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Implementing Delirium Prevention Strategies to Reduce the Need for 1:1 Observation in a Palliative Care Unit

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Implementing Delirium Prevention Strategies to Reduce the Need for 1:1 Observation in a Palliative Care Unit

A DNP Project Submitted to the

Graduate Faculty

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Requirements for the Degree of

Doctor of Nursing Practice

By

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Abstract

Background: Delirium is a common complication within the palliative care community that is preventable. Delirium is a condition characterized by confusion and disturbed thought processes. One to one observation was the facility's intervention used to prevent delirium. The best intervention is non-pharmacological interventions.

Purpose: This quality improvement (QI) project aimed to reduce 1:1 observation hours without increasing patient safety issues.

Methods: The Doctor of Nursing Practice (DNP) student educated nursing staff about the American Nurses Association's (ANA) evidence-based interventions to help decrease delirium. The staff received the ANA interventions form and the Confusion Assessment Method (CAM) tool. The DNP student collected data over six-weeks. This was a QI project using a pre/post-intervention design.

Results: The use of the ANA's delirium prevention strategies did not decrease observation hours. The average number of observation hours increased in 2024. Observation hours were compared at six weeks post-intervention between the previous and current years and between a sister facility.

Conclusion: The QI project did not yield statistical significance as the number of observation hours did not decrease as desired.

Keywords*:* Delirium or acute confusion, confusion or disorientation, prevention, nonpharmacological interventions, and/or palliative care

Acknowledgments

This project was guided by Dr. Laura Walker, the DNP project Chair, and Dr. Lakia White, the DNP project preceptor. First and foremost, I want to thank God for being my present help. I want to thank my family for their support throughout graduate school. I thank my Chair, Dr. Laura Walker, for her assistance and advice throughout this project. Also, I would like to thank Dr. Lakia White for being my preceptor through the Doctorate of Nurse Practice program; without her support, I would not have accomplished my goal of completing the DNP program. Thank you to each of my stakeholders who assisted in developing the project. Thank you to the JSU Post-Masters DNP staff; your guidance was vital. Thank you to my family and friends for their support and patience. Finally, I would like to thank the palliative care staff for their help throughout my project. Thank you all.

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Implementing Delirium Prevention Strategies to Reduce the Need for 1:1 Observation in a Palliative Care Unit

Delirium is a preventable medical condition characterized by confusion and a disturbed thought process (American Nurses Association [ANA], n.d.). The incidence of delirium is higher in hospitalized patients, older adults, and palliative care patients (Agar & Bush, 2020; ANA, n.d.; Da Costa et al., 2020; Ewens et al., 2021; Mitchell et al., 2021; Papaioannou et al., 2023). Additionally, delirium is associated with many adverse outcomes, which include increased mortality, falls, functional decline, cognitive impairment and decline, and significant costs (ANA, n.d.).

Background

Nationally, over seven million Americans are affected by delirium (American Delirium Society [ADS], 2024; Jung & Zhao, 2022). In palliative care, delirium is misdiagnosed in 61% of patients (De la Cruz et al., 2015). The prevalence of delirium in Alabama's older adults ranges from 15% to 50% (Alabama Public Health [APH], 2021). The percentage of patients in the fiscal year (FY) 2023 quarter-four who developed delirium in the palliative unit is 55%, compared to a facility delirium rate of 15% (Lockhart, 2023). In palliative care settings, delirium increases from 13–42% on admission (Agar & Bush, 2020). In the last weeks to hours of life, delirium escalates up to 88% (Agar & Bush, 2020; Da Costa et al., 2020). The annual cost of delirium is $38 to $152 billion (ANA, n.d.; Kresevic et al., 2020).

Problem Identification

The current practice for managing delirium in a palliative care unit of a regional hospital in the Southeastern United States is 1:1 observation. To achieve 1:1 observation, the facility has assigned staff members as sitters to observe the patients. More than 12 patients required 1:1

observation in FY 23 quarter four, which inhibited discharge or transfer to other facilities and increased the length of stay (LOS) in the palliative unit (Lockhart, 2023). Patients must be off 1:1 observation for at least three days before being eligible for transfer to an adult care facility (McManus, 2023; Morrow, 2023). The 1:1 observation hours for FY 23 were 13,062 in the palliative unit (Lockhart, 2023).

The DNP student chose this project because the identified clinical practice gap revealed a need for a standard delirium management protocol. Effectively managing delirium will protect patients and facilitate transfer to the appropriate facility. The palliative care unit funded 13,062 1:1 observation hours for the FY 2023. The observation hours at a facility within the same system in a similar unit were 12,271 for FY 23 (Lockhart, 2023). The current practice for managing delirium contributes to an increased length of stay and cost, and there is a need to address strategies to improve delirium (Watt et al., 2019). The strengths, weaknesses, opportunities, and threats (SWOT) analysis revealed that the hospital administration and staff are open to change. There is a need for an evidence-based intervention.

Problem Statement and PICOT Question

The facility would benefit from this DNP quality improvement (QI) project, as demonstrated through the global, national, state, and agency data, needs assessments, and key leader interviews. The solution is decreasing the 1:1 observation hours in a 10-bed palliative unit using nonpharmacological interventions (Burton et al., 2021). The PICOT question guiding this DNP project is, Does implementing the ANA's delirium prevention strategies reduce 1:1 observation hours compared to current practice in the palliative care population within six weeks?

Review of Literature

The literature reviewed for this project included the Cumulative Index to Nursing and Allied Health Literature, Cochrane Review, Google Scholar, and PubMed. The search generated 1,815 articles. The Boolean phrase "AND" was used with all words except "OR," which was used with palliative care. Limiters included restriction to the years 2018 to present, academic journals, English language, older adults, and 65+ years.

The inclusion criteria for the literature review included peer-reviewed scholarly articles published from 2009 to 2023 focused on delirium prevention, palliative care units, and nonpharmacological interventions. The articles were excluded if the interventions were pharmacologically conducted and occurred in the intensive care units, postoperative areas, and long-term care facilities. After completing the inclusion and exclusion criteria, 27 articles were used for the literature review, which informed and provided the needed support. The themes identified include the prevalence of delirium, assessment of delirium, and interventions to decrease delirium.

Delirium Consequences

Delirium is hazardous to the palliative care population (Guo et al., 2021). According to Johnson (2021), delirium raises the risk of morbidity and restraint usage. Increased mortality, falls, functional decline, cognitive dysfunction and decline, and large expenditures are symptoms related to the negative consequences of delirium (ANA, n.d.; Hoffman et al., 2020; Johnson, 2021). Delirium affects patients, their loved ones, and healthcare professionals (De la Cruz et al., 2015; Center to Advanced Palliative Care [CAPC], 2022). Delirium creates a psychological burden on patients and families, as well as healthcare workers, and has unfavorable cost effects,

such as lengthier hospitalizations and further specialized treatment after hospitalization (De la Cruz et al., 2015).

Assessment of Delirium

Reducing the incidence of delirium begins with prevention and early identification of patients at risk (Byrnes & Woodward, 2023; Johnson, 2021; Pinkhasov et al., 2019). Delirium assessment should be completed upon admission, every shift, and with any change in the patient's status (ANA, n.d.; Lawlor et al., 2019). The Institute for Healthcare Improvement (IHI, 2022) recommends that screening occur at least every twelve hours and that the results be documented appropriately. However, Ragheb and colleagues (2023) argued that the completion of assessments is the priority and specification of time is optional. A benefit of routine screening was reducing the length of stay by 2.27 days (Vonnes & Tofthagen, 2022). The Confusion Assessment Method (CAM) is a tool that improves the accuracy of documentation of delirium and is frequently used (Byrnes et al., 2023; Hoffman et al., 2020; Jung & Zhao, 2022). The CAM assesses the onset of mental changes, inattention, altered level of consciousness, and disorganized thinking (Wilson et al., 2019).

Interventions to Decrease Delirium

Strategies to address delirium include nonpharmacological interventions, maximizing safety, and meeting the patient's needs (Kuntz et al., 2023; Pinkhasov et al., 2019). According to Hoffman et al. (2020), patient safety practice for delirium encourages participants' training on nonpharmacological measures to avoid delirium. Nonpharmacological interventions reduce delirium in the older adult and palliative care population (Agar & Bush, 2020; Byrnes et al., 2023; Hoffman et al., 2020; IHI, 2022; Kresevic et al., 2020). To reduce delirium, the ANA recommends collaboration with all healthcare members and caregivers (ANA, n.d.; Hoffman et

al., 2020). The ANA's delirium strategies include interventions that assist with the patient's needs, for example, assessing delirium, screening patients at risk, and providing proper nourishment, hydration, and elimination (ANA, n.d.; Hoffman et al., 2020).

Multiple authors concur that delirium is a concern in the palliative care population (Agar & Bush, 2020; Da Costa et al., 2020; Guo et al., 2021; Watt et al., 2019). With proper identification, delirium can be successfully managed in 40% of patients (Byrnes et al., 2023; Byrnes & Woodward, 2023; Ewens et al., 2021; Johnson, 2021). Performing a delirium assessment multiple times is crucial for identifying, reducing, and preventing delirium (ANA, n.d.; Lawlor et al., 2019; IHI, 2022; Ragheb et al., 2023). As healthcare participants use the ANA's delirium strategies, changes seen should include a reduction in the length of stay and 1:1 observation hours (Guthrie et al., 2018; Hoffman et al., 2020; Kresevic et al., 2020; Vonnes & Tofthagen, 2022).

Theoretical Framework

Kurt Lewin's Theory of Planned Change informed the DNP project (Chen, 2021). The theory directed and supported the intervention by incorporating an early recognition of delirium in the unit. The transformation involved the cultural environment rather than just one specific aspect (Chen, 2021).

The first stage of Lewin's theory is unfreezing, understanding that change is needed, and decreasing the previous intervention (Chen, 2021). The DNP student provided the palliative care participants with evidence-based practice (EBP) for delirium prevention. Lewin's theory indicates that preparation occurs for those who experienced the change by unfreezing their current view of the issue (Zaccagnini & White, 2017).

The second stage of Lewin's theory is moving or transitioning into a new mindset. Using delirium strategies and changing from current practice maintains patient safety, decreases the number of 1:1 observation hours, and decreases the length of stay (Hoffman et al., 2020). Developing the unit-based protocol provided participants with the needed information to promote change and navigate the change within the unit (Chen, 2021).

Lewin's theory's third and final stage is refreezing, establishing the new status quo (Chen, 2021). Stabilization of the change occurs during refreezing, and a new balance is established, incorporating sustainability (Chen, 2021). The final stage of the theory provides the structure to define the clinical approach to the DNP project. The in-service included various learning modalities to ensure all individuals received and retained the information and were receptive to the change with the least resistance (Chen, 2021). In palliative care, Lewin's theory guided the intervention by creating a new narrative about delirium management and preventive strategies that became the needed change.

Quality Improvement Methodology

The Plan-Do-Study-Act (PDSA) cycle is a methodology for evaluating an implemented change (Byrnes et al., 2023). The PDSA cycle consists of compartmentalizing the task into steps and then analyzing, facilitating, and verifying the outcome. According to the IHI (2023), the PDSA cycle is a quality improvement model that tests changes and their advantages. The PDSA cycle is an efficient approach to developing and assessing quality improvement ideas (Nash et al., 2021).

During the *plan* stage, the DNP student met with stakeholders, gathered data, and reviewed the current practice. The DNP student received approval from the Institutional Review Board (IRB). The *do* stage is gathering all aspects of the learning plan and applying the

preventive strategies (Byrnes et al., 2023; Nash et al., 2021; Vonnes & Tofthagen, 2022). Participants implemented the ANA's delirium strategies as needed. The DNP student continued to assess the effectiveness of the intervention and remained available to answer questions. The *study* stage involves analyzing the data, comparing results to predictions, and summarizing key takeaways (Agency for Healthcare Research and Quality [AHRQ], 2024; Byrnes et al., 2023; Nash et al., 2021; Vonnes & Tofthagen, 2022). The DNP student completed the data analysis to determine if any changes were needed (AHRQ, 2024). The *act* stage considers the changes needed in the final cycle (AHRQ, 2024; Byrnes et al., 2023; Nash et al., 2021; Vonnes & Tofthagen, 2022). After implementation, a determination was made as to whether the process was successful and what changes were needed. The results were provided to leadership and stakeholders, and recommendations were made for needed changes.

Project Design

PDSA and Lewin's theory informed the DNP project by supporting the systematic process needed for changing the current practice (Vonnes & Tofthagen, 2022) and answering the PICOT question. The DNP student obtained approval from the educational institution's IRB committee (See Appendix A) and the facility's IRB and completed protection of human subject training (See Appendix B). The setting was a ten-bed palliative care unit. The DNP student provided education to staff using a slide presentation. The DNP student provided the nursing staff with a printed reminder of the delirium prevention strategies for delirium management and the CAM assessment tool for delirium assessment. The DNP student's budget was thirty dollars for printing color materials.

The DNP student conducted a staff in-service, providing information about the protocol's location and allowing the opportunity for questions. The need for change was essential in

Lewin's theory and the PDSA framework. Unfreezing the current view was achieved by completing the do stage (Zaccagnini & White, 2017). During the do stage, participants incorporated the delirium strategies. The participants notified the physician of the patient's various needs to facilitate a decrease in delirium.

All secondary data received initially and during the project remained in an encrypted email with password protection under password identification verification login in a locked room (Sylvia & Terhaar, 2018). The data was kept until the dissemination of the DNP project, and then it was destroyed per the agency's policy. As participants used the ANA's strategies, transitions were provided, and key takeaways were summarized (Meng et al., 2021).

Lewin's theory's third and final stage is refreezing, which corresponds to the act stage and culminates in adopting the ANA's delirium strategies. The PDSA framework and Lewin's theory incorporated the necessary aspects to guide the DNP student in accomplishing the desired outcome of decreasing 1:1 observation hours by 10%.

Project Results and Evaluation

The objective was to see a reduction in observation hours after implementing education on delirium. The mean number of observation hours from FY 24 through February 2024 was 5701.25 (SD = 1248.25). The observation hours ranged from a minimum of 4329 to a maximum of 7242 (Lockhart, 2024). When comparing the average number of observation hours during the same time, the mean number of observation hours in FY 2023 was 4,748.5 (SD = 593.26), while the mean number of observation hours in FY 2024 was 6,654 (SD = 831.56). The number of patients receiving delirium prevention strategies was not tracked.

Additionally, observation hours were compared by facility, and the mean number of observation hours during the same time for FY 24 at the sister facility was 6,205 (SD = 1466.54).

The in-network facility's mean number of observation hours for FY 24 was 5,197.5 (SD = 1228.24). The in-network facility had fewer observation hours than the sister facility (Lockhart, 2024). The sister facility's palliative care unit was larger than the in-network location, which may be the reason for the decreased hours at the in-network facility.

In answering the PICOT question, implementing the ANA's delirium prevention strategies did not reduce 1:1 observation hours. The results were not consistent with the review of the literature, which concluded that nonpharmacological interventions decrease delirium (Agar & Bush, 2020; Byrnes et al., 2023; Hoffman et al., 2020; IHI, 2022; Kresevic et al., 2020). The number of observation hours drastically increased after the intervention, and there was no statistical significance. The DNP project was clinically significant, as evidenced by multiple staff complaining about not knowing how to assess delirium and stating that the education helped with understanding.

The first limitation was the small sample size, sixteen patients with delirium in February 2024. The second limitation was the nurse staffing as there were more licensed practical nurses (LPN), but under current policy, LPNs do not assess delirium. The third and final limitation included a need for nursing staff time and availability to attend the educational information sessions. For example, the DNP student scheduled information sessions after medication times and before lunch hours. One of the education sessions went over multiple days because the staff were unavailable, but the nine nurses in the unit could finally receive education. The participant's time and availability remained an issue throughout the intervention.

Although all nine nurses on the unit received education, a barrier discovered when the DNP student checked on implementation was that at least one of the two required nurses was from the float pool. The float pool staff did not receive the education. Educating all staff that

floats to the palliative care unit on delirium prevention strategies is recommended. Reiterating education and providing reminders for nursing staff may be helpful regarding the importance of assessing delirium in palliative care patients. Ensuring all staff is educated on documenting the CAM tool for assessing delirium is another recommendation for the facility.

Nursing implications included educating any nursing staff working in the palliative care area. Education was provided to the palliative care staff only. According to the current policy, delirium should be assessed upon admission and each shift. Many staff members voiced concerns about using the CAM tool during education. After receiving the education and handouts, staff verbalized an understanding of assessing delirium using CAM. The nurses stated that the education was helpful and provided a better understanding of assessing and documenting delirium.

Project sustainability requires alternative solutions to achieve the desired outcomes. Mechanisms are in place for collecting and monitoring data with various software systems in the facility. The outcome was possibly affected by changes in staff; nurses from other areas were always present during the implementation phase, and the staff that received the education were not present to implement the project every day. The current nurse manager was detailed in another role, and the acting nurse manager was unable to provide the input needed, possibly affecting the project's outcome. Whenever the DNP student needed information, she contacted the original nurse manager. An alternative solution was to educate all staff and have staff keep track of each patient to determine whom the prevention strategies were used and in which way the intervention was helpful.

The DNP project was disseminated in person at the university campus and then at the facility. The dissemination at the university included an oral presentation with a poster, and

opportunities were provided for questions and answers. The dissemination at the facility included an oral presentation with a poster. The dissemination was provided to key stakeholders, palliative care staff, and the leadership team.

Conclusion

Educating staff on delirium prevention and interventions is vital for the palliative care population to prevent delirium. Proactively assessing delirium helps to reduce its occurrence (Byrnes & Woodward, 2023; Johnson, 2021; Pinkhasov et al., 2019). Patients must remain safe and adequately cared for while facilitating discharge from the palliative care unit. The length of stay incorporates increased cost. The length of stay following the intervention remained elevated because 1:1 observation was the intervention used for delirium patients. The expected outcome was for the DNP project to guide clinical practice by implementing delirium prevention strategies to reduce observation hours. The data did not support a decrease in 1:1 observation hours in the palliative care unit using the strategies.

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Appendix A

JSU IRB Approval Letter

Institutional Review Board for the Protection of Human Subjects in Research
203 Angle Hall
700 Pelham Road North
Jacksonville, AL 36265-1602

November 9, 2023

Natalyn Finley
Jacksonville State University
Jacksonville, AL 36265

Dear Natalyn:

Your protocol for the project titled "Implementing Delirium Prevention Strategies to Reduce the Need for 1:1 Observation in a Palliative Care Unit" protocol number 11092023-01, has been approved by the JSU Institutional Review Board for the Protection of Human Subjects in Research (IRB).

If your research deviates from that listed in the protocol, please notify me immediately. One year from the date of this approval letter, please send me a progress report of your research project.

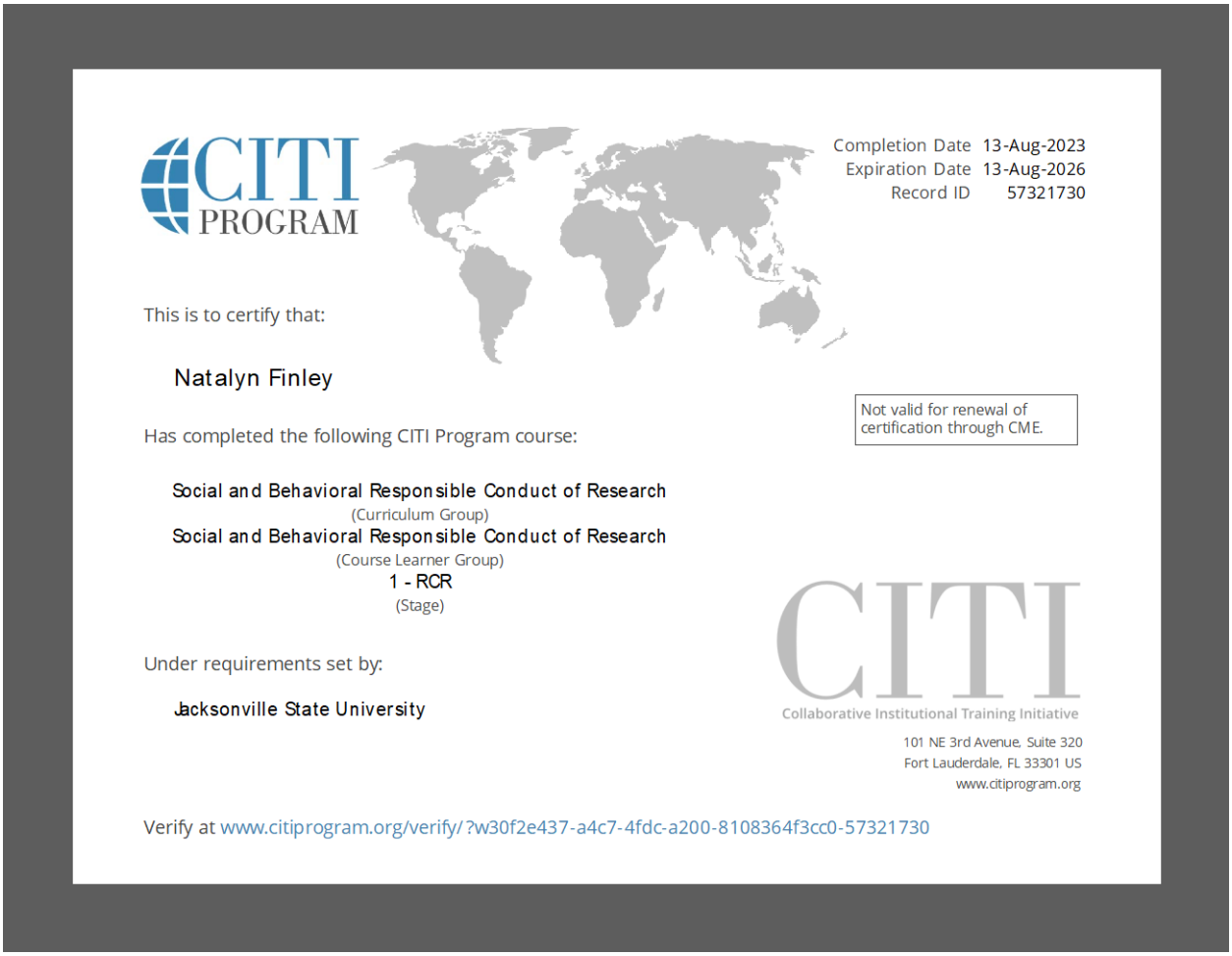
Best wishes for a successful research project.

Sincerely,

Sarah Donley
Human Protections Administrator, Institutional Review Board

Appendix B

CITI Training



CITI PROGRAM

Completion Date 13-Aug-2023
Expiration Date 13-Aug-2026
Record ID 57321730

This is to certify that:

Natalyn Finley

Not valid for renewal of certification through CME.

Has completed the following CITI Program course:

Social and Behavioral Responsible Conduct of Research
(Curriculum Group)
Social and Behavioral Responsible Conduct of Research
(Course Learner Group)
1 - RCR
(Stage)

Under requirements set by:

Jacksonville State University

CITI
Collaborative Institutional Training Initiative

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Verify at www.citiprogram.org/verify/?w30f2e437-a4c7-4fdc-a200-8108364f3cc0-57321730