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Let My People Go:Improving Nurses' Knowledge to Decrease Physical Restraint Use

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This is to certify that the doctoral study by

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Abstract

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MSN, Walden University, 2015

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Project Submitted in Partial Fulfillment

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Abstract

Despite extensive research revealing the dangers of physical restraint use, it remains a common practice in critical care settings across the globe. Nurses stand at the forefront of clinical decision-making regarding the use of physical restraints but are doing so with a lack of education and evidence-based practices. The project addresses whether an evidence-based educational program regarding the use of physical restraints and alternative measures is an acceptable method for intensive care unit (ICU) nurse education according to six local subject matter experts (SMEs). The project's purpose was to create an educational program outlining physical restraint evidence and alternative measures that was evaluated by local SMEs for rigor and approval before widespread dissemination within the local ICU setting. Theories used to inform the project include the theory of planned behavior and the analyze, design, develop, implement, evaluate (ADDIE) model. The sources of evidence include the ICU Liberation bundle from the Society of Critical-Care Medicine, the current literature, and the data collected from the local SMEs using an evaluation survey. The resulting data were analyzed using descriptive statistics. The evaluation scores of the local SMEs were overwhelmingly positive (i.e., mean scores greater than 4.8 for all survey statements, based on a 5-point Likert scale), indicating the education is an appropriate method for ICU nurse physical restraint and alternative measures education. Future recommendations include the widespread dissemination of the education to all ICU nurses in the organization. This project serves as a catalyst to creating long-lasting, evidence-based changes within the ICU to improve patient care and nurses' confidence in providing effective, quality care.

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Dedication

This project is dedicated to my husband, for without your support, I would not have been able to sprint this marathon. Thank you for always supporting my dreams, even if they are sprung on you two weeks before the start of a huge, life-altering journey. Thank you for giving up your time to allow me to pour the necessary blood, sweat, and tears into this doctorate degree. I would also like to dedicate this work to my children, Jack, Miya, and my future unborn son. I want you to know that you can do anything you want in this world, achieve anything you want, and be anything you want with the Lord as your Savior and your parents as your guide. First and foremost, always be kind. And then go show this world all that you can do. My hope is for you all to make a positive impact in this world as I have hoped to achieve with this project.

Acknowledgments

I would like to acknowledge the incredible support and guidance received from my Chair, Dr. Cassandra Taylor. The feedback and advice you have bestowed upon me throughout this journey has been invaluable and will serve me well in the future as well. I would also like to thank Dr. Cheryl Holly and Dr. Maria Revell for their continuous dedication to timely reviews and revisions of the project. Lastly, I would like to thank Dr. Jody Minnick and the other faculty who supported the DNP Intensive. This experience was unexpectedly fun and extremely beneficial to the progress of my project.

To my dearest friends and family, thank you for being with me on this journey, giving me moments away for self-care and relaxation, reminders that there is a light at the end of the tunnel, and your endless support regardless of my physical presence in your life during this crazy time.

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Section 1: Nature of the Project

Historically, physical restraints have been used unquestioningly in the intensive care setting to prevent treatment interference with life-sustaining medical devices (Perez et al., 2019). Critically ill patients often require a multitude of invasive procedures and medical devices, such as mechanical ventilation, central venous catheters, and arterial line catheters, to manage their conditions, and in an attempt to prevent harm, nurses are trained to apply physical restraints in these situations. It is now better understood that routine physical restraint application to intensive care unit (ICU) patients contributes to delirium and agitation as well as increases the risk of harm and accidental device removal (Pan et al., 2018).

Despite the supporting evidence against the use of restraints, they continue to be used routinely in the ICU setting (Mitchell et al., 2018). Nurses are at the forefront of making clinical decisions regarding the use of physical restraints but are doing so with a lack in education regarding alternative methods and consequences of restraint use (Perez et al., 2019). The lack of education on physical restraint use among nurses is a common theme in the literature and a contributing factor to the nonadherence to physical restraint use quality metrics. The nurses' lack of education and current attitudes toward physical restraint use poses a significant safety concern in the ICU patient population.

By addressing this clinical problem with an evidence-based practice project focusing on staff education, nurses can adjust their practice to support the most recent evidence to improve patient care and prevent avoidable threats to patient safety. Improving the education of nurses regarding physical restraint use will ultimately cause a

significant ripple effect of positive change among the staff and patients. This practice project supports the American Nurses Association's (ANA; 2012) statement regarding physical restraint use and supports their goal of decreased use to uphold the autonomy and dignity of the patient that nurses earnestly commit to protecting. Reaching the National Database of Nursing Quality Indicators (NDNQI) benchmarks for restraints would also impact social change because these are the set standard goals to improve the quality of the nation's health care. This practice project has the potential to improve society on an individual, community, and organizational level to exceed the standards outlined in the Walden University (2020) mission for positive social change.

Problem Statement

Locally, physical restraint use is an evident practice problem in the project site's ICU setting. Nurse leaders of the local organization have vocalized their concerns with physical restraint use that is consistently above national levels. After talking with some of the ICU staff, it is also apparent that they use physical restraints out of fear and desperation to keep their patients safe, without the knowledge of potential harm. The literature supports this notion because this is a well-documented rationale for the use of restraints in this setting (see Via-Clavero et al., 2020).

At the project site, current physical restraint practice does not have its own protocol, but it is the unwritten rule that patients are physically restrained immediately after intubation. After reviewing 121 ICUs, Jonghe et al. (2012) found that only 21% had written local procedures for physical restraint use. The project organization has successfully decreased physical restraint use in their medical-surgical unit, but the

strategies implemented there were not as successful in the ICU setting, likely related to higher patient acuity and delirium. Despite regulations and accrediting standards eliminating the use of physical restraints in other health care settings, their continued use in the critical care setting is attributed to the complexity of care (Mion, 2008).

Nursing has made significant progress in the application of evidence-based practices, but physical restraint use in the critical care setting is extremely complex and requires a multifaceted, evidence-based practice approach to improve outcomes. This doctoral project addressed a current, controversial nursing topic that has the potential to impact the field of nursing practice. An overhaul of the educational approach to the use of physical restraints is necessary to decrease and potentially eliminate their use in the critical care setting. Physical restraint use should not be a reactive response without the understanding of potential implications. The decision for their use should be one of last resort and exhaustive of all other alternative measures. This radical change begins with the field of nursing practice.

Purpose Statement

Physical restraint use in the critical care setting is a multifaceted issue, but there is a documented, meaningful gap in the education of nurses regarding this practice. This doctoral project addressed the growing practice gap between physical restraint use and evidence-based research. Physical restraints are used to avoid disruption with various medical devices, and there is a gap in nursing knowledge related to their documented negative consequences (Hamilton et al., 2017). ICU nurses are at the forefront of decision making when applying physical restraints, and it is usually a rapid, intuitive decision in a

complex, unstable environment (Li & Fawcett, 2014). Although experience is beneficial in the acute care setting, it does not suffice alone. Research evidence and best practices must be incorporated into physical restraint decision making. To address these concerns, the guiding question for this doctoral project was: Will an evidence-based educational program regarding physical restraint use and alternative methods be an appropriate method for ICU nurse education according to a team of local subject matter experts (SMEs)?

The purpose of this project was to develop an educational program outlining physical restraint research evidence and alternative methods that is evaluated by nursing leadership and SMEs for rigor and approval for widespread dissemination within the project site organization (see Appendix A). Ultimately, the goal is to improve nurses' knowledge and attitudes regarding physical restraint use and decrease their routine utilization of physical restraints in this local ICU setting, but the educational program's effect on nurses' knowledge and utilization of physical restraints will not be addressed within the context of this project. The development of an education program that empowers nurses with the information to make clinically sound, evidence-based decisions regarding physical restraint use has the potential to close the identified practice gap that currently exists.

Nature of the Doctoral Project

The literature on physical restraint use in the critical care setting indicates that there is a disconnect between current evidence and actual practice. Nurses are identified as the primary decision makers when determining the use of physical restraints despite

the need for a provider order (Perez et al., 2019). Rather than following evidence-based practice protocols for decision making, restraint use is based on patient characteristics, nurses' beliefs regarding their effectiveness, and the fear of interruption in medical devices (Lach et al., 2016). Current evidence-based guidelines present a multifaceted approach to the complex issue of physical restraint use and focus on thorough patient assessment to identify underlying causes, nursing interventions to reduce the need for restraints, and system-wide approaches to restraint reduction (Lach et al., 2016). Local nursing leaders have identified current restraint use in the ICU setting as problematic to nursing standards of care and patient outcomes. Lack of education has been identified as a key factor associated with the physical restraint practice gap in nursing (Perez et al., 2019).

I searched databases, including the Cumulative Index for Nursing and Allied Health Literature, Medline, ProQuest Nursing, and Pubmed, to identify extensive sources of evidence that were relevant to the clinical practice problem. Sources of evidence included scholarly, peer-reviewed journal articles and research studies as well as information and guidelines from national regulation and accrediting bodies. Utilizing a literature review matrix, sources of evidence were organized and analyzed to ensure they provided reputable and reliable data to support the practice problem as well as recommendations to bridge the nursing practice gap and guide the doctoral project. After synthesizing quality research highlighting the gap in education regarding physical restraint practices and associated recommendations, I used these evidence-based guidelines to develop an original educational program including a pre-/posttest to

address the nursing practice gap and improve nurses' knowledge and attitudes regarding physical restraint use (see Appendices A and B).

Local SMEs and nursing leadership also served as another source of evidence. I submitted the developed educational program to the team of six individuals, so they could rate the program for accuracy and rigor as well as provide extensive feedback and any improvements for future versions. The evaluation survey comprised nine statements answered using a 5-point Likert scale with a section for comments for additional feedback (see Appendix C). After evaluation by the team, the final deliverable was an educational program that is deemed appropriate for the education of ICU nurses and addresses the gap in knowledge regarding physical restraint use and alternative methods.

Significance

To ensure support and participation, it is integral to identify all stakeholders and reveal the benefit of the project to gain buy-in (O'Rourke et al., 2016). Key stakeholders that may be affected by the doctoral project include ICU patients and families, ICU nurses, respiratory therapists, nursing education leadership, and hospital leadership (including the chief nursing officer [CNO], chief executive officer, and chief financial officer). By addressing the local problem, all parties stand to be impacted by the doctoral project. Initially, I engaged hospital leadership to support the doctoral project and the associated needs. Once approved, the staff education presentation will potentially impact nursing practice within the organization and lead to evidence-based practice changes that will improve the quality of care for patients and their families. Engaging stakeholders

from the beginning stages is essential when planning for nursing practice changes (O'Rourke et al., 2016).

In this doctoral project, I introduced a unique and original method for improving nurses' knowledge and attitudes regarding physical restraints and alternative methods. In order to ensure accuracy and rigor, I obtained evaluations of the developed educational program from nursing leadership and SMEs who served as a team for evaluating the doctoral project at completion. Initial evaluation of the educational program from the evaluation team and subsequent support from key stakeholders will aid in effective dissemination throughout the organization at a later time. The success of the educational program could potentially have transferrable results to other ICU settings inside and outside of the organization. Proven results and transferability across the critical care setting could make a lasting contribution to the field of nursing and provide the means for a standardized approach to the reduction of physical restraint use.

As the practice project will likely lead to decreased restraint use over time, other quality metrics such as delirium, length of stay, and pressure injuries may also be affected (see Mitchell et al., 2018). The potential for positive social change is clear when the project is observed as part of the bigger picture. Although the practice project only involves one aspect, the effects will trickle throughout the whole patient care experience and be evident in many facets of health care quality data.

Summary

Despite extensive research and governing bodies making recommendations against the use of physical restraints, they are still a common practice in the critical care

setting. Their use stems from fear of patient harm and outdated beliefs that physical restraints prevent falls and accidental removal of devices (Chang et al., 2008). This was especially an issue within the project site organization that needed to be addressed. The literature revealed a knowledge-practice gap regarding physical restraint use (Perez et al., 2019). With this doctoral project, I addressed the knowledge-practice gap by developing an educational program to improve nurses' knowledge and attitudes toward the use of physical restraints and alternative measures. To begin this work, it was necessary to identify theories, concepts, and models that would support the doctoral project through the stages of development and connect the relevance of the practice problem within the nursing field to the specified organization. These topics will be further discussed in the next section.

Section 2: Background and Context

Within the critical care setting, physical restraints continue to be used routinely despite documented evidence of their potential for physical and psychological harm. Additionally, research has also demonstrated that physical restraint use can inadvertently worsen agitation and increase self-extubation rates (Chang et al., 2008). This gap in practice is due to a lack of a standardized educational program to address physical restraint use and alternative methods (Perez et al., 2019). This issue has been especially evident in the local ICU setting where the practice project was implemented. The overarching, practice-focused question was: Will an evidence-based educational program regarding the use of physical restraints and alternative measures be an appropriate method for ICU nurse education according to a team of local SMEs? The purpose of this doctoral project was to develop the educational program for the local critical care setting and obtain evaluation and approval for implementation from the nursing leadership and SMEs.

In this section, I describe the concepts, theories, and models that informed the doctoral project as well as clarify any specific terms used within the text. The practice problem is also further explained, with a focus on its relevance to nursing practice and context within the local practice setting. Lastly, I discuss my role as the doctor of nursing practice (DNP) student in the doctoral project, including my relationship to the topic, motivations, and potential biases.

Concepts, Models, and Theories

Evidence-based practice is a blend of research and theory, synthesizing knowledge in a meaningful way to establish best practices for improved patient outcomes (White et al., 2021). There are multiple concepts, models, and theories that were instrumental in the development of this doctoral project.

The theory of planned behavior (TPB) is a psychological theory that is widely applied among the social and behavioral sciences (Bosnjak et al., 2020). The theory has been used broadly within the health sciences and was developed in the 1980s by social psychologist, Icek Ajzen, as a refinement of the previously developed theory of reasoned action (Boslaugh, 2019). In the TPB, it was hypothesized that the most important determinant of a person's behavior is intention (McEwen & Wills, 2018). Intention is the final precursor before an actual behavior and is representative of a person's readiness to perform that behavior (Bosnjak et al., 2020). Intention is determined by assessing a person's attitude toward the behavior, subjective norms, and perceived behavioral control (McEwen & Wills, 2018). Behavioral beliefs refer to a person's positive or negative appraisal of behavior performance. Feelings, beliefs, and perceptions have a direct effect on attitude, although knowledge also influences the suitability of a specific behavior. A subjective norm is understood as the social pressure upon a person to implement or not implement a behavior. Social pressures influence decisions and behaviors of everyday life, and it is important to consider this factor when discussing planned behavior change. Perceived behavioral control considers the perceived factors that may aid or prevent behavior. A more positive attitude and a favorable subjective norm will likely result in

greater perceived control, and ultimately a deeper intention for behavior change. It is also imperative to consider actual behavioral control, which refers to the extent to which an individual has the necessary prerequisites to perform the behavior (Boslaugh, 2019).

To develop a successful physical restraint education program for the ICU setting, it was important to first consider the nurses' current knowledge and attitudes toward restraint use (see Via-Clavero et al., 2019). The educational program must identify areas to promote the nurses' intent to change rather than simply provide teachings on restraint application or report research findings. Previous research utilizing a TPB questionnaire demonstrated that nurses who received previous training on physical restraint use and worked in units with organizational policies and alternatives to restraints demonstrated lower levels of intention to use them (Via-Clavero et al., 2020). The TPB provided me with a guiding framework for the development of an educational program that addresses physical restraint use and alternative methods while considering the effect that nurses' attitudes and intent to change have on the program's success.

As an additional framework for the staff education, the analyze, design, develop, implement, evaluate (ADDIE) model served as an exemplary guide for the development of the project. The ADDIE model is comprised of five integral steps to implementing successful education programs, especially in relation to nursing staff (Jeffery et al., 2015). Analysis is the first step of the process and focuses on the needs assessment to identify gaps in education. Steps 2 and 3 are designing and developing the education that will address the needs identified in the analysis phase. When planning staff education to implement evidence-based practices, it is essential to frame the educational content

around nursing's metaparadigm: person, health, environment, and nursing. The next step is the implementation stage; the ADDIE model provides useful implementation strategies to provide relevant and succinct education to the learners. The final phase is evaluation in which the educator inquires if the education resulted in changes, the significance of change, and whether the practice problem was solved or partially alleviated after implementation of the education.

In the context of this DNP project, local SMEs referred to nurses within the local clinical setting who have specialized knowledge and experience regarding physical restraints and were current on the most recent evidence regarding restraint recommendations.

Relevance to Nursing Practice

Critical care nursing is a complex practice of managing the comprehensive care of critical patients while also ensuring a safe environment. Nurses have historically believed that to provide safe care to critically ill patients, they must be restrained to prevent treatment interference with life-sustaining medical devices (Perez et al., 2019). In an updated position statement, the ANA (2020) urged nurses to utilize measures to eliminated restraint use and created a restraint-free environment. The ANA also acknowledged there are times physical restraints may be appropriate for patient or staff safety, and nurses should be able to identify and thoroughly document those situations. The Centers for Medicare and Medicaid Services and The Joint Commission have also advised organizations to minimize physical restraint use to improve patient safety and quality of care (Hall et al., 2018). The American Academy of Nursing (2014) released a

"don't" statement in 2014 that provided rationales and evidence for not using physical restraints with older, hospitalized patients. This guiding evidence suggests that physical restraint use in the ICU setting has become a growing concern in the nursing profession. Nurses have an esteemed role to uphold ethical and moral standards of patient care, and the current overuse of restraints, locally and nationally, is in opposition to these standards.

Although there is extensive research supporting the need to decrease restraint use, there are currently no standard protocols specific to restraint utilization that are considered best practice across this setting; rather, protocols focusing on pain control, sedation, and weaning are expected to impact the need for restraint use (Jarachovic et al., 2011). There are, however, recommendations for educational programs to address knowledge and practice gaps regarding restraint use in the ICU setting (Möhler et al., 2016). The Joint Commission supports the use of restraints only when it can be clinically justified or when the patient exhibits behavior that threatens the physical safety of themselves, staff, or others (Crisis Prevention, 2011).

The current issue in practice is that the scientific evidence regarding restraint use is not being observed in the critical care setting. It is not likely that restraint use will cease, but there is much improvement to be made in the United States. Restraint use varies by country, ranging from 7% in Australian ICUs to as high as 87% in U.S. ICUs (Salehi et al., 2020). It is a multifaceted issue that will require multiple interventions within an organization to decrease physical restraint use but implementing an evidence-based education program is an essential first step.

Current scientific findings regarding physical restraint issues focus on the need for new approaches to education and changing attitudes toward restraints. Nurses are identified as the key decision makers regarding restraint use (Lach et al., 2016). Improved education on the use of physical restraints and alternative measures as well as the availability of restraint alternatives are the current, evidence-based guidelines for decreasing restraint use (Johnson et al., 2016). Kirk et al. (2015) demonstrated a significant decrease in physical restraint use in the ICU after implementing less restrictive devices and educating nurses on alternative measures. Recent studies have also explored the ethical dilemmas faced by critical care nurses regarding physical restraint use (Salehi et al., 2019). Again, improved education is recommended to guide confident decision making. Restraint management bundles are also suggested as an effective method for reduction in restraint use (Hall et al., 2018). This approach is similar to other bundles that have proven highly effective in the prevention of hospital-acquired infections.

By addressing the gap-in-practice related to physical restraint use in the ICU setting, there is a significant opportunity for the improvement of patient safety, quality of care, and nurse empowerment in decision making. In this doctoral project, I addressed the practice problem with the creation and evaluation of an evidence-based education program for the use of physical restraints and alternative methods with the intention to benefit both patients and nurses.

Local Background and Context

The project site hospital openly expresses their passion for establishing a community built on care, and they are dedicated to providing the community and visitors

with expert, compassionate care for families. However, current physical restraint practices do not align with this mission. Local nursing leaders have identified current restraint use in the ICU setting as problematic and not aligned with nursing standards of care and patient outcomes. A lack of education has been identified as a key factor associated with the physical restraint practice gap in nursing and the local setting (see Perez et al., 2019). The hospital's new hire orientation education is lacking evidence-based information regarding the effects of physical restraint use, critical assessment of the patient to identify causes, and strategic alternative measures to avoid their use.

The setting for this practice project was a small ICU in a rural community hospital. This unit consists of a tight-knit group of nurses with low turnover rates. The education that was developed for and evaluated in the practice project stands to improve the knowledge and attitudes of these nurses toward restraint use once implemented. Because the nurses of this unit are dedicated to their hospital and their patients, the results in this setting will be long lasting.

Current practice in the local ICU setting is restraining any intubated patient regardless of sedation or patient status. This has become the norm for the ICU, with providers willingly writing orders for restraint at the time of intubation. Nurses from this unit have expressed that the use of physical restraints is ultimately their decision. One study reported that better nurse-physician relationships were associated with higher rates of physical restraint use, likely indicative of the greater level of autonomy for critical care nurses (Olds & Cramer, 2021). According to the CNO of the local organization, current restraint practices are above the NDNQI benchmark. The Joint Commission also has

clear guidelines for physical restraint practices, with their standards recommending only using physical restraints as a last resort after exhausting alternative measures; safe utilization of restraints when they are necessary; provider order renewal every 24 hours; adequate staff education, policies, and protocols; and frequent reassessment of restraint need (Crisis Prevention, 2011). The project site organization undergoes an evaluation by The Joint Commission every 3 years to ensure they are in compliance with their current standards.

Role of the DNP Student

DNP-prepared nurses are uniquely prepared to synthesize clinical research, apply theoretical concepts from multiple ways of knowing, and develop evidence-based practices that are meaningful to the holistic care of patients (Fitzpatrick, 2010). I have extensive experience as an ICU nurse and have been faced with the ethical and moral dilemma of placing a patient in physical restraints. While working in an ICU in a large, teaching hospital, I witnessed the incredible progress made in decreasing the use of physical restraints. Staff education coupled with the ICU liberation bundle allowed nursing staff to utilize methods to decrease ICU delirium and, subsequently, physical restraint use. The feeling of empowerment to provide quality nursing care without restraints and the sense of relief from patients when releasing them from physical restraints drove my interest for this DNP project.

As a previous staff nurse of the local ICU, I have developed relationships with many of the nurses there and gained insight into their decision-making process. The organization was also my practicum site, which has allowed me to develop

interprofessional relationships with key stakeholders who are invested in the DNP project. Specifically, I have worked closely with the CNO, nursing leadership, and nursing education team to implement best practice changes within the practicum setting, which includes the doctoral project and its evaluation by these esteemed, local SMEs regarding physical restraint use.

As a previous staff nurse on the unit, there may have been some unconscious bias toward the education session by my peers. It is also possible that a potential bias could have existed toward the material since I have experienced similar training and noted its effectiveness as a staff member. As with any education, there is also the chance of a potential bias in that preconceived notions or the current culture of how ICU delirium and physical restraint practices are managed will cause resistance to change.

Summary

As nurses continue to use physical restraints in the ICU setting despite quality evidence suggesting they are more harmful to patients, there is a clear gap in the utilization of evidence-based practices (Shields et al., 2021). The TPB and ADDIE model served as valuable theories guiding my development of an effective and efficient education module for physical restraint use best practices. With continued recommendations by the ANA, Joint Commission, and Centers for Medicare and Medicaid Services to minimize physical restraint use, the project site organization strives to maintain these standards by searching for new educational methods that meet evidence-based practice guidelines. Guided by the passion formed from working with ICU patients and witnessing the evolution of practice standards, I addressed the gap-in

practice in this project by developing an evidence-based educational program regarding physical restraint use. In the following section, I will further explore the practice-focused question by identifying key sources of evidence, completing a thorough literature review, and discussing the methodology used in the DNP project.

Section 3: Collection and Analysis of Evidence

Nurses in the ICU commonly earn a high level of autonomy, making many important decisions regarding the care of critically ill patients. Although a provider order is necessary for physical restraints, nurses' decisions to use restraints often go unquestioned (Perez et al., 2019). The physical restraint of ICU patients has historically been a standard practice, with the intention of preventing the removal of life-saving devices, self-extubation, and falls. On the contrary though, research has demonstrated self-extubation is 3 times more likely to occur while a patient is restrained versus unrestrained (Chang et al., 2008). Within the project site organization, the local ICU still maintains physical restraint practices under outdated and false assumptions of their benefits.

In this section, I reiterate the practice-focused question, clarifying how the purpose and the approach align. Multiple sources of evidence to address the practice-focused question are identified, including a comprehensive review of the literature on the topic and an explanation of the participants' role, procedures, and protections. I also provide analysis and synthesis of the data and methods for interpretation.

Practice-Focused Question

Locally, physical restraint use is high on the project site's agenda to address. Physical restraint use in the ICU above NDNQI benchmarks is a pressing concern for the CNO and nursing leadership. This practice problem is not unique to the local setting; many health care organizations worldwide are struggling with outdated protocols and gaps-in-knowledge regarding physical restraint best practices (Chang et al., 2008; De

Jonghe et al., 2012; Hamilton et al., 2017; Via-Clavero et al., 2020). To address this practice problem, staff education is widely defended in the literature as an effective method to improve nurses' knowledge regarding physical restraints and, consequently, decrease their use (see Schmidtk & Iverson, 2018). The practice-focused question for the DNP project was: Will an evidence-based educational program regarding physical restraint use and alternative methods be an appropriate method for ICU nurse education according to a team of local SMEs?

The purpose of the DNP project was to create an educational module regarding physical restraint use that is evaluated by local SMEs for rigor and approval before widespread dissemination. Ultimately, I would like to disseminate an SME-approved education that empowers nurses to evaluate critically ill patients for precipitating factors that often result in restraint use and instead select effective alternatives to maintain patient autonomy and safety.

Sources of Evidence

To develop a staff education program, it was essential to explore and synthesize the current literature and established, evidence-based guidelines to support the content. For this DNP project, the first source of evidence was literature I accessed through searching the Walden University Library and Google Scholar. Another source of evidence was the ICU liberation bundle (see Appendix D) created and validated by the Society of Critical Care Medicine (SCCM; 2018) for widespread dissemination of evidence-based strategies to improve the care of ICU patients.

The ICU liberation bundle has been shown to decrease physical restraint use in the ICU setting by over 60% (SCCM, 2018). Delirium is a key precursor that often results in physical restraint use in the ICU setting (Lawson et al., 2020). Although delirium is frequently measured in ICU settings using the Confusion Assessment Method, critical care nurses are still struggling with using the data provided from this assessment to successfully aid patients in recovery (Balas et al., 2019). The ICU liberation bundle provides an interdisciplinary approach with resourceful steps to improve ICU delirium. Utilizing the ICU liberation bundle as a guideline to develop an evidence-based education for SME evaluation served the purpose of this doctoral project.

To address the practice-focused question, I used the ICU liberation bundle concepts along with quality evidence from the literature to develop an evidence-based educational program regarding physical restraint use in the ICU setting. The educational content is accompanied by a pre- and posttest to measure the validity and effectiveness of the education at the time of implementation. The educational content, including the pre- and posttest, was delivered to six SMEs for formative evaluation using a Likert scale and providing an opportunity for narrative comments. The evaluation by the SMEs determined if the evidence-based educational program is an appropriate method for ICU nurse education regarding physical restraint use and alternative measures, answering the practice-focused question.

Published Outcomes and Research

I searched nursing databases, including Cumulative Index for Nursing and Allied Health Literature, Medline, ProQuest Nursing, and Pubmed, to extensively explore the

current literature regarding physical restraints. The Embase database was also used to extend the search internationally to observe other countries' restraint practices. Key search terms included *physical restraints*, *restraints*, *restraint education, alternative measures, ICU liberation bundle,* and *nursing*. Boolean search strings were also utilized, including *physical restraints AND alternative measures*, *physical restraints AND ICU AND nursing education, physical restraints AND staff education OR professional development OR module NOT psychiatric*, *ICU liberation bundle AND outcomes,* and *physical restraints AND ICU AND nursing*. The literature revealed a wealth of current knowledge regarding the topic. Focusing on research published within the past 5 years, I reviewed multiple sources of literature, including systematic reviews, observational studies, quasi-experimental studies, integrative reviews, and quality improvement projects. The levels of evidence utilized for the doctoral project ranged from Levels A to D, according to the American Association of Critical-Care Nurses (2014) levels of evidence.

Over a 20-month period, Pun et al. (2019) explored the effects of implementing the ICU liberation bundle (see Appendix D) into practice at 68 ICU settings across the United States and its territories. On any given day, patients with complete ICU liberation bundle performance had a significantly lower likelihood of physical restraint, delirium, and mechanical ventilation the following day. Furthermore, they showed improved patient outcomes regardless of complete or proportional implementation, demonstrating the dose-effect response of the intervention. The ICU liberation bundle presents a

multitude of alternative measures to prevent or reverse ICU delirium and decrease the use of physical restraints.

When developing an educational program targeted for nurses, it is essential to understand their knowledge, attitudes, and intent regarding physical restraints prior to implementation. Via-Clavero et al. (2020) developed an effective questionnaire using the TPB to evaluate ICU nurses' knowledge, attitudes, and intent regarding physical restraint use. Their study revealed that nurses with previous training on restraints and working on units with organizational policies and alternatives to restraints demonstrated lower levels of intention to use them, possibly indicating the importance of evidence-based staff education in changing nurses' perceptions of physical restraint use.

Schmidtke and Iverson (2018) implemented a quality improvement project to reduce the use of restraints through education on alternative measures. Using a pre- and posttest design for comparison, they found that 78% of nurses acknowledged an increase in alternative measures used in practice. The education they developed focused on alternative measures that improved nurses' comfort level and overall knowledge.

Evidence Generated for the Doctoral Project

I delivered the educational program contents, accompanied by a pre- and posttest, to the six local SMEs for formative evaluation (see Appendices A and B). Included with the education for review, there was an evaluation form with nine statements for response using a 5-point agreement scale. There was also an opportunity for narrative comments at the end of the evaluation form. The educational contents were distributed using email, and the evaluation form was completed through a link to SurveyMonkey

(https://www.surveymonkey.com) to maintain the confidentiality of the participants. I provided the link to the evaluation form in the email with the educational contents for review.

Participants

The participants of the doctoral project included a panel of six local SMEs. Their role was to evaluate the educational content and pre- and posttest for rigor and approval for widespread dissemination. Each of the SMEs brought unique experiences to the panel for review. In this subsection, I discuss their experiences and roles within health care as they relate to the practice-focused question.

The first participant was the CNO of the local project site organization. The participant has an extensive background in critical care nursing and has been a part of similar initiatives to decrease restraint use in previous roles.

The second participant was a nurse educator for the organization. The participant also has experience in the ICU setting and is currently dedicated to revamping the nursing education program utilizing the Donna Wright method.

The third participant was the current ICU manager at one of the hospitals within the project site organization. The participant previously worked as a registered nurse in critical care as well. The participant is well known in the organization and plays an integral role in ensuring evidence-based practices reach the nursing staff.

The fourth participant was also a nurse educator with a master's degree in nursing education. The participant teaches an array of topics, including physical restraint use, to new nursing staff during orientation.

The fifth participant was an ICU operations manager with an extensive experience in critical care. The participant is credentialed as a certified critical care registered nurse and has been involved in and initiated many quality improvement projects throughout their career, including work with physical restraints.

The sixth participant was a nurse educator specific to the critical care setting. The participant has a master's degree in nursing education and has collaborated with nurses and other disciplines to incorporate new best practices, including the ICU liberation bundle, in previous roles.

Procedures

I used a nine-statement evaluation form (see Appendix C) utilizing a 5-point Likert scale collect evidence and feedback from the participants regarding the physical restraint educational contents. The Likert scale included options for *strongly disagree* (1), *disagree* (2), *neither agree nor disagree* (3), *agree* (4), and *strongly agree* (5). The evaluator used these choices to rank their response accordingly. The statements were clear and concise and provided valuable data regarding the panel's opinions of the educational content. To address any concerns not covered by the evaluation statements, there was also an area for participants to provide narrative comments to supplement the survey. The comment section provided the panel with an opportunity to leave additional feedback as well as questions or suggestions for improvement.

Protections

In line with the DNP staff education manual, all locations and organizations were generalized or changed so that they are unidentifiable (see Walden University, 2019). I

also protected the participants by keeping their personal and identifiable information confidential throughout the project completion and thereafter. Responses to the evaluation survey remained anonymous for the ethical protection of the participants as well as protection against any potential biases. Participants were permitted to withdraw their participation from the project at any time. As the facilitator of the project, I was available to the participants for any ongoing questions or concerns that may have arisen over its duration. The DNP scholarly project adhered to the preapproval parameters for a staff education project defined by Walden University's Institutional Review Board (IRB). By following these guidelines, it ensured timely IRB approval (IRB Approval No. 11-09-21-0455655) of the doctoral project. I conducted the DNP project while adhering to Walden University's COVID-19 social distancing policies.

Analysis and Synthesis

I tracked the participants' responses to the evaluation survey using the Likert scale numerical values through a Microsoft Excel spreadsheet. Since I used the Likert scale, outliers and missing data were unlikely (see Willett, 2021). The resulting data were evaluated utilizing inferential statistics, including the mean of the data set. The statistical analysis of the survey results helped determine whether the educational content of the doctoral project was considered appropriate for widespread dissemination or if improvements had to be made prior to implementation.

Summary

The practice-focused question guided the purpose and direction of the doctoral project. The sources of evidence were used to support the practice-focused question and

help formulate an evidence-based solution. It was imperative to utilize validated forms of evidence and high-quality research to synthesize and develop the staff education program regarding physical restraints. The evaluation form I developed using the Likert scale provided an acceptable means to evaluate the educational content of the project. As the doctoral project was conducted, it was essential to follow the outlined procedure as well as ensure the protection of participants to maintain the integrity of the project. Accurate analysis and synthesis of the survey results provided me with an opportunity to report the findings and recommendations as well as develop a plan for dissemination, both of which occur in the following sections.

Section 4: Findings and Recommendations

Physical restraints have been used in the local ICU setting out of fear, desperation, and lack of knowledge, which is directly reflected in their physical restraint use rates that are consistently above the national level (see Via-Clavero et al., 2020). The literature supports this notion, and there is a well-documented gap-in-practice regarding physical restraint practices and evidence-based research worldwide (De Jonghe et al., 2012; Hall et al., 2018; Mitchell et al., 2018). To address this gap, the practice-focused question that guided this study was: Will an evidence-based educational program regarding physical restraint use and alternative methods be an appropriate method for ICU nurse education according to a team of local SMEs? The purpose of the doctoral project was to develop the evidence-based educational program outlining physical restraint evidence and alternative methods to physical restraint use as well as obtaining evaluations of the program from nursing leadership and SMEs for rigor and approval for widespread dissemination within the project site organization.

I created the educational content of the project, including a pre- and posttest, and then delivered the content to six local SMEs for formative evaluation using a nine-statement survey and a 5-point Likert scale. The Likert scale options were as follows: *strongly disagree* (1), *disagree* (2), *neither agree nor disagree* (3), *agree* (4), *strongly agree* (5). SMEs were also given an opportunity for leaving narrative comments following the nine statements, so the evaluators could provide any additional feedback. I used the data analysis and results from the evaluation to determine if the evidence-based educational program will be an appropriate method for ICU nurse education regarding

physical restraint use and alternative measures, effectively answering the practice-focused question.

Findings and Implications

To develop the educational content, I used the ICU liberation bundle (see Appendix D) as the foundational evidence-based guideline for the education session. Using this source of evidence, I was able to create an original, engaging education to present to the local SMEs. I supplemented the research and guidelines with real-life experiences from an ICU physician who also happened to be a frequent patient in the ICU setting (see SCCM, 2014). Her testimonies gave perspectives from the points of view of both provider and patient and added immeasurable value to the content of the education. These testimonies were placed into the PowerPoint presentation as sound clips so participants could listen to her experiences. I developed the pre-/posttest to be evaluated by the local SMEs so in the future nurses' learning could be assessed using this resource. I chose main points from the education and the SCCM guidelines that are key in reducing physical restraint use to guide the questions for the pre-/posttest. For some of the questions, I used a case study format to further engage learners in the experience. I, then, selected six local SMEs and invited them to evaluate the educational content and accompanying pre-/posttest for content validity and appropriateness for use with ICU nurses as a method for physical restraint education. All six SMEs consented to participate in the process and received an e-mail containing the educational content and pre-/posttest as well as a link to an anonymous SurveyMonkey evaluation form. All six participants confirmed their participation, but only five completed surveys were received. Due to the

anonymity of the project, I was unable to determine which participant did not complete the survey. Table 1 reveals the results of the SMEs' evaluation using the Likert scale scored items. Table 2 shows the narrative comments left by the participants reviewing the educational content.

Table 1

Participant Results: Scored Items

Question	Rating					*M*
	1	2	3	4	5	
	n (%)	*n (%)*	*n (%)*	*n (%)*	*n (%)*	
1. The education is clear and easy to follow.					5 (100%)	5.0
2. The education is relevant to clinical nursing practice.					5 (100%)	5.0
3. The education content is consistent and appropriate to current nursing standards.					5 (100%)	5.0
4. Nurses will be able to complete the education.					4 (100%)	5.0
5. The education will increase nurses' knowledge.				1 (20%)	4 (80%)	4.80
6. The education will help to identify areas where nurses have gaps in knowledge and need remediation.					5 (100%)	5.0
7. The length of time to complete the education is appropriate.					5 (100%)	5.0
8. The education module is an appropriate teaching method for the topic.					5 (100%)	5.0
9. Overall, I am satisfied with the content and quality of the education.					*5 (100%)*	*5.0*

Note. (*N* = 5). 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree.

Table 2

Participant Narrative Comments and Feedback

Participants	Comments
Participant 1	None
Participant 2	None
Participant 3	Great job!
Participant 4	This education is current, clear, concise, and easy to follow.
Participant 5	Trisha did a fantastic job on this project. As a Director of Education, I appreciate when subject education is concise, easy to follow, and has appropriate testing at the end. This project meets all those criteria.

Note. (*N* = 5).

The goal of the evaluation survey was to assess the appropriateness of the physical restraint education program for ICU nurses according to the SMEs. The evaluation feedback received from the participants was overwhelmingly positive, indicating that the education is an appropriate method for ICU nurse education regarding the use of physical restraints and alternative measures. There were no recommendations for changes to be made to the content of the program by the SMEs. The completion rate for the evaluation survey was 83.3%, with five of the six who consented completing the survey in its entirety.

The responses to the rated items gave a clear indication of the participants thoughts regarding the educational content. For Question 1, all participants responded they strongly agree that the education is clear and easy to follow, resulting in a mean score of 5. For Question 2, all participants responded they strongly agree that the

education is relevant to clinical nursing practice, resulting in a mean score of 5. For Question 3, participants all strongly agreed that the education content is consistent and appropriate to current nursing practice standards, resulting in a mean score of 5. For Question 4, four participants strongly agreed the nurses will be able to complete the education, with one participant skipping this question. It is uncertain if this was accidental or intentional. The responses scored resulted in a mean score of 5. For Question 5, four participants strongly agreed, and one agreed the education will increase nurses' knowledge, resulting in a mean score of 4.80. For Question 6, all participants strongly agreed the education will help to identify areas where nurses have gaps in knowledge and need remediation, resulting in a mean score of 5. For Question 7, all participants strongly agreed the length of time to complete the education is appropriate, resulting in a mean score of 5. For Question 8, all participants strongly agreed the education module is an appropriate teaching method for the topic, resulting in a mean score of 5. For Question 9, all participants strongly agreed that they were overall satisfied with the content and quality of the education, resulting in a mean score of 5.

Question 10 was an opportunity for comments and feedback regarding any area of the education and content. The purpose of Question 10 served to note any strengths, weaknesses, or recommendations for improvement. Only three of the five participants responded to Question 10, and all three provided positive feedback. However, there were not enough responses from the participants to perform a content analysis of the qualitative data.

While reviewing and analyzing the data, there were a few unanticipated limitations and outcomes. One unanticipated limitation was the discovery that one participant out of the six participants who agreed to participate had not completed the evaluation survey even though they confirmed they had. This was likely a technological error, but it is unknown which participant did not complete the survey in its entirety due to the anonymity of the participant responses. This unanticipated situation is unfortunate because one participant's responses are not included in the data, and it is unknown how those responses would have affected the mean scores. However, it is of minimal impact to the project because there were still five participants who completed the evaluation survey with overwhelmingly positive responses from all five. Another unexpected finding was the skipped Question 4 by one participant. It is unclear if this was intentional or accidental. and it is unknown how the participant's response may have affected the mean score for that question.

The physical restraint education was evaluated by the local SMEs, and they provided positive results and feedback, especially within the project site organization. The findings demonstrate the education program is an appropriate method for ICU nurse education regarding the use of physical restraints and alternative measures. The DNP project has many implications resulting from the findings. With the approval from local SMEs and key stakeholders for dissemination, the project stands to increase the likelihood of the overall program success for meeting both the goals of individuals and the institution. For the ICU nurses, the education stands to improve their knowledge and evidence-based practice supported decision making. This will likely lead to more

confident decision making that results in less ethical and moral distress for the ICU nurses (see Salehi et al., 2019). For the institution, the education has been approved by local SMEs and key stakeholders as an appropriate method for physical restraint use education, which is a key concern for the organization. It is possible the implementation of this education could also reduce physical restraint use, lower metrics to below national standards, and improve patient safety. The education could also have implications on other health care systems. If the education proves successful, it could be widely disseminated among other health care systems to grow supporting data of the program's success and improve nursing education beyond the ICU at the local organization.

The project also provides potential implications to positive social change in the field of nursing. The use of physical restraint and alternative measures educational program was confirmed by local SMEs to be an appropriate method for nursing education and dissemination. In turn, nurses will receive a well-developed, clear, and concise education program that will contribute to their nursing knowledge and future nursing practice. Because the education was highly esteemed by the local experts, I am hopeful that the educational program can have a positive, long-lasting impact on future nursing practice.

Recommendations

Based upon the findings from the completed DNP project, my recommendation is to utilize the physical restraint and alternative measures educational program (see Appendix A) as the new method for physical restraint education for ICU nurses in the local organization. As discussed with the nursing leadership of the organization, the

education would replace the current, mandatory physical restraint education for ICU nurses. Just as current standards require, the education will be a yearly competency requirement for all ICU nurses and any nurses who transfer to the unit. For transferring nurses, the education would be part of their orientation requirements to be completed within 90 days of their hire. I developed the education with a face-to-face format in mind, and there will be future discussions with the nursing leadership to determine how this will be achieved. It is possible it may initially be a virtual, live presentation due to COVID-19 restrictions, with the live recording available to nurses who cannot attend. I also recommend the use of the ICU liberation bundle guidelines (see Appendix D) developed by the SCCM (2018) alongside the education to reduce the knowledge gap regarding physical restraint use and subsequently decrease or eliminate their use in the local ICU setting. Utilization of the corresponding pre-/posttest (Appendix B) I created would also be an essential recommendation to assess the education's effectiveness after implementation. Other data collection should include time patients spent physically restrained before and after the education's implementation; any negative patient outcomes before and after education (e.g., falls, injuries, or self-extubations); and data, such as length of stays, days intubated, etc., that could be pertinent and affected by the new education implementation.

To keep nurses engaged and encourage timely completion of the education, I suggest providing nurses with paid time to complete the education. Providing food at the education venue is also always a great way to encourage participation. I would also like

to have the educational program approved for continuing education credits to further award nurses for completing it.

Strengths and Limitations of the Project

There are notable strengths and limitations of the doctoral project that should be considered. The inclusion of the key stakeholders and management as participants strengthened the effectiveness of this project. Since the participants were also key stakeholders for the educational program, their approval of the education during the doctoral project will expedite the implementation of the program. A limitation of the doctoral project is the lack of clarity it provides regarding the actual effectiveness of the education on ICU nurses' knowledge. This must be evaluated separately using the pre-/posttest evaluation later. For wider dissemination, it may also be necessary to include SMEs from other organizations around the country; however, evaluating the program's effectiveness within the local organization may serve as sufficient support for widespread dissemination to other organizations.

For future projects, I would prefer to have the actual presentation of the educational program evaluated rather than just the educational content. To gain the full effect of the developed education, it is necessary to experience the presentation of the education rather than just review the materials comprising the program.

Section 5: Dissemination Plan

It is essential to develop a dissemination plan after the initial SME evaluation to ensure the program's success within the organization (Hodges & Videto, 2011). Holding a planning meeting with the organization's leadership is a necessary first step to plan times for the education to be presented that accommodates the nursing staff and the leadership. I also intend on applying for continuing education credits for the educational program so the nurses receive credit for its completion. It will be crucial to organize multiple times for the education to be delivered so that all nursing staff can participate. We will also discuss whether the education will be conducted during paid hours, extended hours that are paid, or on the nurses' own time. Ideally, the nurses will be paid for their time to encourage their participation. The ICU nurses will complete the pretest prior to the education and then the posttest after the education so data can be collected regarding the program's effectiveness. Once all ICU nurses complete the education and pre-/posttest, the data will be analyzed to understand the program's outcomes and effectiveness. At this point, any necessary changes can be made according to the results. Pre- and post-education data should also be collected and analyzed, including a comparison of physical restraint use before and after the implementation of the education program.

Analysis of Self

I have learned significant and irreplaceable lessons throughout this DNP project and the practicum experience. I have grown exponentially as an individual, nurse, leader, and scholar. The DNP project taught me valuable lessons in interprofessional

collaboration and provided me with the opportunity to persuade key stakeholders and pivotal members of the organization to allow me to develop impactful practice changes that have the potential to promote positive social change and improved patient outcomes and experiences.

The project has also provided me with experience in engaging with participants and persevering through challenges in the project's completion. With any project involving participants, or even other team members, it can be difficult to maintain engagement and participation throughout the course of the project. I learned many lessons on effective ways to keep the participants on track with the timelines and engaged in the overall experience. This knowledge and experience will be especially useful in future endeavors in my teaching career as well as other long-term professional goals.

In completing the DNP project and practicum experience, I gained abundant experience utilizing research to develop meaningful changes using evidence-based practices that are tailored to the organization. I quickly learned that while the evidence-based practices are consistent, different approaches will be necessary for different settings. Even across different units, these nurses learn differently, and it is essential to use the most effective modality for their specialty. I also learned the value of iterative planning and evaluation throughout the project, with early inclusion of all key stakeholders to ensure the program's success (see Hodges & Videto, 2011).

Summary

The DNP project serves as a catalyst to creating long-lasting, evidence-based practice changes within the project site organization to improve patient care and the care

experience. As use of physical restraints is still being considered the unfortunate norm in the ICU setting, it was my intention and overarching goal to question these predetermined mindsets with the presentation of the most current, evidence-based practices and research available on the topic. Nurses are at the forefront of the decision making around the use of such restraints, so creating an education that provides them with the necessary, up-to-date knowledge to provide ethically sound, high-quality care was of utmost importance to me (see Perez et al., 2019).

The DNP project focus was to first evaluate this education and its materials to determine whether it was an acceptable and appropriate method for ICU nurse education according to the local SMEs and the organization. With the findings from the DNP project, I feel confident in moving forward with future projects, including the implementation of the physical restraint use and alternative measures education to the ICU nurses so they can reap the benefits of the program. I am hopeful that future projects regarding the physical restraint education will have a positive impact on the nurses' confidence in decision making, patient care and outcomes, and the organization's overall success.

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Appendix A: Staff Education PowerPoint

Let My People Go!

Empowering Nurses with the Knowledge to Provide Safe and Quality Care with Critical Assessment and Alternative Measures

Objectives

- Understand and empathize with the patient and nursing perspective
- Understand the current evidence
- Develop strategies to reduce physical restraint use
- Discuss barriers to alternative measures
- Develop a game plan for future practice

Understanding the Patient Perspective

Dr. Alison Clay MD, a physician specializing in pulmonology and critical care medicine, shares her experience from the patient perspective

Understanding the Nurse Perspective

"Patient comfort can be sacrificed for patient safety."

"When I implement PR on a patient, although I know he/she is very uncomfortable, but I have no other choice, I also feel helpless because I have no alternative."

"PR is very effective in preventing unplanned extubation. I had never encountered unplanned extubation problems when a patient was restrained."

Understanding the Current Evidence

Physical restraint research demonstrates:

- Physical restraints are often associated with increased risk for unplanned extubation
- Benzodiazepines have also been associated with increased risk for unplanned extubation
- Physical restraints increase the risk for prolonged mechanical ventilation, falls, pressure injuries, neurovascular issues, and post-traumatic stress disorder
- Physical restraints worsen delirium in ICU patients

Nursing research demonstrates:

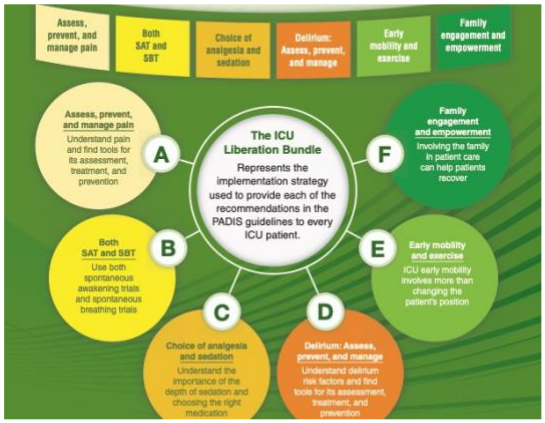
- Nurses often use physical restraints out of fear of life-sustaining device removal and patient safety
- Nurses face ethical dilemmas when placing patients in physical restraints
- Nurses have a lack of knowledge regarding the effectiveness and safety of physical restraint use and alternative measures
- Education is an effective method to improve nurses' knowledge and subsequently decrease physical restraint use in the ICU setting

Strategies to Reduce Physical Restraint Use

- Distraction/Reorientation
- Decrease stimulation/Regulate sleep-wake cycle
- Improved pain management, decrease sedation
- Music therapy, cold therapy, massage, relaxation techniques
- Increased attention/emotional care
- Bed alarms, mitts
- Family, sitters

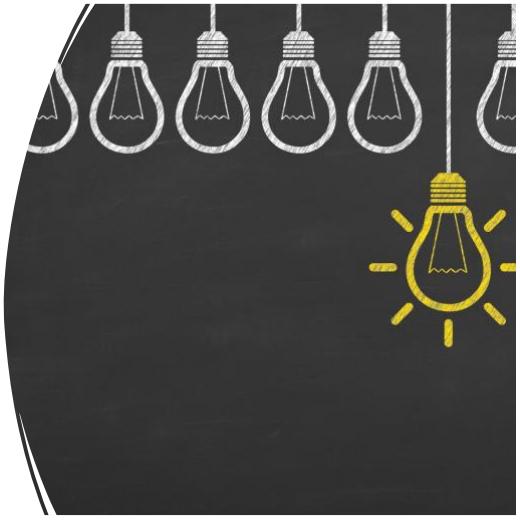
Strategies to Reduce Physical Restraint Use

Incorporate elements of the ABCDEF Bundle



Barriers to Alternative Measures

- Knowledge
- Access
- Time
- Staffing
- Creativity



Applying Knowledge to Practice

Let's put our knowledge to the test!

Case Study 1

Mrs. Beverly Marion is a 75-year-old female admitted to the medical ICU with a UTI and sepsis. She was intubated 3 days ago, and immediately placed on a lorazepam continuous infusion and physically restrained. An order for physical restraints was obtained by the nurse. Mrs. Marion has a RASS of -4 at this time and the CAM-ICU cannot be completed due to her level of sedation. She is on Assist Control with ventilator settings set at 40% FiO2, tidal volume 550 ml, RR 14, PEEP 5 and tolerating well. All vital signs are stable.

Thoughts

Benzodiazepine use increases the risk for delirium and subsequent physical restraint use

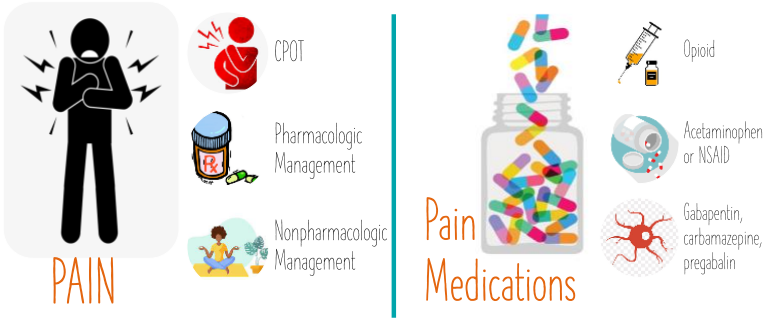
What could we use instead?

- Propofol
- Dexmedetodimine (Precedex)

Case Study 2

You notify the provider and recommend that the patient's RASS goal is adjusted to 0 to -1 and explain your concerns with the benzodiazepine infusion and its' association with delirium in ICU patients. The provider discontinues the lorazepam infusion and orders a dexmedetomidine continuous infusion with a titrate order to maintain RASS of 0 to -1 (light sedation). Mrs. Marion is tolerating the new medication well and vital signs continue to be stable. She is taking some breaths on her own and is able to follow commands. During turning and suctioning, Mrs. Marion becomes agitated and restless, which concerns the nurse and makes the nurse hesitant to remove the physical restraints.

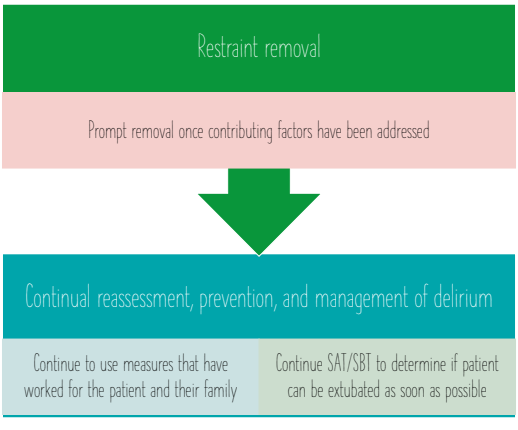
Thoughts



Case Study 3

Mrs. Marion is given fentanyl and acetaminophen as needed for pain control. She is on minimal sedation and continues to follow commands and answer yes/no questions. Mrs. Marion's family is at the bedside, and they state how impressed they are with her progress in such little time. The nurse explains the importance of Mrs. Marion's endotracheal tube and discusses criteria for extubation, as well as the importance of the IV lines for medication administration. Mrs. Marion and the family state understanding, and the family will remain at the bedside for at least the next few hours.

Thoughts



Putting It All Together: Game Plan for Future Practice

Questions & Discussion

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Appendix B: Pre- and Posttest

1. Which condition can be worsened by physical restraints in ICU patients?
A. Sepsis
B. Delirium (correct response)
C. Fever
D. Anemia

2. Which of the following is a common theme of nurses' decision making regarding physical restraint?
A. Nurses place physical restraints out of fear of device removal and to guard patient safety. (correct response)
B. Nurses place physical restraints to make patients comfortable.
C. Nurses place physical restraints to make their job easier.
D. Nurses place physical restraints because it is a mandatory policy.

3. According to current research, what is the most effective way to decrease physical restraint use in the ICU setting?
A. Remove all physical restraints from the unit.
B. Updated education to improve nursing knowledge of physical restraints and alternative methods. (correct response)
C. Develop policies that eliminate physical restraint use.
D. Mandate sitters at all agitated patients' bedsides to prevent physical restraint use.

4. Before renewing a physical restraint order, what should be assessed?
A. Indications for their removal
B. Possible precipitating factors for delirium and agitation
C. Alternative methods that could be successful
D. All of the above (correct response)

Please use case study 1 to answer the following 2 questions.
5. Which factor could be a modifiable risk factor for delirium and subsequent physical restraint use for Mrs. Marion?
A. Advanced age
B. Benzodiazepine use (correct response)
C. Previous coma
D. Blood transfusion

6. Which sedation medication may be a better option for Mrs. Marion to decrease the risk of delirium?
A. Versed continuous infusion
B. IV lidocaine
C. No sedation
D. Propofol or dexmedetomidine (Precedex) (correct response)

Please use case study 2 to answer the following 3 questions.
7. What is the most likely cause of Mrs. Marion's restlessness and agitation?
A. She wants to remove the ET tube.
B. She does not like the nurses caring for her.
C. She is in pain. (correct response)
D. She misses her family.

8. What is the most appropriate scale for assessing pain in critically ill, intubated patients?
A. Numeric scale
B. Wong-Bakers FACES scale
C. CPOT (correct response)
D. A standardized assessment scale is not recommended.

9. What pharmacological pain management combination would most benefit Mrs. Marion?
A. Fentanyl, acetaminophen, and possibly gabapentin (correct response)
B. Hydromorphone and morphine
C. Pregabalin only
D. Acetaminophen only

Please use case study 3 to answer the following 2 questions.
9. Given the details in the case study, which is the most appropriate next action?
A. Restart lorazepam continuous infusion to achieve a RASS of -3.
B. Call the provider to renew physical restraint orders for another 24 hours.
C. Ask the family to leave the bedside and remove the physical restraints.
D. Discuss physical restraint removal with the family and patient, remove restraints, provide alternative measures as needed, and assess the patient's ability to communicate using the communication board. (correct response)

10. Mrs. XYZ and her family are elated that the physical restraints have been removed, but they are concerned if they will need to be replaced once the family leaves for the night. What response by the nurse is the most appropriate?
A. The restraints will only be reapplied as an absolute last resort. We have many other nonpharmacologic measures to prevent their use, such as music therapy, mittens, and frequent assessment and pain control. Preventing delirium is the best way to prevent their reapplication. (correct response)
B. If Mrs. XYZ becomes agitated, we will reapply them. We know it is hard, but physical restraints prevent the removal of ET tubes.
C. We will replace the physical restraints when you leave because we cannot trust her to not pull the ET tube.
D. I can only remove them when I am in the room. When I leave, I will need to reapply them. .

Appendix C: Expert Panel Evaluation of Staff Education

Please review the education program and answer the following questions to the best of your ability. The intent of this survey is to provide data regarding the effectiveness of the education to adult nurses on the topic.

Scale: SD = Strongly Disagree; D = Disagree; U = Uncertain; A = Agree; SA = Strongly Agree

	1 = SD	2 = D	3 = UC	4 = A	5 = SA
1. The education is clear and easy to follow.					
2. The education is relevant to clinical nursing practice.					
3. The education content is consistent and appropriate to current nursing practice standards.					
4. Nurses will be able to complete the education.					
5. The education will increase nurses' knowledge.					
6. The education will help to identify areas where nurses have gaps in knowledge and need remediation.					
7. The length of time to complete the education is appropriate.					
8. The education module is an appropriate teaching method for the topic.					
9. Overall I am satisfied with the content and quality of the education.					

Comments:

Thank you for your participation.

Appendix D: ICU Liberation Bundle

Appendix E: Approval for Use of the ICU Liberation Bundle Infographic

Using these Resources

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