DISTINGUISHING PAIN VERSUS PSYCHIATRIC BEHAVIORS IN ALZHEIMER'S PATIENTS

by

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Abstract

Alzheimer's Disease (AD) patients are at risk for not having their pain recognized. When nurses do not have adequate knowledge and tools to help determine if an AD patient is experiencing pain this often results in ignored and under-treated pain (Malara et al., 2016). In nursing staff working in a long-term care (LTC) facility (P) how does a multifaceted educational approach utilizing Registered Nurses' Association of Ontario (RNAO) and Management of Pain Clinical Best Guidelines (I) increase the competence level in distinguishing pain versus psychiatric behaviors in AD patients (O) over a period of 90 days? The local problem involves nurses working in a long-term care facility that are experiencing difficulties recognizing pain in patients with AD. Data collected from PAINAD assessments was analyzed using a paired *t*-test. Application of PAINAD assessment tool, following RNAO's Assessment and Management of Pain Clinical Best Practice Guidelines and guided by the use of the Plan-Do-Study-Act (PDSA) framework. Nurses were given a pre-and-post survey, were provided education on using the PAINAD assessment tool, and received support through random audits, chart reviews, and continued education as they utilized the assessment tool on their unit. There was a significant difference in the scores of the facilities original pain scale (M = 0.3786, SD = 1.24551) compared to the alternative PAINAD assessment tool (M = 0.6893, SD = 1.48221) conditions; t (4) = -2.814, p =0.006. In conclusion, implementation of the PAINAD assessment tool resulted in a statistical significance in the nurse's ability to detect pain in AD patients during this pilot project. This trend of improvement occurred despite the small sample size and short project timeframe.

Keywords: PAINAD, Alzheimer's Disease, quality improvement, long-term care

Distinguishing Pain Versus Psychiatric Behaviors in Alzheimer's Patients

There is a wide-spread gap in care regarding pain management in Alzheimer's Disease (AD) patients. AD patients are often unable to follow the gold standard in pain assessment: self-report of pain (Hadjistavropoulos et al., 2014). When nurses do not have adequate knowledge or tools to help determine if an AD patient is experiencing pain this often results in ignored and under-treated pain (Malara et al., 2016). Pain in AD patients consistently is being reported as undertreated (Hadjistavropoulos et al., 2014). Un-treated and undertreated pain can negatively impact overall health and quality of life (Gilmore-Bykovskyi & Bowers, 2013). Nurses are in a unique position to take action. When nurses have the knowledge and tools available to them, they can be more competent in detecting pain in AD patients.

The setting for this quality improvement pilot project was a 272-bed rural long-term (LTC) facility located in Upstate New York. This service is part of a more extensive community medical system and is one of the organization's two LTC facilities within the city. This residential care facility has two Memory Care Units which are designated to provide care to residents with significant memory impairment, such as AD. This project focused on one of the Memory Care Units.

The PICOT question for this project was: In nursing staff working in a long-term care (LTC) facility (P) how does a multi-faceted educational approach utilizing Registered Nurses' of Ontario's (RNAO) Assessment and Management of Pain Clinical Best Practices (I) increase the competence level in distinguishing pain versus psychiatric behaviors in AD patients (O) over a period of 90 days?

Project Description

The specific gap in practice at the facility lies within the nursing staff's ability to distinguish pain versus psychiatric behaviors in AD patients competently. Staff nurses are assessing and medicating patients based on their assessment findings, which in some instances does not involve detailed enough information that would allow them to determine further if a patient is in pain. AD patient's pain is often unrecognized, and some patients receive antipsychotic medications due to a lack of an appropriate assessment tool. It can be challenging to examine between pain resulting in distress versus cognitive impairment (Regan, Colling, & Tapley, 2015).

The Centers for Medicaid and Medicare (CMS) monthly Certification and Survey Provider Enhanced Reporting (CASPER) reports help to identify a gap in practice. The CASPER reports are run monthly and include three reports that can help identify the gap in practice. The three CASPER reports are Facilities Characteristics, Facility Level Quality Measure, and resident Level Quality Measure (CMS, 2017). Within the reports, there is data regarding if a patient has had antipsychotic medications or moderate to severe pain documented. The facility consistently has patients trigger in these two categories, some of which are AD patients (CMS, 2017). Currently, there is not a program in place to address the specific pain needs for AD patients at this facility. The facility primarily uses a traditional numeric pain scale that requires the patient to be able to state their pain or desire for medication accurately.

The facility's policy requires that the LPN nurses should utilize the numeric 0-10 pain scale or the Wong-Baker FACES pain rating scale. This system was active before the implementation of this project. Literature suggests that neither of these pain scales is appropriate for pain assessment in AD patients (Hadjistavropoulos et al., 2014). As a result, following the RNAO Assessment and Management of Pain Clinical Best Guidelines, implementation of the

PAINAD assessment tool was provided to nurses, along with other education and interventions which are throughout this manuscript.

Available Knowledge

This project conducted a comprehensive systematic literature review search using terms and keywords: *LPN, medication pass, Alzheimer's Disease, pain assessment, long-term care, & PAINAD*. Two to three words were sought in a series often simultaneously: across multiple databases. An exhaustive search of these databases and publications focused on 2012-2017: Cochrane, Proquest, Cumulative Index to Nursing and Allied Health (CINAHL), Elton B Stephens Company (EBSCO), & Medline (PubMed). During the project, the results were first narrowed selecting only peer-reviewed results. Next, of the remaining articles, titles and abstracts were evaluated for initial inclusion/exclusion determination. Lastly, each of the articles that were determined appropriate was read to verify they applied to this project. The final decision for inclusion relied upon if the article discussed AD patients in a LTC setting and pain assessment or management. Exclusion criteria included articles with lack of evidence, focus on medicine/disease processes, end of life care, home care, lack of validity, or written in foreign language. Only 17 out of 118 articles passed the selection criteria. During the searches, there was an identified overlap of 9 articles. The last four articles were found using a hand search.

A paucity of variety on this subject was noted during the literature search. There are a lot of articles available that add similar knowledge on the same materials. In evaluation, articles with stronger level of evidence were utilized through the following literature review section.

Synthesis Supporting EBP. Unrecognized and undertreated pain in AD patients is a quality of life issue for residents living in LTC facilities (Monroe, Parish, & Mion, 2015). Reviewing current literature allows synthesis of best practices and guidelines. The purpose of this literature review is to learn about the available research and trends for this clinical problem.

In this section, there is a review of the major themes associated with pain management in AD patients.

Pain and Alzheimer's Disease. Currently, there is no evidence that people with dementia experience pain differently than patients without cognitive impairment (Regan, Colling, & Tapley., 2015). There are now 35 million people worldwide that have dementia (Husebo, Achterberg, & Flo, 2016). When a patient has AD, it complicates the nurses' ability to distinguish the presence of pain. Advanced AD patients often cannot self-report their pain using a traditional 0-10 scale (Achterberg et al., 2013). As AD progresses, patients may experience unrecognized and untreated pain (Regan, Colling, & Tapley, 2015). The most common types of pain in AD patients are musculoskeletal disorders, joint degeneration, osteoporosis, neuropathic, fall-related, pressure ulcers, gastrointestinal, cardiac, and cancer-related pain (Regan et al., 2015). While difficult to estimate, 45% to 80% of AD patients in a long-term care setting may experience pain (Bjork et al., 2016; Regan et al., 2015).

Alzheimer's Disease and Psychiatric Behaviors. It is difficult to distinguish between pain and psychiatric behaviors in AD patients. Some of this difficulty arises from nurses who do not have the tools and training for assessing pain in this patient population. A lot of available literature suggests that training nurses can be a crucial component to solve this problem. AD patients often cannot self-report pain. Therefore, there is necessity for psychometrically sound observational pain tools (Liu, Pang, & Lo, 2012). The PAINAD assessment tool has been evaluated to provide psychometric properties, and the tool itself has good internal consistency (Ellis-Smith et al., 2016). Untreated, pain can increase a patient's risk of developing delirium (Paulson, Monroe, & Mion, 2014). Untreated pain can also result in agitation and aggression (Lichtner et al., 2014). There is an abundance of literature supporting that underlying pain may be the root of many of the psychiatric behaviors that AD patients are having.

Tools to Distinguish Pain. There are a variety of tools available for nurses to assess pain in their patients. Each of these tools has pros and cons. The PAINAD assessment tool was developed to be a user-friendly tool that requires a short training period for introduction to nurses (RNAO, 2013). There are other tools available, such as the Disability Distress Assessment Tool (DisDAT), Quality of Life in Late-Stage Dementia (QUALID), Pain Assessment Checklist for Seniors with Limited Ability to Communicate (PACSLAC), Dolopus-2, Pain Assessment in Impaired Cognition (PAIC), and several others that are not dementia specific (Steen et al., 2015). With the wide variety of tools available to nurses, it is surprising that difficulties in pain management of AD patients exist. Each of these tools has pros and cons to evaluate. A tool that focuses on visual observations, and allows for tracking patterns, will help a nurse determine if an AD patient is in pain (Lu & Herr, 2012). Also, the tool that allows the nurse to conduct a logical and complete pain assessment of their AD patients will further their ability to routinely recognize pain (Liu et al., 2012).

Barriers to Pain Management. Nurses follow the gold standard that states pain is what the patient says it is. Using a self-report pain tool is a barrier to pain management in AD patients. These patients are unable to self-report pain, especially in advanced AD. When nurses do not recognize pain, they are unable to treat it appropriately.

In one nationwide study, 54% of nursing staff felt that they did not have the training necessary, and 83% of those nurses felt that more education would help them provide better care for AD patients (Bray et al., 2015). In many instances, nurses lack the education on providing pain management care plans for their AD patients (Gropelli & Sharer, 2013). There is a challenge in securing time for nurses to attend training (Bray et al., 2015). The PAINAD assessment tool, which requires less hands-on training time to learn how to use appropriately reduces this barrier. In patients with AD, evidence shows that the only valid expressions of pain

are vocalizations, body movements, and facial expressions (Flo, Gulla, & Husebo, 2014). If nurses are not taught to watch for these specific cues, it results in missed opportunities for pain to be recognized. For nurses to feel competent, it is recommended for them to have a structured, quick to reference guide that will allow them to be more straightforward in their pain assessments (Chatterjee, 2012). Utilization of an equitable pain assessment tool can provide nurses with this type of reference guide for structured assessments.

Importance of Following Evidence-Based Practice. Learning from EBP, it is essential to evaluate the efficacy of the methods used to assess pain in AD patients. Patients living with AD are often experiencing unrelieved pain (Regan et al., 2015). EBP suggests that there are specific behaviors that AD patients may present with when they experience pain. Teaching nurses to watch for these cues; such as facial expressions, verbalizations, body movements, changes in interpersonal interactions, changes in activity or patterns, and mental status changes can help a nurse manage potential pain (Achterberg et al., 2013). Coupling this with the use of a proven pain scale, such as the PAINAD assessment tool, allows the nurse to distinguish pain versus psychiatric behaviors in AD patients competently. Following guidelines, such as RNAO's Assessment and Management of Pain Clinical Best Guidelines helps to ensure a multi-faceted evidence-based approach.

Rationale

The project used the PDSA (Plan-Do-Study-Act) as framework. This four-step model is applicable for a quality improvement project of this scope. Quality improvement projects utilizing EBP processes as framework can help with planning and execution of a project (Weiss, 2014). The PDSA is a practical approach for testing and learning about change for projects of small scopes (Melynk, 2015). The focus of PDSA includes action-oriented learning (Melynk, 2015).

Theory Application. This project aimed to give the nurses tools and knowledge to distinguish pain versus psychiatric behaviors in AD patients competently. This project was developed using the PDSA framework as foundation. This structure includes studying what is occurring currently (pre-project), forming a plan (Plan) for action-oriented learning, trialing it on a small basis (Do), studying the results (Study), and making recommendations based on findings (Act). By breaking a large-scale project into smaller pieces, there is an increase in overall project success (Melynk, 2015).

The project began on the foundations of determining the current state using CASPER reports, and reviewing literature to find EBP on the subject of AD patients residing in LTC. Planning, utilizing EBP, was the first official stage of this quality improvement project framework. During the next step, project implementation occurred. Stage two was the implementation stage of the project where nurses received a pre-survey, educational materials/training session(s), and the PAINAD assessment tool for use in their daily practice. In stage three nurses received a post-survey, and examination of project implementation data occurred. In the final stage, revisions occurred, and recommendations were placed based on the comparison between pain assessments using the facilities original pain scale versus the PAINAD assessment tool.

Study Assumptions. The primary assumption of this project was that the nurses would have a desire to change their nursing practice based on the information and tools provided. The project champion was not present for all observations, and most all of the data came through completed PAINAD Assessment Tools and chart review. While this was not entirely beneficial, it did allow for the nurses to act as they would without an observation currently taking place during their shift. Direct observations occurred upon random site visits throughout all stages of the project. Lastly, the project assumed that the results of this quality improvement plan would

be accurate. With a pilot project of this scope, there is an assumption that there will be fewer data available for review, compared to if it were a more extended study or a study conducted simultaneously at multiple locations.

Variables. This project is looking into the relationship between how use of an alternative pain assessment tool would impact the nurses pain assessment. The dependent variable for this project is the detection of pain in the AD patient. The independent variable is the use of the PAINAD assessment tool.

Specific Aims

This project aimed to provide nurses with the knowledge and tools necessary to distinguish pain versus psychiatric behaviors for the AD patients in their care. This project utilized the PAINAD assessment tool as part of the RNAO's Assessment and Management of Pain Clinical Best Guidelines. The PAINAD assessment tool has been examined in many studies and has proven to be useful in determining pain in patients with AD (Jordan et al., 2012; Litchner et al., 2014; Malara et al., 2016). The main goal of this project was to provide the education and tools necessary for nurses to change how they are determining the presence of pain in AD patients. Without changing nurses' behaviors, patients' pain will continue to be unrecognized and undertreated. The secondary goal of this project was to conduct a pilot on one Memory Care Unit that can be used to determine if this intervention would meet the needs of the facility. Utilizing the PDSA framework allowed for the project to be broken into the following stages: planning, implementation, analysis, and providing recommendation using the new data provided by the project. Each of these steps helped to support the overall aim of this project.

Context

The facility leader is a Director of Nursing (DON) who oversees all of the LTC units. There are also Minimum Data Set (MDS) RN's who conduct assessments for the monthly CASPER reports. Several of the units have a RN nurse manager that works the day shift Monday through Friday. There is also one RN House Supervisor on site at all times. The facility has a large ratio of Licensed Practical Nurses (LPNs), and this also contributes to the gap in practice since assessments are out of scope of practice for LPNs in New York State (NYSED, 2013). Research suggests that there is a discrepancy between nursing staff and their ability to accurately assess pain in patients with dementia (Gilmore-Bykovskyi & Bowers, 2013). Patients with neurological disorders, such as AD, fall into a group that research finds can have un-recognized pain, under-estimated pain, and under-treated pain (Hadjistavrosoulos et al., 2014). Because AD patients are often unable to self-report pain, they have an increased risk for their pain to be unrecognized (Hadjistavrosoulos et al., 2014). Regan et al. (2015) discuss how there is no evidence to suggest that people with dementia experience pain differently than a person without cognitive impairment. Detecting pain is essential because AD patients face a significant barrier by lacking the ability to make their pain known to nursing staff. This burden then must fall to the nursing staff to utilize tools and methods to ensure that the AD patients under their care are treated for pain appropriately.

There is an underlying assumption that the staff does not have the knowledge and assessment tools available to help them to distinguish adequately between pain and psychiatric behaviors in their patients diagnosed with AD. Without either of these, the nursing staff will continue to lack competence in appropriate detection of pain in AD patients. The nurses hold the key to the successful treatment of AD patients' pain.

The nursing staff does not consistently assess every patient for pain, and in some instances, patients are only receiving a thorough pain assessment approximately every 90 days

when one of the MDS RNs completes an assessment. Due to the large percentage of LPN staffing, there is a lack of availability of nurses who can assist with thorough assessments for patients every shift. Patients with AD are less likely to verbalize pain in a self-report and this results in under-treatment of their pain (Hadjistavrosoulos et al., 2014). The overall culture of pain management at the facility is to treat every AD patient with a scheduled acetaminophen automatically. This has potential to result in over-medicating patients who were receiving pain medication and were not experiencing pain at that time. Prescribers are often providing AD patients with PRN medications for breakthrough pain, and in some instances, for antipsychotic behaviors. During numerous discussions with LPN staff, and through chart review, it is clear that there is little priority in determining the need for administering PRN pain medications. LPN nurses often report that after giving a scheduled pain medication there is no indication to administer a PRN pain medication. The PRN pain medications are not utilized as commonly as they could be if the nursing staff had more appropriate screening tools for detecting pain.

There are unfavorable conditions and a high turnaround, which is indirectly a result of staffing levels at the facility. Some of the units do not have a nurse manager at this time, most of the LPN nursing staff are working more than five days a week. Additionally, during the timeframe of this project, there was a change in the DON. All of these contributes to staff being too busy to change their current practices.

This project had potential to help both the organization and the patients. The benefits of the PAINAD assessment tool might have been more pronounced if there was a lengthier project timeframe and less limitations. The fundamental changes to AD patient medication administration could have resulted in fewer behavior issues. If nurses were able to consistently utilize the tool, this might have resulted in additional positive impact.

The organizational support was varying throughout this project. The DON and Nurse Manager on the unit supported the project. There was minimal buy-in from LPN nursing staff, and it was difficult to get their support. It became apparent that the DON could not get more LPN staff buy-in. Attending staff meetings, speaking directly with stakeholders, and having a presence on the unit did not impact organizational support.

Interventions

For this project, several interventions were selected to work together to achieve success. Each of these interventions stands alone to utilize EBP. By combining them into one cohesive, doctoral-level project, each of the interventions gained strength by the other interventions. The overall goal for all of the interventions combined was to increase the competence of nursing staff to recognize pain in AD patients. To measure this achievement, nurses had to receive education and training specific to pain management, and the use of the PAINAD assessment tool. Additionally, there must be observations, chart review, and review of monthly CASPER reports. The remaining parts of this section discuss each of these interventions separately.

Participants. The participants included in this project comprise of the LPN nurses working on the selected Memory Care Unit, the Nurse Manager of the unit, and the MDS RN's that also provide assessments of patients residing on the selected unit. All nurses were provided education and tools, per the planned interventions, so that they can participate.

Additionally, this project utilized a convenience sample of AD patients. Patients were from the chosen Memory Care Unit at the facility. They met the criteria of being diagnosed with AD and have resided at the facility for 60 days or longer before the implementation of the project, for the establishment of minimum baseline data.

Develop and Lead an Interprofessional Team. The inclusion of multi-disciplinary team members allowed for the project to be considered from a multitude of perspectives.

Leading an interprofessional team was an essential intervention during this project. It was imperative to involve various stakeholders, and other influential individuals, throughout development and implementation. This group consisted of the DON, MDS specialist, Nurse Educator, Nurse Manager, and a Nurse Practitioner (NP) provider. Everyone on this team could help by providing input from their specialized area of expertise. The DON is aware of the overall status of the nursing staff and patients, the MDS specialist is knowledgeable of areas for improvement for specific criteria (such as pain management) because they work with the CASPER reports daily, the Nurse Managers know the daily priorities for each patient, the NP can help provide insight regarding medication recommendations, and the Nurse Educator can assist in helping with education aspects for the project. The suggestions and information from this team helped to direct the project during the development and implementation stages.

Obtaining Baseline Knowledge of Staff Nurses. Before any education or actual implementation of the project, it is essential to screen baseline knowledge of the nursing staff who are caring for AD patients daily. For this project, nursing staff of the selected unit were given a pre-and-post survey, education, and tools, per the planned interventions. The tool chosen for this project was an adaptation of the "Knowledge and Attitudes Survey Regarding Pain" (See Appendix A) (Ferrell & McCaffery, 2012). This tool was initially developed in 1987 and has been updated, as necessary, to remain current in pain management practices (Ferrell & McCaffery, 2012). The actual tool is well-established, has been peer-reviewed and followed the recommendations of the American Pain Society (Ferrell & McCaffery, 2012). This tool has been proven valid for use at a variety of nursing levels, such as graduate nurse to senior pain experts (Ferrell & McCaffery, 2012). This tool looks at nurse's knowledge and attitudes regarding pain management (Ferrell & McCaffery, 2012). The use of the tool, in whole or part, is permissible by the developers (Ferrell & McCaffery, 2012).

The unedited tool contains thirty-seven questions (Ferrell & McCaffery, 2012). Twenty-nine relevant questions from the original tool met criteria for inclusion. Eight questions referred to pediatric patients, alternative care settings, or IV pain management.

The nursing staff were observed for baseline knowledge before disclosing the education and PAINAD assessment tool to them. During these observations, notations occurred as to how the nurses interacted with their patients, and how they currently are determining if a patient is in pain. Lastly, during a conversation with each nurse daily practices were studied.

Education of Staff Nurses. Upon obtaining baseline knowledge from staff nurses, the next intervention was to educate them on the PAINAD assessment tool. This response was an essential part of success of the project. Without nurses actively learning, implementation of the PAINAD assessment tool would not be satisfied. Education occurred using several techniques.

The first education intervention included providing staff with information regarding pain management and the PAINAD assessment tool. This included printed educational material that included a need for change and the actual PAINAD assessment tool within it. Participating nurses who received this information were allotted review time before follow-up.

The second part of the education intervention included meeting with the participating nurses one-on-one. This provided the nurses with an opportunity to ask questions about the printed materials provided. Staff involvement was necessary since the nurses will be utilizing the PAINAD assessment tool and it is essential to verify their understanding of the tool before implementation. These sessions also allowed staff nurses to become more involved in the project, and provide valuable information from their observations and nursing practices.

Post-Test of Staff Nurses. After education has occurred, it is essential to provide a post-test survey. For this project, the "Knowledge and Attitudes Survey Regarding Pain" was given to participating nurses a second time at week ten of the project implementation. Comparing the

results of the survey with the previous survey results would provide statistical data regarding the nurses' knowledge and attitudes on pain management. Nurses were non-compliant in completing the post-test survey, and zero were turned in.

Implementation of PAINAD Assessment Tool. The selection of an appropriate pain assessment tool is imperative to success for this project. The PAINAD assessment tool is known for ease of use, and evidence of reliability and validity (RNAO, 2013). Consideration was made based on what the nurses are using to assess pain at the current state. The nurses are familiar with a numeric grading system for pain, and they are more likely to understand the numeric grading system that is used for the PAINAD assessment tool since it provides a numeric number that they are familiar with working. For a pain assessment tool to be appropriate, it must meet some basic criteria. The most suitable tool will be reliable, valid, responsive, feasible to use, practical, and aimed at a target population (RNAO, 2013). The PAINAD assessment tool meets these requirements.

Observations of Staff Nurses. Once the nurses began utilizing the PAINAD assessment tool, it was essential to conduct randomized observations of the nurses using the assessment tool. Random observations were made several times a week throughout the project implementation. Data collected pertained to nurse utilization of the PAINAD assessment tool, how the tool was impacting their nursing interventions, and any questions or comments the staff nurse would like to include. Each nurse remained confidential for the project. The data from all observations was analyzed.

Chart Review. Information reviewed included pain assessment, vital signs (where applicable), interventions, and patient responses. For this project, patient confidentiality was paramount, and each patient was assigned a numeric code so that their identity remained

confidential. Data obtained from the chart review provided a picture of the patient's pain, behaviors, interventions, and responses.

CASPER Report Analysis. Monthly, the facility receives CASPER reports. For this project, these reports were reviewed to see how the facility is scoring on the topics of pain management and administration of medication for psychiatric behaviors. This data was used to help understand how the intervention was impacting the AD patients at the facility. Since these are ongoing reports, baseline data will be available for the months before the project implementation

Study of the Interventions

The approach used for assessing the effectiveness of the interventions included a review of personal notes taken from LPN interviews, chart review, analysis of the survey, and PAINAD assessment tool data. Nurses were asked to compile their assessment data on paper charts for comparison between their current pain scale and the intervention, PAINAD assessment tool. The evaluation plan focused primarily on the paper chart data as this served to examine the primary intervention directly. The data from the paper charts were compared to determine whether there were significant differences in the mean of the data from their original pain scale versus the PAINAD assessment tool. Completed pre-and post-surveys would have allowed comparison to evaluate the effectiveness of training.

The use of the PAINAD assessment tool did indicate in multiple instances that pain was recognized that would have otherwise been missed using the facilities current pain scales. The intended impact was for nurses to utilize the PAINAD assessment tool and to medicate their patients accordingly. There was an unintended impact, resulting in the present scheduled medication practices at the facility. The majority of AD patients assessed during this project were receiving scheduled acetaminophen for pain. It was unintended for the nurses to get a

positive PAINAD and not to medicate their patient with the available PRN medications. In reviewing the nursing interventions, there was only one instance when an LPN used the PAINAD assessment tool to recognize pain in an AD patient and then subsequently treated that pain. Therefore, the majority of the observed outcomes were not as a result of the LPN nurse utilizing the PAINAD assessment tool.

Measures

This quality improvement project focused on implementation of the PAINAD assessment tool to increase the nurses' competency in assessing pain in AD patients. A chart review of resident records from a one month period before implementation and during implementation was conducted to determine the practices before and during project interventions. After the PAINAD assessment tool intervention was released, chart review showed only one instance that a patient was medicated differently than if the PAINAD assessment tool were not in use.

The measures chosen for data analysis was a comparison between assessment data using the original pain scale versus the PAINAD assessment tool. The reliability of this tool was established (r>.80) through repetitive testing in continued education of staff nurses (N = 60) (Ferrell & McCaffery, 2014). Internal consistency reliability established (alpha r>.70) with items reflecting in categories of knowledge and domain (Ferrell & McCaffery, 2014). This criterion was selected because positive PAINAD assessment tool results would indicate that a patient is likely to be experiencing pain. Nurses were asked to incorporate the PAINAD assessment tool during their shifts and to complete the tool for all AD patients that were under their care at that time.

One of the other project interventions was a pre-and post-survey. This intervention was planned to provide an overview of the general knowledge on pain management before and after

project implementation. The nurses were non-compliant completing the post-survey. The lack of nursing response was an unplanned undesired outcome.

Analysis

A quantitative method was applied to analyze whether the PAINAD assessment tool was valuable in helping the nurses to assess pain in AD patients competently. The paper chart provided to the nurses was completed, including a section for the original pain scale and the PAINAD assessment tool. The mean, effect, and p-value were calculated using the data that nurses provided on the paper chart forms. The chart forms offered nominal data for analysis. A paired *t*-test was run using the data from nurses in IBM SPSS. The data analysis included columns for the original pain scale and the PAINAD assessment tool.

Ethical Considerations

Human subject protection was an essential aspect of this project. This project was evaluated by the Capella University Institutional Review Board (IRB) before project implementation. This review ensured that the project framework protects human subjects and that there are no ethical concerns. Patient confidentiality upheld by coding the paper patient charts.

Results

Pre-surveys and PAINAD data collected from nurses and was reviewed and analyzed for this project. In this section includes discussion of the results. Statistical data from the paired *t*-test is included in (Appendix B).

Pre-Post Survey

Pre-intervention surveys were reviewed to obtain generalized knowledge regarding the nurse's education on pain management for patients. It was not possible to analyze pre-and post-surveys due to non-compliance of nursing staff and the resulting zero post-surveys completed. The average grade of the pre-test surveys was 75.91%. This may be a result of the lengthy survey having detailed questions that were intimidating to the nurses. Additionally, due to time constraints, many nurses may not have had adequate time for completing the surveys.

PAINAD Assessment Tool

The total number of scores sampled and compared was 103. There was a significant difference in the scores of the facilities original pain scale (M = 0.3786, SD = 1.24551) compared to the alternative PAINAD assessment tool (M = 0.6893, SD = 1.48221) conditions; t (4) = -2.814, p = 0.006 (Appendix B). Knowing that the PAINAD assessment tool has potential value could be useful to the facility when developing AD-specific pain policies.

Considerations

There was limited participation by the nurses for this project, and this resulted in a minimal amount of data for analysis. A resulting recommendation would include more nurses so that additional data may be available. This project ended up with a sample size of 103 for the PAINAD assessment tool. This number is enough to analyze through a paired *t*-test to determine significance. However, it may be beneficial to have an increased sample size for future projects. Non-compliance of nurses to complete the post-survey resulted in having no data to compare with pre-project surveys. For future projects, it may be beneficial to consider the use of an alternative pre-post survey.

The overall goal was to run a pilot project on one of the Memory Care Units to determine if the use of the PAINAD assessment tool would prove beneficial in helping nurses to assess pain in AD patients competently. There were several instances when the PAINAD assessment tool

appeared to indicate pain when there was no pain indicated by the facilities current pain scale. The secondary outcome of this project was to obtain data to support the development of an AD-specific pain policy. Despite a small sample size, the data analysis indicated there is a significance in the use of the PAINAD assessment tool for determining pain in AD patients.

The key facilitators for this project were the project champion and the nurses that were participating in the project. Without consistent direction and encouragement, nurses would not have collected any data for this project. Lack of facility support throughout the implementation of the project was the most significant barrier that resulted in nurses not completing the tasks required for the project.

Sustainability

Due to circumstances at the facility, there will be no practice change or policy development resulting from this project. In discussion with the administration at the facility, there seems to be little support for the project or understanding on implementation for evidence-based practice projects. Despite initial enthusiasm for the project, the administration was not able to support the project during implementation and did not appear interested in the barriers encountered or the data gathered for the project. At this time, it seems that facility will not proceed with using the data from this project to create an AD pain policy.

Future Practice

Further practice recommendations include modifying the project with an alternative pre-post survey, opening the project to multiple units to gather more data, and possibly conducting a future project at the facilities other location would be beneficial in adding to the knowledge gained from this project. Before any future projects, it would be necessary for full administrative support for the project to be successful, as this was a limitation of this project.

Discussion

Summary

The key finding for this project is that the PAINAD assessment tool shows significance in being able to detect pain in AD patients. The primary focus of this project was to determine if this was a useful scale for nurses to use to assess pain in AD patients competently. There were several instances of data collected that indicated that the nurse was able to determine a patient was in pain when their original pain scale was suggesting otherwise. This is a strength of the project, as it shows the PAINAD assessment tool is beneficial in helping the nurses to assess for pain in AD patients competently.

Interpretation

Many of the interventions within this multi-faceted project helped lead the nurses to competently assessing pain through utilization of the PAINAD assessment tool. Other published projects using the same tool, and similar interventions, had similar results. It appears there is a commonality in lack of large sample size amongst related projects.

This project can provide a direct positive effect on AD patients because the data findings indicate the PAINAD assessment tool is beneficial for use in this patient population. The AD patient stands to gain the most from this project because if nurses can competently assess their pain, it will increase the quality of their life. The facility also could be impacted positively by this project since they need to report pain findings of the AD patients through the monthly CASPER reports.

The anticipated findings for this project were similar to the actual outcomes regarding the usefulness of the PAINAD assessment tool. Throughout the literature review, there was much data that indicated that implementation of the PAINAD assessment tool would produce similar results. Initially, this project called for a much larger sample size. The unanticipated small sample size was a result of lack of administrative support during implementation. If

administration assisted in gaining nurse buy-in, then the project would have had a lot more data for analysis.

This project had minimal costs associated with the intervention, and this would be similar if the facility were to determine they wish to implement the PAINAD assessment tool in the future. The majority of the cost associated with implementation would be paid time to train the nurses. The PAINAD assessment tool can be learned by nurses in less than an hour, including time to practice the tool with patient scenarios. Project implementation would not burden the facility financially as proposed changes reflect in areas of pain assessment and patient charting.

Limitations

There were a lot of unanticipated constraints for this project. During the project the DON resigned, an interim DON took over. This resulted in some change in the level of support from administration for the project. The availability of nurses to participate in the project was also less than initially anticipated. Many of the nurses at the facility are working six days a week. This limits the Memory Care Unit to primarily two main nurses who work during the day. At many times, there were float nurses from one of the other units working. The evening and overnight staffing have one nurse on the unit, and this made it difficult for them to participate due to nurse to patient ratios.

The other unanticipated limitation is the overall culture of pain management at the facility. Through chart review and discussions with the nurses, the use of PRN (as needed) pain medication is seldom utilized at the facility. In several instances of data from the nurses, the PAINAD assessment tool indicated pain that the nurse chose not to treat with a PRN medication. In these cases, nurses noted that the patient is "always grumpy no matter what" or that a scheduled medication was due later. The majority of AD patients were being treated with scheduled (routine) acetaminophen regardless of the presence of pain. This did limit the number

of times that a nurse utilized the PAINAD assessment tool and concluded the patient might be having pain.

One of the interventions for this project was to determine if the use of the PAINAD assessment tool would have a positive impact on the CASPER reports. A limitation discovered during the project implementation was the criteria used for the pain assessment for the CASPER reports. For the patient to trigger as untreated pain, they must state they have pain of 5 or higher on a 0-10 scale in the last five days, have severe or frequent pain, or have pain that affects their ability to sleep. This criterion is difficult for an AD patient to state accurately. The lack of a national quality measure for assessing AD pain was an unforeseen limitation.

Lastly, the lack of support from the nurses, nurse managers, DON, and other nursing administration throughout the project was a considerable limitation. If there were more support during the implementation of the project more data may have been collected, and this could have resulted in a more competent analysis of the benefit of using the PAINAD assessment tool. It was unknown at the start of this project that the facility would not be entirely supporting it during the implementation stage.

Attempts for mitigating the limitations included constant checking in with the nurses, unannounced observations to see the environment that the nurses were working in, and continuously advocating the project to the nurses, nurse managers, supervisors, and DON. This also included attending two-morning meetings to present aspects of the project and to describe limitations to foster support for the project.

Expected limitations of the project included a small sample size due to the nature of a pilot project. The short timeframe of the project implementation also contributed to obtaining less data for analysis. These anticipated limitations were acknowledged and managed during the

project implementation by constant communication with the nurses to collect the most data during the project timeframe.

Conclusions

In conclusion, the information learned from this project may be useful for future projects designed to address the gap in care regarding pain management in AD patients. The data analyzed for this project indicated that there is a significance in the ability for the PAINAD assessment tool to help nurses to detect pain in AD patients. The PAINAD assessment tool focuses for use with AD patients, but it may also be beneficial for other non-AD patients in LTC facilities. The overall design of this project is easy to replicate at other facilities for future projects. AD patients as a population require more study, but specifically, we can start addressing pain with assessment tools, such as the PAINAD. Despite aforementioned adverse limitations, this project highlights valuable data for future projects focused on pain or AD patients.

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Appendix A. THE KNOWLEDGE AND ATTITUDES SURVEY REGARDING PAIN

1.Vital signs are always reliable indicators of the intensity of a patient's pain. T/F
2. Patients who can be distracted from pain usually do not have severe pain. T/F
3. Patients may sleep in spite of severe pain. T/F
4. Aspirin and other nonsteroidal anti-inflammatory agents are NOT effective Analgesic for painful bone metastases. T/F
5. Respiratory depression rarely occurs in patients who have been receiving stable doses of opioids over a period of months. T/F
6. Combining analgesics that work by different mechanisms (e.g., combining an NSAID with an opioid) may result in better pain control with fewer side effects than using a single analgesic agent. T/F
7. Opioids should not be used in patients with a history of substance abuse. T/F
8. Elderly patients cannot tolerate opioids for pain relief. T/F
9. Patients should be encouraged to endure as much pain as possible before using an opioid. T/F
10. Patients' spiritual beliefs may lead them to think pain and suffering are necessary. T/F
11. After an initial dose of opioid analgesic is given, subsequent doses should be adjusted in accordance with the individual patient's response. T/F
12. Giving patients sterile water by injection (placebo) is a useful test to determine if the pain is real. T/F
13. Vicodin (hydrocodone 5 mg + acetaminophen 300 mg) PO is approximately equal to 5-10 mg of morphine PO. T/F
14. I f the source of the patient's pain is unknown, opioids should not be used during the pain evaluation period, as this could mask the ability to correctly diagnose the cause of pain. T/F
15. Anticonvulsant drugs such as gabapentin (Neurontin) produce optimal pain relief after a single dose.T/F
16. Benzodiazepines are not effective pain relievers and are rarely recommended as part of an analgesic regimen.T/F
17. Narcotic/opioid addiction is defined as a chronic neurobiologic disease, characterized by behaviors that include one or more of the following: impaired control over drug use, compulsive use, continued use despite harm, and craving. T/F
18. The term 'equianalgesia' means approximately equal analgesia and is used when referring to the doses of various analgesics that provide approximately the same amount of pain relief. T/F
19. Sedation assessment is recommended during opioid pain management because excessive sedation precedes opioid-induced respiratory depression. T/F
20. The recommended route of administration of opioid analgesics for patients with persistent cancer-related pain is: a. intravenous;b. intramuscular;c. subcutaneous;d. oral;e. rectal
21. Which of the following analgesic medications is considered the drug of choice for the treatment of prolonged moderate to severe pain for cancer patients? a. codeine; b. morphine; c. meperidine; d. tramadol
22. The most likely reason a patient with pain would request increased doses of pain medication is:a. The

patient is experiencing increased pain; b. The patient is experiencing increased anxiety or depression; c. The patient is requesting more staff attention; d. The patient's requests are related to addiction.
23. Which of the following is useful for treatment of cancer pain? a. Ibuprofen (Motrin); b. Hydromorphone (Dilaudid); c. Gabapentin (Neurontin); d. All of the above
24. The most accurate judge of the intensity of the patient's pain is: a. the treating physician; b. the patient's primary nurse; c. the patient; d. the pharmacist; e. the patient's spouse or family
25. Which of the following describes the best approach for cultural considerations in caring for patients in pain: a. There are no longer cultural influences in the U.S. due to the diversity of the population; b. Cultural influences can be determined by an individual's ethnicity (e.g., Asians are stoic, Italians are expressive, etc); c. Patients should be individually assessed to determine cultural influences; d. Cultural influences can be determined by an individual's socioeconomic status (e.g., blue collar workers report more pain than white collar workers).
26. How likely is it that patients who develop pain already have an alcohol and/or drug abuse problem? < 1% 5 – 15% 25 - 50% 75 - 100%
27. The time to peak effect for morphine given orally is: a. 5 min; b. 30 min; c. 1 – 2 hours; d. 3 hours
28. Following abrupt discontinuation of an opioid, physical dependence is manifested by the following: a. sweating, yawning, diarrhea and agitation with patients when the opioid is abruptly discontinued; b. Impaired control over drug use, compulsive use, and craving the need for higher doses to achieve the same effect; d. a and b
29. Which statement is true regarding opioid induced respiratory depression: a. More common several nights after surgery due to accumulation of opioid; b. Obstructive sleep apnea is an important risk factor; c. Occurs more frequently in those already on higher doses of opioids before surgery's. Can be easily assessed using intermittent pulse oximetry.

APPENDIX B. PAINAD ASSESSMENT TOOL RESULTS

	Original Pain Scale		PAINAD Assessment Tool			95% CI for Mean Difference			
Outcome	M	SD	M	SD	n		t	df	Sig.
	0.3786	1.24551	0.6893	1.48211	103	0.09169, 0.52967	2.814	102	0.006*

* p < .05.