patients in a nursing setting provides a crucial aspect for nurses to consider in understanding the need for a formal process.
- **Self-learning:** The nurses are encouraged to develop collaborative learning and skill acquisition and implementation of new skills acquired in practice, as well as professional growth and development. The selected nursing center will

facilitate self-directed learning for professional growth and improved health outcomes.

- **Experience:** The education plan evaluates the staff's experience levels to establish the skills appropriate for every nurse group. This facilitates the grouping of nurses for learning through case studies and discussion to acquire new skills. Nursing experience is also associated with beliefs and misconceptions about patients that affect pain assessment and treatment, which need to be eliminated through education.
- **Learning Readiness:** Involves identifying the resources necessary for the staff to learn. Since the staff is not aware of the new concepts and skills, it is necessary to plan for the immediate implementation process of the clinical practice. Scholars have ascertained that educating clinical staff positively impacts their perceptions, attitudes, and intentions concerning pain-reducing intervention practices.
- **Learning Orientation:** This involves employing appropriate pharmacological and non-pharmacological pain management methods for the patients at the nursing center. This also considers the best practices for assessing pain for patients. The ability to apply knowledge in practice guides the efficacy of assessment criteria.
- **Motivation:** Motivating nursing staff and, while offering recommendations to improve their skills, is crucial. The program implemented should meet the

requirements of the health system. The new skills are phenomenal for health quality improvement and care standards.

After implementing the six steps in adult learning theory, the knowledge to action model (KAM) was applied to transform knowledge into practice. Schofield et al. (2017) asserted that the model was suitable for such an educational process because it helps sustain the new skills acquired and facilitates integration into daily nursing practice. Nurses' role in the nursing center is to affect the quality of care, address the wellness gap, implement interventions in pain management, and improve health outcomes. Chan (2010) suggested seven steps in implementing the KAM model:

1. **Problem identification:** The lack of interprofessional collaboration in pain management. There is also a problem pertaining to the knowledge required for the efficient assessment and implementation of patient-centered interventions.
2. **Knowledge adoption to local context:** The target group is patients experiencing pain under the nursing center who need pain-reducing interventions.
3. **Assessing knowledge acquisition:** This includes a lack of training programs for nurses, coordinated programs for nurses, and a lack of organizational support to implement new policies.
4. **Selection and implementation of the interventions:** This may involve educating the patients on self-care and appropriate processes to avoid pain-inducing activities.

5. **Monitoring knowledge use:** This entails assessing nurses' frequency of implementing the acquired intervention practices aimed at reducing pain for patients.
6. **Evaluating knowledge use outcomes:** This can be achieved by monitoring the number of reported cases of patients experiencing pain.
7. **Knowledge use sustenance:** This involves progressive education and training for nurses to ensure the continuous implementation of nursing care interventions.

Relevance to Nursing Practice

Patient assessment is crucial not only in other critical areas of nursing care but also in pain management. In cases where patients report pain, it provides accurate and reliable information to caregivers (Chan, 2010). However, some patients may not report pain, especially when other underlying conditions, such as dementia, obscure the painful feeling. This necessitates the application of nursing skills and knowledge acquired to conduct a comprehensive assessment of the patient's pain history and to examine physical conditions. Additionally, Kress et al. (2014) suggested that nurses may require additional information from other parties, such as close family members or home-based caregivers, concerning instances of patient-reported pain. Educating staff on various pain assessment methods provides them with the appropriate knowledge necessary to investigate such pain cases. This is because insufficient knowledge and misconceptions about pain management hinder the application of evidence-based practices to control pain (Arnstein, 2017). Through well-equipped professionalism and competence through

education, nurses hold a vital position in effecting and incorporating measures for assessing and managing pain into their nursing practice.

Contributing Factors of Pain Undertreatment

The project assisted in establishing factors that impact adequate pain assessments for skilled nursing patients. These factors included nurses' knowledge of pain management, effective interprofessional collaboration on pain management, and patients' biological/psychological attributes. Findings from previous studies have revealed that knowledge insufficiency in approaches aimed at assessing and treating pain is a major contributing factor in the prevalence of a high number of patients experiencing pain (Arnstein et al., 2017; Ellis et al., 2019; Herr et al., 2016). The study by Ellis et al. (2019) also established that many nurses lacked the required skills and experience for the best pain management interventions.

Older adults account for a large portion of individuals who are impacted by the presence of acute and chronic pain. The ineffective management of this pain can be attributable to their reluctance to report the presence of pain due to the assumption that healthcare practitioners should be equipped to recognize the presence of pain. According to Arnstein et al. (2017), elderly patients at nursing homes and nursing centers are reluctant to report pain, as they usually perceive it as a consequence of their old age; thus, reporting pain and seeking medical intervention for them may not be an option. This may cause them to withstand pain for longer periods before it is identified on assessment by the clinical staff (Arnstein, 2017). Other patients were unwilling to report pain due to the fear of stigmatization and stoicism-related factors (Park et al., 2016). Therefore, nursing

caregivers are obliged to conduct an in-depth assessment for patients to enhance early treatment interventions, thus preventing adverse effects of such conditions. Information from the American Nurses Association (2018) on ethical codes of conduct outlines that nurses should facilitate pain relief and alleviate suffering for patients experiencing pain.

Importance of Pain Assessment in Nursing and Medical Care

Researchers have established that educating nursing staff has implications for the nursing staff's knowledge and attitude (Cimino et al., 2016). As previously mentioned, a lack of education on pain management has hindered effective pain intervention measures. This project acknowledged the importance of nursing practitioners in managing pain and the suffering associated with the pain. As such, the project suggested routine pain assessment to identify patients suffering from pain and to provide the necessary intervention measures. Without such education programs and knowledge, nurses cannot conduct patient assessments effectively, and the appropriateness of an intervention largely depends on its accuracy.

The DNP project is significant to nursing practice because it focuses on evidence-based practical methods nurses can employ to assess and manage pain. The clinical practitioners at the selected nursing center received education to enhance the knowledge and skills necessary to improve the practice of pain management in the healthcare setting. The education entailed advocacy for quality improvement strategies and how nurses can participate in policy or clinical guideline formulation and review. The long-term effects of pain are compounded, and it becomes difficult to cope with the condition, especially when an individual is of old age (Cimino et al., 2016). It may even lead to cognitive

impairment for some individuals. Therefore, early assessment and treatment of pain enhance avoidance of long-term health effects later in the patient's life.

Clinical Practice Guidelines

The center where I conducted this project utilized evidence-based research and sources to develop clinical practice guidelines that guide patient care. The pain management guidelines were developed utilizing research and best practices from the TJC, the AHRQ, and the AMDA. In the pain management guidelines, there is significant emphasis on appropriate patient assessment and the implementation of patient-centered interventions to effectively manage pain. The project focused on educating clinicians on how to better accomplish these areas of clinical practice guidelines. The pain management practice guidelines for the facility are as follows:

1. Upon admission, patients will be assessed for the presence of pain utilizing the pain risk assessment.
2. Patients should be assessed for pain using the Pain Risk Assessment (see Figure 1). This comprehensive assessment should be completed at least quarterly, annually, and with a significant change in condition, such as illness, decline in function, or change in mood or cognition. The pain risk assessment allows the patient to rate their level of pain using a numerical scale. It also evaluates the location, character, frequency, and pain intensity. The PAINAD pain scale (see Figure 2) can be used for nonverbal patients or patients with cognitive deficits to observe for pain. This tool uses observation to identify signs consistent with increased pain. Each observation is assigned a score

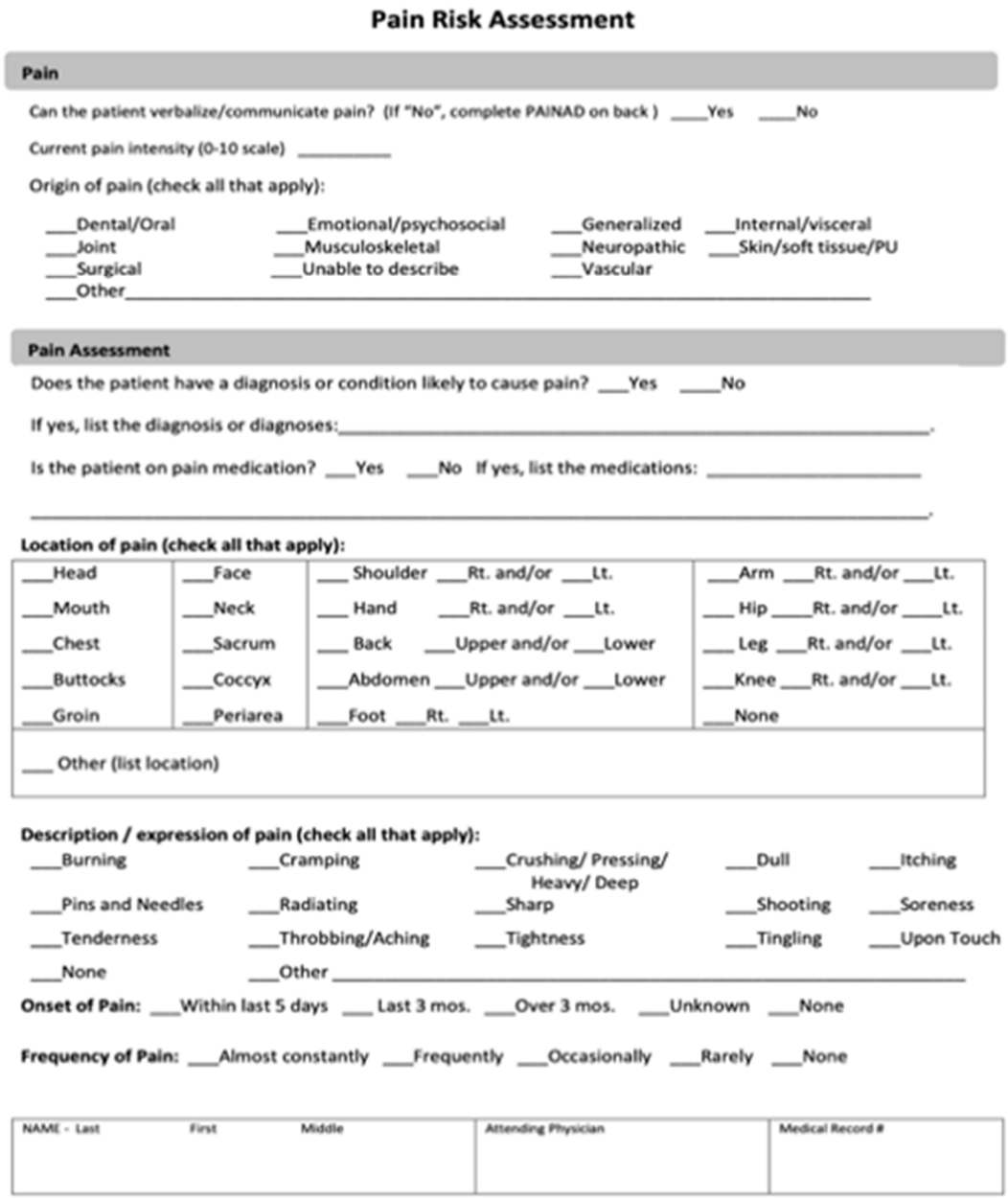
based on the outlined criteria. The total score ranges from 0 to 10 points. Interpretation of the scores is as follows: 1–3 = *mild pain*; 4–6 = *moderate pain*; 7–10 = *severe pain*. These ranges are based on a standard 0–10 scale of pain.

3. Observation of the recognition of pain using the 0–10 pain scale should be completed every 8 hours (routine assessment) and before and after the administration of PRN analgesic medication. The patient's pain should be reassessed 15 min after the administration of PRN analgesics to determine efficacy. Results should be documented on the Medication Administration Record.
4. A pain level verbalized or demonstrated as 4 or higher or is of new onset requires nursing review and/or documentation.
5. Pain evaluation utilizing the 0–10 pain scale should be completed and documented on the Treatment Administration Record prior to any treatments for wound care.
6. Pain evaluations and patient's desired goals should be used by the interprofessional team to decide appropriate therapeutic intervention, which may include pharmacological and non-pharmacological techniques. Utilize the pain level documented on the Medication Administration Record to individualize patient's plan of care.
7. Upon completion of the pain evaluation, the physician should be notified of increased or unrelieved pain and new orders implemented as indicated.

8. The patient and/or a family representative should be notified of new interventions or changes in the pain management plans or orders.
9. Each patient identified with pain should have a care plan that addresses pain management. The care plans should include individualized, patient-centered interventions related to that patient's individual type, character, location, and pain frequency. The care plan should consider both pharmacological and non-pharmacological pain management interventions.
10. The licensed nurse should communicate a new onset of patient pain or change in patient pain to the receiving nurse at shift change. Provide necessary communication to other interprofessional team members as needed.
11. The interprofessional team should discuss patients with new, increased, or unrelieved pain at the morning clinical meeting.
12. Patients with increased or unrelieved pain should be considered for review at the patient-at-risk meeting or the utilization review meeting.
13. The center's performance related to effective pain management should be evaluated using quality assurance or a performance improvement process to identify areas of needed improvement. Quality metrics should be reviewed to determine whether they meet or exceed industry standards. If improvement in the metrics is warranted, the center would conduct a root cause analysis and develop a strategic plan to address the findings.

Figure 1

Pain Risk Assessment



Pain Risk Assessment

Pain

Can the patient verbalize/communicate pain? (If "No", complete PAINAD on back) ____Yes ____No

Current pain intensity (0-10 scale) _____

Origin of pain (check all that apply):

___Dental/Oral ___Emotional/psychosocial ___Generalized ___Internal/visceral
___Joint ___Musculoskeletal ___Neuropathic ___Skin/soft tissue/PU
___Surgical ___Unable to describe ___Vascular
___Other_____

Pain Assessment

Does the patient have a diagnosis or condition likely to cause pain? ___Yes ____No

If yes, list the diagnosis or diagnoses:_____.

Is the patient on pain medication? ___Yes ___No If yes, list the medications: _____

_____.

Location of pain (check all that apply):

___Head	___Face	___ Shoulder ___Rt. and/or ___Lt.	___Arm ___Rt. and/or ___Lt.
___Mouth	___Neck	___ Hand ___Rt. and/or ___Lt.	___ Hip ____Rt. and/or ____Lt.
___Chest	___Sacrum	___ Back ___Upper and/or ___Lower	___ Leg ___Rt. and/or ___Lt.
___Buttocks	___Coccyx	___Abdomen ___Upper and/or ___Lower	___Knee ___Rt. and/or ___Lt.
___Groin	___Periarea	___Foot ___Rt. ___Lt.	___None
___ Other (list location)			

Description / expression of pain (check all that apply):

___Burning ___Cramping ___Crushing/ Pressing/ Heavy/ Deep ___Dull ___Itching
___Pins and Needles ___Radiating ___Sharp ___Shooting ___Soreness
___Tenderness ___Throbbing/Aching ___Tightness ___Tingling ___Upon Touch
___None ___Other _____

Onset of Pain: ___Within last 5 days ___ Last 3 mos. ___Over 3 mos. ___Unknown ___None

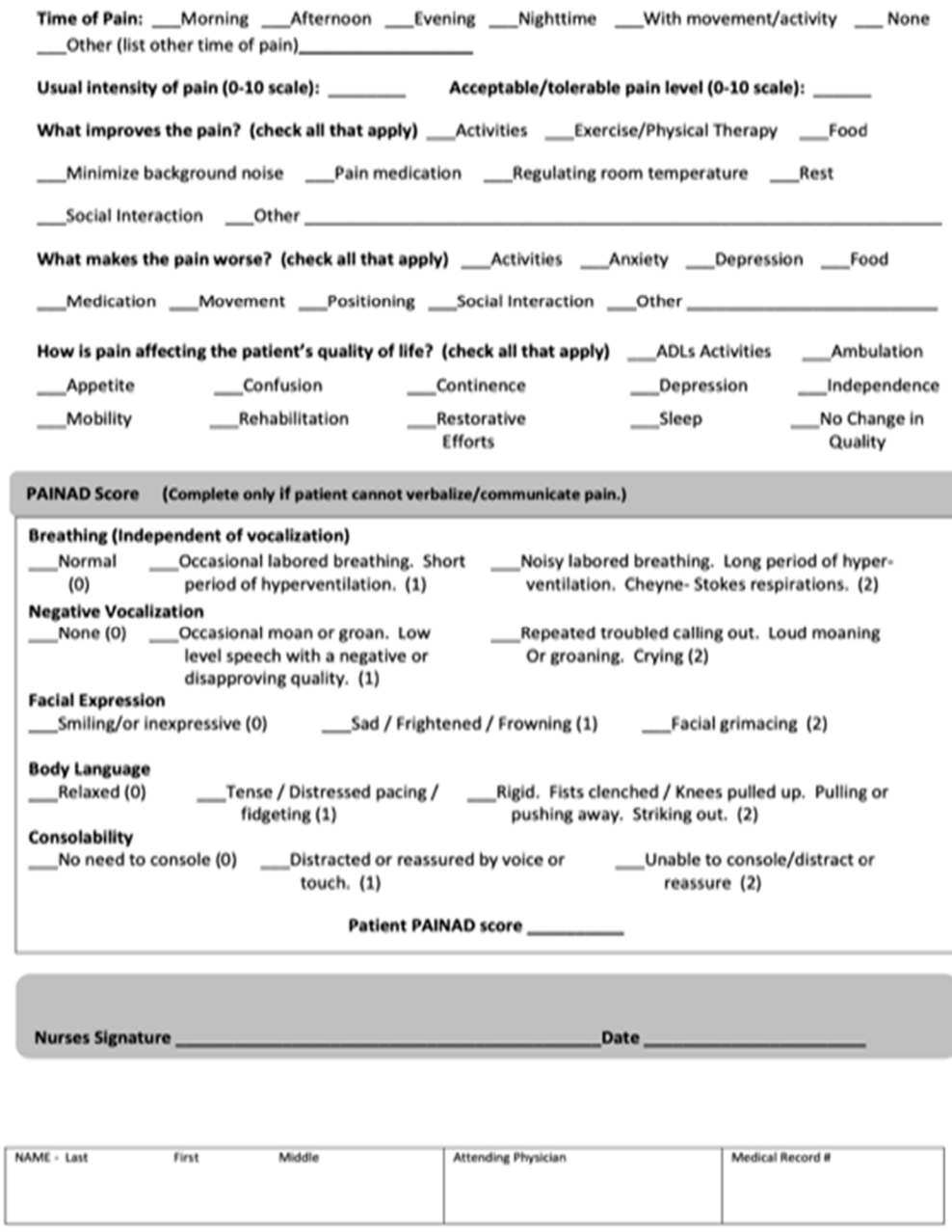
Frequency of Pain: ___Almost constantly ___Frequently ___Occasionally ___Rarely ___None

NAME - Last First Middle	Attending Physician	Medical Record #

Note: *Adapted from Ethica Healthcare Electronic Health Record. Reprinted with permission.*

Figure 2

Pain Risk Assessment for Cognitively Impaired



Time of Pain: ___Morning ___Afternoon ___Evening ___Nighttime ___With movement/activity ___ None
___Other (list other time of pain)_____

Usual intensity of pain (0-10 scale): _____ **Acceptable/tolerable pain level (0-10 scale):** _____

What improves the pain? (check all that apply) ___Activities ___Exercise/Physical Therapy ___Food

___Minimize background noise ___Pain medication ___Regulating room temperature ___Rest

___Social Interaction ___Other _____

What makes the pain worse? (check all that apply) ___Activities ___Anxiety ___Depression ___Food

___Medication ___Movement ___Positioning ___Social Interaction ___Other _____

How is pain affecting the patient's quality of life? (check all that apply) ___ADLs Activities ___Ambulation

___Appetite ___Confusion ___Continence ___Depression ___Independence

___Mobility ___Rehabilitation ___Restorative Efforts ___Sleep ___No Change in Quality

PAINAD Score **(Complete only if patient cannot verbalize/communicate pain.)**

Breathing (Independent of vocalization)

___Normal (0) ___Occasional labored breathing. Short period of hyperventilation. (1) ___Noisy labored breathing. Long period of hyper-ventilation. Cheyne- Stokes respirations. (2)

Negative Vocalization

___None (0) ___Occasional moan or groan. Low level speech with a negative or disapproving quality. (1) ___Repeated troubled calling out. Loud moaning Or groaning. Crying (2)

Facial Expression

___Smiling/or inexpressive (0) ___Sad / Frightened / Frowning (1) ___Facial grimacing (2)

Body Language

___Relaxed (0) ___Tense / Distressed pacing / fidgeting (1) ___Rigid. Fists clenched / Knees pulled up. Pulling or pushing away. Striking out. (2)

Consolability

___No need to console (0) ___Distracted or reassured by voice or touch. (1) ___Unable to console/distract or reassure (2)

Patient PAINAD score _____

Nurses Signature _____ **Date** _____

NAME - Last	First	Middle	Attending Physician	Medical Record #

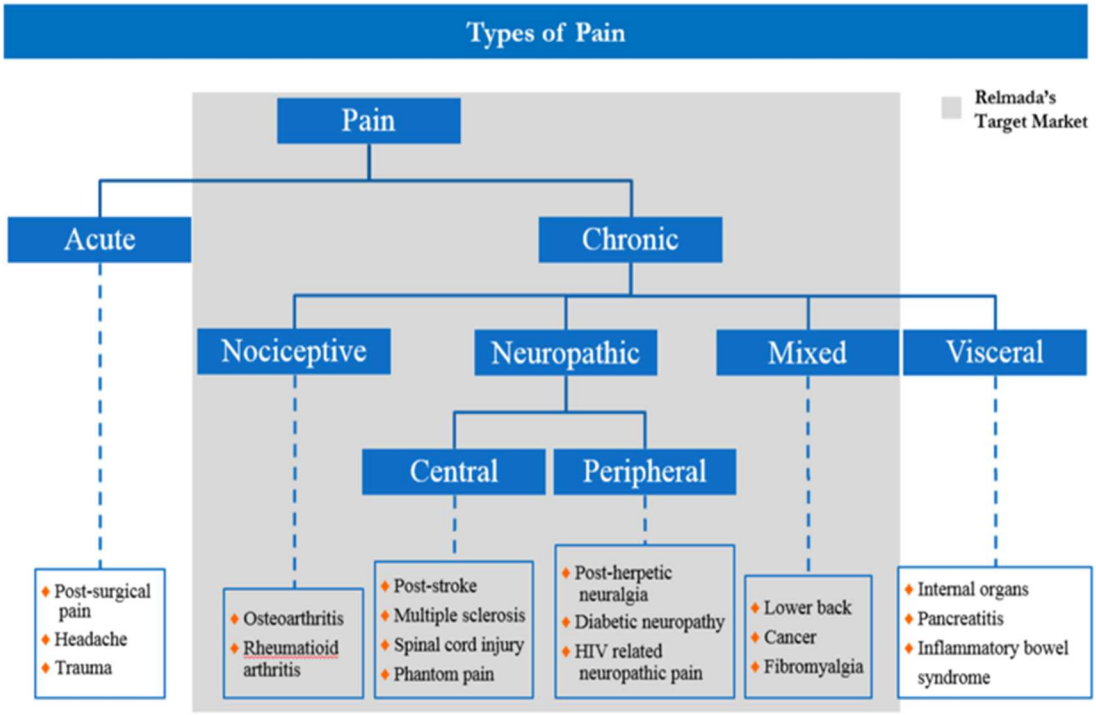
Note. Adapted from Ethica Healthcare Electronic Health Record. Reprinted with permission

The clinical practice guideline developed by the center was essential to the DNP project, as it established the cadence and expectations of when assessments for pain should be completed and the cadence for re-evaluation. The clinical practice guidelines also assisted in establishing the expectations on implementing patient-centered interventions and expectations for how these should be communicated and collaborated upon by the interprofessional team.

The educational session expanded on three components of the center's clinical practice guidelines. The areas of practice that were reviewed in the educational session included proper use of the clinical tools for assessment, determining how to use the assessment tool to implement effective patient-centered interventions, and appropriate ways to promote interprofessional collaboration through communication. The education session provided guidance on how to use the pain risk assessment (see Figure 1) to determine risk factors associated with pain, such as previous history of pain, comorbidities that exacerbate pain, location, frequency, character, and intensity of pain. The objective of this portion of the education was to highlight the significance of proper assessment in determining the most appropriate intervention to manage pain. Participants were provided with Figure 3 to assist in identifying the different types of pain patients may experience.

Figure 3

Identifying Pain



Note. Adapted from Denali Healthcare MI, 2017: http://www.denalihealthcaremi.com/causing-pain/

Research suggests that determining specific risk factors associated with pain is key to implementing effective interventions (Resnick, 2019). During this portion of the education, participants were presented information on how establishing the root cause of the pain through assessment was beneficial to determining which types of interventions would be most effective for the patient. Determining the type of pain is important in deciding whether pharmacological or non-pharmacological interventions should be considered. If pharmacological interventions are appropriate, Figure 4 can be used to

assist nurses in identifying whether the patient is currently receiving a pharmacological treatment that is effective for treating the type of pain they are experiencing. This information can be communicated with the patient's physician to establish an effective treatment regimen.

Figure 4

Identifying Pain Types

Types of Pain & Examples	*Source of Pain*	*Typical Description*	*Effective Drug Classes & Nonpharmacologic Treatments*
Nociceptive:somatic			
Arthritis, acute postoperative, fracture, bone metastasis	Tissue injury (eg, bones, soft tissue, joints, muscles	Well localized, constant; aching, stabbing, gnawing, throbbing	APAP, opioid, NSAIDS; PT and CBT
Nociceptive:visceral			
Renal colic, constipation	Viscera	Diffuse, poorly localized, referred to other sites, intermittent paroxysmal; dull, colicky, squeezing, deep, cramping; often accompanied by nausea, vomiting, diaphoresis	Tx of underlying cause, APAP, opioids, PT and CBT
Neuropathic			
Cervical or lumbar radiculopathy, post-herpetic neuralgia, diabetic neuropathy, post-stroke syndrome, herniated intervertebral disc, drug toxicities	PNS or CNS	Prolonged, usually constant, but can have paroxysms; sharp, burning, pricking, tingling, electric shock-like; associated with other sensory disturbances eg paresthesias and dysesthesias; allodynia, hyperalgesia, impaired motor function,atrophy, or abnormal deep tendon reflexes	TCAs, SNRIs, anticonvulsants, opioids, topical anesthetics, PT and CBT
Undetermined or Mixed			
Myofascial pain syndrome, somatoform pain disorders, fibromyalgia	Poorly understood	No identifiable pathologic processes or symptoms out of proportion to identifiable organic pathothology; widespread musculoskeletal pain, stiffness, and weakness	Antidepressants, antianxiety agents, PT, CBT, and psychological tx

Note. Adapted from Geriatrics at Your Fingertips by D. Reuben, 2015. Copyright 2015 by American Geriatric Society.

Participants were provided examples of the types of non-pharmacological interventions that are appropriate for this patient population and care setting via the list shown in Figure 5. Participants were educated on how to safely utilize these interventions as needed.

Figure 5

Non-Pharmacological Management of Pain

Quick Safety

Issue 44 | August 2018

Non-pharmacologic and non-opioid solutions for pain management

Issue:

Not all pain management requires medication. Some pain medications — specifically opioids — are high-risk medications that can put patients at risk for respiratory depression as well as abuse and addiction. Also, as more patients present with additional comorbidities, the risk that they may experience side effects or adverse events from opioids is increased.[1]

As health care organizations across the nation address their policies and processes regarding pain management, this *Quick Safety* provides guidance for evidence-based, non-opioid treatment options that can be considered for treating pain. When providers are developing a patient's individualized pain management plan, it is important to use a systematized approach to look at all aspects of the patient's situation, while focusing on symptomatic relief.

The use of non-opioid treatment options may be helpful in either eliminating the need for an opioid or reducing the amount of opiates used or prescribed. These reductions in opiate use can help reduce side effects as well as the potential for addiction and abuse. The Veterans Administration (VA) has successfully reduced morphine dosages through its THRIV program.[2]

Listed below are some evidence-based, non-opioid treatment options to consider for treating pain.

- **Behavioral/Cognitive Interventions/Psychological**
  - *Meditation techniques* utilized with mindfulness-based stress reduction (MBSR) have been shown to be effective for pain reduction and strong continued patient compliance.[3]
  - *Progressive muscle relaxation* can assist in regulating neurosystems found in muscle tension and situational stress commonly seen with pain.
- **Environmental-based Interventions**
  - *Lighting* alterations can create an environment that supports muscle relaxation.
  - *Music therapy* has been associated with statistically significant reduction in opioid and non-opioid analgesic use.[4]
- **Physical Interventions**
  - *Acupuncture* was recommended as a first-line treatment in lower back pain by the American College of Physicians.[5]
  - *Massage therapy* has shown to be effective in adult and pediatric populations with minimal risk of side effects.[5]
  - *Spinal manipulation* has shown improvement in pain for patients experiencing chronic lower back pain, shoulder pain and migraines.[6,7]
- **Non-opioid pharmacologic interventions**
  - *Non-steroidal anti-inflammatory agents* (NSAIDs) can be useful in conditions where pain and inflammation are present.
  - *Acetaminophen* is an option that has multiple administration routes.
  - *Corticosteroids* can be useful but limited in applicability, dependent upon patient comorbidities.
  - *Topical products* have limited use in applicability, but can be helpful in certain clinical situations.

Note: This list is not all-inclusive. The treatment modality listed here does not imply that The Joint Commission supports any particular treatment type over another.

Safety actions to consider:

Health care organizations should provide clinicians with the information and support they need to facilitate the use of non-opiate treatment options for their patients.

The Joint Commission.

Note. *Adapted from Quick Safety 44: Non-pharmacologic and non-opioid solutions for pain management, by The Joint Commission, 2018: https://www.jointcommission.org/resources/news-and-multimedia/newsletters/newsletters/quick-safety/quick-safety-44-nonpharmacologic-and-nonopioid-solutions-for-pain-management/*

The final concept covered in the educational session was how to communicate the assessment findings and effective interventions with other interprofessional team members. Participants were educated on how to use the patient's written plan of care to communicate the risk factors involved with pain management and current interventions to effectively manage the pain. A demonstration was provided to show participants how to effectively communicate changes in the patient's treatment plan in verbal and written format. The education also included the importance of routine clinical rounds as a means of improving interprofessional collaboration by discussing changes in the patient's plan of care and the effectiveness of the current treatment regimen.

Local Background and Context

The current DNP project entailed providing education for skilled nursing staff and took place at a nursing center located in a rural city in central Georgia. This educational session aimed at ensuring that members of the clinical team were equipped with advanced and current evidence-based practice guidelines for pain management and enhanced clear comprehension of their role in the care provision process. The education project targeted licensed nurses. The project promoted social change within the selected nursing center and Georgia at large by promoting nurses' advocacy roles in the effective

management of pain for skilled nursing patients. The information concerning nursing centers in Georgia revealed that a lack of knowledge on proper pain management strategies led to increased reported incidents of pain by patients. Moreover, the absence of formal pain assessment procedures hindered efficient pain assessment, leading to poor pain management and overall health outcomes. The DNP project worked to expand the knowledge of health care professionals in the skilled nursing facility.

Role of the DNP Student

Pain assessment and management for patients in nursing centers are vital health measures that should be advocated and supported by key stakeholders in the healthcare system (Herr et al., 2010). The subject regarding pain assessment and management is an important subject in quality healthcare delivery, and the efficacy in managing healthcare is crucial in long-term, skilled nursing centers. Therefore, as a DNP student, it was imperative to indicate the problems that exist in nursing practice, to establish the causative agents and come up with suitable solutions based on evidence to improve the quality of care for the services delivered (Schofield et al., 2017). Since many patients with the presence of chronic pain reside in nursing centers and long-term healthcare facilities, the site of the DNP project was suitable for understanding the nurses' needs to care for patients reporting pain. A DNP student's crucial obligation is to investigate issues affecting nursing practice and research on the appropriate measures that fuel positive change. Additionally, a DNP student handles inquiring about problems that face nursing practice and facilitating the planning and implementation of strategies that expedite the translation of knowledge and skills acquired to practice (Schofield et al.,

2017). This ultimately results in improved health outcomes for the target population, as well as the advancement of the healthcare system.

Therefore, a DNP student needs to possess skills that enable them to positively impact emerging problems in healthcare through the planning and implementation of evidence-based practices. Engaging in studies, such as the current DNP project, provides theoretical concepts that offer a basis for practice (Chan, 2010). For this DNP project, my role was to develop an appropriate education model and participate in its delivery and evaluation. During the development of the education program, my role was to inquire about the educational needs of clinical practitioners to whom the education is targeted. My role also included providing recommendations for how these findings could be translated into current practice.

Summary

In this section, I discussed the appropriate models and theories used to guide this project, the project's relevance to nursing practice, and the role of the DNP student. The following section includes information on collection and analysis of data to support the need for the project.

Section 3: Collection and Analysis of Evidence

Introduction

The project's purpose was to improve staff knowledge on pain assessment and management through education in a rural nursing center in Georgia. Current research has revealed an increased number of people reporting mild to severe pain (Herr et al., 2010). It is essential that appropriate interventions are identified due to the possible implications of pain, such as delayed recovery from other ailments and cognition impairment. The lack of familiarity with best practices, drugs, and other resources, as well as the lack of correct attitudes on pain control, hinders the nurses' capabilities in controlling pain for the patient population (Herr et al., 2010). Creating awareness is a crucial action step toward competence and knowledge acquisition in every professional field to improve productivity. This section analyzes the sources of evidence for the educational DNP project.

Practice-Focused Question

The presence of increased pain reports by patients within this skilled nursing center due to inadequate assessment and interventions were the practice concerns identified and served as the catalyst for the need to change practice. Therefore, the DNP project was guided by the following practice question: Will staff education on assessment, effective interventions, and interprofessional collaboration improve pain management knowledge for nurses working with skilled nursing patients?

Sources of Evidence

Participants

Healthcare professionals ranging from licensed nurses ($N = 30$) to nursing assistants ($n = 8$), physicians ($n = 1$), nurse practitioners ($n = 2$), physical therapists ($n = 2$), occupational therapists ($n = 1$), recreational therapists ($n = 1$), and social workers ($n = 1$) participated in the education in efforts to foster interprofessional collaboration. Only data from the licensed nurses was analyzed for the purposes of the project. The participants were crucial sources of information to establish the nurses' educational needs and the impact of the education program. The inclusion criteria required that the participants were working at the selected nursing center in Georgia, either full-time or part-time. Additionally, the participants had to be competent in reading English and basic computer skills, since the survey was administered in an electronic format.

Review of Secondary Literature

Extensive evidence-based peer-reviewed literature was retrieved through Walden University online databases and reviewed. Specific databases that I searched included CINAHL, MEDLINE, Ovid Nursing Journal, ProQuest, CMS, and PubMed. The search terms used were *pain management*, *chronic pain*, *clinical education*, *nurse education*, *interprofessional collaboration*, *quality indicators*, and *pain management interventions*. I used the literature review to validate the gap in practice related to pain management and to hypothesize the impact of education on improving pain management. The literature review also identified past interventions that have been utilized to address the lack of knowledge related to pain management.

Procedures

An expert panel assisted in reviewing the educational content developed. The goal was to establish an interprofessional panel of healthcare professionals who had experience or expertise in managing pain within a skilled nursing center setting. The panel consisted of a general practice physician, a nurse practitioner, a registered nurse board certified in pain management, a physiatrist, a physical therapist, and an occupational therapist. I selected each expert based on their years and degree of experience in pain management. The years of experience for the expert panel ranged from 13 years (physical therapist) to 27 years (general practice physician). Each member of the expert review panel had extensive experience in effectively managing pain within inpatient and outpatient settings. I provided the educational content to each member of the expert pain management panel, and 2 weeks were provided to review and provide recommendations for revision in content if needed. The panel members articulated their feedback via three methods to include direct revision of the tool using the tracked changes function (3), via email (2), and verbally during a face-to-face interaction (1 MD). I then incorporated the recommended revisions into the educational content and prepared for dissemination.

I submitted an outline of the project to the nursing center director for review, and necessary education program revisions were made based on the feedback. The instrument used to assist in determining the domains of knowledge deficit was Bernhofer et al.'s (2017) Clinical Pain Knowledge Test for Nurses (see Appendix A). This test was used only to establish baseline knowledge level of pain management and areas where gaps in

knowledge existed. Permission to use and reproduce the questionnaire instrument was granted for research use without modifications and without publishing the full contents of the tool (see Appendix B). PowerPoint slides and handouts (see Appendix C) were designed and created after review by the panel of experts. These PowerPoint slides were also used for staff presentation and teaching. Interactive discussions were encouraged to review strategies used to assess and manage pain. An electronic survey, including the outlined information in the pre- and post-questionnaire (see Appendix D), were used to collect responses from the participants in a safe and anonymous manner. Knowledge levels specific to the educational content for the project were assessed before and after the educational session via a questionnaire (see Appendix D). The pre- and post-test results were scored using a percentage scale that was converted to a 5-point Likert Scale, rating the participants' knowledge level from novice to expert (see Appendix E). The participants were also given the opportunity to provide feedback on content and education delivery via an electronic survey (see Appendix F).

In light of the project being conducted amid a pandemic, considerations were made to ensure the safe delivery of the education. Currently, within the skilled nursing setting, only essential caregivers and consultants are allowed visitation to the center based upon current center conditions, that is, absence of an outbreak and the ability to conduct screening and routine testing. Therefore, this education was delivered via a live web conference to align with the current COVID-19 safety protocols.

Protections

The DNP project was guided by the guidelines in Walden's DNP staff education manual. The approval to conduct a staff education program in the nursing center was signed by the center administrator and submitted alongside the necessary documents from the university review board application form. Importantly, the DNP project received Walden IRB approval prior to implementing the program. The participation was voluntarily, and participants were provided with the Consent for Anonymous Questionnaire prior to participating in the educational program and responding to the questionnaires.

Analysis and Synthesis

Data were analyzed using SPSS (Version 27) for pre- and post-tests. Individual responses from both tests were collected from each participant via an anonymous electronic survey. After collection, I entered the data into a Microsoft Excel spreadsheet. A paired *t* test was used to determine whether there was statistical significance in the change in knowledge. The *t* test determined that results were statistically significant with a *p* value of less than .05.

Summary

Researchers assert that hindrances to effective pain interventions for skilled nursing patients can result from the incompetence of practitioners or patients' characteristics (Park et al., 2016). Ineffective pain management is common and has adverse health implications, especially when not treated early enough. Among the key contributors to the ineffective assessment and management of pain among skilled nursing

patients is the lack of sufficient knowledge. The project employed a cross-sectional survey to collect data from clinical practitioners using a questionnaire. In this section, I discussed the preparation, implementation procedures, and project evaluation. The following section includes the findings and implications for practice, which are crucial for recommending practices for better health outcomes.

Section 4: Findings and Recommendations

Data Analysis and Synthesis

The practice-focused question that guided this project was as follows: Will staff education on assessment, effective interventions, and interprofessional collaboration improve pain management knowledge for nurses working with skilled nursing patients? The purpose of this DNP project was to improve staff knowledge on the identification and treatment of pain in older adults. In Section 4, I discuss the findings, recommendations, and implications for nursing practice as determined by the project.

Findings and Implications

Prior to delivery of the education, the content was reviewed by a panel of 6 experts with 13–27 years of experience. The panel provided feedback for improvement. Trends in the suggested feedback included

- ensuring that the education is consistent with the scope of practice for the audience, and
- clearly identifying and stating the objectives for the presentation.

Expert feedback was included in the PowerPoint changes. Once finalized, the educational sessions were delivered via PowerPoint presentation. The audience included 30 licensed nurses whose results were analyzed during this project. All of the participating nurses (N=30) were able to complete the Clinical Pain Knowledge Test to establish baseline knowledge level for pain management. Four of the licensed nurses were only able to complete the Clinical Pain Knowledge Test (see Appendix B) portion of the education due to unexpected obligations. These four participants were called away

from the training to assist with an emergency patient care concern while onsite at the nursing center. This left 26 nurses who successfully completed all components of the education to include the Clinical Pain Knowledge Test ($N = 30$; see Appendix B), Pre-Learning Questionnaire ($N = 26$; see Appendix C), Post Learning Questionnaire ($N = 26$; see Appendix C), and Learning Evaluation Questionnaire ($N = 26$; see Appendix E).

Analysis of Data

Prior to the presentation, all 30 of the licensed nurses completed the Clinical Pain Knowledge Test. The purpose for completion was to establish a baseline knowledge level on pain management for the participants and validate the key domains for knowledge deficit. This test was not used to validate learning from the educational session as it does not reflect the content provided in the presentation. There are a total of 23 questions based on four specific domains of practice:

1. Multidimensional nature of pain
2. Pain assessment
3. Management of pain
4. Application of knowledge in various contexts and populations

Participant data were reviewed and analyzed for performance in these four areas to assist in validating the identified areas where educational gaps existed. The average score of correct answers noted on the Clinical Pain Knowledge Test was 43% on a 100-point scale, as displayed in Table 1. The areas of the exam that exhibited the greatest amount of deficit were assessment skills, use of pharmacological interventions, and management of pain. Only 33% of the participants successfully answered the questions

about patient assessment for pain, whereas 37% responded favorably to questions focused on pharmacological intervention and pain management. Ironically, respondents scored highest in the categories reflecting application of contextual knowledge, with 63% of respondents answering correctly. The average participants with accurate response in the domain of multidimensional nature of pain or pain types was 38%. These results assisted in validation of the need for additional education on patient assessment and implementation of patient-centered interventions for effective pain management.

Table 1

Clinical Pain Knowledge Test

Questions $N = 23$	Domain	Participants with correct answer $N = 30$ (%)	Participants with incorrect answer $N = 30$(%)
Question 1	Multidimensional nature of pain	24 (80%)	6 (20%)
Question 2	Multidimensional nature of pain	11 (37%)	19 (63%)
Question 3	Multidimensional nature of pain	9 (30%)	21(70%)
Question 4	Multidimensional nature of pain	11 (37%)	19 (63%)
Total	4	Average Correct 14 (38%)	Average Incorrect 16 (62%)
Question 5	Pain assessment	9 (30%)	21 (70%)
Question 6	Pain assessment	14 (47%)	14 (47%)
Question 7	Pain assessment	8 (27%)	22 (73%)
Question 8	Pain assessment	19 (63%)	11 (37%)
Question 9	Pain assessment	4 (13 %)	26 (87%)
Question 10	Pain assessment	6 (20%)	24 (80%)
Total	6	Average Correct 10 (33%)	Average Incorrect 20 (67%)
Question 11	Pain management	9 (30%)	21 (70%)
Question 12	Pain management	4 (13%)	26 (87%)
Question 13	Pain management	18 (60%)	12 (40%)
Question 14	Pain management	19 (63%)	11 (37%)
Question 15	Pain management	6 (20%)	24 (80%)
Question 16	Pain management	11 (37%)	19 (63%)
Question 17	Pain management	16 (53%)	14 (47%)
Question 18	Pain management	8 (27%)	22 (73%)
Question 19	Pain management	14 (47%)	16 (53%)
Total	9	Average Correct 11 (37%)	Average Incorrect 19 (63%)
Question 20	Application of knowledge in various contexts and populations	15 (50%)	15 (50%)
Question 21	Application of knowledge in various contexts and populations	19 (63%)	11(37%)
Question 22	Application of knowledge in various contexts and populations	19 (63%)	11 (37%)
Question 23	Application of knowledge in various contexts and populations	22 (73%)	8 (27%)
Total	4	Average Correct 19 (63%)	Average Incorrect 11 (37%)
Overall Total $N = 23$		Overall Average Correct 13 (43%)	Overall Incorrect Average 17 (57%)

Pre- and Post-Learning Data Analysis

The pre-learning assessment (see Appendix C) was explained and administered to the remaining 26 licensed nurses from the original group prior to the educational session. The assessment consisted of questions related to the material presented in the educational sessional and designed to rate the participant's level of expertise for pain management prior to the education being delivered. The percentage of accurate questions was converted to a five-point Likert scale, ranking their knowledge from novice to expert (see Appendix D) and will be compared to the post-test results. The findings were converted using the percentage of accurate responses and criteria as established below. The percentage criteria are consistent with the criteria established within the center's learning management system.

- **Novice (0-59%)**: Little to No Experience
- **Advanced Beginner (60-69%)**: Some experience, but may be limited to observation of the skill
- **Competent (70-79%):** Coherent Knowledge of the skill through work experience
- **Proficient (80-89%)**: Demonstrates ability to use experiences to critically analyze and evaluate
- **Expert (90-100%)**: Demonstrates in depth knowledge of the concept and will be able to apply to other clinical experiences

Of the 26 participants, 15.38% (n = 4) ranked as novice and 15.38% (n = 4) ranked as advanced learners. Over a third of the participants or 34.62% (n = 9) ranked as

being competent in pain management, and an equal number (34.62%, *n* = 9) ranked as proficient. None of the participants ranked at the expert level. After the pre-learning questionnaire was completed, the educational session was presented.

Table 2

Pre-Learning Assessment

Perceived knowledge rating	Criteria for knowledge rating	*n*	% of *N* for knowledge rating
Novice	Little to no experience with pain management	4	15.38%
Advanced Beginner	Some experience, but may be limited to observation of the skill	4	15.38%
Competent	Coherent knowledge of the skill through work experience	9	34.62%
Proficient	Demonstrates ability to articulate how to use experiences to critically analyze and evaluate	9	34.62%
Expert	Demonstrates ability to articulate knowledge of the concept and able to apply to other clinical experiences	0	0%

Note. $N = 26$; $M = 2.88$; $SD = 1.05$

After the delivery of the educational content, the post-learning assessment data were collected and analyzed. All 26 of the remaining participants completed the post-learning questionnaire. As with the pre-learning assessment, the assessment consisted of questions designed to assess the participant's level of expertise for pain management post-education (see Appendix C). The percentage of accurate questions was converted to a 5-point Likert scale, ranking their knowledge from novice to expert (see Appendix D), and compared to the pre-test results. The findings were converted using the percentage of

accurate responses and criteria as established below. The percentage criteria are consistent with the criteria established within the center's learning management system.

- **Novice (0-59%)**: Little to No Experience
- **Advanced Beginner (60-69%)**: Some experience, but may be limited to observation of the skill
- **Competent (70-79%):** Coherent Knowledge of the skill through work experience
- **Proficient (80-89%)**: Demonstrates ability to use experiences to critically analyze and evaluate
- **Expert (90-100%)**: Demonstrates in depth knowledge of the concept and will be able to apply to other clinical experiences

The results, represented in Table 3 and Figure 6, showed that after the educational sessions, 8% (n = 2) of the participants rated as experts in knowledge of pain management, whereas 36% (n = 9) rated as proficient. After the educational sessions, 28% (n = 8) of the 26 participants were identified as competent in pain management, and 24% (n = 6) were noted to be advanced beginners. Only one (4%) of the participants continued to rate as a novice in the area.

Table 3

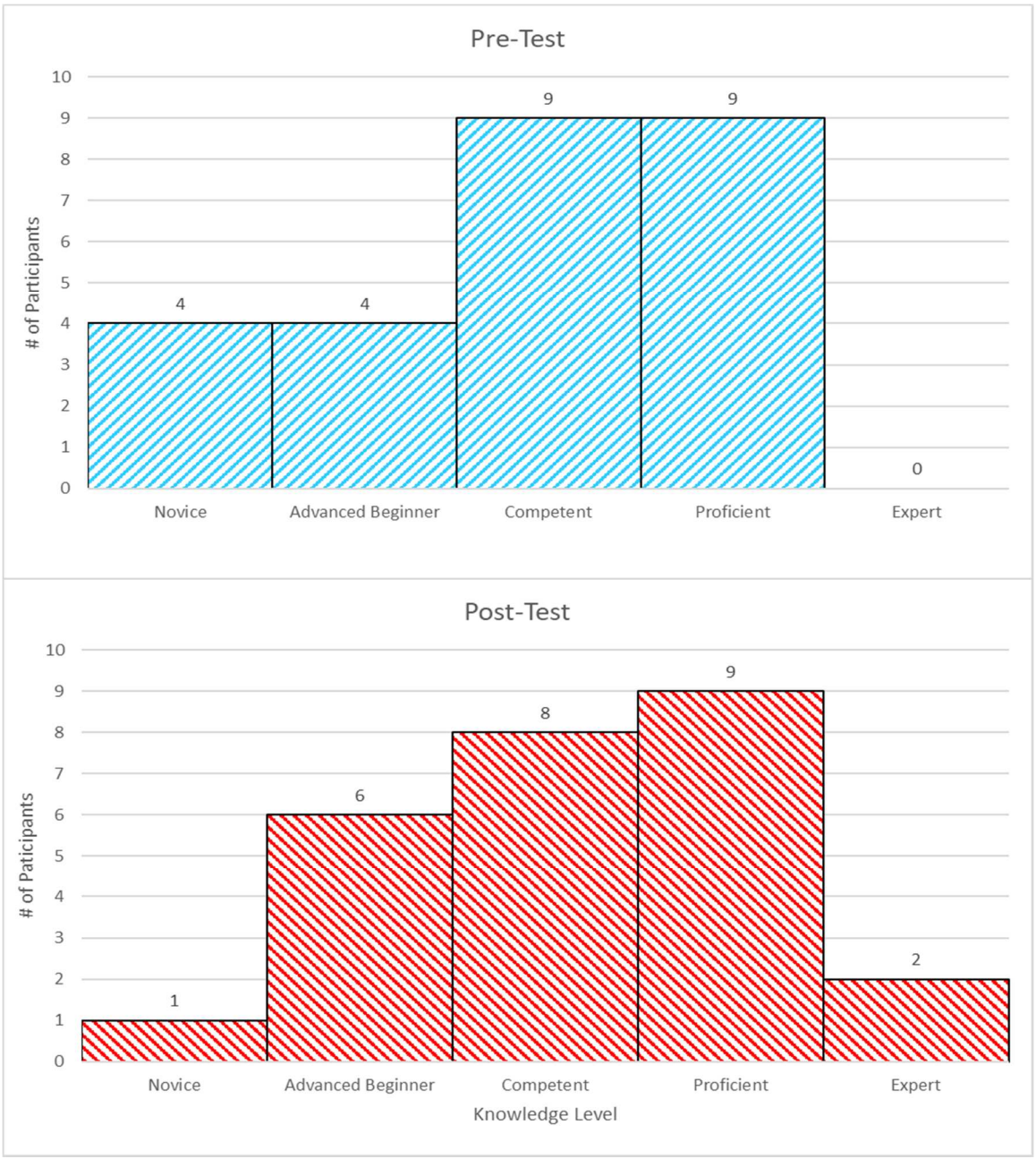
Post-Learning Assessment

Perceived knowledge rating	Criteria for knowledge rating	*n*	% for knowledge rating
Novice	Little to no experience with pain management	1	4%
Advanced Beginner	Some experience, but may be limited to observation of the skill	6	24%
Competent	Coherent knowledge of the skill through work experience	8	28%
Proficient	Demonstrates ability to articulate how to use experiences to critically analyze and evaluate	9	36%
Expert	Demonstrates ability to articulate knowledge of the concept and able to apply to other clinical experiences	2	8%

Note. $N = 26$; $M = 3.2$; $SD = 1.02$.

Figure 6

Post-Learning Assessment



The data from the pre- and post-learning assessments were analyzed using IBM SPSS Statistics, version 27. A paired *t*-test was calculated using the raw scores on the pre-learning assessment and the raw score on the post-learning assessment, demonstrating a statistically significant increase in scores with $t = -5.302$, $df = 25$, and $p = .00$. The data demonstrated a statistically significant increase in knowledge after the educational materials were presented.

All the participants provided general feedback that the education they received was beneficial in increasing their understanding of pain assessment and interventions. Several participants found significant value in understanding the role of the interprofessional team in pain management. The education successfully assisted in filling the gap in practice identified by the stakeholders.

Recommendations

Participants provided evaluations using the center's evaluation and feedback system. Based on the information received from stakeholders, including the center administrator, the education was perceived as very beneficial and met a need that many were not consciously aware of. Several participants reported not considering that determining the type of pain was a key component for implementing the most appropriate intervention. Verbal feedback from the participants revealed that some felt that they had overestimated their knowledge level regarding pain management prior to the educational session. Participants expressed that the educational content should be utilized to support ongoing educational efforts for the center.

Based on the findings and feedback, the recommendations for practice include the center incorporating the education into their onboarding process for newly hired nurses and determining a cadence for the education to be conducted routinely. The recommended cadence should be at least annually and as determined through the center's quality assurance and performance improvement process. An additional recommendation for practice includes future studies to determine how the interprofessional platform for delivery improves collaboration on clinical care among interprofessional team members. Future studies should also be conducted to compare patient care outcomes before and after education.

Strengths and Limitations of the Project

One of the greatest strengths of the project was the support received from stakeholders at the center and organizational level. The need for additional education related to pain management had been previously identified by the health system that supports the center and this project served as a catalyst to begin standardizing this education. Another strength of the project was allowing participation by other interprofessional team members. While their responses were not utilized in the project, the ability to have all clinicians educated on the same content brings consistency and supports the need for care coordination among the clinical team.

One of the limitations of the project was that it could not be held in a group setting due to COVID-19 restrictions. The ability to have individuals in a group setting may have allowed for greater interaction and collaboration among participants. While some participants did interact during the presentation, the interaction was not as robust as

an in-person delivery may have been. Another limitation was the ability to interact with patients to assess their perception of their pain management and inquire about how they are involved in developing the plan. Having the patient's perspective could have assisted in identifying other areas of practice that may require improvement.

Section 4 has included discussion of findings, implications, and recommendations for the project. The strengths and limitations of the project were also discussed. Dissemination plans and self-analysis of the DNP student will be discussed in Section 5.

Section 5: Dissemination Plan

Recommendations

The director of nursing at the project site, who is the clinical team lead, assisted in the dissemination of the project findings. The center's quality assurance performance improvement meeting was the platform used to disseminate findings to the clinical team. Participants in this meeting included the center's administrator, medical director, licensed nurses, certified nursing assistants, social services director, pharmacist, and therapy services. I presented the overall results, as well as recommendations for incorporating the education into future practice. Questions of the participants were answered, and any needed clarifications were provided. Upon completion of the project, the center chose to adopt the education as a routine practice for new nurse orientation and annual education on pain management. The center's administrator and director of nursing further plan to disseminate the findings to their organizational leadership team for consideration of implementation into standardized education at the organizational level.

Analysis of Self

My journey to completing this project has further developed and improved my skills as a clinical leader. This process assisted me in gaining a greater appreciation for focusing on each step of project development, implementation, and dissemination. Despite the challenges encountered along the way, such as having to complete the project amid a pandemic requiring increased work and personal obligations, I was able to be agile and adapt in order to successfully complete the project requirements. This project has assisted me in learning and recognizing things about myself, both personally and

professionally, and served as a catalyst for improvement in those areas. As a clinical and operational leader, my ability to articulate resource needs that have been identified due to gaps in practice to non-clinical stakeholders has improved significantly. This is due in part to utilizing the skills and knowledge that I have acquired on project management through this DNP project. The project has helped improve my writing skills and has motivated me to inquire more about becoming a published author. It has assisted in developing my leadership skills by enhancing my critical thinking and communication skills. Overall, this project has played a significant role in improving my abilities to effectively lead my team of clinicians in establishing evidence-based practices that promote quality patient care outcomes.

Summary

Having pain managed effectively can significantly improve the quality of life for older adults living in skilled nursing centers. Organizations should ensure the presence of clinical practices that promote workplace education on how to accurately identify pain and considerations for determining the most effective, patient-centered intervention. This project explored the impact of receiving education on improving clinical knowledge and practice. It identified a gap in knowledge and was able to determine key areas of practice in which the gaps existed. This allowed the education to be developed to focus on those specific areas of clinical practice. Equipping the caregivers responsible for the care of patients in skilled nursing centers with the knowledge needed to develop an effective plan of care will be beneficial to overall patient outcomes. Future studies will be needed to

determine the impact of the education on quality metrics for pain management and to further quantify how the project impacted quality of care for this population.

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Appendix A: Clinical Pain Knowledge Test

Clinical Pain Knowledge Test (CPKT)

1. A consistently reliable objective indicator of high intensity pain is:
a. an increase in vital signs such as heart rate, respirations, and blood pressure
b. distressed facial grimaces
c. requests for more pain medication
d. there is no consistently reliable objective indicator of pain intensity ^

2. An example of multimodal analgesia is:
a. IV morphine in Patient Controlled Analgesia (PCA) pump with oxycodone for breakthrough pain
b. IV morphine PCA with basal rate and bolus doses as administered by the patient
c. non-steroidal anti-inflammatory agents (NSAIDS) and oxycodone used together^
d. ibuprofen and naproxen administered together

3. Redacted per Copyright Guidance

4. Deciding how much analgesic medication a patient needs is based on:
a. the provider's approved order set
b. the individual patient's subjective response to analgesic dosing^
c. the 0 to 10 pain scale
d. the level of emotion displayed by the patient

5. Redacted per Copyright Guidance

6. Redacted per Copyright Guidance

7. Which of the following route of administration for analgesics is considered optimal when treating patients with persistent cancer-related pain?
a. intravenous
b. sublingual
c. oral ^
d. intramuscular

8 Redacted per Copyright Guidance

9. Redacted per Copyright Guidance

10. Which one of the following is most true when considering the influence of culture in caring for patients with pain?
a. Generally, cultural considerations do not come into play in caring for individuals with pain due to the homogeneity of the modern hospital environment.
b. Both the caregiver's and the patient's individual cultural traditions can affect how the patient's pain is treated. ^
c. Patients of certain cultures can be expected to react to pain in certain ways.
d. The proper way to react to an individual's pain can often be determined by knowing their ethnicity.

11. Redacted per Copyright Guidance

12. Redacted per Copyright Guidance

13. Redacted per Copyright Guidance

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15. Redacted per Copyright Guidance

16. Redacted per Copyright Guidance

17. Which one of the following therapies, shown to be most effective, could the clinical nurse use to calm the anxious patient with acute pain?
a. decrease noise stimulation (shutting the door of patient's room, etc.)
b. music ^
c. hypnosis
d. warm water sponge bath

18. Redacted per Copyright Guidance

19. Redacted per Copyright Guidance

20. Redacted per Copyright Guidance

21. A 35-year-old male patient hospitalized with acute bowel inflammation is joking and playing cards with his roommate. When assessed by the nurse, the patient rates his abdominal pain as a 7 on a pain rating scale of 0 to 10. This may indicate the patient:
a. is confused about how the pain rating scale works
b. is reporting his pain according to how he experiences it ^
c. plans to divert the opioid medication
d. has drug seeking tendencies

22. Redacted per Copyright Guidance

23. Redacted per Copyright Guidance

Appendix B: Permissions Letter

From: Esther Bernhofer

Hello Keitta,
So glad you are interested in the test!
You have my permission to use it for your DNP project.
It is attached along with the answer sheet.

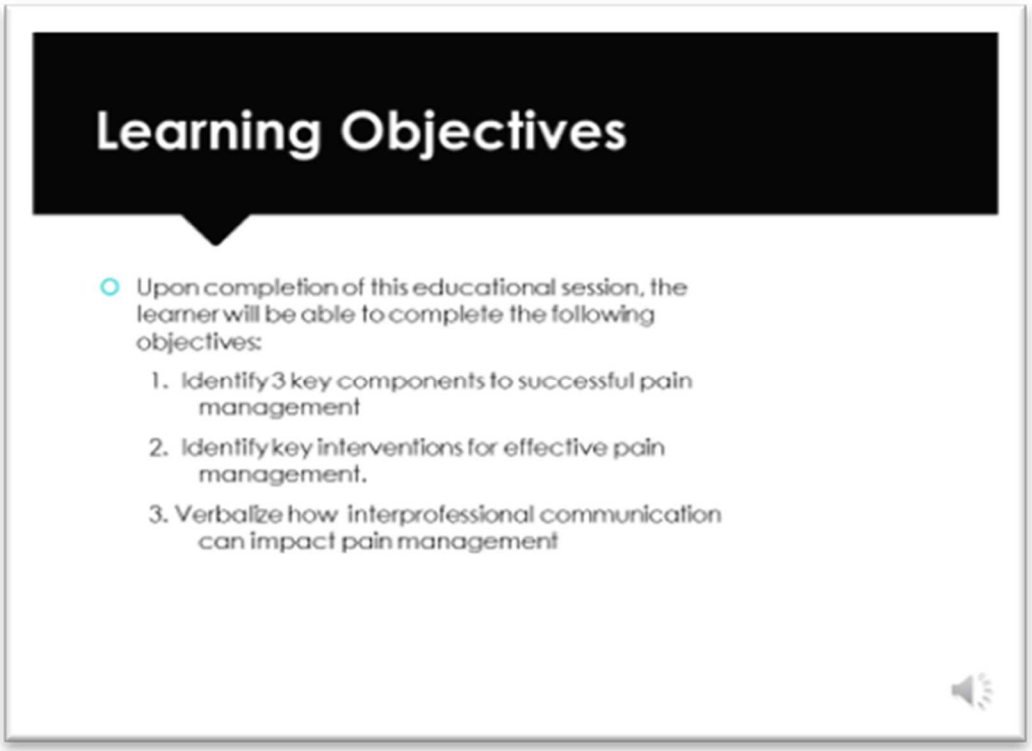
The rules for use are that you do not publicly display this test in its entirety (such as on a poster board or publication of any kind), and that you use the copyright and properly reference the authors.
The test is scored as a percentage correct. The test was validated using 75% correct as a 'passing' score.

Please let me know how it goes with your nurses!

Kind regards,
Esther

Appendix C: Pain Management PowerPoint


Pain Management: Assessment, Intervention, and Interprofessional Collaboration
Keitta Evans


Learning Objectives
Upon completion of this educational session, the learner will be able to complete the following objectives:
1. Identify 3 key components to successful pain management
2. Identify key interventions for effective pain management.
3. Verbalize how interprofessional communication can impact pain management

Practice Problem

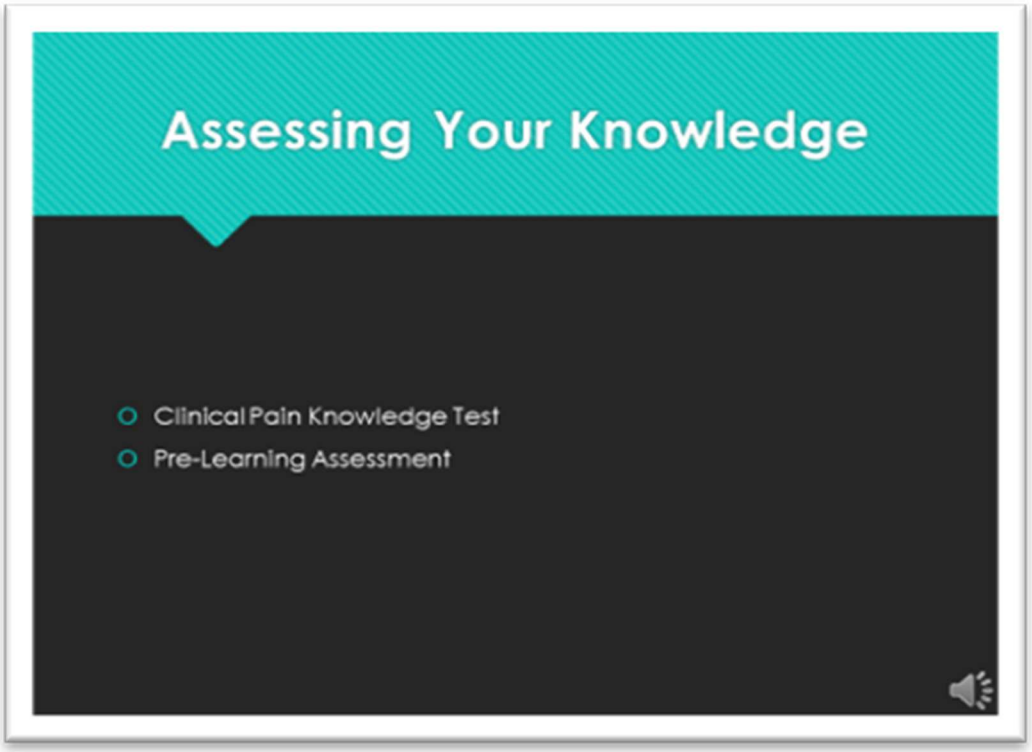
- It is estimated that over 4 million Americans are admitted to or reside in skilled nursing centers annually (CDC, 2019). Of these residents, 6.9% report experiencing moderate to severe pain frequently within a 7 day look back period (CMS, 2019).

Practice Problem

Inadequate pain management within this patient population can negatively impact their overall quality of life and negatively impact their ability to rehabilitate and return to the community if desired (Farrel, 2014).


Clinical Significance
Many patients in skilled nursing centers suffer from comorbidities that require chronic pain management. These include osteoarthritis, rheumatoid arthritis, peripheral vascular disease, and diabetes mellitus.


Clinical Significance
Inadequate management can impact overall quality of life for these patients. These patients often rely on the observations and interventions of the staff to assist in their pain management. For this reason, it is important that these clinicians can identify and respond appropriately to the patient's pain.


Assessing Your Knowledge
Clinical Pain Knowledge Test
Pre-Learning Assessment


Effective Pain Management


Clinical Practice Guidelines
ASSESSMENT
PLAN
INTERVENTION
EVALUATION


Patient Assessment


Pain Types
Chronic vs Acute
Somatic
Visceral
Neuropathic
Mixed
Undetermined


Pain Risk Assessment
Location
Intensity
Onset
Character
Duration
Exacerbating Factors

Evaluating Pain Intensity

- Patient Perspective
- 0-10 Pain Scale
- Patient's acceptable level of pain

Patient Assessment

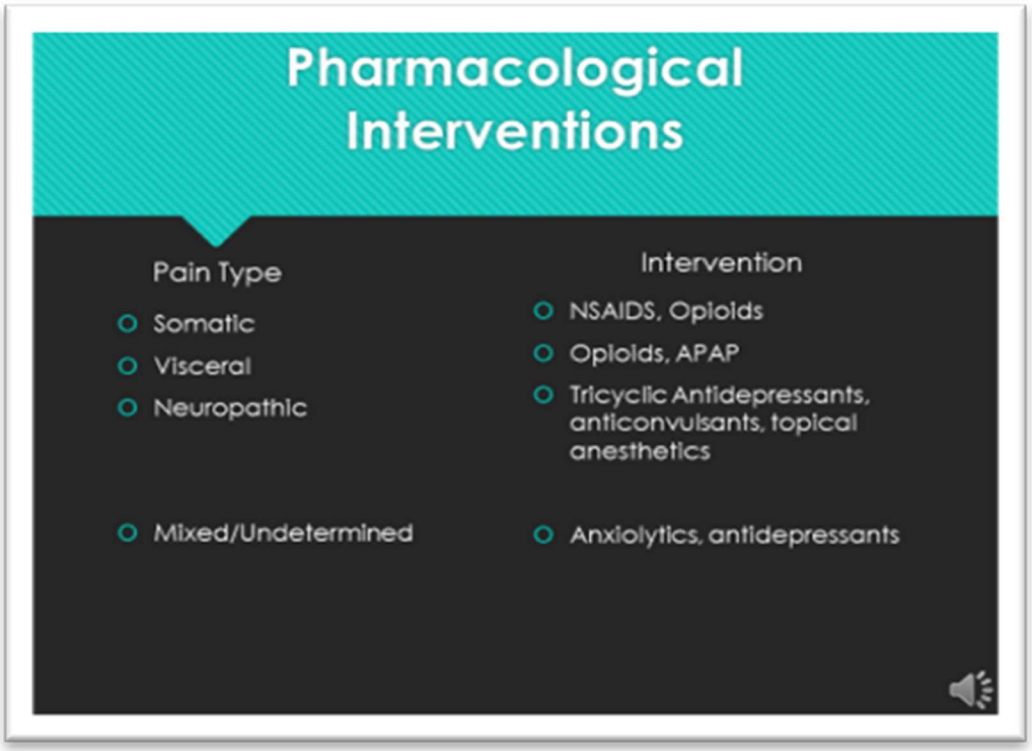
- For patients with cognitive impairments, use of the PAINAD is recommended to observe for signs of pain. The PAINAD uses observation to identify signs consistent with pain. These observations are scored on a scale of 1-10 to determine the intensity of pain.

Identifying Pain

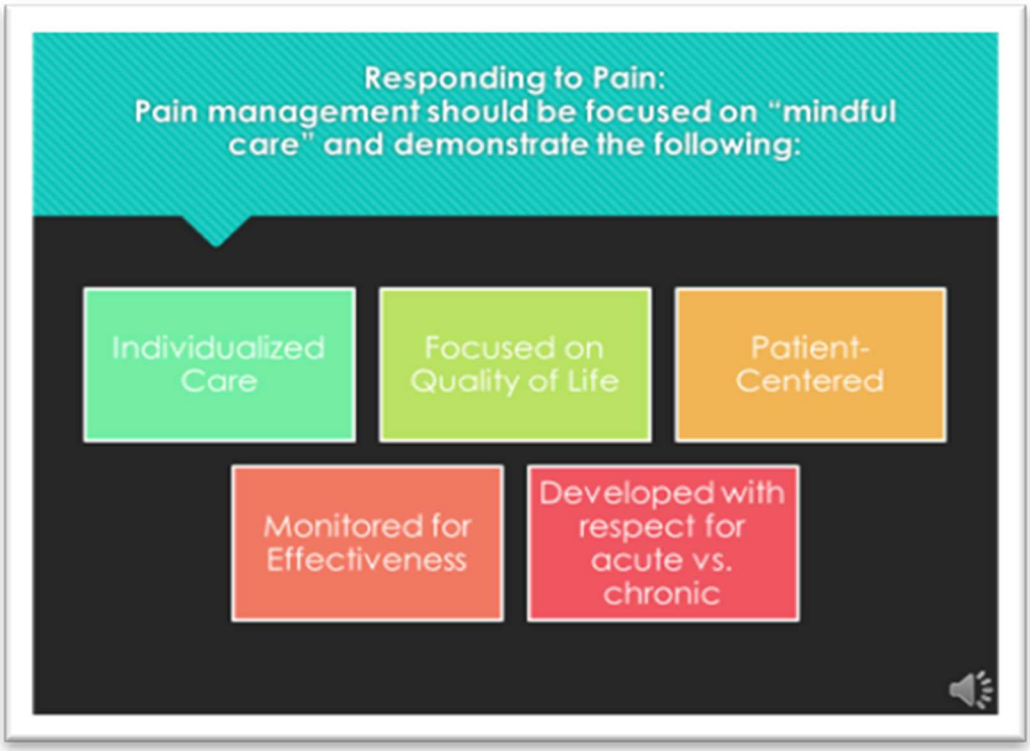
- Comprehensive Clinical Assessment
- 8 Hour Pain Assessment
- Re-assessment after interventions
- INTERACT: STOP and WATCH
- INTERACT: Change of Condition Cards

Patient Centered Interventions


Establish a Treatment Plan
Involve patients
Family members
Physicians/specialists
Therapist
Caregivers


Pharmacological Interventions
Pain Type
Somatic
Visceral
Neuropathic
Mixed/Undetermined
Intervention
NSAIDS, Opioids
Opioids, APAP
Tricyclic Antidepressants, anticonvulsants, topical anesthetics
Anxiolytics, antidepressants


Non-Pharmacological Interventions
Pain Type
Somatic
Visceral
Neuropathic
Mixed/Undetermined
Intervention
Physical Therapy, Massage
Cognitive Behavior Therapy
Physical Therapy, Cognitive Behavior Therapy
Acupuncture,, aromatherapy, music therapy

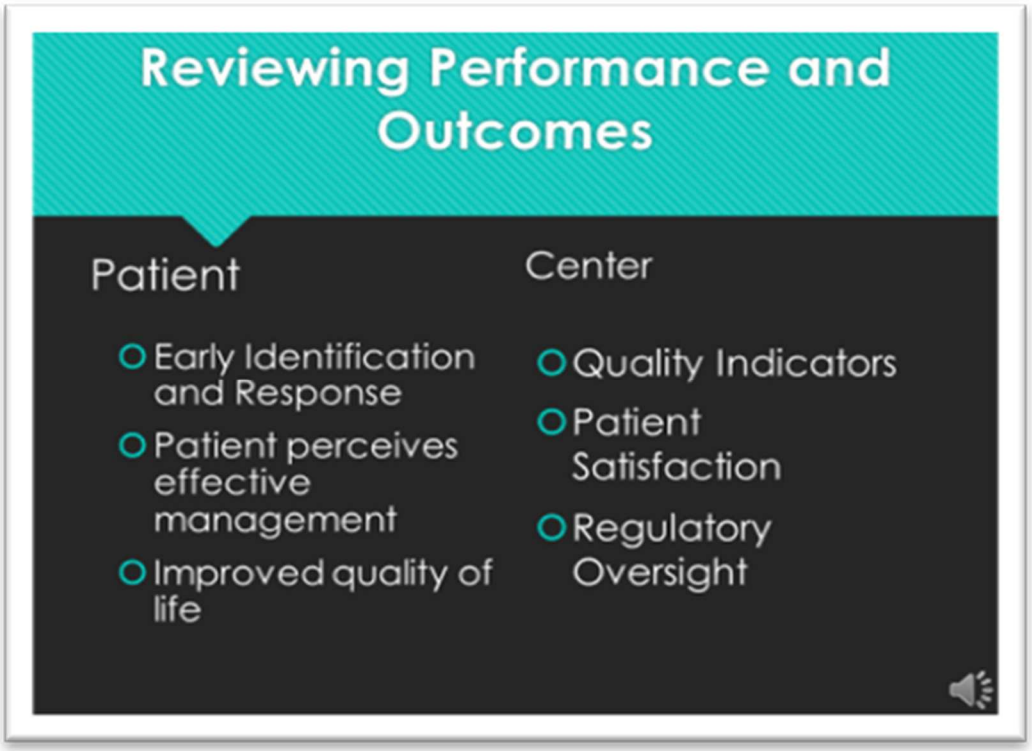

Responding to Pain:
Pain management should be focused on "mindful care" and demonstrate the following:
Individualized Care
Focused on Quality of Life
Patient-Centered
Monitored for Effectiveness
Developed with respect for acute vs. chronic

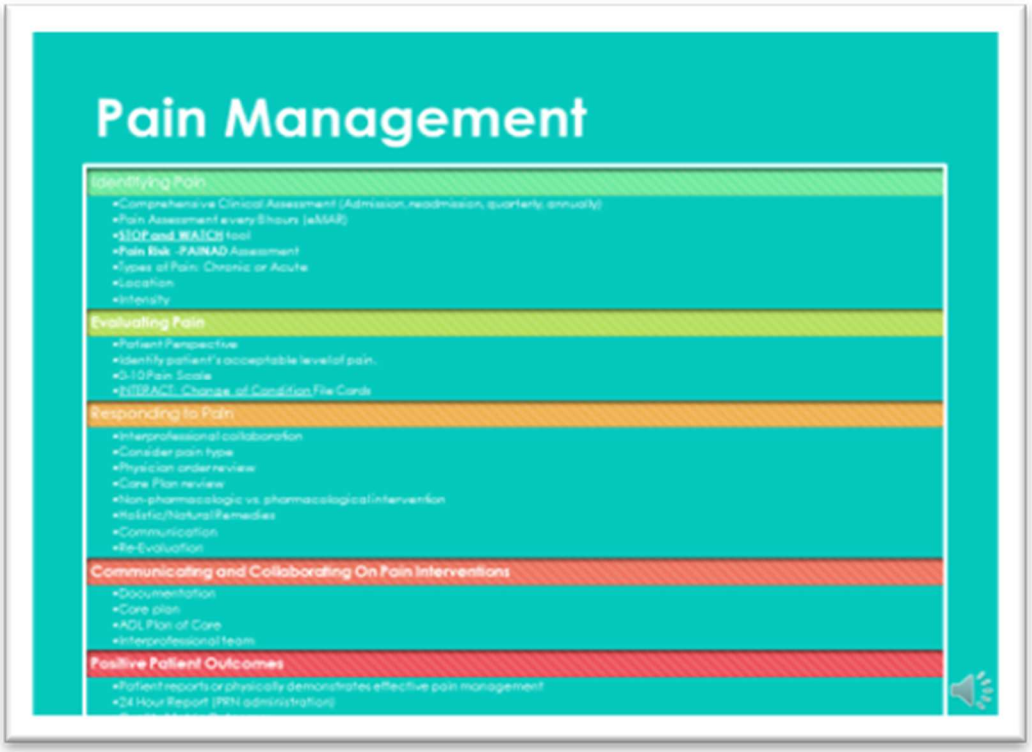
Interprofessional Collaboration

Communicating and Collaborating of Pain Interventions

- Documentation
- Care plan
- ADL Plan of Care
- Interprofessional team


Communicating and Collaborating of Pain Interventions
Patient at Risk Meetings
Clinical Rounding
Care Plan Conferences
Patient/Family Education


Reviewing Performance and Outcomes
Patient
Early Identification and Response
Patient perceives effective management
Improved quality of life
Center
Quality Indicators
Patient Satisfaction
Regulatory Oversight


Pain Management
Identifying Pain
•Comprehensive Clinical Assessment (Admission, readmission, quarterly, annually)
•Pain Assessment every 8 hours (eMAR)
•STOP and WATCH tool
•Pain Risk -PAINAD Assessment
•Types of Pain: Chronic or Acute
•Location
•Intensity
Evaluating Pain
•Patient Perspective
•Identify patient's acceptable level of pain.
•0-10 Pain Scale
•INTERACT: Change of Condition Flow Cards
Responding to Pain
•Interprofessional collaboration
•Consider pain type
•Physician order review
•Care Plan review
•Non-pharmacologic vs. pharmacological intervention
•Holistic/Natural Remedies
•Communication
•Re-Evaluation
Communicating and Collaborating On Pain Interventions
•Documentation
•Care plan
•ADL Plan of Care
•Interprofessional team
Positive Patient Outcomes
•Patient reports or physically demonstrates effective pain management
•24 Hour Report (PRN administration)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Appendix D: Pre- and Post- Learning Pain Management Questionnaire

1. List three components needed for a successful pain management program.
2. Pain should be consistently treated in the same manner for all patients. True or False*
3. Guided imagery is one non-pharmacological intervention that can be used to treat pain. True* or False
4. Which of the following quality of life indicators can be impacted by pain?
    a. Mood
    b. Mobility
    c. Nutritional status
    d. All of the above*
5. _____ is a process that can be used to foster interprofessional communication.
    a. Visit from the nurse practitioner
    b. Clinical rounding*
    c. Family notification
    d. Executive Office Meetings
6. Documentation in the medical record can be used as a form of communication. True* or False
7. Please list one intervention that can be effective in managing pain.
8. List three factors to be considered when assessing a patient for pain.
9. Patients with cognitive impairment cannot be assessed for pain. True or False*
10. Pain management plans should be _____ and _____. (Individualized and patient-centered)

Appendix E: Pre- and Post-Learning Rating for Knowledge of Effective Pain Management

Novice (0-59%): Little to No Experience

Advanced Beginner (60-69%): Some experience, but may be limited to observation of the skill

Competent (70-79%): Coherent Knowledge of the skill through work experience

Proficient (80-89%): Demonstrates ability to use experiences to critically analyze and evaluate

Expert (90-100%): Demonstrates in depth knowledge of the concept and will be able to apply to other clinical experiences

*The percentage from Pre and Post Learning Questionnaire were converted to a 5 point Likert Scale to rate the knowledge level of the participant.

** The percentage criteria is consistent with the criteria established within the center's learning management system.

Novice	Advanced Beginner	Competent	Proficient	Expert
○	○	○	○	○

Appendix F: Post Learning Evaluation Questionnaire

Post-Evaluation	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
This education was successful in helping to identify effective use of clinical tools to perform pain assessments?	○	○	○	○	○
This education was successful in identifying the importance of patient-centered interventions for pain management?	○	○	○	○	○
This education was successful in helping to identify the importance of interprofessional collaboration for effective pain management?	○	○	○	○	○
How likely are you to change your clinical practice as a result of this education?	○	○	○	○	○
Do you feel that your knowledge of effective pain management has improved as a result of participating in this education?	○	○	○	○	○