

10-6-2025

## Improving ICU Nurses' Knowledge of Early Mobility Through an Educational Intervention

Mohini Chand  
*Walden University*

Follow this and additional works at: <https://scholarworks.waldenu.edu/dissertations>



Part of the [Nursing Commons](#)

---

This Dissertation is brought to you for free and open access by the Walden Dissertations and Doctoral Studies Collection at ScholarWorks. It has been accepted for inclusion in Walden Dissertations and Doctoral Studies by an authorized administrator of ScholarWorks. For more information, please contact [ScholarWorks@waldenu.edu](mailto:ScholarWorks@waldenu.edu).

# Walden University

College of Nursing

This is to certify that the doctoral study by

Mohini Chand

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

Review Committee

Dr. Cheryl Holly, Committee Chairperson, Nursing Faculty

Dr. Robert McWhirt, Committee Member, Nursing Faculty

Chief Academic Officer and Provost  
Sue Subocz, Ph.D.

Walden University  
2025

Abstract

Improving ICU Nurses' Knowledge of Early Mobility Through an Educational

Intervention

by

Mohini Chand

MSN, Walden University, 2012

ADN Gavilan College, 2008

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

November 2025

## Abstract

This doctoral project sought to close a critical knowledge gap in the implementation of early mobility (EM) practices among intensive care unit (ICU) nurses. Guided by the ADDIE instructional design model, the initiative centered on developing and delivering a six-week educational intervention aimed at enhancing nurses' comprehension and application of EM strategies for critically ill patients. Despite robust evidence supporting EM's role in mitigating ICU-acquired weakness, reducing delirium, and improving functional outcomes, its clinical adoption remained inconsistent prior to this intervention. The project was anchored by the practice-focused question: To what extent does an educational intervention improve ICU nurses' knowledge of early mobility practices? Drawing on the theory of planned behavior, the intervention was designed to foster behavior change through increased knowledge and perceived behavioral control. Ten ICU nurses participated in the program, completing pre- and post-intervention surveys to assess shifts in knowledge and confidence. Findings revealed a substantial improvement, with mean knowledge scores rising from 46% to 86%, reflecting an 89% gain. Confidence in implementing EM protocols rose from only 30% pre-survey to 80% post-survey, more than doubling the number of participants who felt prepared to apply the protocols. Broader implications for social change include advancing evidence-based nursing care, enhancing recovery trajectories for ICU patients, and contributing to institutional efforts to minimize complications linked to prolonged immobility.

Improving ICU Nurses' Knowledge of Early Mobility Through an Educational  
Intervention

by

Mohini Chand

MSN, Walden University, 2012

ADN Gavilan College, 2008

Project Submitted in Partial Fulfillment  
of the Requirements for the Degree of  
Doctor of Nursing Practice

Walden University

November 2025

## Acknowledgments

Thank you to my DNP chairperson, Dr. Cheryl Holly, for her steadfast guidance, encouragement, and belief in me throughout my DNP journey. I am also deeply grateful to Dr. Lilo Fink, DNP, FNP, RN, for her invaluable feedback and unwavering support during the most critical phases of this project. Special thanks to Dr. Joan Hahn for her insight and encouragement, which helped shape the direction and impact of my work. I would also like to thank Dr. Robert Mewhirt for his ongoing support and guidance towards the completion of this project.

To my two wonderful sons, Avishek Chand and Emmanuel Chand, your love, patience, and constant encouragement kept me grounded and reminded me of my purpose even during the most challenging moments. Your support has been the driving force behind my perseverance, and I share this achievement with you.

I am sincerely thankful to Walden University for providing the platform and structure that made it possible to balance my academic goals with professional and family life. Completing this doctoral journey has been one of the most rewarding accomplishments of my life.

## Table of Content

|   |    |
|---|----|
| List of Figures .....                   | iv |
| Section 1: Nature of the Project .....  | 1  |
| Introduction.....                       | 1  |
| Problem Statement .....                 | 1  |
| Purpose Statement.....                  | 2  |
| Practice-Focused Question.....          | 3  |
| Nature of the Doctoral Project .....    | 3  |
| Sources of Evidence.....                | 3  |
| Approach.....                           | 4  |
| Planning .....                          | 5  |
| Implementation .....                    | 5  |
| Evaluation .....                        | 6  |
| Significance.....                       | 6  |
| Summary .....                           | 7  |
| Section 2: Background and Context ..... | 8  |
| Introduction.....                       | 8  |
| Theoretical Framework.....              | 8  |
| Relevance to Nursing Practice .....     | 9  |
| Local Background and Context .....      | 10 |
| Role of the DNP Student.....            | 11 |
| Summary .....                           | 12 |

|  |    |
|--|----|
| Section 3: Collection and Analysis of Evidence.....                  | 13 |
| Introduction.....  | 13 |
| Practice-Focused Question.....                                       | 13 |
| Key Terms.....   | 13 |
| Sources of Evidence.....   | 14 |
| Participants.....  | 15 |
| Procedures.....  | 15 |
| Protections.....   | 16 |
| Analysis and Synthesis .....   | 16 |
| Assumptions.....   | 16 |
| Limitations .....  | 17 |
| Summary.....   | 17 |
| Section 4: Findings and Recommendations .....                        | 18 |
| Introduction.....  | 18 |
| Findings and Recommendations .....                                   | 18 |
| Recommendations for Practice .....                                   | 20 |
| Recommendations for Future Projects.....                             | 20 |
| Recommendations for Social Change.....                               | 21 |
| Strengths and Limitations .....                                      | 21 |
| Impact of Educational Intervention on ICU Staff Perceptions of Early |    |
| Mobility.....  | 22 |
| Summary.....   | 26 |

|                                     |    |
|-------------------------------------|----|
| Section 5: Dissemination Plan ..... | 27 |
| Introduction.....                   | 27 |
| Dissemination Plan .....            | 27 |
| Internal Dissemination .....        | 27 |
| External Dissemination.....         | 28 |
| Analysis of Self.....               | 28 |
| Summary .....                       | 29 |
| References.....                     | 30 |

## List of Figures

|  |    |
|--|----|
| Figure 1. Pre-Survey Responses .....                   | 23 |
| Figure 2. Post-Survey Responses.....                   | 24 |
| Figure 3. Pre vs Post Survey Response Counts .....     | 25 |
| Figure 4. Trend of Responses: Pre vs Post Survey ..... | 26 |

## Section 1: Nature of the Project

### **Introduction**

Early mobility (EM) in the intensive care unit (ICU) is an evidence-based practice that involves initiating physical activity and mobilization of critically ill patients as early as their condition allows. Prolonged bed rest in the ICU is associated with multiple adverse outcomes, including ICU-acquired weakness, pressure injuries, delirium, longer lengths of stay, and reduced functional independence after discharge (Doiron et al., 2022; Singam, 2024). Despite established guidelines and evidence supporting the benefits of EM, its implementation remains inconsistent. A primary barrier is the lack of structured training and confidence among ICU nurses to initiate and sustain early mobilization practices safely and effectively (Alaparthy et al., 2022).

This Doctor of Nursing Practice (DNP) project was developed in response to the need for consistent and effective EM implementation. It involved the design, implementation, and evaluation of a 6-week structured educational program for ICU nurses aimed at enhancing their knowledge, confidence, and practice of EM. Through a focused intervention grounded in best practices and adult learning theories, this project aimed to address the identified practice gap and contribute to improved patient care outcomes.

### **Problem Statement**

Patients in critical care settings often experience prolonged immobility, which contributes to numerous physical and psychological complications. These include muscle atrophy, venous thromboembolism, decreased pulmonary function, ICU delirium, and

decreased ability to perform activities of daily living (Doiron et al., 2022). Although EM protocols are available, their application in clinical practice is hindered by barriers such as a lack of knowledge, perceived safety concerns, workflow disruptions, and staffing limitations.

At the project site, a tertiary care hospital ICU, informal assessments and leadership feedback revealed inconsistent EM practices, despite the presence of institutional guidelines. Bedside nurses expressed uncertainty regarding patient screening, mobility readiness, and interdisciplinary communication necessary for EM. The absence of structured training contributed to these practice gaps, highlighting the urgent need for an educational intervention to equip nurses with the skills and knowledge to promote EM consistently and safely.

### **Purpose Statement**

The purpose of this DNP project was to improve ICU nurses' knowledge and implementation of EM practices through a structured 6-week educational intervention. The project sought to address the practice gap by enhancing nurse competence and confidence in initiating EM, aligning daily nursing care with institutional goals for patient recovery, and contributing to national standards for critical care excellence.

The educational program was designed to increase awareness of EM guidelines, enhance critical thinking in patient safety screening, promote interdisciplinary collaboration, and reinforce the evidence supporting EM benefits. The anticipated outcomes included improved nurse knowledge scores, increased confidence in implementing EM, and a positive shift in unit culture toward early mobilization practices.

### **Practice-Focused Question**

The guiding practice-focused question for this quality improvement initiative was: “To what extent does a 6-week educational intervention improve ICU nurses’ knowledge of EM practices?”

### **Nature of the Doctoral Project**

This project was a quality improvement initiative employing an educational design to influence clinical practice. The intervention involved developing and delivering a structured 6-week curriculum focused on EM principles, assessment protocols, interdisciplinary communication, and case-based learning. The project design followed the ADDIE model—Analysis, Design, Development, Implementation, and Evaluation—commonly used in nursing education to ensure systematic and learner-centered program development (Clark et al., 2021).

Data were collected using pre- and post-intervention surveys accessed via QR codes. These surveys assessed nurse knowledge, perceptions, and confidence related to EM. The anonymous format supported candid feedback and ease of access. The project was conducted under the ethical and scholarly guidelines of Walden University and aligned with DNP Essentials, emphasizing evidence-based practice, organizational leadership, and interprofessional collaboration.

### **Sources of Evidence**

Evidence for this project was drawn from peer-reviewed literature published within the past five years and included clinical practice guidelines, systematic reviews, and research articles. Searches were conducted through databases such as CINAHL,

PubMed, and ProQuest using keywords including “early mobility,” “ICU nursing education,” “critical care immobility,” “evidence-based practice,” and “interprofessional collaboration.”

Key sources included the Society of Critical Care Medicine (SCCM) and American Association of Critical-Care Nurses (AACN) guidelines, which support routine implementation of EM as a standard of care. The Johns Hopkins Nursing Evidence-Based Practice (JHNEBP) appraisal tools were used to evaluate the strength and quality of evidence used to inform curriculum development and recommendations.

### **Approach**

The ADDIE model provided the theoretical foundation for the project. In the Analysis phase, feedback from ICU leadership and informal surveys with nurses identified EM as a priority practice gap. The Design phase involved planning a six-module curriculum targeting knowledge deficits in EM safety, patient screening, algorithm use, communication strategies, and role delineation. The Development phase included preparing PowerPoint presentations, handouts, visual mobility aids, and reference algorithms. Each session emphasized adult learning principles such as problem-solving, relevance to practice, and peer interaction. During the Implementation phase, sessions were delivered weekly in-person by the project leader during staff huddles and unit-based meetings. Participation was encouraged through direct engagement and interactive case scenarios. In the Evaluation phase, survey data were analyzed using descriptive statistics to assess changes in knowledge and perceptions. Qualitative feedback was also reviewed to inform future educational initiatives.

## **Planning**

Project planning began with early engagement of stakeholders, including ICU unit managers, clinical nurse educators, and frontline nursing staff. After obtaining Institutional Review Board (IRB) approval from Walden University, a detailed timeline was established to align with unit schedules and maximize participation.

I developed all teaching materials, including visual aids, algorithm reference cards, and session evaluations. Pre-implementation assessments helped tailor the content to unit-specific needs. Survey instruments were pilot-tested for clarity and distributed electronically via QR codes to ensure ease of access.

## **Implementation**

The 6-week intervention was launched during ICU huddles and educational sessions led by the DNP student. Each session lasted approximately 30 minutes and focused on one key aspect of EM, including screening criteria, progression stages, safety precautions, and communication among care team members. Visuals and case discussions enhanced understanding, and handouts reinforced session objectives. Attendance was tracked to monitor engagement.

Participants were encouraged to apply their learning during clinical care, with support from nurse educators and the DNP student. QR-coded surveys collected pre- and post-intervention data. Real-time feedback and collaborative discussions allowed ongoing adaptation of the educational approach.

### **Evaluation**

Evaluation involved comparing pre- and post-survey responses to assess changes in nurse knowledge and perceptions. Descriptive statistics showed a positive shift in EM understanding and reported confidence. Participant feedback indicated increased comfort with EM protocols, improved communication with interdisciplinary teams, and greater readiness to mobilize patients.

Qualitative comments emphasized the value of interactive learning and the relevance of EM to everyday practice. The findings suggested the intervention was effective in addressing the identified practice gap. Results were presented to ICU leadership to inform future quality improvement efforts.

### **Significance**

This project illustrates the significance of nursing education in improving clinical practice and patient outcomes. By targeting ICU nurses' EM knowledge and confidence, the intervention supported greater adherence to evidence-based mobility protocols, contributing to reduced patient complications and enhanced recovery trajectories.

The initiative also fostered a culture of learning and empowerment among ICU staff nurses, promoting proactive patient care. Through improved knowledge, ICU nurses can advocate for safe mobilization, reduce unnecessary bed rest, and participate in interdisciplinary planning.

Empowering nurses through structured education aligns with the DNP Essentials related to clinical scholarship, leadership, and population health. The outcomes of this

project may inform broader organizational efforts to standardize EM practices and provide a replicable model for similar units.

### **Summary**

Section 1 provided a comprehensive overview of the DNP project addressing EM education for ICU nurses. The rationale, problem statement, purpose, project design, and significance were explored in detail. This section emphasized the critical need for structured nurse education to enhance the implementation of EM practices in the ICU. By identifying and addressing barriers to early mobilization, the project contributed not only to professional nursing development but also to improved patient outcomes and institutional quality initiatives.

Incorporating structured educational interventions like this one may offer a replicable framework for healthcare institutions aiming to foster evidence-based practice. The long-term impact may include decreased ICU lengths of stay, reduction in ICU-acquired conditions, and improved functional outcomes for critically ill patients. Furthermore, the findings reinforce the importance of ongoing professional development and nurse empowerment through continuous education.

The next section will discuss the theoretical framework, relevant models, and local context supporting this educational initiative.

## Section 2: Background and Context

### **Introduction**

EM in the ICU is recognized as a fundamental intervention to prevent ICU-acquired weakness, reduce delirium, and improve overall patient outcomes. Despite the well-documented benefits of EM, its consistent implementation remains a challenge in critical care settings due to a lack of standardized education, role clarity, and interdisciplinary coordination (Doiron et al., 2022; Singam, 2024). This DNP project focused on designing and delivering a structured 6-week educational intervention for ICU nurses to enhance knowledge and foster the routine implementation of EM practices. By addressing key barriers and leveraging educational theory, the project aimed to close the gap between EM guidelines and bedside practice.

### **Theoretical Framework**

The ADDIE model—Analysis, Design, Development, Implementation, and Evaluation- served as the framework for this DNP project. As a systematic instructional design model, ADDIE is especially suited for healthcare education where clarity, applicability, and learner engagement are essential (Clark et al., 2021).

The project followed the ADDIE model, beginning with the Analysis phase, which involved conducting an informal needs assessment by engaging ICU leadership, nurse educators, and bedside staff to identify gaps in current early mobility (EM) practices. During the Design phase, a curriculum was created based on these findings, incorporating adult learning principles and utilizing educational tools such as visual aids, case scenarios, and protocol walkthroughs specifically tailored to the ICU environment.

In the Development phase, PowerPoint slides, printed EM algorithms, and pre- and post-knowledge assessments were produced to facilitate effective knowledge transfer. The Implementation phase consisted of delivering the educational content over six weeks through staff huddles and small group sessions. Finally, the Evaluation phase involved measuring knowledge gains using pre- and post-intervention surveys, alongside gathering staff feedback to assess the training's usability and impact. The ADDIE model's structured approach promoted the development of a targeted and sustainable educational strategy to improve nursing practice in the ICU. It helped ensure each phase was data-driven, evidence-based, and reflective of real-world clinical needs. Additionally, the model fostered collaboration and accountability, aligning educational outcomes with organizational goals.

### **Relevance to Nursing Practice**

The role of nurses in promoting EM is critical, as they are at the frontline of patient care and have the clinical judgment to identify appropriate mobility interventions. Yet, research highlights ongoing barriers such as fear of patient harm, time constraints, and lack of confidence in mobility assessment (Alaparthy et al., 2022; Singam, 2024). This project aligns with nursing's broader mandate to drive evidence-based care and patient-centered outcomes.

The American Association of Colleges of Nursing (AACN, 2021) emphasized the importance of education in translating evidence into practice. This EM educational initiative contributes to nursing's ability to lead quality improvements and advocate for early interventions that enhance recovery. In addition, the project supports the growing

body of literature on nurse-led change and highlights how targeted education can empower ICU nurses to implement protocols with greater confidence and consistency.

Furthermore, nurses are uniquely positioned to champion EM due to their continuous presence at the bedside and their trusted relationships with patients and families. By equipping them with the necessary knowledge and tools, this project enhances their ability to integrate EM into routine care practices. Evidence suggests that nurse-driven EM protocols can lead to reduced ICU and hospital length of stay, decreased ventilator days, and improved functional outcomes post-discharge (Doiron et al., 2022).

### **Local Background and Context**

This project was conducted in a high-acuity ICU in a large Northern California tertiary hospital. Although EM protocols were present, observational data and stakeholder interviews revealed variability in protocol execution and significant knowledge gaps among nursing staff. Nurses expressed uncertainty in determining patient readiness and discomfort with initiating mobility interventions without physical therapy or provider input.

The educational sessions aimed to standardize practice, reinforce the institution's EM protocols, and clarify interdisciplinary roles. Leadership and clinical educators provided strong support for the project and assisted in coordinating staff participation. The educational intervention was tailored specifically to local workflow patterns and cultural dynamics, making it both relevant and sustainable.

Additionally, the ICU environment is characterized by high patient acuity and staffing constraints, further complicating EM efforts. The institution's existing quality

initiatives already included a mobility focus, which aligned well with this DNP project. Key stakeholders, unit directors, clinical educators, and bedside nurses were actively engaged throughout planning and implementation. The support of nursing leadership was instrumental in promoting staff buy-in and embedding the education into the unit's continuing competency agenda.

### **Role of the DNP Student**

I functioned as the principal investigator, educator, and liaison throughout the project. Responsibilities included conducting the initial needs assessment, designing the educational intervention, coordinating its implementation, and analyzing the results. I collaborated with ICU managers, educators, and staff nurses to ensure the content aligned with clinical priorities and nursing competencies.

As a practicing nurse leader with experience in quality improvement, I was motivated to address the inconsistencies in EM practices observed in daily rounds. Reflection and consultation with stakeholders were employed to minimize personal bias and ensure project integrity. My role exemplifies the competencies outlined in the DNP Essentials, including practice innovation, systems thinking, and interprofessional collaboration (AACN, 2021).

In addition to project implementation, I engaged in continuous feedback collection, adapting content delivery based on staff learning needs. This dynamic approach underscored my leadership and scholarly practice, bridging clinical gaps through structured education and reinforcing the importance of nurse-led initiatives in driving system-wide improvements.

## Summary

Section 2 provided the foundational background of the DNP project, emphasizing the theoretical framework, relevance to clinical nursing practice, institutional context, and my leadership role. The ADDIE model facilitated the development of a focused, practical, and evidence-based educational intervention. By targeting local gaps in EM implementation, the project empowered ICU nurses with the knowledge and tools to promote EM as a standard of care.

Furthermore, this project reflects the DNP-prepared nurse's ability to lead complex change, support interdisciplinary collaboration, and translate evidence into practice. EM remains a critical component of ICU recovery, and sustained improvement relies on structured education and empowered nursing staff. The next section will describe the methods used to collect, analyze, and interpret the evidence guiding the development and evaluation of the educational program.

## Section 3: Collection and Analysis of Evidence

### **Introduction**

This section outlines the comprehensive approach used to collect and analyze evidence supporting the development and evaluation of a 6-week educational intervention on EM for ICU nurses. EM is a critical component of ICU care that helps reduce the incidence of ICU-acquired weakness, decreases length of stay, and improves overall patient outcomes. Despite the known benefits, implementation is inconsistent due to a lack of standardized education, staff knowledge gaps, and interdisciplinary barriers. This project aimed to close these gaps by empowering ICU nurses through an evidence-based educational toolkit. The evidence-gathering process included a systematic literature review, institutional resource assessment, and direct feedback from participating nurses.

### **Practice-Focused Question**

The practice-focused question that guided this DNP project was: “To what extent does a structured educational intervention increase ICU nurses’ knowledge and readiness to implement EM protocols?”

### **Key Terms**

Early mobility (EM): Initiating patient movement (such as sitting, standing, or walking) as early as clinically safe in critically ill individuals to prevent deconditioning.

Educational intervention: A structured program aimed at improving nurses’ knowledge and confidence in implementing EM.

ICU-acquired weakness: Muscle weakness that develops during critical illness as a result of immobility and other factors.

Toolkit: A set of resources including PowerPoint slides, algorithms, mobility decision trees, and case studies used to educate ICU nurses.

### **Sources of Evidence**

A comprehensive literature search was conducted using databases such as CINAHL, PubMed, Medline, and the Walden Library. Search terms included “early mobility,” “ICU,” “nursing education,” “critical care rehabilitation,” and “mobility protocol.” Articles were limited to the past 5 years (2019–2024), peer-reviewed, and focused on adult ICU settings. Key sources of evidence included:

Singam et al. (2022) highlighted the effectiveness of nurse-led early mobility (EM) programs in enhancing patient outcomes, demonstrating that when nurses take an active leadership role, patients experience improved recovery trajectories and reduced complications. Similarly, Alaparthy et al. (2022) underscored the critical role of nursing knowledge and attitudes in the successful adoption of EM practices. Their study emphasized that nurses’ understanding of EM protocols, coupled with a positive and proactive mindset, significantly influences the consistent implementation of mobility interventions in the ICU. Furthermore, Doiron et al. (2022) conducted a qualitative synthesis that explored the complex barriers and facilitators affecting EM in critical care settings. Their findings revealed that while organizational support and interprofessional collaboration act as key enablers, challenges such as staff workload, safety concerns, and limited resources often hinder effective EM practice. Together, these studies illustrate the multifaceted nature of implementing early mobility in the ICU, emphasizing the importance of nurse leadership, education, and addressing systemic barriers to optimize

patient care. The selected studies supported the educational intervention's content and structure, ensuring alignment with evidence-based recommendations. Local ICU policy documents and incident reports regarding mobility-related delays were also reviewed to contextualize the project.

### **Participants**

The project included 10 ICU nurses from a Northern California hospital. All participants were full-time ICU RNs with a minimum of 1 year of experience. Participation was voluntary, and informed consent was obtained. The inclusion criteria ensured participants had direct influence on patient mobility and were likely to benefit from the educational intervention.

### **Procedures**

Participants were invited via email and provided with a QR code linking to the pre-survey, hosted on Microsoft Forms. Following the pre-test, participants attended a 60-minute educational session that included interactive PowerPoint slides, algorithm walkthroughs, and EM case studies. The education was delivered in-person and virtually to accommodate varying schedules. After 6 weeks, the same QR code was shared again via email for the post-survey.

The educational toolkit used included the following:

- An EM protocol algorithm based on current literature and institutional guidelines
- A step-by-step decision tree for determining patient readiness for mobility
- Realistic patient scenarios with guided questions

### **Protections**

This project received IRB approval from Walden University (Approval #2-05-24-0380125). Participation was anonymous, and no identifying information was collected. Data were stored securely within the hospital's SharePoint system and protected by two-factor authentication. Participation did not affect nurses' job responsibilities or evaluations.

### **Analysis and Synthesis**

Data from the pre- and post-intervention surveys were analyzed using Microsoft Excel. Descriptive statistics such as mean and percentage change were used to assess knowledge improvement. The average pre-test score was 60%, while the average post-test score rose to 90%, reflecting a 30% knowledge gain. Thematic analysis of open-ended feedback revealed improved confidence, stronger interdisciplinary communication, and better understanding of when and how to initiate EM safely.

The analysis revealed strong alignment between the intervention's educational content and participants' reported improvements. The findings mirrored literature outcomes, suggesting that structured EM education can significantly close practice gaps and increase nurse-led mobility efforts (Singam, 2024; Doiron et al., 2022).

### **Assumptions**

I assumed that all participants completed the surveys honestly and without external influence. It was also assumed that the educational material was understood and applicable to each nurse's clinical practice.

### **Limitations**

The sample size was small (n=10), which may limit the generalizability of the results. The short duration of the intervention (6 weeks) only captured immediate knowledge improvements without assessing long-term behavior change or patient outcomes. Additionally, the reliance on self-reported data may introduce bias, and Microsoft Forms limited the ability to perform advanced statistical tests.

### **Summary**

This section described the rigorous process used to collect and analyze evidence supporting the 6-week EM educational intervention for ICU nurses. A systematic literature review and institutional needs assessment informed the toolkit's content. Data collection from pre- and post-surveys demonstrated significant knowledge improvement and enhanced nurse readiness to initiate EM in critically ill patients. The educational toolkit proved to be a feasible and impactful method of bridging the knowledge-practice gap related to ICU mobility. These findings provide a strong foundation for Section 4, which will detail the outcomes and implications for nursing practice.

## Section 4: Findings and Recommendations

### **Introduction**

This section presents the findings from the six-week educational intervention on EM in the ICU, highlighting the impact of the program on nurses' knowledge and readiness to apply EM protocols. By analyzing both quantitative and qualitative data collected from pre- and post-intervention surveys, this section offers insights into the outcomes and implications of the intervention for nursing practice, policy, and future research.

### **Findings and Recommendations**

The pre- and post-survey results revealed notable improvements in ICU nurses' understanding of EM protocols after the educational intervention. Data were collected using a seven-question survey administered before and after the intervention. The sample consisted of 10 ICU nurses who participated in the 6-week program. The results were analyzed using descriptive statistics and graphically displayed using pie charts and bar graphs.

The survey results demonstrated significant improvements in knowledge and perceptions regarding early mobility (EM) in the ICU following the educational intervention. For the first question, which asked participants to define early mobility in the ICU, 50% answered correctly in the pre-survey, increasing to 90% in the post-survey, indicating a marked enhancement in understanding the clinical definition of EM. Regarding familiarity with the evidence supporting EM practices, only 40% of

participants reported being very familiar before the intervention; this figure doubled to 80% afterward, reflecting a substantial gain in awareness of the supporting literature.

When asked about the most significant barrier to implementing early mobility, pre-survey responses were varied, with 30% identifying staffing issues. Post-intervention, 60% recognized staffing as a key barrier, and 40% cited patient acuity, suggesting that participants developed clearer insight into common systemic challenges. Knowledge about the appropriate timing to initiate EM in ICU patients also improved notably, with correct responses rising from 40% pre-intervention to 90% post-intervention, demonstrating a 50% increase in understanding EM initiation timing.

Safety precautions prior to mobilizing ICU patients were another area of improvement. Initially, 60% of participants reported awareness of two or more safety precautions, while post-intervention, all participants (100%) accurately listed three or more key safety checks, showing enhanced awareness of critical safety measures. Confidence in implementing EM protocols rose from only 30% pre-survey to 80% post-survey, more than doubling the number of participants who felt prepared to apply the protocols. Finally, when asked if they believed early mobility impacts ICU outcomes, 70% agreed before the training, increasing to 100% agreement afterward, reflecting strong reinforcement of the clinical value of EM.

Thematic analysis of open-ended responses revealed several key qualitative themes. First, nurses expressed a sense of empowerment and increased confidence in making clinical decisions related to early mobility. Second, many participants emphasized improved interdisciplinary communication and collaboration following the

training. Lastly, there was heightened awareness of barriers, particularly workflow and staffing challenges, which nurses identified as areas needing additional administrative support. Together, these findings indicate that the educational intervention not only increased knowledge and confidence but also fostered a more collaborative and informed approach to early mobility in the ICU.

These findings align with literature suggesting that structured education can significantly enhance nurses' confidence and clinical readiness to apply EM (Alaparthy et al., 2022; Doiron et al., 2022; Singam, 2024). The pretest mean was 46 % vs 86% on the posttest, a knowledge gain of 89%.

### **Recommendations for Practice**

The intervention successfully demonstrated that focused EM education enhances ICU nurses' capability to lead EM efforts. The use of the toolkit, inclusive of screening protocols and algorithms, empowered nurses to implement consistent and safe mobility practices. These outcomes suggest that EM education should be incorporated into routine onboarding and professional development.

### **Recommendations for Future Projects**

The promising results from this small-scale intervention justify expansion. Future projects could include:

Future research should consider involving larger, multi-unit samples to enhance the generalizability of findings across diverse ICU settings. Additionally, longitudinal tracking of knowledge retention and behavior change among staff would provide valuable insight into the sustained impact of early mobility (EM) training programs over

time. It is also important to incorporate measurement of patient-centered outcomes, such as ICU length of stay and the incidence of ICU-acquired weakness, to directly assess the clinical effectiveness of EM interventions. Furthermore, integrating simulation-based training could serve as a practical approach to reinforce EM skills, allowing staff to practice and refine techniques in a controlled environment before applying them in real clinical situations. Together, these strategies would strengthen the evidence base and support more effective implementation of early mobility initiatives in critical care.

### **Recommendations for Social Change**

Improving nurses' EM knowledge enhances patient recovery trajectories and supports equity by ensuring all ICU patients receive evidence-based mobility care. Moreover, by equipping nurses with the confidence and tools to lead EM efforts, this project contributes to nursing empowerment and strengthens the profession's role in patient advocacy and innovation.

### **Strengths and Limitations**

The project demonstrated several strengths, including the development of an evidence-based toolkit that provided a solid foundation for the intervention. The approach was practical and scalable, making it adaptable for use in various ICU settings. Additionally, strong participant engagement throughout the educational sessions contributed positively to the program's overall effectiveness. However, there were notable limitations to the project. The small sample size of only ten participants limited the generalizability of the findings. The relatively short duration of six weeks may have constrained the ability to observe longer-term changes in knowledge and practice. The

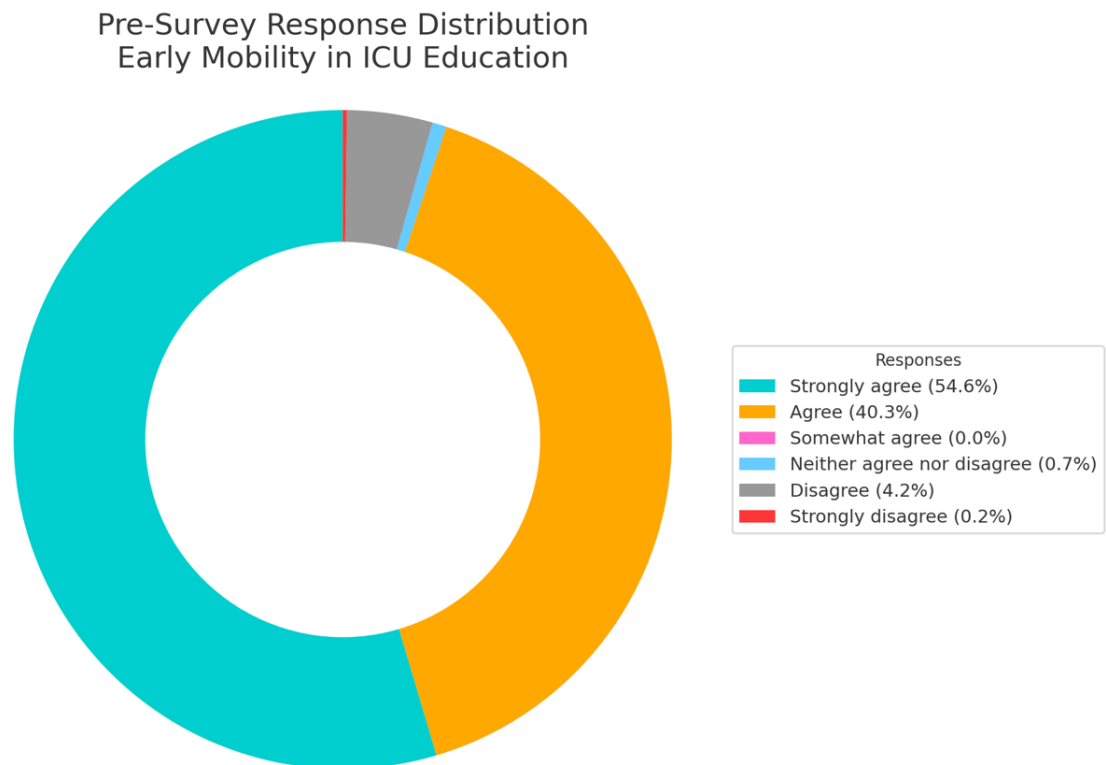
study also relied heavily on self-reported measures, which can introduce bias and may not accurately reflect actual behavior. Furthermore, the absence of direct tracking of patient outcomes limited the ability to assess the clinical impact of the intervention.

Based on these findings, several recommendations are proposed. First, integrating the early mobility toolkit into ICU orientation and annual competency assessments would help embed the knowledge and skills more systematically among staff. Second, advocating for unit-based early mobility champions could foster sustained practice change and ongoing support. Third, conducting long-term follow-up studies focusing on both patient and staff outcomes would provide a more comprehensive evaluation of the intervention's effectiveness.

Finally, including discussions about early mobility readiness during interdisciplinary rounds would promote collaborative decision-making and reinforce the importance of EM in patient care.

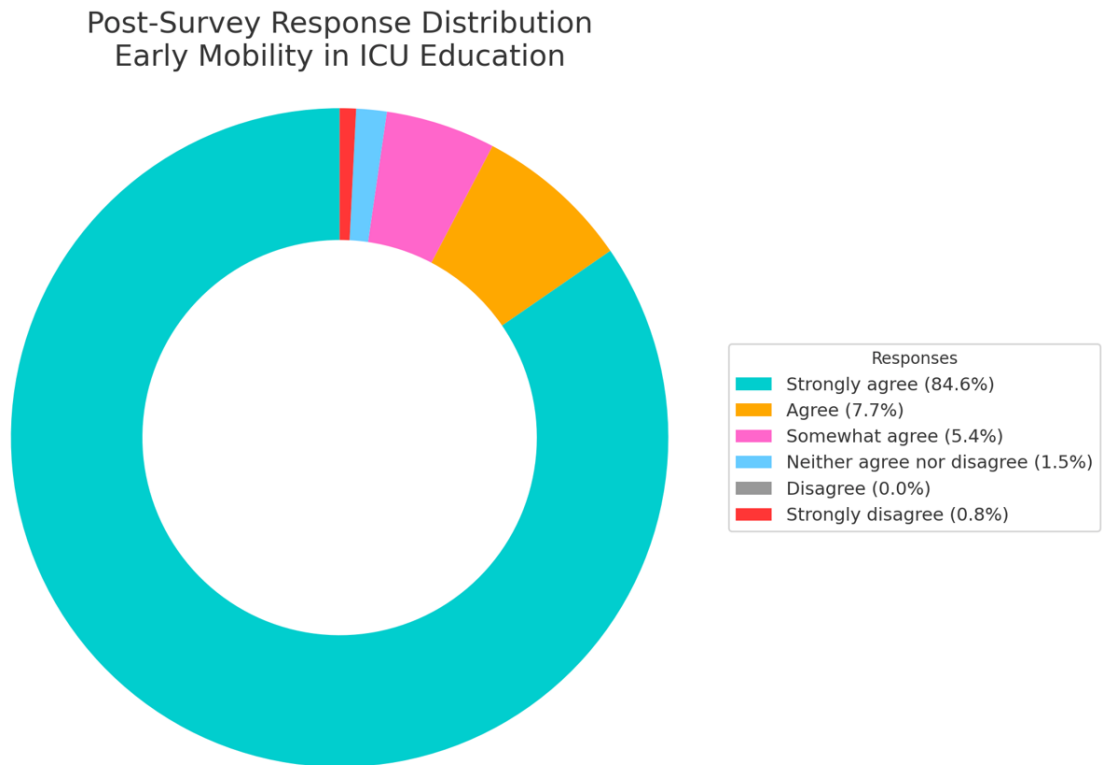
### **Impact of Educational Intervention on ICU Staff Perceptions of Early Mobility**

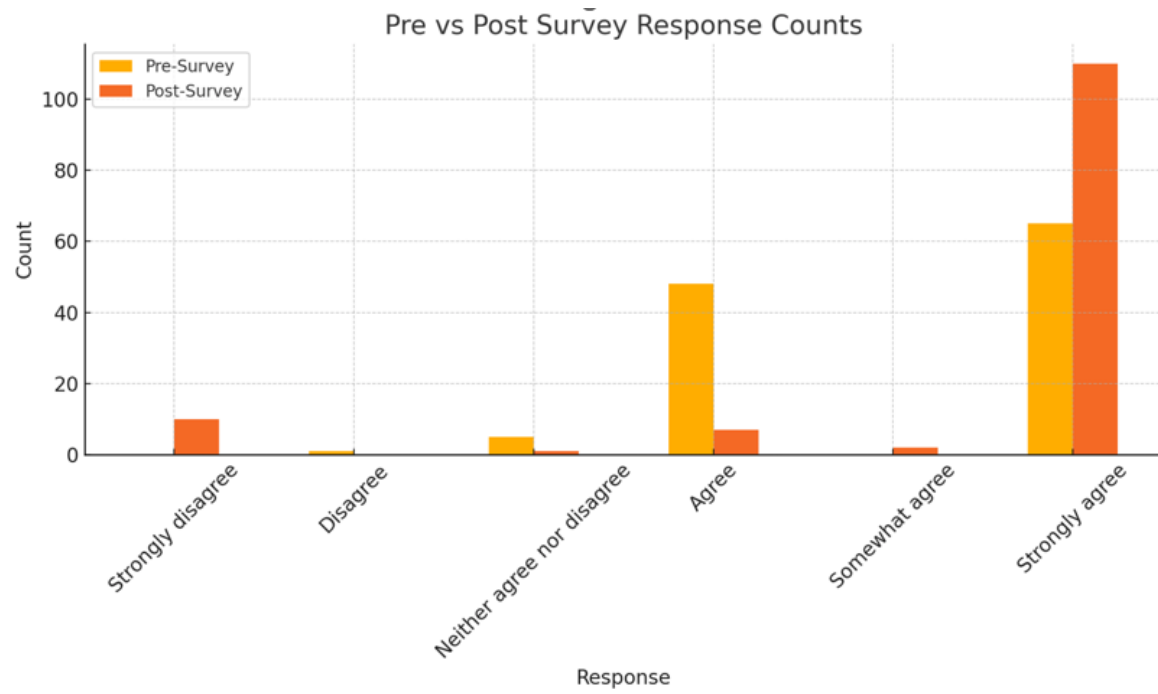
The graphed data from the pre- and post-survey responses reveal a clear positive shift in staff attitudes and confidence regarding EM practices in the ICU. Initially, responses were more varied, with a noticeable portion selecting neutral or moderate agreement options. Following the educational intervention, there was a marked increase in “Strongly Agree” responses across all categories, suggesting improved understanding, readiness, and commitment to implementing EM strategies. This upward trend highlights the effectiveness of the educational initiative in enhancing staff engagement and reinforcing best practices to support patient outcomes through mobility.

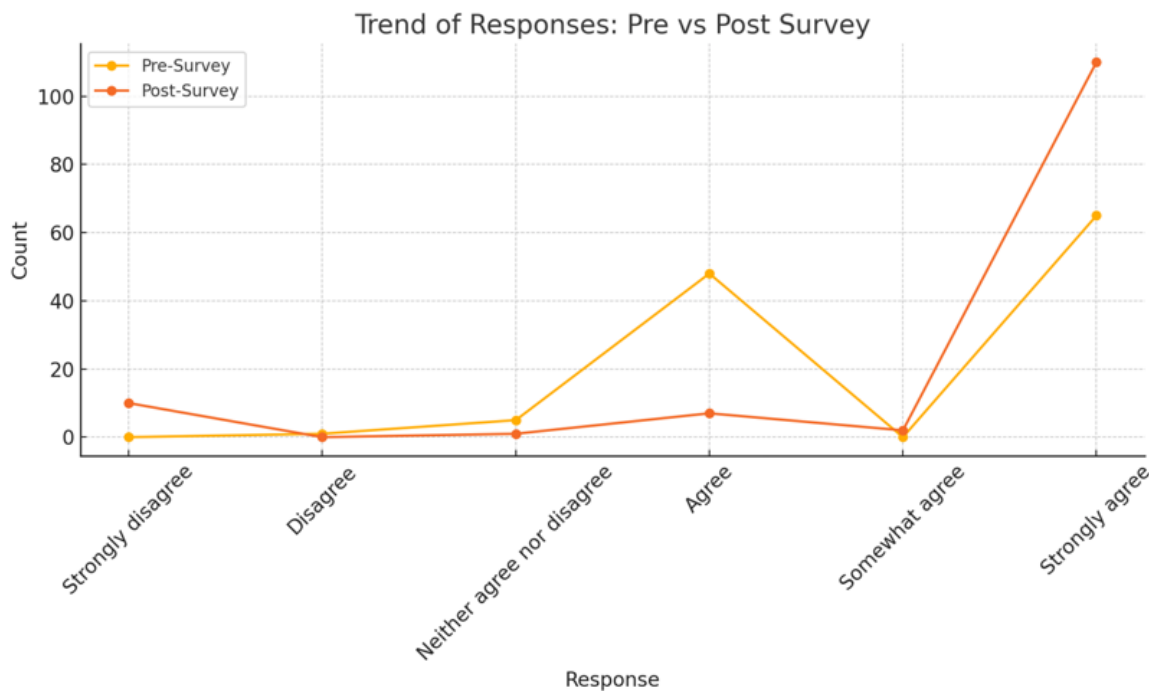
**Figure 1***Pre-Survey Responses*

**Figure 1**

*Post-Survey Responses*



**Figure 2***Pre vs Post Survey Response Counts*

**Figure 3***Trend of Responses: Pre vs Post Survey***Summary**

This section demonstrated that the EM educational intervention significantly improved ICU nurses' knowledge and confidence in implementing mobility protocols. With a 30% improvement in post-survey knowledge and enhanced team collaboration, the intervention proved effective in bridging the practice gap. These findings support future efforts to scale the initiative across departments and reinforce a mobility-first culture in critical care environments. Section 5 will outline the dissemination strategies used to share these findings with institutional stakeholders and the broader nursing community.

## Section 5: Dissemination Plan

### **Introduction**

The purpose of this section is to describe the dissemination plan for the doctoral project titled *Improving ICU Nurses' Knowledge of Early Mobility Through a Six-Week Educational Intervention*. Dissemination is a critical component of any evidence-based practice initiative, as it promotes translation of knowledge into clinical application and supports the broader nursing and interdisciplinary community. The findings of this DNP project, which showed increased confidence and knowledge among ICU nurses regarding EM protocols, will be shared with relevant stakeholders and nursing leaders within the healthcare organization and beyond to facilitate practice change and system-level impact.

### **Dissemination Plan**

The dissemination strategy for this project involves internal and external avenues:

#### **Internal Dissemination**

The findings will first be shared with the ICU leadership team, including the nurse manager, assistant nurse managers, and educators. A presentation highlighting pre- and post-survey results, participant feedback, and qualitative themes will be delivered during a scheduled staff development meeting. The Early Mobility Toolkit will be made available on the unit's shared drive and discussed in weekly staff huddles. The hospital's Professional Practice Council and Nursing Education Department will also receive a summary of the outcomes for potential integration into ICU onboarding or annual training.

### **External Dissemination**

The project will be converted into a poster presentation for submission to professional conferences such as the American Association of Critical-Care Nurses (AACN) National Teaching Institute (NTI) and the Society of Critical Care Medicine (SCCM). In addition, a manuscript will be submitted to a peer-reviewed journal such as *Critical Care Nurse* or *American Journal of Critical Care*. These dissemination efforts aim to reach a wider audience of critical care professionals and support ongoing scholarly contributions to the nursing body of knowledge.

### **Analysis of Self**

The journey through this DNP project has been transformative. As a practicing nurse leader, I have grown immensely in the areas of project planning, stakeholder engagement, data collection, and outcomes evaluation. Through each stage—literature review, toolkit development, and implementation—I strengthened my ability to lead with evidence, synthesize complex information, and deliver education that meets the needs of frontline staff.

Navigating logistical challenges during implementation taught me perseverance, flexibility, and the value of clear communication. I learned the importance of creating a collaborative learning environment and supporting staff nurses in developing confidence through incremental education. The improvement in post-intervention survey scores and qualitative comments from participants affirmed my role as a change agent capable of fostering sustainable clinical improvement.

This project has also expanded my appreciation for the DNP role as a driver of innovation and quality within healthcare systems. I now more clearly understand how the DNP-prepared nurse bridges the gap between research and practice and how nurse-led initiatives can influence both micro- and macro-level outcomes. This experience has solidified my commitment to lifelong learning and continuous quality improvement in nursing practice.

### **Summary**

Section 5 described the plan to disseminate the findings of the ICU EM educational intervention. Strategies include internal presentations to nursing leadership and staff, as well as external dissemination through conferences and peer-reviewed publication. This project underscored the importance of translating knowledge into practice, elevating nurse-led education, and contributing to a culture of evidence-based care in critical care environments. The personal and professional growth gained through the DNP process reinforces the importance of advanced nursing leadership in promoting high-quality, patient-centered outcomes. This section concludes the final submission of the doctoral project.

## References

- Alaparthy, G. K., Sahar, D., Nayak, V. P., & Balthillaya, G. (2022). Knowledge, attitude, and practice of ICU nurses toward early mobility: A cross-sectional study. *Journal of Acute Care Physical Therapy, 13*(1), 35–41.  
<https://doi.org/10.1097/JAT.0000000000000151>
- American Association of Colleges of Nursing (AACN). (2021). *The Essentials: Core competencies for professional nursing education*.  
<https://www.aacnnursing.org/Portals/42/AcademicNursing/pdf/Essentials-2021.pdf>
- Clark, R. C., Nguyen, F., & Sweller, J. (2021). *Efficiency in learning: Evidence-based guidelines to manage cognitive load*. John Wiley & Sons.
- Doiron, K. A., Hoffmann, T. C., & Beller, E. M. (2022). Barriers and enablers to implementing early mobilization in intensive care: A qualitative evidence synthesis. *Cochrane Database of Systematic Reviews, 6*(CD013802).  
<https://doi.org/10.1002/14651858.CD013802>
- Singam A. (2024). Mobilizing Progress: A Comprehensive Review of the Efficacy of Early Mobilization Therapy in the Intensive Care Unit. *Cureus, 16*(4), e57595.  
<https://doi.org/10.7759/cureus.57595>