

NURSES' PERCEPTIONS OF THE BARRIERS TO USING
NONPHARMACOLOGICAL METHODS TO RELIEVE PATIENTS' PAIN IN THE
ACUTE CARE SETTING

by

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Abstract

Managing patients' pain is a challenge that many caregivers face as they balance adequate pain management with minimal drug side effects. Nonpharmacological pain management techniques exist that literature has shown to be effective. Although caregivers may be aware that nonpharmacological pain relief options exist, pharmacological pain management still remains the primary, and often the sole form of pain intervention. The purpose of this project was to identify nurses' perceptions of barriers to using nonpharmacological methods to manage their patients' pain in the inpatient hospital setting. A modified survey was created using the Nurses' Perceived Obstacles to Pain Assessment and Management Practices questionnaire by Coker et al (2010). The modified survey included 19 questions that were relevant to nonpharmacological pain management of an adult patient in the hospital setting. The participants' years of nursing experience was also collected with this tool. A total of 19 nurses that work in the Intensive Care Unit of Newport Hospital, a 129-bed community hospital in Newport, RI were surveyed. The results of the survey showed that over half of all respondents perceived they had inadequate time to educate their patients on the use of nonpharmacological pain management and that their institution did not have clear policies or guidelines of best practices regarding nonpharmacological pain management. Over 45% of all respondents found a lack of system support and education and patient attitude to be barriers. This project identified that both nurses and patients would benefit from further guidance by the institution with the use of guidelines and policies to enhance their knowledge, confidence, efficiency, and skills to manage their patients' pain with nonpharmacological options.

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Nurses' Perceptions of the Barriers to Using Nonpharmacological Methods to Relieve
Patients' Pain in the Acute Care Setting

Background/Statement of the Problem

Nurses have an ethical responsibility to manage their patients' pain (ANA Center for Ethics and Human Rights, 2018). In the Institute of Medicine's (IOM, 2011) *Pain Care Report*, effective pain management is not solely based on the provided intervention but is also based on the patient-clinician collaboration and their efforts to relieve the pain together. Pain can lead to undesirable cognitive effects, and therefore, biopsychosocial approaches to pain management are ideal. However, barriers exist to this treatment design (IOM). General pain management barriers identified by the IOM are described to be organizational, financial, institutional, and educational.

Pharmacological therapy, such as the use of opioids, is often the primary method for pain management for patients (IOM, 2011). It is rationalized that this has been the treatment of choice to date because of the fast and effective pain relief that opioids provide. Although opioids may be effective when managing acute pain in a hospitalized patient, their side effects and potential for complications behoove healthcare professionals to limit their use when appropriate (ANA Center for Ethics and Human Rights, 2018.)

The National Center for Complimentary and Integrative Health (2016) lists some examples of nonpharmacological pain management methods which include deep breathing, yoga, meditation, and guided imagery. These are examples of methods that can be offered to hospitalized patients to complement their ordered pharmacological pain regimen, with the goal of limiting opioid use. Literature has supported improved pain

outcomes for patients using nonpharmacological management methods. A study by Gregory (2016) identified that guided imagery improved pain management in postoperative surgical patients.

According to the ANA Center for Ethics and Human Rights (2018), multiple factors affect nurses' ability to effectively treat patients' pain overall, including their own personal biases, moral disengagement from the patient, knowledge deficits, working in an environment that limits best practices, and facilities' financial constraints. The Position Statement by the ANA Center for Ethics and Human Rights (2018) recommends that education regarding the ideal, *comprehensive* pain management practices be offered to all patients, nurses, and medical professionals who address pain management. It would be beneficial for hospitals to integrate this information into their current nursing educational offerings. This could be useful in addressing any knowledge deficits that exist, increasing awareness of the significance of including nonpharmacological pain management methods into care plans for the hospitalized patient, and identifying any barriers that nurses may present when receiving the education.

There is limited research that solely investigates and describes what nurses perceive to be barriers to using nonpharmacological methods to manage their hospitalized patients' pain. Detecting what these barriers are according to bedside nurses would allow healthcare leaders to target their implementation efforts by identifying what resources are required to assist with improving nursing management of their patients' pain. The purpose of this project was to identify nurses' perceptions of barriers to using nonpharmacological methods to manage patients' pain in the inpatient hospital setting.

Next, the relevant literature will be presented.

Literature Review

The search was completed utilizing PubMed and the Cumulative Index to Nursing and Allied Health (CINAHL). Literature was searched from years 2001-2017 and was limited to only English-language articles. Research involving pediatric patients was excluded from this search. Keywords used included nonpharmacological, pharmacological, pain management, benefits, barriers, opioids, opioid epidemic, nurses' perceptions, and patient perceptions.

Pain Pathophysiology

According to Grossman and Porth (2014), acute inflammation takes place in response to an injury. The vascular phase of inflammation causes an increase in blood flow and alteration in microcirculation. Then the cellular phase sends leukocytes to the area of injury to attempt to eliminate the harming agent. The goal of the body's inflammatory response is to eliminate the injured tissue and repair it. Swelling, abscesses, and ulcerations can develop as a result from the influx of inflammatory cells sent once the body's inflammatory response system activates. Although this response is ultimately attempting to help regenerate the body's injured tissues, these manifestations that take place with this process can cause pain and discomfort (Grossman & Porth).

A nociceptor is a free nerve ending that is sensitive to noxious stimuli (Ellison, 2017). A-delta fibers are large and fast-conducting neurons, responsible for the first, sharp pain sensed from an injury. C fibers are the nociceptors that are small and transmit dull, aching sensations that are difficult to localize. The four phases of nociception are transduction, transmission, perception, and modulation (Ellison). Perception is the significant phase when considering a patient's pain experience and management. This

phase is when the brain determines how it will interpret the sensory experience. The perception phase may be influenced by factors such as genetics, culture, gender roles, past pain experiences, and current health status (Ellison).

In an article by Helms and Barone (2008), the authors reviewed the physiology of pain and explained that nurses are only able to properly manage their patients' pain if they have an understanding of pain physiology, the various types of pain, the various responses different patients may have to their pain, and the reason behind choosing certain pain management interventions. Patients perceive pain when nociceptors transmit a sensation to the spinal cord and then to the brain. Different types of pain include somatic, visceral, and neuropathic pain, which are all caused by different types of stimuli and will respond to different treatment methods.

Age and sex can cause pain experiences to differ (Helms & Barone, 2008). Women more frequently report pain and have a lower tolerance for pain compared to men, and men and women's brain patterns greatly differ when experiencing pain. Elders have altered responses to pain that can be affected by a decline in cognition, reflex time, or communication skills. Different experiences depending on age or sex leads to the need for clinicians to individualize their care when considering pain management options.

Pain Assessment

Pain assessment is a crucial part of nursing care that ensures patients' comfort and prevents interruptions in recovery. The Joint Commission (TJC) (2018) has updated pain assessment standards in their hospital accreditation manual to include that medical staff and leadership must be actively engaged in improving pain assessment and should update assessment techniques to increase concentration on how pain is affecting patients'

physical function. The difference between a pain screening and pain assessment should be understood by providers caring for those experiencing pain. A pain screening identifies if a patient has pain or not, while a pain assessment is a way a provider gathers more information by observation, physical exam, and the verbal collection of data from the patient (TJC). Pain assessment tools can be used and when possible should include assessment of pain intensity, location, quality, and symptoms associated with the pain. Once a proper pain assessment is completed, an effective, individualized pain management care plan can then be created, using the gathered information as a foundation (TJC).

Scher, Meador, Van Cleave, and Reid (2018) explained that pain has been deemed the “fifth vital sign” in the attempt to improve providers’ assessment and control of patients’ pain severity, however, this initiative, unfortunately, did not enhance the treatment for patients experiencing pain and may be considered a contributor to the current opioid crisis. Although pain assessment strategies may have improved over the years, pain relief outcomes have not. At the time the “fifth vital sign” initiative was introduced, the unidimensional Numeric Rating Scale (NRS) was the mandatory form of pain assessment for all patients, which only addressed the patient’s pain intensity. This numeric pain scale is still currently used in practice. These authors now recommend a team approach to assessing pain, using multi-dimensional tools. The recommendation is that the entire pain experience be assessed and not just the perceived severity. For example, how the pain is impacting the patient’s functional status, spiritual state, psychological well-being, and emotional status should all be addressed by the healthcare

team (Scher et al.). Realistic goals can be defined when all of these factors are reviewed with the patient.

Although the idea of a multidimensional assessment may take time and include more questions, it has the potential to obtain a detailed assessment of the impact of the patient's pain. This would further allow the treatment team to more effectively and realistically treat a patient's pain to improve their overall well-being. An example of a multidimensional questionnaire includes the Overall Benefit of Analgesic Score (OBAS) which assesses patients' pain levels as well as the distressing symptoms that can occur from taking an opioid (Lehmann et al., 2010). This tool assesses if patients are in a severe amount of pain while also monitoring side effects from prescribed medications. Another example of a more extensive pain tool is the Clinically Aligned Pain Assessment Tool (CAPA) (University of Utah Health, 2012). The Clinically Aligned Pain Assessment Tool is a questionnaire that encourages a discussion with the patient regarding how their pain is affecting their quality of life. These types of pain assessment tools can not only improve assessment and treatment methods for patients in pain, but also can improve patient and nurse satisfaction if they are able to experience positive outcomes from effective assessments.

Helms and Barone (2008) reviewed the pain assessment and management of the critically ill population. Behavioral pain scales are tools used for those patients who are unable to communicate, and pain can be assessed by observing changes such as their facial expression, muscle tension, and ventilator compliance. Inadequate pain relief is a frequent complaint of patients in critical care units which can lead to sleep deprivation and further complications that limit the patients' recovery. This complaint is not confined

to the critical care setting. Patients in any acute care environment can have their recovery interrupted by unrelieved pain. The literature by Helms and Barone suggested that nurses who are aware of different types of pain and factors that affect patients' pain experience will be able to provide more effective pain management.

In a study completed by Dequeker, Van Lancker, and Van Hecke (2018), pain intensity described by patients was compared with the pain assessment completed by nurses. The validated instrument used by patients in this study included the numeric pain scale ranging from zero to ten. Nurses had to explain if they assessed patients using this pain rating scale, their own clinical expertise, or if they did not measure the pain of their patients. Three hundred and fifty-one patients from various internal medicine, surgical, and geriatric wards agreed to participate in this study, but only 247 nurses caring for the patients willing to participate also agreed to participate. This created 247 dyads from which assessments were completed. Demographics and opinions from the rest of the patients not included in the dyads were included in the results of this study.

Out of these participating patients (n = 351), 35.6% reported a pain level of zero, 36.8% reported a pain level between one and three, and 27% reported a level of four or greater. The nurses caring for these patients (n = 247) assessed that 33.9% of patients had a pain level of zero, 36.8% had a level of one to three, and 26.4% had a level of four or more. Upon evaluating how the nurses were able to assess their patients' pain, 52.3% of the patients had their pain assessed by a validated pain scale (n = 111), 28% (n = 68) were assessed using nurses' clinical expertise, and 19.8% (n = 48) of patients did not have their pain assessed (Dequeker et al.)

There was not a significant difference on a group level between patients' and nurses' assessment of pain intensity for this study. However, on a subgroup level, those nurses who chose to use a validated pain rating tool ($n=83$; $p<.001$) instead of their expertise ($n=49$; $p=.005$) had a higher level of agreement between patient and nurse pain intensity assessments. Patients under age 65 ($n=89$; $p<.001$) and male patients ($n=79$; $p<.001$) also had a higher level of agreement with their nurses' assessments compared to elderly ($n=79$; $p<.001$) or female patients ($n=89$; $p<.001$). In this study the nurses estimated patients' pain correctly for 70% of the patients that participated. The agreement between the actual pain levels was considered to be moderate, suggesting room for improvement of nurses' pain assessment techniques. This study suggests that assessment techniques can be improved, particularly when caring for the elderly and females (Dequeker et al., 2018).

Pain Management

Background. "Pain is whatever the patient says it is, existing whenever the patient says it does" (McCaffery, 1968, p.95). This definition of pain that originated from one of the most well-known pain management pioneers is still taught to nursing students of various accredited programs as they learn the basics of how to properly manage patients' pain. Healthcare professionals should be guided by the ethical principles of autonomy, beneficence, nonmaleficence, and justice when performing assessments and treatment interventions for their patients in pain (Bernhofer, 2011). When assessing pain, clinicians may often still allow their own personal biases to interfere with properly identifying and treating their patients' pain (Bernhofer).

In 1986, the World Health Organization (WHO) developed an “analgesic ladder” to be used as a guideline when managing a patient’s pain (WHO, 2018). This guideline was originally created for patients with cancer pain but has been modified to be used as a reference for clinicians prescribing pain regimens for various types of pain. The ladder lists the first step to managing pain to be a prescribed non-opioid, such as a non-steroidal anti-inflammatory (NSAID). The next step, if pain persists, is to add a mild or weak opioid, such as tramadol or codeine, plus a non-opioid if needed. Lastly, step three recommends that if pain continues or increases to initiate a strong opioid, such as morphine, plus a non-opioid if needed (Best Practice Advocacy Centre (BPAC), 2008; WHO, 2018). An adapted ladder tool was created for acute pain and an uncontrolled or chronic pain crisis (Vargas-Schaffer, 2010). This adapted ladder includes a fourth step that suggests epidurals, patient-controlled analgesics (PCAs), neurolytic block therapy, nerve blocks, and spinal stimulators for pain that persists after step three. All steps of the ladders suggest the option to add an adjuvant (WHO, 2018). The definition of an adjuvant is something that enhances the effectiveness of medical treatment (Merriem-Webster, 2018). Adjuvant drugs include anxiolytics, antidepressants, steroids, gabapentinoids, antiepileptics, and cannabinoids (Vargas-Schaffer, 2010). Use of adjuvants does not only have to include nonopioid medications but can also include nonpharmacological pain management methods that can enhance the effect of pharmacological methods used to relieve pain.

A multimodal approach to treating postoperative pain is recommended because pain originates in different ways (Ward, 2015). Pharmacological options when using a multimodal approach include opioids, nonopioids, and adjuvants. Examples of

nonopioids include acetaminophen, ibuprofen, and ketorolac. An adjuvant is a medication that's primary purpose is not to treat pain but can have a pain-relieving effect for some conditions or when combined with other medications for pain; examples include antidepressants and anticonvulsants. Ward suggested that nurses have an extensive knowledge of various pharmacological therapies in order to provide optimal pain management, promote comfort, and prevent complications in their postoperative patients.

One of the objectives of the Interagency Pain Research Coordinating Committee's (IPRCC) National Pain Strategy (2016) recommendations was to develop pain self-management programs nationwide. It is encouraged that patients experiencing pain are provided with the appropriate education and resources to actively participate in managing their own pain. These programs include problem solving, action planning, decision making, and most importantly: when to seek help. The short-term strategy recommends these programs be culturally neutral for various populations and cover topics to assist patients with preventing, coping, and reducing pain. The option of using tools for pain management and provider feedback such as a mobile app or patient portal to aid a patient in being independent with keeping track of their health regime is also suggested in this strategy. The inclusion of patients' own ideas and feedback is a significant step to providing a patient with independence and autonomy in their pain management plan.

In 2017, the Center for Disease Control and Prevention (CDC) released that 29% of people over 65 years old had filled one or more opioid prescriptions during 2016. There are also other various nonopioid and adjuvant medications with analgesic properties that are prescribed for patients to manage their acute or chronic pain. It is now becoming standard practice for a pain regimen to be a combination of opioids and

nonopioids to prevent the need to increase doses of independently used opioids or to have multiple opioids prescribed to a patient.

The Joint Commission's (TJC) official newsletter (2017) reviewed the enhancement of pain assessment and management requirements for accredited hospitals in 2018. The requirements were updated to improve the quality of pain management while also enhancing the safety of prescribing opioids. This update was completed after TJC reviewed current literature and identified disparities between modern recommendations and their current pain management requirements. Some of the new requirements added include involving the patient in their treatment plan to establish realistic pain goals, identifying high risk patients to promote safe opioid use, and conducting performance improvement activities for staff to enhance their pain management skills.

Related Research. Researchers, Herr and Titler (2009) completed a comprehensive chart review of 1454 older adult patients treated in the emergency department with acute pain due to a hip fracture between years 2000 to 2002. Chart data were separated by year. This study's purpose was to assess pain assessment strategies and pharmacological treatment strategies after an acute pain management guideline for older adults was initiated by TJC. Over ninety-four percent of patients over three different time periods had some form of documented pain. In the first time period, year 2000, 16.5% (n=101) of patients had pain documented with a Numeric Rating Scale (NRS), 6.7% (n=41) used a non-NRS scale, and 6.1% (n=31) had observed pain behaviors documented. By 2002, 54% (n=155) of patients had their pain assessed with the standard approach of the NRS. Thirty-four percent at the end of the 2002 data collections had no

objective pain assessment severity documentation at all. Pain location was documented for 93% to 98% of patients across the three time periods. This study showed that pain documentation had increased since the pain assessment and management guideline was announced.

Over the three years, between 59.8% and 61.9% of patients had an analgesic ordered and between 68.1% and 75.8% had an analgesic administered. On average, half (n range from 168-348) of the sample received a pain medication and only approximately 10% of the medications administered was a nonopioid or adjuvant. Morphine and meperidine were two of the most common medications ordered; however, over time there was a great decrease in ordered meperidine. There was a higher number of opioids administered than ordered, leading to the conclusion that these controlled substances were either being administered without an order or verbal and emergent orders were not being documented appropriately. This relaxed style of practice left room for unclear evidence of care, unsafe provision of care, and the opportunity for opioids to be diverted by staff. There was also a reduction in nonopioid orders and an increase in opioid orders; Herr and Titler (2009) stated it was possible that nonopioid and opioid combinations in the emergency department setting may not be deemed as beneficial as in an inpatient unit where pain management is continued. It is evident that the year of this publication contributes to these findings of an increase in opioid administration and what seems to be doubt in the effectiveness of nonopioid use in an emergency department by the authors.

Guidelines can be useful in directing pain management practices. Zoëga, Ward, Sigurdsson, Aspelund, Sveinsdottir, and Gunnarsdottir (2015) reviewed charts of 282 adult patients hospitalized for at least 24 hours to determine if their pain was managed in

accordance with current guidelines. This included proper assessment and documentation, pharmacological and nonpharmacological management, and treatment of pain management side effects. Patients on psychiatric or pediatric wards were excluded. Fifty-seven percent (n=160) of the patients had pain assessment documentation in their charts. Fifteen percent (n=43) of those assessments that were documented used a standardized pain scale. Eighty-five percent (n=239) of the sample had pharmacological therapy prescribed for pain. Ninety-two percent (n=73) of surgical patients had analgesics prescribed both scheduled and as needed. Sixty-three percent of medical patients were prescribed analgesics only as needed. Pain treatment administered was inadequate in 36% (n=88) of patients. Five percent (n=13) of patients had nonpharmacological pain management methods documented in their charts. Seventy-seven percent (n=214) of patients stated their nurse or doctor never recommended using nonpharmacological methods for pain management. Forty-one percent (n=103) of patients with scheduled analgesic medications had scheduled laxatives and as needed antiemetics ordered.

Although patients may not have always received adequate pain relief each time, factors that prevented satisfactory pain relief were not considered in this study, such as the patient being sedated, the nursing staff not having specific management guidelines or resources to follow, or the patient declining pain medications (Zoëga et al., 2015). It was rare for nurses or physicians to suggest nonpharmacological pain management techniques, which suggests that they did not have sufficient knowledge to explain and encourage these types of methods to their patients. Zoëga et al. encouraged that staff education should be provided and policy and procedures need to be in place for staff to be able to effectively and consistently manage the hospitalized patient's pain.

Medication management by clinicians is crucial to maintaining effective pain control and assessing for symptoms of intolerance. Often the primary provider is the one to manage a patients' medications, along with the many other tasks that must be completed to provide management of a patient's health comprehensively. This method of medication management has the potential to be unsafe or ineffective due to the providers' time constraints and expenditure of attention on various health matters. A study completed by Slipp and Burnham (2017) compared medication management interventions for patients with chronic pain by a sole provider compared to management by a provider and pharmacist collaborative team. This literature is specific to patients with chronic pain; however, the collaboration of a multidisciplinary healthcare team creating a pain management regimen is beneficial in acute pain management as well. A total of 89 patients were included in the study: 56 patients were managed by a sole provider and 33 patients were managed by a provider and pharmacist team.

A Pain Interference Questionnaire (PIQ) was provided to patients before and after visiting with their provider or provider and pharmacist team to address how severely the patients' pain was interfering with different life domains. Patients managed by a provider alone had their PIQ scores improve by 29% and their relief from medication improved by 38%. Patients who were managed by a provider and pharmacist team had PIQ scores improved by 37% and their relief from medication improved by 88%. Results of this study showed that both methods of medication management were comparably effective with improving patients' pain level and disability, but the pharmacist and provider team proved to be more cost-effective and resulted in higher patient satisfaction compared to the sole provider as the medication manager (Slipp & Burnham, 2017). This

study supports the idea that managing pharmacological treatment for pain can be a complex, time-consuming task that is more manageable when multiple clinicians are involved in the process.

Nurses' Role in Pain Management

Nurses have a significant impact on the management of their patients' pain. They often act as the eyes and ears for the clinicians prescribing treatments and medications. Nursing staff are responsible for assessing the severity of their patients' pain, how it is impacting their health or recovery, and if there are any side effects from the treatment regimen ordered. It is a nurse's ethical responsibility to address and manage a patient's pain experience (ANA Center for Ethics and Human Rights, 2018).

In research completed by Klassen, Liu, & Warren (2009), 75 staff members of a rehabilitation hospital in Canada, including RNs, licensed practical nurses, physical therapists, and occupational therapists, were provided with training regarding best practices in pain management. The study's purpose was to determine how this training affected staff knowledge and attitudes about pain management, specifically in the older adult, and how it affected patients' length of stay and functional outcomes. The researchers used a questionnaire to evaluate staff knowledge and attitudes post training and completed chart audits to assess improvement in pain rating documentation. They also evaluated the patients' length of stay and if there was an improvement in patients' functional abilities at discharge compared to the admission assessment.

Three staff training videos were provided for viewing by staff on all shifts over a three-month period. The training provided education on topics including older adults' experience of pain, pain assessment and management for this population, managing

persistent pain, and clinical practice guidelines for pain management in older adults (Klassen et al., 2009). Researchers provided a questionnaire before and after training took place, the *Barriers to the Assessment and Treatment of Pain* by McCaffery and Pasero (1999), which assessed staff knowledge and attitudes toward pain management. Three pretraining chart audits were completed as a pilot to address how the audits would take place and what needed to be adjusted. Then three chart audits were completed post-training to assess for an improved frequency of pain assessment documentation and for improvement in patients' pain intensity, length of stays, and functional status.

Obtaining a pain rating upon admission increased from 30% (n = 37) of patients receiving this assessment during the pretraining time period to 73% (n = 37) in the first month's post training chart audit. This increased to 59% (n = 33) in the second month audit and 65% (n = 40) in the third month chart audit. Ongoing monitoring of pain using a pain rating scale increased from 6% (n=37) of patients having this ongoing assessment documented pretraining to 14% (n=37, p=.003) in the first month post training, 15% (n=33, p = .002) in the second month, and 13% (n=40, p = .004) in the third month post training. These findings were statistically significant.

Prior to the project, average length of stay had increased from 30 days per year in 1997 to 40 days per year in 2002. If the increasing rate continued it would be estimated that by 2003 the length of stay for the average patient would be 42 days per year. Patient length of stay and hospitalization costs decreased as a result of this performance improvement project. After this project implementation, the actual length of stay post implementation was 36 days (n=91). The cost of the average hospitalization also decreased from \$23,400 pretraining to \$21,060 post training. There was also an

improvement in patients' overall functional status. The Functional Independence Measure (FIM) is an assessment tool used to evaluate how much assistance a patient requires performing activities of daily living (ADLs). The minimum FIM scores is 18 and the maximum score is 126 (Sears, 2017). Pretraining, the FIM scores improved from 82 (n = 12) to 97.6 (n = 18) and post-training the FIM scores improved from 82.6 (n = 17) to 100.3 (n = 17). Results of this study demonstrated an improvement in accuracy of staff knowledge and attitudes toward pain management; the likelihood of staff assessing and documenting pain management assessments, reassessments, and interventions also improved (Klassen et al., 2009).

In an integrative review completed by Fitzgerald (2017), the author identified that there are barriers for nurses to adequately manage patients' pain, specifically for older adults within an acute care setting. There are also factors that facilitate the nurses' management of pain for this population. Thirteen studies were reviewed and a total of 756 nurses were represented in this research. The author synthesized the results into four categories: nursing practice; organizational factors; knowledge and education; and power balance.

This review identified that nurses' perceptions and attitudes toward pain management in the elderly population greatly affects their ability to manage the pain of their older adult patients (Fitzgerald, 2017). It was noted that people surrounded by others experiencing pain often have a diminished response to the situation and also showed that elder patients' needs are not prioritized the same by nurses as patients who are of a younger age. Fitzgerald discussed the limited knowledge and education nurses receive regarding prescribed analgesia and also identified that a combination of analgesic

medications with nonpharmacological interventions would facilitate the pain management process for the older adult patient.

There is a hesitancy and fear to administer opioids to all patients, including the older adult, possibly due to a culture that has created a negative stigma around opioids due to the potential for adverse effects and addiction (Fitzgerald, 2017). Organizational issues such as inadequate staffing, time constraints, distractions, and interruptions were all found to be barriers to providing adequate pain relief to the elderly patient as well. Improved support, confidence, and education regarding adequate pain management in the older adult could eliminate the barrier of limited knowledge and education on the topic. Nurses may overcome the barrier of older patients' health literacy by providing support and health information access so that they are better informed on their pain management options. A patient is in a vulnerable state and often does not have a sense of control. This vulnerability is a significant barrier that incorporates older patients under-reporting pain and the sense of fear that pain causes them to feel (Fitzgerald).

The author concluded that perceptions of pain management in the older adult patient in an acute care setting needs to be prioritized at a higher level in nursing practice. Pain assessments should be individualized, and communication enhanced to promote self-efficacy and autonomy in the older patient experiencing pain. The author also identified there was a need for nursing education regarding pain management, specifically for the older adult, and a need for an organizational plan to provide adequate resources that can allow nursing practice in this area to progress. Although time and resources are common barriers to improving most standards of care in the hospital

setting, pain management has been an ongoing goal for improvement in acute care and should be viewed as a priority by healthcare leaders (Fitzgerald, 2017).

Opioid Crisis

An opioid crisis currently exists in the United States. According to the Interagency Pain Research Coordinating Committee [IPRCC] (2016), an opioid use disorder is one that takes place when prescribed opioids, possibly combined with illegal opioids, causes a significant impairment and failure to meet major life responsibilities. It is diagnosed based on the inability to reduce opioid use, social impairment, and physiological symptoms. The IPRCC stated that the risk for misuse or dependence on prescribed opioids as a public health concern causes pain management to be complex, especially for those with chronic pain.

Over the past several decades a public health goal created by governing bodies in healthcare, such as The Joint Commission, intended to improve pain management in the United States (US); however, this strategy inadvertently led to consequences such as opioid misuse, addiction, and deaths (IPRCC, 2016). According to Hedegaard, Warner, and Miniño (2017), there were over 63,600 opioid overdose fatalities in the US in 2016. The crisis this country is experiencing, and the rising statistics, can instill a sense of fear in patients and providers when needing to manage pain with pharmacological methods.

Because of these rising statistics and the unintentional harm that has affected many patients who were prescribed opioids, prescription regulations are repeatedly being updated and enforced by departments of health to attempt to control this matter and improve patient outcomes. For example, in June 2018, *Rules and Regulations for Pain Management, Opioid Use, and Registration of Distributors of Controlled Substances in*

Rhode Island was distributed by the Rhode Island Department of Health [RI DOH]. The new regulation requires prescribers to have and document a specific conversation regarding the newly prescribed opioid risks. Some examples of the specific inclusion criteria for this conversation include risk for dependence, overdose, or death, impaired ability to safely operate a vehicle, and alternative pharmacological and nonpharmacological pain management treatment options (*RI DOH*, 2018). Past initiatives to manage pain in this country have unfortunately led to a fatal crisis that will likely take years to resolve.

Qualitative research using an interview process was completed by Smith et al. (2015) to learn patients' perspectives and experiences when being treated for acute pain in an emergency department setting during the current opioid epidemic. The goal of this study was to identify what interventions would be effective to improve patient engagement when providers review risks and benefits of alternative pain management techniques. Participants were required to have acute pain due to renal colic, an acute musculoskeletal back problem, or a fractured extremity. Forty-eight patients in the emergency department agreed to take a verbal survey regarding their pain management. Twenty-three of these patients also participated in a follow up telephone interview to discuss their pain management. Patients participated in open-ended telephone interviews after being discharged from the emergency department and a team then reviewed recorded interviews and noted themes that emerged.

Patients reported a lack of communication with the provider regarding the risks of taking opioids and alternative pain management options available. A common theme was that patients feared becoming addicted to opioids. Some quotes by patients made it clear

that much thought, caution, and effort was used to avoid addiction when in pain and requiring opioid. For example, some patients mentioned that they would not take a pain medication if they did not really need it, to prevent becoming addicted. Others talked about learning about pain medications and addiction in movies and on the news. One patient mentioned fearing an increased pain tolerance and need to increase the pain medications because they did not want to add a separate problem to the health issue they already had, referring to adding an addiction to his/her life. Some patients demonstrated a misunderstanding that by taking opioids as prescribed or because they did not “enjoy” the feeling of having an opioid in their system, that addiction was not possible. A theme noted was that patients could sense the hesitancy by a provider to prescribe an opioid. These participants blamed their inability to receive opioid prescriptions for adequate pain relief on patients who are becoming addicted or abusing their opioid prescriptions. The theme involving lack of communication was supported by patients stating: they were unaware of what tests showed and were unclear on the cause of their pain; they were not asked further questions about their pain beyond a score on a 0-10 numeric pain scale; and they did not have the option to be involved in the decision of how their pain would be treated.

This article demonstrated the clear stress that is put on providers in the emergency department as well as the patients experiencing pain due to the current opioid epidemic and the fears that come along with a prescription for an opioid. Smith et al. (2015) synthesized the research findings by suggesting an improvement in communication regarding the risks of opioid use and recommending that patients be encouraged to participate in the decision process when choosing a pain management treatment option.

A pain management protocol was created by Parish Warren (2016) to improve providers' knowledge and practice regarding safe opioid prescribing practices and to improve the monitoring of patients on opioid therapy to prevent addiction. The protocol provided consistent management practices for patients with chronic pain coming in to the emergency department or in to the primary care doctor's office who were already prescribed opioids or other highly addictive medications. The protocol could also be used for those with acute pain with whom providers wanted to prevent addiction. Effectiveness of the new protocol was evaluated by pre and post surveys distributed to administrators and providers from an emergency department and primary care clinics. Staff were provided with education regarding signs and symptoms of prescription drug abusers and the current best practices for prescribing opioids.

Eight pre-implementation and post-implementation surveys were returned by providers. Survey questions response options included: 1= not at all aware/never, 2 = slightly aware/rarely, 3= somewhat aware/occasionally, 4= moderately aware/moderate amount, and 5= extremely aware/a great deal. The providers' responses increased from 4 pre-implementation to 4.25 post-implementation. The abuse assessment increased from 3.875 to 4.75. The use of urine drug screened increased from 2.75 to 3.125 post implementation.

After the protocol was put in place, providers increased the amount they discussed risks for abuse with their patients. Overall, this protocol improved the daily operations of the healthcare settings and providers became more knowledgeable, attentive and aware of their patients' behaviors who were prescribed opioids (Parish Warren, 2016). Protocols and research projects such as this assist with prevention of addiction and harm that

contributes to the opioid crisis this country is experiencing. These types of interventions have the potential to increase awareness amongst providers and patients alike, ultimately behooving them to become more open to pain management options that are non-opioid or nonpharmacological therapies.

Emergency department providers are torn between the ethical principle of beneficence and maleficence when they are professionally obligated to provide comfort and relieve pain for their patients while also increasing the possibilities of the patient experiencing adverse effects of opioids, opioid misuse, dependency, and diversion. Cohen et al. (2015) initiated an opioid reduction protocol to be used in emergency departments for patients complaining of acute pain. This was done to address if the use of a multimodal pharmacological approach to pain management could replace the use of opioids as the primary treatment of acute pain in this setting. The study was created with the goal of implementing this protocol during an eight-hour “opioid free shift” in which staff would follow the protocol and only order and administer opioids in an emergent situation. The protocol provided recommended medication options depending on the patient’s pain scale. Some examples of options included oral ibuprofen, acetaminophen, gabapentin, naproxen, intravenous ketorolac, ketamine, lidocaine, and propofol. Patients who participated were still eligible to receive emergent opioid treatment if their pain remained severe with the protocol recommended medications. Results showed that 16 out of 17 (94%) patients had their pain adequately managed with intravenous ketorolac and oral ibuprofen, with one patient requiring a rescue dose of an opioid (Cohen et al.). Research that utilizes interventions such as this protocol and the experiment of an “opioid

free shift” is paving the way to a reduction of harm and fatalities caused by the opioid crisis.

Nonpharmacological Pain Management

Nonpharmacological therapies may be considered beneficial techniques for pain management, but it is not always expected that pain be managed by these types of methods alone. A nonpharmacological therapy does not involve a medication and can be considered a complimentary or alternative therapy. According to the National Center for Complementary and Integrative Health (2016) a “complimentary” therapy is an unconventional therapy used in conjunction with a conventional therapy. In the topic of pain management, a conventional therapy would be a pain medication. An “alternative” therapy is a practice used in place of a conventional therapy that is not considered mainstream. Types of complimentary and potentially alternative therapies that are nonpharmacologic include mind and body practices. Examples of these treatment options may include: guided imagery, music therapy, meditation, massage therapy, acupuncture, acupressure, physical therapy, and yoga (The National Center for Complimentary and Integrative Health, 2016).

Nonpharmacological therapy can be a useful adjunct to pharmacological therapy and has the ability to limit the amount of pharmacological treatment needed while still improving pain levels. For example, the removal of a chest tube can be an extremely uncomfortable procedure that often requires pain medications. Freisner, Curry, and Moddeman (2006) completed a study that compared the effect of chest tube removal on patients who received an opioid with patients who received an opioid and practiced taught slow breathing exercises. Participants in this study were 40 adult patients in three

different cardiothoracic intensive care units that had undergone a coronary artery bypass. Fourteen men and five women with the average age of 69 were in the treatment group that used relaxation techniques to manage pain along with prescribed medication. The control group consisted of 16 men and five women with the average age of 63.

The patients' pain levels were assessed before, immediately after, and 15 minutes after the removal of a chest tube (Freisner, Curry, & Moddeman, 2006). The participants in the relaxation group in this study were instructed on how to perform a slow breathing exercise, and to initiate the exercise five minutes prior to removal of their chest tube and through the removal process. They were also encouraged to continue the breathing exercise for as long as they wished.

The findings of this research showed that the patients in the control and treatment groups had an average pain rating of approximately 5 on a 0 to 10 scale before the chest tube removal was initiated. Immediately after removal the mean pain scale was 6.5 for the treatment group and 8.61 for the control group. Fifteen minutes post removal the mean rating for the treatment group was 3.07 and the mean for the control group was 5.57. Results showed the patients performing the relaxation breathing exercise in addition to receiving a pain medication had significantly lower pain scores immediately after ($p = .007$) and fifteen minutes after ($p = .006$) the removal of the chest tube compared to the group of patients who solely received a pain medication (Freisner et al.). This is one example of an uncomfortable procedure that takes place in the hospital setting where nonpharmacological pain management can be utilized, and as shown in this study, can be effective, in decreasing a patient's pain level despite the trauma and discomfort that takes place.

In a descriptive study by Adams, White, and Beckett (2010) a convenience sample was used to assess if massage therapy decreased pain levels for patients in the inpatient hospital setting. Patients within the sample were from various hospital units with a variety of diagnoses causing their pain. Fifty-three patients' pain levels were assessed before and after the massage intervention was provided. Massage therapy interventions ranging from 15 to 45-minute sessions were provided to participating patients. A survey regarding how the massage therapy affected their pain management was provided upon discharge from the hospital. A retrospective chart review of these patients was also completed to observe documentation of patients' pain.

Results showed a statistically significant reduction in the patients pain post-massage ($p = <.001$). The mean pain rating on a 0 to 10 scale before massage therapy was 5.18; the mean rating after massage was 2.33. Approximately 51% ($n = 27$) of patients that took the survey received only one massage, others received up to three massage sessions. Fifty-three percent ($n = 28$) of patients felt the effect of the massage lasted one to four hours. 20.3% ($n = 11$) felt the effects lasted four to eight hours. Fourteen percent ($n = 7$) felt the effects lasted 8 to 24 hours. Sixty-seven percent of patients ($n = 35$) stated they plan to continue massage therapy to assist with their healing process. Over 80% ($n = 42$) of patients declared that their overall pain relief was improved after massage therapy.

The qualitative portion of this study revealed that massage therapy also improved patients' overall well-being, emotions, and sleep while hospitalized. Out of the 53 participants, only one denied feeling any effect from the massage therapy provided. Stress and anxiety are often factors that affect patients' recovery and pain alleviation while in an unfamiliar environment like the hospital, and this study provided evidence

that massage therapy provided a strong sense of relaxation to the participants involved (Adams et al.).

Research by Good et al. (2010) investigated the comparison of pain relief that occurred postoperatively between patients who used a patient-controlled analgesic [PCA] by itself and patients who used a PCA in addition to receiving relaxation and music therapy. Thorough patient teaching regarding these therapies prior to surgery was also an intervention in this study. Patients were educated on pain to expect, how to be empowered to manage their pain, and the benefits of pain medications in the postoperative stage despite opioids' negative stigma. This education intervention was done with the intention of assisting patients to have a positive, empowered attitude regarding the pain medications and PCA to help minimize post-operative pain. Relaxation techniques included an audiotape that instructed a jaw relaxation and slow breathing technique, in addition to listening to music therapy of the patient's choice.

The hypothesis that patient teaching about pain would decrease their pain level was not supported in this study (Good et al., 2010). However, the group that received relaxation techniques and music therapy did show a significant reduction in their perceived pain on day one at two measurement points ($p = .001$; $p = .04$) and on day two ($p = .04$) (Good et al., 2010). Many patients in this study also reported enjoying the music they chose and feeling relaxed and tired from the therapy (Good et al., 2010). These findings were similar to those of Adams et al. (2010) when it was suggested that massage therapy promotes positive emotions and sleep, which also can assist with decreasing a pain level and improving a patient's recovery.

Research by Gregory (2016) studied same-day postoperative patients who received a guided imagery method of pain management in addition to pharmacological treatment. Guided imagery is a method that allows the patient to have their attention drawn elsewhere, away from their pain, and allows them to feel a sense of control while in a vulnerable state such as after an operative procedure. Guided imagery combines the creation of mental images and relaxation techniques with the goal of relieving the perception of pain (Gregory).

This study's findings supported the use of guided imagery as a pain management technique in combination with pharmacological therapy. After the ordered analgesic was administered, patients' pain on average decreased from approximately 7 out of 10 down to approximately 5 out of 10; post medication to post guided imagery, the patients' pain on average decreased from approximately 5 out of 10 to approximately 2 out of 10 (Gregory). This nonpharmacological technique is another example of a method that can be effective and efficient in a healthcare institution and is also a technique eligible to improve patient satisfaction.

Tedesco et al. (2017) completed a systematic review on limiting opioid consumption by using drug-free interventions after a total-knee arthroplasty. The search criteria were limited to studies written in the English language. Total knee replacement, arthroplasty, and post-operative pain were all terms searched when locating research. The meta-analysis was restricted to randomized control trials (RCT) using patients over 18-years-old that had elective surgical procedures. A total of 39 RCTs were used for the meta-analysis ranging from years 1991-2015. A total of 2391 patients were included in this systematic review. The interventions mostly used and reviewed from these studies

were continuous passive range of motion (CPM), preoperative exercise, cryotherapy, also known as cold therapy, electrotherapy, and acupuncture. The studies were divided into intervention groups: 18 reviewed CPM; three reviewed preoperative exercise; 12 reviewed cryotherapy; three reviewed electrotherapy, and four reviewed acupuncture. The assessed outcomes in this systematic review included pain relief and analgesic consumption.

The results of this study showed moderate certainty that out of these interventions, it was electrotherapy (mean difference, -3.50 ; 95% CI, -5.90 to -1.10 morphine equivalents in milligrams per kilogram per 48 hours; $p = .004$; $I^2 = 17\%$) and acupuncture that delayed the consumption of opioids (mean difference, 46.17 ; 95% CI, 20.84 to 71.50 minutes to the first patient-controlled analgesia; $p < .001$; $I^2 = 19\%$). There was low-certainty evidence that acupuncture improved pain (mean difference, -1.14 ; 95% CI, -1.90 to -0.38 on a visual analog scale at 2 days; $P = .003$; $I^2 = 0\%$). Electrotherapy is an intervention that supports the Gate Control Theory, which identifies a process that can block the perception of pain by stimulating the nerve fibers that transmit pain signals with a nonpainful stimulus (Mascarin, Vancini, Andrade, Magalhaes, de Lira, & Coimbra, 2012). Tedesco et al.'s analysis showed that electrotherapy not only improved the management of pain acutely after surgery, but also can decrease pain levels over a longer recovery time and can provide long-term improvement of pain severity. The findings regarding acupuncture demonstrated effective pain management in the acute postoperative phase but long-term is not an effective pain alleviator. This analysis did not show any evidence that continuous passive range of

motion, cryotherapy, or preoperative exercise alleviates perceived pain after this surgery (Tedesco et al., 2017).

Patients' Perceptions of Nonpharmacological Pain Management

Barriers to managing pain is a significant assessment to obtain from those who provide the management and those who receive it. Dequeker, Van Lancker, and Van Hecke (2018) conducted a cross-sectional study that compared nurses' pain assessments and perceived barriers to managing pain for inpatient hospitalized patients with patients' own pain assessments and perceptions of pain management barriers. The instruments used for this study included the valid and reliable Numeric Rating Scale (NRS) used to assess patients pain intensity on a zero to ten rating scale. The other instrument used was the Barriers to Pain Assessment and Management Scale by Elcigil et al. (2011), which assesses barriers such as fear of addiction and concern about side effects, using a 5-point Likert scale (1= strongly agree; 5= strongly disagree). Three hundred and fifty-one patients admitted to various hospital units and of various ages over 18 participated in this study. Nurses completed the same pain assessment and management barriers survey as the patient participants.

There was a difference in patients' beliefs regarding pain management and pain medication and what nurses believed their beliefs were. Thirty-seven percent (n =130) of patients reported fear of taking pain medications due to fear of addiction and 47% (n = 165) had fear of side effects; however only 5.3% (n =13) of nurses' assessments identified their patients to have this fear of addiction and 7.7% (n = 19) felt their patients had fear of side effects ($p = .014$; $p = .187$). Approximately 41% (n =143) of patients also reported having difficulty using the pain scale and being able to explain their pain

severity. This supports that patient-nurse communication and relationship need to improve in strength and clarity. Nonpharmacological pain management options may be an available option; however, if clinicians are unaware that their patients are interested in this option they will often automatically resort to pharmacological therapies. Patients' perception that pain medications are something to fear and nurses' underestimation of that belief is a communication barrier, which is then ultimately a nonpharmacological pain management barrier.

Although chronic pain managed in the outpatient setting and acute pain in the inpatient setting may be vastly different, some forms of pain management and patients' beliefs toward therapy may be similar. A qualitative study on the barriers and facilitators to using nonpharmacological pain management for chronic pain in the outpatient setting was done by Becker et al. (2017). Patients, nurses, and primary care physicians were interviewed on their beliefs of the barriers to the use of this therapy and were also educated on different types of therapies as examples. Participants in this study were divided into eight groups: four groups were patients; two groups were nurses; and two groups were primary care providers. Participants were asked to individually make lists of what they considered to be barriers and facilitators to using nonpharmacological pain management techniques, then their individual lists were compiled and simplified into one group list. The participants then placed anonymous votes on what the three most significant barriers and facilitators were from the group list.

Patients and providers alike reported that they had a lack of knowledge of what types of nonpharmacological pain management options were available or the rationale behind some of them (Becker et al.). Patients also identified a lack of motivation to

pursue these types of therapies, and both providers and patients admitted to being skeptical of the efficacy of these forms of treatment compared to pain medications.

Patients also felt they had a lack of support from loved ones and doctors to engage in nonpharmacological therapies; some patients also looked at the examples of therapies as a burden, time consuming, and having the potential to cause harm or more pain.

Facilitators described included stronger communication between the provider and patient regarding education, rationale, availability and encouragement regarding options for nonpharmacological pain management. One of the biggest barriers listed by these chronically ill patients was transportation and cost to participate in the possible therapies; this barrier should not be comparable to hospitalized patients with acute pain (Becker et al.).

Nurses' Perceptions of Nonpharmacological Pain Management

Along with patients, nurses can be viewed as the stakeholders when nonpharmacological therapies are considered as an option for pain management in the hospital setting. Therapies may be available, and patients may be willing to participate, but if nurses, as the primary caregivers in this setting, feel there are barriers to completing these types of therapies, they will unfortunately not be provided. Although many hospitals declare safe, caring, and patient-centered practices as a part of their mission statement, nurses may identify interferences with this type of care when it comes to pain management, causing the patients to inadvertently suffer.

Helmrich et al. (2001) completed research using a focus group interview method with 37 nurses with the purpose of examining nurses' perceptions of using nonpharmacological treatments to manage patients' pain in the hospital and to identify

what influences nurses to use these types of therapies. These interviews showed that the most common nonpharmacological therapies used by the participating nurses (n =22) included massage therapy at 16%, relaxation techniques at 14%, and distraction techniques, such as music, at 13%. The less common therapies included reiki (5%), acupuncture or acupressure (5%), and imagery (4%). These findings are notable because the more commonly used therapies are ones that tend to be readily available or manageable by a nurse of any experience; however, the less commonly used therapies likely require some type of expertise or knowledge. Positive factors noted from nurses in this study that affect the use of nonpharmacological therapies included that these treatments can treat pain at a multidimensional level; they can also treat psychosocial symptoms that affect pain; they increase nurses' quality time with their patients; they improve patient satisfaction and nurses' job satisfaction; and they offer patients a sense of control while hospitalized and vulnerable (Helmrich et al.).

Nurses' perceived barriers to providing these treatments included that this form of treatment was not prioritized in the hospital setting or within the medical model. Many noted that they lacked the knowledge required to perform some of these nonpharmacological treatments. Some nurses commented that patients enter the hospital setting expecting pharmacological treatments and often doubt the efficacy of nonpharmacological methods. It was also noted that nursing peers and other healthcare professionals do not always support these forms of therapies and nurses are concerned about being judged if providing nonpharmacological treatments. The organizational barriers included a lack of hospital guidelines or policies on this topic, a lack of professional endorsement, and a lack of resources or time allocated by administration so

that these types of therapies could be provided. Some nurses explained that they were “spread thin” with many different “basic” tasks throughout a shift and they hardly had the assistance to complete this work. Adding therapies that are not always available, not considered “standard practice,” and not always supported by other healthcare providers would be difficult to include in care. However, some participants commented that providing these therapies could actually lead to less demands and could save nurses time overall because their patients may be requesting pain management less frequently, being in a more relaxed and comfortable state (Helmrich et al.).

Although the participating nurses voiced their frustrations regarding barriers, they admitted that nonpharmacological treatments reduce the number of opioids used by their patients and improve the therapeutic nurse-patient relationship. They noted that these treatments provide alone time with patients for them to voice their feelings and to sense that their nurse has time for them (Helmrich et al.). The authors suggested that a significant amount of education is required by hospital administrations and a change of culture needs to take place in the medical field in order to improve nurses’ ability and comfort with providing nonpharmacological treatments. Nurses’ ability to confidently provide these interventions can ultimately improve patient satisfaction, nurses’ job satisfaction, and reach the goal of practicing in accordance with many hospital mission statements that include providing care that is holistic, excellent, and patient-centered.

Authors of a quantitative study distributed a 40-question survey that addressed the perceived obstacles to pain assessment and management in hospitalized older adults to 115 nurses (Coker et al., 2010). This questionnaire provided a 7-point Likert scale with responses that ranged from 1 = “never interferes” to 7: = “always interferes”. The

researchers considered any questions with the response frequently interferes, very frequently interferes, or always interferes to be considered a barrier in this study.

Over 50% of the most significant barriers to assessment and management identified were patient related, including barriers such as cognitive impairment of the patient, language barriers, sensory problems, and only reporting pain to the doctor and not the nurse (Coker et al., 2010). Thirty-three percent of the significant barriers identified were systems related, including a disorganized system of care, unavailable nonpharmacological therapies for caregivers to provide, and inadequate time for patient education and the provision of nonpharmacological pain relief. Nurses were aware that patients did not always report to them when they have pain because they did not want to bother them. This indicated that both the patient and the nurse were aware that the nurse may appear overworked, busy, or stressed, to the hospitalized patient. If the patient already is worried about bothering the nurse to report pain, one would think it is also likely that the patient would not want to show interest in a potentially time-consuming nonpharmacological pain therapy. Sixty-six percent of nurses ($n = 76$) felt having difficulty assessing pain in patients with cognitive impairment was a frequent barrier; these same patients could also be considered a barrier to providing nonpharmacological pain management because participation and evaluation of effect may be deemed difficult or impossible. Inadequate time was noted as a frequent barrier to providing pain relief education and options to patients by 48% of nurses ($n = 55$) and also to providing nonpharmacological pain remedies by 55% ($n = 63$) (Coker et al.).

As an implication for practice, Coker et al. (2010) suggested that improving the accessibility to nonpharmacological services and creating ways to provide patients and

families education regarding pain relief would be an intervention that would impact the most significant barriers to providing pain management and particularly nonpharmacological management. Another recommendation was to offer educational workshops or conferences for nursing staff to improve their knowledge of assessment and management techniques for their older hospitalized patients experiencing pain (Coker et al.). The participation of nurses in this study assisted with the identification of obstacles in the hospital environment when providing pain assessment and relief to the older adult patient.

Next, the theoretical framework will be discussed.

Theoretical Framework

The theoretical framework used for this descriptive study is the Gate Control Theory, developed in 1965 by Ronald Melzack and Patrick D Wall. This theory describes the relationship between a patient's pain and their emotions (McEwen & Wills, 2011). Physiologic trauma and inflammation may be taking place in the body, but the way the sensation is perceived can be affected, according to this theory. The Gate Control Theory has impacted the way clinicians understand pain perceptions and management, leading to ongoing research on cognitive and behavioral interventions that influence the management of pain (Genevez Health Insights Plus, 2011).

Behavioral and emotional responses influence peoples' perception of pain in addition to the physiological response they experience (Melzack & Wall, 1965.) This theory states that a pain impulse is sent from the periphery of the body to the substantia gelatinosa in the dorsal horn of the spinal cord, which can either inhibit or facilitate pain impulses (McEwen & Wills, 2011). A gate is closed if the activity is inhibited and the impulse does not transmit to the brain; the gate opens when impulses do transmit to the brain (McEwen & Wills). Patient emotions and thoughts influence the transmission of pain impulses to their conscious awareness (Helms & Barone, 2008). Figure 1 demonstrates the transmission flow of a pain impulse by nerve fibers from the pain location, through the spinal cord, to the brain (Genevez Health Insights Plus, 2011). Management of pain and prevention of pain before it becomes severe are interventions that can keep the gate closed to inhibit the impulse and minimize the pain experience (McEwen & Wills, 2011). Use of the term "gate control" makes the concept of this model easy to grasp for learners of most educational backgrounds because most people can

create and comprehend a mental image of a gate opening and closing to either block or allow something to pass through (Melzack & Wall, 1982).

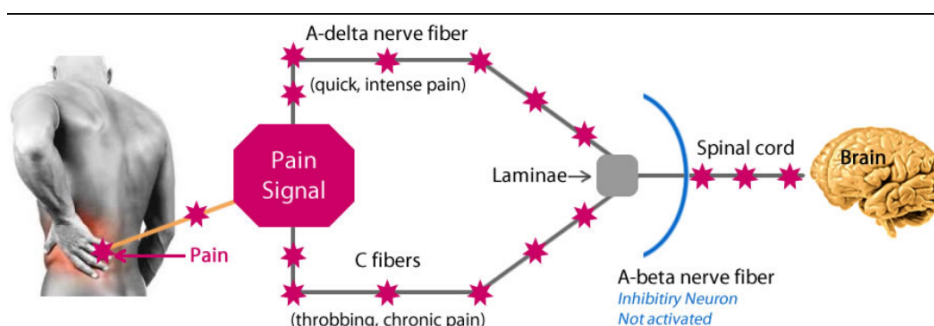


Figure 1. The Gate Control Theory. Adapted from *Genevez Health Insights Plus*, 2011.

Many pain management studies have used the Gate Control Theory as a model to support various, effective, pharmacological and nonpharmacological pain management interventions. This theory is relevant to pain management intervention studies because these types of studies assess the interventions' ability to transmit an impulse to the central nervous system to close the gate and minimize the patient's perception of the pain they have been feeling.

This theory is an appropriate framework to use when assessing nurses' perceptions of the barriers to using nonpharmacological pain management methods in the acute care setting. Evidence supports that these types of interventions can help to relieve pain and effectively close the gate in the central nervous system to inhibit the pain perception of the patient. This theory can be used as a helpful framework as it is investigated what nurses identify as barriers to using evidence based nonpharmacological interventions to manage patient pain.

Next, the methods will be discussed.

Method

Purpose

The purpose of this project was to identify nurses' perceptions of barriers to using nonpharmacological methods to manage patients' pain in the inpatient hospital setting.

Design

This descriptive study utilized a one-time, self-reported survey design.

Site and Sample

Newport Hospital was the site used for this study. This is a 129-bed, non-teaching, community hospital. The study took place in the 10-bed intensive care unit (ICU) where critically ill and stable patients that require closer monitoring are cared for. Categories of patients cared for in this unit may be considered surgical, medical, and cardiac. Some patients that are critically ill and require interventions not provided in this facility are transferred to an inter-affiliate acute care teaching hospital with a Level 1 Trauma designation.

Participants for this study were a convenience sample of staff nurses employed in this 10-bed ICU. Nurses who float to various hospital units, including the ICU, were also offered the opportunity to take this survey. Nurses that work all shifts were included in the sample. This survey was offered to 32 potential participants who met the inclusion criteria. No staff nurses who work at the bedside in this unit were excluded.

Procedures

Permission to perform this study was obtained from the Chief Nursing Officer of the hospital and the Unit Manager of the intensive care unit. The project was approved by the Newport Hospital Research Council. The proposal for this project was submitted to

the Lifespan Institutional Review Board (IRB) and the Institutional Review Board of Rhode Island College for review and approval. Both the Lifespan IRB and Rhode Island College IRB determined this project was of exempt status. After the determination the plan for initiation of this project was introduced to all attending staff nurses present at the ICU's Unit Council meeting. An IRB-approved informational letter was sent out to all staff via email. As an employee, this researcher had access to potential participants' email addresses in the staff email directory. This letter reviewed the purpose, methods, and anticipated timeline for this study. Potential participants were made aware that this was an anonymous, confidential, and voluntary study and they were not required to participate. They were also made aware that the results of the survey would be shared with the unit staff nurses, unit manager, and hospital leadership. IRB-approved informational flyers were posted on the unit's bulletin boards to prepare, remind, and encourage staff to participate in this upcoming study. Surveys were left in the breakroom. An envelope with an IRB approved informational letter attached to it was left in the nurses' break room with directions for them to complete the survey and place it in the envelope

The instrument that was used for this study was a modified survey created by Coker, et al. (2010) that was originally used to address nurses' perceptions of barriers to pain assessment and management in older adults (Appendix A). Participants from the Coker et al. study had the option to respond to each question using a 7-point scale ranging from the response "never interferes" to "always interferes." According to Coker, et al., approval of this questionnaire was provided by an institution's research team, including experts in research methods and pain management, after they reviewed the

created survey and offered feedback. The instrument was also pilot tested on senior nursing students to ensure clarity and assess the time necessary to complete (Coker, et al., 2010).

Questions that apply to assessment or other questions that are not relevant to the purpose of this study had been removed from the original tool. The words “older adult” had also been removed from questions that can apply to a hospitalized adult of any age. The same response options on the 7-point scale were used for the modified survey.

A response of the number five or higher, closest to “always interferes” is considered a barrier and a response of the number three or lower, closest to “never interferes” is considered a non-barrier. A response of the number four is considered a neutral response.

Prior to survey distribution, this modified version of the survey (Appendix B) was pilot tested on the researcher’s graduate program classmates: four registered nurses experienced in caring for adults in an acute care setting. The modified survey was emailed to the four nurses and feedback regarding question clarity and time needed to complete the survey was sent back via email. Some questions were revised based on feedback received and it was declared that this survey took less than ten minutes to complete from this pilot test.

No personal or demographic information was requested for this study and the survey participants remained anonymous. Participants were asked how long they have been a registered nurse. A voluntary raffle to win a 25-dollar Amazon gift card was also offered to nurses who participated. A separate envelope labeled “raffle” was present with the survey envelope for participants to put their name in if they wished to participate.

The surveys were available for completion for two weeks. After one week the envelope was collected to identify how many completed surveys had been submitted and to identify if staff required further encouragement to participate in this study for the following week. The first week's surveys were kept in the principle investigator's locked office and encouragement for staff to choose to participate was provided via a reminder email. After week two the remainder of completed surveys was collected, combined with the completed surveys from week one, and reviewed by this researcher.

Newport Hospital has achieved Magnet status by the American Nurses Credentialing Center, and this was an enabling factor for this study. This type of institution encourages quality improvement activities, evidence-based practice, and educational advancement. In magnet hospitals nursing leaders and administrators are supportive of quality improvement and best practices. Nurses are encouraged and supported to be leaders and to promote change in a magnet environment.

Barriers included possible low participation from a small sample size resulting from time constraints, survey fatigue, and a pre-conceived opinion on the topic. Nurses' possible discomfort to disclose years of experience as an RN could be considered a barrier to this project as well. Risks and ethical concerns of this project were thought to be minimal. The survey was voluntary. Implied consent was assumed if nurses participated in the survey after they read the informational handout on the survey envelope and understood they could withdraw at any time. The possible risk of feeling a sense of moral distress from taking this survey was discussed in the informational session during meetings, in the email, and in the handout provided on the envelope and participants were encouraged to leave any such questions blank. A potential risk of

influence was identified since participants are colleagues of the researcher who currently works on this unit. This risk was minimized by the researcher not being present while participants were completing the survey. The researcher also did not discuss personal opinions on this project topic with the staff. The goal to keep participants anonymous, was potentially compromised due to the small number of participants being asked to designate a range of years of experience which might be perceived as identifying an individual. Participants were informed they had the right to leave this section of the survey blank.

The original desired outcome of this project was to obtain at least seventy five percent participation from the unit's staff and to clearly identify what nurses perceive as the barriers to using nonpharmacological pain management methods for their patients in the acute care setting by analyzing responses on the completed surveys. The responses identified to be common barriers perceived by RNs can be used as implications for practice and opportunities for improvement. Results of this survey were presented at Rhode Island College's School of Nursing Master's Theses presentation day. Results were presented at a staff meeting to the participating nursing staff and unit manager, as well as shared with the hospital leadership.

Next, the results of the study will be presented.

Results

Of 32 potential nurse participants, 59.4% ($N=19$) participated in the survey. Table 1 below displays participant years of experience as a registered nurse (RN).

Table 1

Years as a Registered Nurse (RN) (N=19)

0-10 years (n=8)	10-20 (n=5)	20+ years (n=5)	Experience Unknown (n=1)
42.1%	26.3%	26.3%	5.3%

Nurses with less than ten years of experience comprised most of the respondents ($n=8$). Five respondents who had between ten and twenty years of experience participated as well as five nurses with over twenty years of experience. One survey respondent left the experience question unanswered.

Survey questions were answered using a 7-point Likert scale, ranging from 1, representing “never interferes” to 7, representing “always interferes.” For the purpose of analyzing data for this study, responses 5, 6, or 7 that represent “sometimes,” “often,” or “always” interferes were considered perceived barriers by the nurse participants. Table 2 shows the number and percentage of nurses, by years of experience, identifying individual survey questions barriers to nonpharmacological pain management in their practice. Total numbers and percentages of respondents are presented in the final column.

Years of Experience	0-10 yrs (n=8)	10-20 yrs (n=5)	20+yrs (n=5)	Total N=19
	n(%)	n(%)	n(%)	N(%)
1. Inadequate time to deliver nonpharmacological pain relief measures	3(37.5%)	3(60%)	1(20%)	7(36.8%)
2. Patients reporting their pain to the doctor, but not to the nurse	1(12.5%)	2(40%)	0	3(15.8%)
3. Difficulty in providing nonpharmacological pain management methods to patients due to language	3(37.5%)	3(60%)	0	6(31.6%)
4. Difficulty in providing nonpharmacological pain management methods due to sensory problems (hearing deficits, vision deficits, etc.)	3(37.5%)	2(40%)	0	5(26.3%)
5. Inadequate time for health teaching with patients (e.g., how to perform nonpharmacological pain management methods)	4(50%)	4(80%)	2(40%)	10(52.6%)
6. Unavailable comfort measure devices as alternatives/supplements to pain medications (e.g., hot-cold packs, chairs, music stations, massage lotions)	1(12.5%)	(20%)	0	2(10.5%)
7. Limited supplies or access to nonpharmacological options (i.e.: lotions for hand massage/headphones for music/spiritual care provider not present for assistance)	4(50%)	2(40%)	0	6(31.6%)
8. Patients' willingness to put up with their pain	4(50%)	4(80%)	1(20%)	9(47.4%)
9. Patients not wanting to bother the nurses	2(25%)	4(80%)	0	7(36.8%)
10. Not having a documented pain treatment plan for each patient	3(37.5%)	4(80%)	1(20%)	8(42.1%)
11. Lack of opportunity to discuss a patient's pain management plan directly with palliative care team	2(25%)	2(40%)	0	4(21.1%)
12. Not knowing patients' pain management preferences due to inadequate time spent with them	1(12.5%)	2(40%)	0	3(15.8%)
13. Antipsychotics are considered before pain management in agitated patients	2(25%)	3(60%)	2(40%)	7(36.8%)
14. Patients denying pain	1(12.5%)	0	1(20%)	2(10.5%)
15. Concentrating on administering regularly scheduled medications and only offering nonpharmacological pain relief if the patient requests it	3(37.5%)	2(40%)	1(20%)	6(31.6%)
16. Not having policies/procedures/guidelines of acceptable best practices around nonpharmacological pain management in adult patients	6(75%)	2(40%)	2(40%)	10(52.6%)
17. Lack of clinical confidence in providing a variety of nonpharmacological pain management interventions to patients	4(50%)	2(40%)	2(40%)	8(42.1%)
18. Not having a consistent way of receiving tips from nurses on previous shifts about pain management strategies for each of my patients	3(37.5%)	2(40%)	0	5(26.3%)
19. The attitude among colleagues that pain comes with age or a certain condition and it cannot always be treated	1(12.5%)	2(40%)	1(20%)	4(21.1%)

Question 5 regarding the nurse having inadequate time to educate the patient on nonpharmacological pain management techniques and question 16 regarding the institution not having policies, procedures, or guidelines of best practices around nonpharmacological pain management in adult patients were equally perceived as the most common barriers among all respondents, with 52.6% rating these two aspects as barriers. 75% of those with less than ten years of experience identified that not having policies, procedures, and guidelines was a barrier. Only 12.5% of those with less than ten years of experience identified that the attitude among colleagues is that pain comes with age and some pain cannot always be treated was a barrier. 80% of respondents with between ten and twenty years of experience identified that the patient wanting to put up with their pain and not bother the nurses was a barrier to providing nonpharmacological pain management methods. Those with over twenty years of experience declared the lowest number of barriers on this survey. Less than half of the most participating senior staff identified that any of the aspects presented in the survey questions were considered barriers to providing nonpharmacological pain management methods to their patients.

Survey questions were further categorized to better understand the fundamental cause of identified barriers. Six general categories included time (questions 1, 5, and 12), communication (questions 2, 3, 4, 9, 11, 14, and 18), resource availability (questions 6 and 7), patient attitude (question 8), nurse attitude (questions 13, 15, and 19), and system support/education (questions 10, 16, and 17). Data presented in Table 3 represents nurses' perceived barriers in these categories by years of experience.

	0-10yrs (n=8) n(%)	10-20yrs (n=5) n(%)	20+yrs (n=5) n(%)	Total (N=19) N(%)
Time	2.6(33.3%)	3(60%)	1(20%)	6.7(35.3%)
Communication	2.14(26.8%)	3(60%)	0.14(2.8%)	4.6(24.2%)
Resource Availability	2.5(31.2%)	1(20%)	0	4(21%)
Patient Attitude	4(50%)	4(80%)	1(20%)	9(47.4%)
Nurse Attitude/Approach	2.3(29.2%)	2.3(46%)	1.3(26%)	5.7(30%)
System Support/Education	6(75%)	2.7(54%)	1(20%)	8.7(45.8%)

This data demonstrates that nurses with less than ten years of experience considered system support/education to be a significant barrier to providing nonpharmacological pain management to their patients. Communication, whether between the patient and the nurse or the nurse and other disciplines, was not perceived as a major barrier by this group with less than ten years of experience, with only 27% reporting communication as a barrier. Those with between ten and twenty years of experience identified patient attitude as the biggest barrier for them to provide pain management via nonpharmacological techniques. The patient attitude category includes the patient not reporting their pain, not wanting to bother the staff with the idea of nonpharmacological pain management methods or wanting to put up with their pain instead. Those with over twenty years of experience noted the least number of barriers out of these categories, with at most, 26% of them identifying the nurse's attitude as the barrier.

Table 4 categorizes survey questions into categories of patient-related (questions 2, 3, 4, 8), caregiver-related (questions 13, 15, 17, 18), and system-related barriers (1, 5, 6, 7, 10, 11, and 12). This data is also categorized by nurse respondents' years of experience.

	0-10yrs (n=8)	10-20 yrs (n=5)	20+ yrs (n=5)	Total (N=19)
	n(%)	n(%)	n(%)	N(%)
Patient-Related Barriers	2.9(36%)	2.4(48%)	0.6(12%)	6.04(32%)
Caregiver-Related Barriers	2.6(33%)	2.2(44%)	1(20%)	5.8(31%)
System-Related Barriers	2.6(33%)	2.6(52%)	0.6(12%)	5.8(31%)

Notably in table 4, system-related barriers were identified by 52% of nurses with ten to twenty years of experience. Almost half of this same group also rated patient-related and caregiver-related as barriers (48%). Those with over twenty years of experience had low reports of any of the three categories being barriers, with caregiver-related barriers considered the highest reported at 20%. Respondents with under ten years of experience reported all three categories as barriers at 33-36%.

Data was analyzed by the respondents as a whole and by experience. All but one nurse reported their years of experience on this survey. Generally, it was noted that the most experienced nurse participants identified fewer barriers to providing nonpharmacological pain management. Both those who worked less than ten years and between ten and twenty years identified that a lack of time, resources, and education provided by the system were the biggest barriers.

Next, the research summary and conclusions will be discussed.

Summary and Conclusions

Pharmacological therapy, including the prescription of opioids, remains the primary method for pain management for adult patients in the acute care setting (IOM, 2011). Negative side effects and a risk for complications exist with this form of pain management that can impair a patient's recovery (ANA Center for Ethics and Human Rights, 2018.) Nonpharmacological pain management methods are available to compliment pharmacological interventions that can improve pain relief in patients, while reducing medication requirements.

Nurses' ability to treat their patients' pain successfully is impaired by factors such as their personal biases, moral disengagement, knowledge deficits, their working environment, and their facility's financial constraints (ANA Center for Ethics and Human Rights, 2018). Assessing what nurses perceive to be barriers to using nonpharmacological pain management techniques in their practice would allow leaders to gain insight into the resources and education needed to improve patient's pain management and overall outcomes. This information would also increase nurse competence and confidence in pain management skills. Patient and nurse satisfaction can improve if noted barriers are considered and acted upon.

The purpose of this project was to identify nurses' perceptions of barriers to using nonpharmacological methods to manage patients' pain in the inpatient hospital setting. This project was approved by the Lifespan and Rhode Island College Institutional Review Boards. According to the Gate Control Theory by Ronald Melzack and Patrick Wall (1965), physiologic trauma and inflammation may occur in the body, but the way the sensation is perceived by the patient can be influenced. To collect desired information

for this study, a modified version of the survey “Nurses’ Perceived Obstacles to Assessment and Management Practices Tool“ by Coker, et al. (2010) was distributed to a convenience sample of intensive care unit nurses in a community hospital. A description of the one-time, voluntary survey was presented to potential participants during a unit council meeting, by email, and in an informational flier in the staff breakroom.

The survey consisted of 19 questions that would assess what nurse participants identified were barriers to using nonpharmacological pain management methods to relieve their patients’ pain. Respondents answered each question using a 7-point scale with responses ranging from “never interferes” to “always interferes.” Participants’ years of nursing experience was requested on this survey to assess if nursing experience is an influence on perceived barriers. The survey was available for two weeks. There were 32 potential participants, with a 59% response rate (n=19) by the end of the two weeks.

Of the 19 participants, 42.1% (n=8) had less than 10 years of experience, 26.3% (n=5) had between 10-20 years of experience, 26.3% (n=5) had over 20 years of experience, and 5.3% (n=1) did not share their years of nursing experience on the survey. Analyzing the results, if the response to a question was a 5, 6, or 7, indicating “sometimes interferes,” “often interferes,” or “always interferes,” it was deemed a barrier. Factors deemed barriers included no documented individualized pain treatment plan, no policies, procedures, or guidelines to provide nonpharmacological pain management. In addition to these system issues, respondents identified patient and nurse-centered barriers such as, a patient’s “willingness to put up with their pain,” a lack of personal confidence in providing these therapies, and inadequate time to teach patients how to manage their pain with nonpharmacological methods. Inadequate time to teach patients about

nonpharmacological pain management methods was deemed a barrier by over half of the respondents. When survey questions were separated into categories of time, communication, resource availability, patient attitude, nurse attitude/approach, and system support/education, over 45% (n=8.7) of respondents identified that patient attitude and a lack of system support or education were the biggest barriers. Overall, these results demonstrated that nurses did not feel they had the personal knowledge, time, or resources to guide them to confidently offer these therapies.

Survey questions perceived as barriers were then analyzed in categories as either patient-related, nurse-related, or system-related. Patient-related barriers were most noted by nurses with 10-20 years of experience at 48% (n=2.4). For total respondents, 32% (n=6.04) identified patient-related barriers existed. Only 31-32% of all responding nurses identified that any of the three categories were considered barriers. These results demonstrate that although barriers exist for a variety of reasons, no conclusions could be drawn that identified patient, nurse, or healthcare system specifically as the greatest barrier.

Limitations

Several limitations of the study were identified. The main limitation of this study was the use of a small, convenience sample. The survey was distributed to 32 staff members of the intensive care unit. The unique characteristics of patients in the ICU affect the experience of pain and the ability to participate in nonpharmacological pain management interventions. This factor, as well as the small sample size limits the generalizability to other care areas.

The survey used in this study was modified from a survey tool from Coker et al (2010). Further testing of the revised survey tool is required to establish reliability and validity. The results of this study were exploratory findings that may create a foundation for future research regarding perceived barriers to the use of nonpharmacological pain management methods.

Next, the recommendations and implications for advanced nursing practice will be discussed.

Recommendations and Implications for Advanced Nursing Practice

The results of this study demonstrated frequently perceived barriers for use of nonpharmacological pain management methods include nurses' lack of confidence in providing these interventions, a lack of policies, procedures, and guidelines of best practices regarding this type of pain management, a lack of an individualized treatment plan for each patient regarding their pain management, patient's willingness to put up with their pain, and inadequate time for nurses to teach their patients the use and benefits of these pain management methods. Nurses identified that they require additional education, time to educate, and more structured guidelines and treatment plans for their patients in order to provide them with nonpharmacological techniques that research suggests can improve pain control. The acute care setting is a complex environment with many distractions. Institutional support and tools to provide evidence-based interventions will enable nurses to provide individualized patient care confidently to improve pain management. The desired end result would be to improve patient outcomes, patient satisfaction, nurse confidence, and nurse satisfaction.

The Advanced Practice Registered Nurse (APRN) has a pivotal role, as a patient advocate and nurse educator to increase the use of nonpharmacological pain management methods for adult patients in the acute care setting. APRNs influence systems to adopt evidence-based practice guidelines, policies, and procedures for improved pain management in the acute care setting. The APRN can collaborate with other providers and disciplines to create individualized treatment plans that include nonpharmacological pain management methods. Team collaboration between APRNs, board-certified pain management nurses, doctors, physical therapists, occupational therapists, social workers,

and spiritual care will be essential . While serving as a leader and educator, the APRN can implement and sustain educational efforts for nurses to learn techniques to confidently manage pain with nonpharmacological methods. APRN assessment and intervention opportunities include competency training, daily unit-based multidisciplinary rounds, individual nurse engagement, and targeted patient satisfaction assessments. Empowered nurses with the right tools and confidence to implement nonpharmacological pain management will more readily encourage and educate patients on the benefits and techniques of nonpharmacologic pain management to overcome initial hesitancy. The first step is to identify and address nurses' perceived barriers to nonpharmacological pain management.

Providers must be included in education and guidance regarding nonpharmacological pain management techniques. With all caregivers working collaboratively to develop policies and guidelines that support the use of nonpharmacological therapies to reduce opioid consumption, patients may experience improved pain management and self-management. Once education is provided and there is an increased awareness of nonpharmacological pain management techniques available, electronic medical record assessments and protocols would be beneficial to allow for a comprehensive individualized plan of care. Best practice advisories can be used to assist providers with ordering appropriate procedures to enhance patient recovery and satisfaction.

The APRN is an innovative leader in the acute care setting. APRNs also influence and educate at the community and state level. Pain is a significant burden in the lives of many individuals at a time when healthcare providers strive to overcome the opioid

epidemic. The APRN can provide evidence-based guidance to increase the use of nonpharmacological pain management to optimize the safety, comfort, satisfaction, and overall outcome of patients who experience pain.

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Appendix A

Original tool by Coker et al. (2010)

Nurses' Perceived Obstacles to Assessment and Management Practices Tool

1. Difficulty assessing pain in older people due to problems with cognition (delirium, dementia, etc.)

Never Interferes			Sometimes Interferes		Always Interferes	
1	2	3	4	5	6	7

2. Inadequate time to deliver nonpharmacological pain relief measures

Never Interferes			Sometimes Interferes		Always Interferes	
1	2	3	4	5	6	7

3. Patients reporting their pain to the doctor, but not to the nurse

Never Interferes			Sometimes Interferes		Always Interferes	
1	2	3	4	5	6	7

4. Difficulty assessing pain in older people due to language barriers

Never Interferes			Sometimes Interferes		Always Interferes	
1	2	3	4	5	6	7

5. Difficulty assessing pain in older people due to sensory problems (hearing deficits, vision deficits, etc.)

Never Interferes			Sometimes Interferes		Always Interferes	
1	2	3	4	5	6	7

6. Inadequate time for health teaching with older patients (e.g., prn drug order, alternatives, addiction, etc.)

Never Interferes			Sometimes Interferes		Always Interferes	
1	2	3	4	5	6	7

7. Older patients' difficulty with completing pain scales (e.g., 0–10)

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

8. Older patients' reluctance to take pain medications because of side effects (e.g., constipation, how it makes them feel, etc.)

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

9. Unavailable comfort measures as alternatives/supplements to pain medications in older patients (e.g., hot–cold packs, mattresses, and chairs)

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

10. Disorganized system of care (e.g., having to hunt for narcotic keys, obtain cosignatures, find drugs, etc.)

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

11. Physicians' reluctance to prescribe adequate pain relief in older patients for fear of overmedicating those with dementia or delirium

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

12. Older patients' willingness to put up with chronic pain

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

13. Older patients not wanting to bother the nurses

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

14. Inconsistent practices around giving prn medications for an older patient (because the decision to administer pain medication is up to the assigned nurse and varies from one to another)

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

15. Not having a documented pain treatment plan for each older patient

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

16. Lack of opportunity to discuss an older patient's pain management directly with palliative care team

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

17. Difficulty assessing pain in older people due to alterations in mood (depression, etc.)

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

18. Not knowing older patients' pain levels due to inadequate time spent with them

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

19. Antipsychotics are considered before pain medications in agitated patients

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

20. Difficulty contacting or communicating with physicians to discuss treatment of pain in older patients

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

21. Difficulty contacting or communicating with physicians to discuss pain assessment findings in older patients

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

22. Not having a documented approach to pain assessment for each older patient

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

23. Physicians' lack of knowledge and experience with prescribing pain medications

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

24. Not knowing whether to believe the older patient's pain report or the family's perception of the person's pain instead

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

25. Older patients denying their disease process by denying pain

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

26. Lack of opportunity to consult with clinical pharmacist about pain relief in older patients

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

27. Older patients' reluctance to take pain medication for fear of addiction

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

28. Not having a consistent way of assessing pain, from one time to the next, in each older patient
- | Never Interferes | | | Sometimes Interferes | | | Always Interferes | |
|------------------|---|---|----------------------|---|---|-------------------|--|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
29. Concentrating on administering regularly scheduled medications and not checking for and offering prn pain relief unless the patient requests it
- | Never Interferes | | | Sometimes Interferes | | | Always Interferes | |
|------------------|---|---|----------------------|---|---|-------------------|--|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
30. Difficulty believing pain reports by older patients because they are inconsistent from one time to the next and do not match their nonverbal behavior
- | Never Interferes | | | Sometimes Interferes | | | Always Interferes | |
|------------------|---|---|----------------------|---|---|-------------------|--|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
31. The tendency to document only if pain relief is not achieved or if the patient refuses pain medication
- | Never Interferes | | | Sometimes Interferes | | | Always Interferes | |
|------------------|---|---|----------------------|---|---|-------------------|--|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
32. Not having policies/procedures/guidelines that contribute to my knowledge of acceptable best practices around pain assessment and management in older adults
- | Never Interferes | | | Sometimes Interferes | | | Always Interferes | |
|------------------|---|---|----------------------|---|---|-------------------|--|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
33. Not knowing how much pain is acceptable to each older patient (e.g., pain tolerance and discomfort level)
- | Never Interferes | | | Sometimes Interferes | | | Always Interferes | |
|------------------|---|---|----------------------|---|---|-------------------|--|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
34. Lack of clinical confidence in assessing a variety of types of pain in older patients
- | Never Interferes | | | Sometimes Interferes | | | Always Interferes | |
|------------------|---|---|----------------------|---|---|-------------------|--|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | |

35. Not expecting pain in older patients on our unit unless the diagnosis provides a clue to pain as a potential symptom

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

36. Not having a consistent way of receiving tips from nurses on previous shifts about pain assessment and management strategies for each of my older patients

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

37. Physicians' lack of trust in the nursing assessment of pain in older patients

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

38. Uncertainty about how to best time the administration of prn pain medications when ordered scheduled pain medications in older patients

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

39. The “older person is dying anyway” attitude among colleagues on the unit

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

40. My own reluctance to give pain medication to older patients for fear of overmedication

Never Interferes			Sometimes Interferes			Always Interferes	
1	2	3	4	5	6	7	

Appendix B

Modified tool adapted from Coker et al. (2011)

Nurses' Perceived Barriers to Using Nonpharmacological Pain Management Methods

Please complete the following survey honestly, and to the best of your ability. Please do not answer any questions that you do not want to answer. You may stop answering these questions at any time. Please place the completed survey in the labeled envelope provided.

I have worked as a registered nurse for _____ years.

1. Inadequate time to deliver nonpharmacological pain relief measures

Never Interferes			Sometimes Interferes		Always Interferes
1	2	3	4	5	6 7

2. Patients reporting their pain to the doctor, but not to the nurse

Never Interferes			Sometimes Interferes		Always Interferes
1	2	3	4	5	6 7

3. Difficulty in providing nonpharmacological pain management methods to patients due to language barriers

Never Interferes			Sometimes Interferes		Always Interferes
1	2	3	4	5	6 7

4. Difficulty in providing nonpharmacological pain management methods due to sensory problems (hearing deficits, vision deficits, etc.)

Never Interferes			Sometimes Interferes		Always Interferes
1	2	3	4	5	6 7

5. Inadequate time for health teaching with patients (e.g., how to perform nonpharmacological pain management methods)

Never Interferes			Sometimes Interferes		Always Interferes	
1	2	3	4	5	6	7

6. Unavailable comfort measures devices as alternatives/supplements to pain medications (e.g., hot–cold packs, chairs, music stations, massage lotions)

Never Interferes			Sometimes Interferes		Always Interferes	
1	2	3	4	5	6	7

7. Limited supplies or access to nonpharmacological options (i.e.: lotions for hand massage/headphones for music/spiritual care provider not present for assistance)

Never Interferes			Sometimes Interferes		Always Interferes	
1	2	3	4	5	6	7

8. Patients' willingness to put up with their pain

Never Interferes			Sometimes Interferes		Always Interferes	
1	2	3	4	5	6	7

9. Patients not wanting to bother the nurses

Never Interferes			Sometimes Interferes		Always Interferes	
1	2	3	4	5	6	7

10. Not having a documented pain treatment plan for each patient

Never Interferes			Sometimes Interferes		Always Interferes	
1	2	3	4	5	6	7

11. Lack of opportunity to discuss a patient's pain management plan directly with palliative care team

Never Interferes			Sometimes Interferes		Always Interferes	
1	2	3	4	5	6	7

12. Not knowing patients' pain management preferences due to inadequate time spent with them
- | | | | | | | |
|------------------|---|---|----------------------|---|-------------------|---|
| Never Interferes | | | Sometimes Interferes | | Always Interferes | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
13. Antipsychotics are considered before pain management in agitated patients
- | | | | | | | |
|------------------|---|---|----------------------|---|-------------------|---|
| Never Interferes | | | Sometimes Interferes | | Always Interferes | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
14. Patients denying pain
- | | | | | | | |
|------------------|---|---|----------------------|---|-------------------|---|
| Never Interferes | | | Sometimes Interferes | | Always Interferes | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
15. Concentrating on administering regularly scheduled medications and only offering nonpharmacological pain relief if the patient requests it
- | | | | | | | |
|------------------|---|---|----------------------|---|-------------------|---|
| Never Interferes | | | Sometimes Interferes | | Always Interferes | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
16. Not having policies/procedures/guidelines of acceptable best practices around nonpharmacological pain management in adult patients
- | | | | | | | |
|------------------|---|---|----------------------|---|-------------------|---|
| Never Interferes | | | Sometimes Interferes | | Always Interferes | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
17. Lack of clinical confidence in providing a variety of nonpharmacological pain management interventions to patients
- | | | | | | | |
|------------------|---|---|----------------------|---|-------------------|---|
| Never Interferes | | | Sometimes Interferes | | Always Interferes | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
18. Not having a consistent way of receiving tips from nurses on previous shifts about pain management strategies for each of my patients
- | | | | | | | |
|------------------|---|---|----------------------|---|-------------------|---|
| Never Interferes | | | Sometimes Interferes | | Always Interferes | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

19. The attitude among colleagues that pain comes with age or a certain condition and it cannot always be treated

Never Interferes

Sometimes Interferes

Always Interferes

1

2

3

4

5

6

7

Appendix C

Informational Email and Flyer

Attention Registered Nurses of the Intensive Care Unit:

You are asked to consider participating in a study examining nurses' perceptions of the barriers to using nonpharmacological pain management methods for adult patients in the acute care setting.

This is an anonymous, one-time survey that all ICU RNs and floating RNs into the ICU are eligible to take for a time period of two weeks between the months of January and February 2019.

Surveys will be in the ICU breakroom in a yellow envelope with an attached informational document that shares the study's purpose and goals.

Surveys will be collected after the first week and again after the second week. Completed surveys will be kept in my locked locker once collected.

One entry into a raffle for a \$25 Amazon gift card will be available to all participating ICU nursing staff and ICU float RNs who take the survey as a token of appreciation for the time and thoughtfulness provided to participate in this study. Raffle winner will be announced one week after the survey period ends via email and breakroom bulletin board.

Thank you for your support and consideration to participate!

Sincerely,

Kathy Bergeron, MS, APRN, CNS-BC, CEN
Alyssa Ethier BSN, RN-BC
Acute Care, Adult/Gerontology CNS Graduate Student
Rhode Island College

Appendix D

Informational Document on Envelope

ICU RNs and ICU Float RNs:

I am a staff nurse in the ICU and a Rhode Island College graduate student in the Acute Care-Adult/Gerontology Clinical Nurse Specialist program. I will be conducting a project in this unit with the principal investigator for Newport Hospital. We would like to request your participation in this survey entitled: Nurses' Perceptions of Barriers to Using Nonpharmacological Pain Management Methods to Relieve Patients' pain in the Acute Care Setting.

The purpose of this survey is to identify barriers and non-barriers to using nonpharmacological pain management methods for hospitalized adult patients.

Completing this survey will take approximately ten minutes and there will be no follow-up questions or participation requested of you. This is a voluntary survey and you are free to choose not to complete this survey if you wish.

If any of the questions on this survey cause you any distress, please do not continue to answer them.

Upon completion of this survey you may put your name in a separate envelope to participate in a raffle for a \$25 Amazon gift card. The winner will be announced one week after the survey period ends.

The completed surveys will be kept confidential. Your name will not be connected to any of the information you provide through this survey.

Upon completion of this survey, please place in the envelope labeled "completed surveys" and your name for the raffle in the envelope labeled "raffle" The surveys will be kept in my locked locker once data is collected.

If you have any questions regarding this project, please contact me at:

Amarquez_4846@email.ric.edu
401-323-6548

Thank you very much for your consideration to participate!

Sincerely,

Kathy Bergeron, MS, APRN, CNS-BC, CEN
Alyssa Ethier BSN, RN-BC
Acute Care, Adult/Gerontology CNS Graduate Student
Rhode Island College

Appendix E

Reminder Informational Email

Reminder to all Registered Nurses of the Intensive Care Unit:

There is ONE WEEK left to participate in this exciting qualitative study! It is asked that you consider participating in research examining *nurses' perceptions of the barriers to using nonpharmacological pain management methods* for adult patients in the acute care setting.

This is an anonymous, one-time survey that all ICU RNs and floating RNs into the ICU are eligible to take.

Surveys will be in the ICU breakroom in a yellow envelope with an attached informational document that shares the study's purpose and goals for ONE MORE WEEK.

Surveys will be collected after the first week and again after the second week. Completed surveys will be kept in my locked locker once collected.

A raffle entry for a **\$25 Amazon gift card** will be available to all participating ICU nursing staff and ICU float RNs who take the survey as a token of appreciation for the time and thoughtfulness provided to participate in this study. Raffle winner will be announced one week after the survey period ends via email and breakroom bulletin board.

Thank you for your support and consideration to participate!

Sincerely,

Kathy Bergeron, MS, APRN, CNS-BC, CEN
Alyssa Ethier BSN, RN-BC
Acute Care, Adult/Gerontology CNS Graduate Student
Rhode Island College