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Pain Assessment Strategies for People With Cognitive Impairment in Nursing Home Settings

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Walden University

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Meskelo Tsegaye Bobo

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2020

Abstract

Pain Assessment Strategies for People With Cognitive Impairment in Nursing Home

Settings

by

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MSN, Walden University, 2019

BSN, Indiana State University, 2015

BSc, University of Colorado Denver, 2012

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

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Abstract

Assessment of pain in patients with a diagnosis of dementia or cognitive impairment continues to be underdiagnosed as there are no objective ways of assessing their pain. Available evidence also indicates that these patients are not receiving satisfactory pain management. Due to a lack of self-reporting of pain, accurate assessments of pain are challenging. This systemic review aimed to find a pain assessment strategy effective in identifying pain in patients with a diagnosis of dementia. Kolcaba's theory of comfort was used as the theoretical framework for the study. The databases of Medline, Cochrane Database of Systematic Reviews, Embase, and Cumulative Index to Nursing and Allied Health Literature (CINHAL) Plus for data concerning pain assessment strategies for cognitively impaired patients published in the last 7 years were searched. Each article was assessed accurately, and data were obtained and analyzed. Four hundred twenty-two reviews were retrieved, of which 8 met the criteria for inclusion. SQUIRE 2.0 was used for the appraisal of the included literature. The literature qualified for the inclusion criteria was then analyzed for the level of hierarchy and grading of evidence according to the Fineout-Overholt, Melnyk Stillwell, and Williamson system. Based on the available evidence, no one pain assessment tool can be recommended. Instead, involving the interdisciplinary healthcare team, family, and caregiver/s along with the observational pain assessment tool can be effective in assessing pain for a patient with cognitive impairment. This project impacts social change by providing a pain assessment strategy for patients with a cognitive impairment.

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Dedication

This project is dedicated to my wife and my parents. Your sacrifices, selflessness, and your wants and needs helped me to experience a better life. You have consistently supported me throughout my journey to become a DNP prepared nurse. As I continue on my professional and personal journeys through life, I am hoping that I will inspire future generations and bring the much-needed social changes through hard work.

Acknowledgments

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Section 1: Nature of the Project

Introduction

Pain is subjective, and, as such, there are no objective ways of assessing pain. In other words, pain is determined by how patient experiences it. Due to the subjective nature of pain, developmental, emotional, social, cultural, and spiritual variants influence how a patient might perceive pain. Furthermore, the strength of such perception can be altered by the circumstantial and psychological factors that exist when a patient experiences pain. Because of the high prevalence of pain in patients with cognitive impairment, having an effective pain assessment strategy in place is a critical component of pain management, and it is necessary to provide top-notch customer services in sites that provide care to patients with cognitive impairment. The creation of a pain management strategy, backed up with evidence, is crucial in assessing pain in these patients and ultimately helping them managing it.

Assessment and treatment of pain can be easier when pain is classified. There are several ways of classifying pain. The typical categories of pain include nociceptive, neuropathic, and inflammatory. Based on the pathological process, pain can also be classified as cancer pain, migraine, primary headache, and fibromyalgia. Intensity or severity of pain can also lead to the classification of pain as mild, moderate, or severe. At times, healthcare providers may also classify pain as either acute or chronic, based on how long a patient has had pain. Acute pain is a pain felt by a patient for less than 3 months (Dayoub & Jena, 2015). A physiological stress response can result from acute pain to maintain cell homeostasis and to keep patients safe (Dayoub & Jena, 2015).

Chronic pain, on the other hand, lasts longer than 3 months. Because chronic pain can last for an extended period, patients' psychological and behavioral differences can be noted as they try to adjust and handle the continuing pain stimuli (Danise & Turk, 2013).

Pain disturbs patients' quality of life for many reasons. These reasons might include variations in the patients' age, sex, country of origin, race, religion, income status, psychological response, and the support the patients might have. As many as 83 million patients have pain in the United States. Lost productivity due to pain cost the United States between 300 to 336 billion dollars in 2010 (Gaskin & Richard, 2012). When pain is not managed well, a patient might suffer from sleep disturbance, being anxious, and an inability to concentrate on the activity of daily living (Duenas, Ojeda, Salazar, Mico, & Failde, 2016).

Danise and Turk (2013) believed that the intervention of pain should include a pain assessment strategy to identify the level of pain accurately and to establish an effective intervention. Countless pain assessment strategies exist. However, most pain assessment strategies are for patients who can clearly self-report their pain. Per Lichtner et al. (2016), there is always a gap in assessing pain effectively for a patient with a diagnosis of dementia. Those reasons might include healthcare professionals' lack of knowledge in the use of pain assessment strategies and the patient's lack of self-reporting their pain accurately.

Problem Statement

Available evidence has indicated that patients with moderate to severe cognitive impairment/dementia residing in nursing homes are not receiving satisfactory pain management (Lichtner et al., 2014). Lichtner et al. (2014) suggested that the numeric pain scale is not practical for patients with a diagnosis of moderate to severe dementia, and accurate assessments of pain are challenging. There is a gap in practice due to some barriers to using observational tools to assess pain in patients with a diagnosis of dementia (Lichtner et al., 2014). Assessing breathing and ability to be consoled when using the Pain Assessment IN Advanced Dementia (PAINAD) scale may be challenging for healthcare professionals. The use of Mobilization-Observation-Behavior-Intensity-Dementia-2 (MOBID-2) requires assessment during patients' movement, and healthcare professionals must be trained in the use of the tool (Lichtner et al., 2014).

When a patient cannot self-report their pain, it is hard for care providers to assess their pain based on available pain assessment strategies. Thus, in this project, I systematically review available pain assessment strategies and summarize evidence concerning their feasibility in assessing pain for a patient with moderate to severe cognitive impairment. I do so to then suggest the best evidence-based pain assessment strategies for patients with cognitive impairment.

Purpose

The purpose of this systemic review is to find a pain assessment strategy effective in identifying pain in patients with cognitive impairment by reviewing existing literature dealing with pain assessment strategies for patients with a diagnosis of dementia.

Roughly 5.8 million individuals are living in the United States with dementia (The Alzheimer's Association, 2019). Pain is not adequately evaluated or treated in patients with a diagnosis of dementia, and this results in a poor quality of life (Rababa, 2018). One of the reasons for inadequate pain assessment and treatment for patients with a diagnosis of dementia is the lack of adequate pain assessment strategies (Rababa, 2018).

Nature of the Doctoral Project

Healthcare professionals struggle to assess pain for a patient with a diagnosis of dementia. They may incorporate their own beliefs and manners when they make a decision that will impact the care they provide to a patient. The nature of the DNP paper is to systemically analyze existing literature to locate effective and the best pain assessment strategies to help in assessing pain to then manage it for patients with a diagnosis of dementia. The lack of ability to accurately self-report their pain results in inadequate assessment and treatments for their pain. The number of patients living with dementia is expected to be about 15 million by 2050 (The Alzheimer's Association, 2019). As that number continues to grow, finding the best and effective pain assessment strategy is crucial in treating these patients' pain effectively.

Significance

The importance of the final DNP Project was highlighted in Essential III of the American Association of Colleges of Nursing (2006). The final DNP project is a chance for the learner to incorporate skills acquired from DNP school into practice. This final project can be beneficial for enhancing patient-centered care based on evidence. An individual with a DNP degree makes an impact on the quality of health care

systems through clinical practice and enactment and appraisal of evidence-based practice (Edwards, Coddington, Erler, & Kirkpatrick, 2018). The significance to practice established in this paper is the identification of an effective and best assessment strategy for pain in a patient with a diagnosis of dementia.

The main problem for patients with a diagnosis of dementia is the inadequate assessment and management of pain. According to Miu and Chan (2014), 28% to 83% clients with a diagnosis of cognitive impairment suffer from pain every day. As a patient's cognition continues to decline, their ability to self-report their pain also declines. Having the best and effective pain assessment strategies for patients with cognitive impairment can enhance the delivery of excellent care for these patients.

Pain can lead to depression and altered activity of daily living performance (Achterberg et al., 2013). Pain that is not well managed can have detrimental effects on patients' quality of life as it restricts their ability to complete daily activities. Achterberg et al. (2013) established that pain in patients with a diagnosis of moderate to severe dementia is associated with moderate interference in activities of daily living performance.

Social Change

This project promotes positive social change by attempting to find beneficial pain assessment strategies by systemically reviewing available pain assessment strategies. Pain that is not effectively managed has a negative effect on patients' quality of life (Achterberg et al., 2013). A review of evidence-based pain assessment strategies already

in practice can help to guide future practice through effective assessment and management of pain, positively affecting patients' health and quality of life.

Summary

Pain is subjective, and anyone can be affected by it at any time in their life. The evaluation of pain in patients with a diagnosis of dementia can be challenging (Achterberg et al., 2013). The lack of accurate self-report of pain makes healthcare providers carry the burden of pain evaluation. In some long-term care facilities, there may only be one pain assessment tool (PAINAD) available for assessing the cognitively impaired resident. The PAINAD tool, by itself, is inadequate in assessing pain for cognitively impaired patients as they lack the ability to accurately self-report their pain. Involving the interdisciplinary healthcare team (IDT), caregiver/s, a family member of a patient, patients, and observational pain assessment tools can help effectively assess pain for these patients, which then can lead to effectively managing their pain and enhancing their quality of life.

Section 2: Background and Context

Introduction

Pain is subjective, and there is no objective way of assessing it. Furthermore, patients with a diagnosis of dementia are not able to accurately self-report their pain. These patients depend on healthcare providers to monitor any behavioral changes indicative of pain. To enhance the quality of life for clients with cognitive impairment, assessing their pain and intervening on time is crucial. The purpose of this doctoral study was to locate effective and the best pain assessment strategies for patients with cognitive impairment. Having adequate and the best pain assessment strategies for these patients is critical in alleviating their suffering and enhancing their quality of life.

Concepts, Models, and Theories

Having an effective pain assessment strategy in place is a requirement to make any improvement in the quality of life for clients with a diagnosis of cognitive impairments. In comfort theory, nursing is portrayed as the method of evaluating the client's comfort needs and coming up with a care plan and then critically appraising the client's comfort level after an intervention is carried out. Nursing includes the use of an effective pain assessment strategy in assessing a patient's pain and creating a care plan to address their comfort need and then evaluating the effectiveness of the care plan developed. Assessment of pain can be objective, such as the observation of behavioral indicators of pain, or subjective, when a patient can express their pain.

Kolcaba's theory of comfort was used as the theoretical framework for this final DNP project. Kolcaba's (2001) theory of comfort applies to pain assessment and its

management as a patient's comfort is considered a standard of care and an established value for healthcare professionals. Comfort can be defined as a state of physical ease and freedom from pain. The comfort theory by Kolcaba stated that patient comfort exists in the form of relief, ease, and transcendence. Relief is achieved when a patient's discomfort is mitigated or alleviated through any nursing interventions. Ease indicates that patients have no discomfort. Transcendence is the capability of a patient in managing their pain or discomfort when discomfort cannot be avoided (Kolcaba, 2001). In Kolcaba's comfort theory, patients' needs are addressed.

The concept of comfort theory is demonstrated when a nurse uses pain assessment strategies to assess a patient's pain. Based on those assessment results, a nurse then intervenes to bring comfort to the patient by alleviating their pain. Kolcaba's comfort theory can help in providing care to patients with cognitive impairment. This theory can be a reminder to a healthcare professional that when patients are comfortable, they are more apt to employ in health-seeking behaviors. As a patient's health-seeking behaviors build up, providers will be more satisfied and incline to advance the quality of care they provide. Providing comfort to patients helps healthcare professionals to gain the trust and involvement of patients in their treatment.

Kolcaba's Taxonomic Structure of Comfort

1. The physical framework is associated with pain relief or turning and repositioning to release the pressure of bony prominence to improve the patient's comfort level (Kolcaba 2001).

2. The psychospiritual framework is associated with enhancing independence (Kolcaba et al., 2001).
3. Environmental context relates to controlling temperature, noise, and views from the window, which might agitate and increase a patient's pain (Kolcaba et al., 2001).
4. The sociocultural concept relates to caring attitudes, continuity of care, increasing relatives' support, and social customs (Kolcaba et al., 2001).

Relevance to Nursing Practice

The main problem for patients with a diagnosis of dementia is the inadequate assessment and management of pain. Miu and Chan (2014) indicated that 28% to 83% of clients with a diagnosis of cognitive impairment suffer from pain. It is a fact that as patients' cognition continues to decline, their ability to self-report their pain also declines. Having the best and effective pain assessment strategies can enhance the delivery of excellent care for these patients. An all-inclusive pain assessment strategy should include a history of pain that can be obtained through data provided by relatives of a patient, caregivers, and the IDT. Information obtained from an assessment of patients, relatives of a patient, caregivers, and IDT can then help the provider to manage their pain and enhance their quality of life effectively. Healthcare professionals play an essential role in employing effective pain evaluation strategy into their field.

Patients with cognitive impairment might show some behavioral signs indicative of pain. When a healthcare professional is unable to identify early, the patient's behavior might become exacerbated and become disruptive. This disruptive behavior might lead to

unnecessary prescription of psychoactive medications to control their disruptive behaviors. These drugs are known to have potentially dangerous side effects, to which patients with cognitive impairment are more vulnerable. Healthcare professionals are in a place to effectively evaluate and intervene patients with cognitive impairment suffering from pain.

Local Background and Context

More than 50% of patients in institutional homes have a medical history of dementia. These patients stay in institutional homes due to family members' inability to take care of them at home. There are more than 5.8 million patients with cognitive impairment who live in the United States of America. The nursing facility where I formerly worked uses a numerical pain scale. Some of these nurses use intuitive approaches to the evaluation and intervention of pain for clients with a cognitive impairment (Lichtner et al., 2016). Their use of intuitive approaches leads to patients' pain level being minimized. Hence, the use of a numerical pain assessment tool does not help in accurately assessing pain for patients with cognitive impairment (Lichtner et al., 2016).

Role of the DNP Student

Accurate evaluation and control of pain in a patient with a diagnosis of dementia is a critical issue that requires more attention from all care providers. Both accurate assessment and management of pain is of great importance to the delivery of excellent care as the capacity to precisely and efficiently evaluating and controlling pain is fundamental in meeting the memory care provision of care in long-term care (Lichtner et

al., 2016). A DNP student should find it valuable to recognize problems in a day-to-day activity and find the cause of the problem and then pursue a solution backed up with evidence to enhance the quality of care provided. The DNP student's unique role is to discover any practice issues affecting patients care and then to perform research to obtain a permanent solution to the issue. In this new role as a DNP prepared nurse practitioner, ease the implementation of findings to practice, resulting in the enhancement of quality of care provided.

Summary

The literature suggested that about 83% of patients with a cognitive impairment residing in a nursing home experience pain daily. What makes it challenging to successfully manage their pain is the patient's inability to verbalize their discomfort. Finding the best and effective pain assessment is crucial to enhance the evaluation and control of pain in these patients. Kolcaba's comfort theory assisted me in assessing pain in patients with a diagnosis of dementia, which can then help with managing their pain and enhancing their quality of life.

Section 3: Collection and Analysis of Evidence

Introduction

Per West, Cole, Goodkind, and He (2014), somewhat over 5% of older adults live in a nursing home, group home, and assisted living, and about 4% are in institutional homes at any particular time. From among these 5%, patients with a diagnosis of dementia often experienced pain daily, and their pain is inadequately managed and assessed. Evaluation and controlling of pain for a patient with a diagnosis of dementia continue to challenge healthcare providers (Lichtner et al., 2014). The goal of this study was to systemically analyze available literature dealing with pain assessment strategies for patients with cognitive impairment and suggest the best and effective pain assessment strategies.

Practice-Focused Question

In nursing home settings, what available pain assessment tools are employed to effectively help in managing pain for patients with a diagnosis of moderate to severe dementia?

Sources of Evidence

As many as 83% of patients with cognitive impairment residing in a nursing home experience pain daily (Miu & Chan, 2014). Half of the patients over the age of 80 take pain medication regularly (Lichtner et al., 2014). Available evidence indicates that in addition to the difficulty in evaluating and intervening of pain for patients with dementia, more than half of them suffer from pain regularly (Karjalainen et al., 2018). The causes

of their suffering are varied, including osteoarthritis and accidental falls, pressure ulcers, infections, and other chronic conditions (Reid, Eccleston, & Pillemer, 2015).

Unmanaged pain in these patient groups leads to distress and discomfort and decreases their quality of life (Lichtner et al., 2014). Uncontrolled pain might also lead to agitation and aggression, which could lead to the prescription of unwanted medications such as mood-altering drugs, with many serious side effects (Lichtner et al., 2014). The precise and on-time evaluation and controlling of pain is crucial when it comes to the overall care for people with impaired cognition.

Data Analysis and Synthesis

A systemic search of peer-reviewed primary sources and systematic reviews of the study were conducted using the databases of Medline, Cochrane Database of Systematic Reviews, Embase, and Cumulative Index to Nursing and Allied Health Literature (CINHAL) Plus with full text for data concerning pain assessment strategies for cognitively impaired patients published in the last 7 years. The following search terms and word groupings were used: *pain assessment, pain scales, dementia, cognitive impairment, meta-analysis, systemic analysis, long-term care, nursing home, elderly, pain, discomfort, pain management, chronic pain, characteristics of pain, descriptions of pain, assessment tools, geriatrics, and older adults*. The search was in-depth and all-inclusive: Every identified article was assessed to determine inclusion and exclusion.

The application of inclusion and exclusion criteria comprises reducing the number of articles located while searching a literature review by discarding any articles that do not answer the practice questions. Inclusion criteria included (a) studies performed in the

last 7 years, (b) literature written in English, (c) literature that addresses older adults over the age of 59, (d) literature published in the last 7 years, and (e) literature addressing pain assessment strategies for patients with cognitive impairments.

The excluded literature included the following: (a) did not apply to patients older than 59 years, (b) was not specific to patients with cognitive impairments, (c) was not associated with pain management strategies, (d) was written in a different language than English, and (e) was published more than 7 years ago. Literature included for the execution of this project was documented using the Preferred Reporting Items for Systematic Reviews (PRISMA) flow diagram (see Moher et al., 2015).

In the systemic review, I analyzed existing evidence about pain assessment strategies intended to improve pain assessments for patients with cognitive impairments and assessed the extent to which these pain assessment strategies were effective.

SQUIRE 2.0 was used for the appraisal of the included literature (see Ogrinc et al., 2016). The literature qualified for the inclusion criteria was scrutinized for the level of hierarchy and grading of evidence according to the Fineout-Overholt, Melnyk Stillwell, and Williamson system (Stillwell, Fineout-Overholt, Melnyk, & Williamson, 2010).

All data extracted from the existing literature are presented narratively in text format and a summary of evidence was tabulated. A narrative synthesis was used as it offers a comprehensive summary of pertinent data within a textual method and is suitable when it is anticipated that projects will not be homogeneous. The summary of evidence table includes (a) study title, author, and date of publication; (b) problem description; (c) aim of the study, setting, and sample; (d) study design and intervention, (e) ethical

consideration, (f) results, (g) limitations, (h) conclusions, and (i) level of evidence (see Walden University, 2019).

Summary

Patients with a diagnosis of dementia often experience pain daily. Most adults with cognitive impairment who happen to live in a nursing home are not able to subjectively tell their pain or discomfort. When they cannot communicate their suffering, healthcare professionals have to assess their pain and intervene accordingly. If their pain is not well controlled, these patients might experience reduced quality of life. Patients with uncontrolled pain might be agitated and become aggressive, and they end up taking psychoactive drugs with significant side effects. To alleviate the sufferings of these patients and to reduce the prescription of psychoactive medications, I completed a systematic review concerning pain evaluation strategies for clients with a diagnosis of cognitive impairments in the last 7 years. The reviewed study can help in finding a comprehensive pain evaluation strategy for clients with a cognitive impairment.

Section 4: Findings and Recommendations

Introduction

According to the Alzheimer's Association (2020), 5.8 million adults over the age of 65 have Alzheimer's, and 80% are over the age of 75. The number of people who will have Alzheimer's in 2050 is expected to increase to nearly 14 million (Alzheimer's Association, 2020). In 2010, the number of people with dementia was 135 million around the globe, and their number is expected to increase to 405 million in 2050 (Langa, 2018). Patients with dementia experience acute or chronic pain regularly at any time of the day. About half of older adults over the age of 80 with dementia take pain medication every day (Langa, 2018). This prediction compels healthcare professionals to assess and manage pain for patients with dementia effectively.

Nevertheless, assessing their pain and intervening on time is a challenging task for healthcare professionals. Any healthcare worker who is caring for this population should have access to effective and validated pain assessment strategies. The purpose of this project was to systemically review available articles dealing with pain assessment strategies for patients with moderate to advanced dementia and then to recommend effective pain assessment strategies for this patient.

Up to 83% of patients with a diagnosis of dementia who are living in long-term care facilities experience pain daily (Miu & Chan, 2014). Many patients over the age of 80 who live in facility-based long-term care services take one or more drugs to manage their pain (Lichtner et al., 2014). These patients are suffering from pain as a result of their health conditions (Reid et al., 2015). Some of these patients express their pain through

agitation or pacing in the hallway or refusing to eat their meal. Due to a lack of knowledge, healthcare professionals consider this agitation, pacing, and refusal to eat as that of psychosis and prescribe psychoactive medications (Reid et al., 2015). However, this psychoactive drug might have many serious adverse effects.

To minimize the risk of prescribing psychoactive medications with dangerous adverse effects, there is a need to assess these patients' pain and manage it. To find the best and effective pain assessment strategies, I obtained evidence by searching peer-reviewed primary sources and systematic reviews. Evidence was collected from Medline, Cochrane, Embase, and CINHAL database. Search terms and word groupings used included *pain assessment, pain scales, moderate to advanced, assisted living, boarding home, elderly, chronic pain, acute pain, and pain assessment strategies*.

Literature was selected based on inclusion criteria by first looking at the article titles and then the individual abstracts. After all included studies were extracted, they were analyzed again to determine whether the study was about pain assessment strategy and patients with a diagnosis of dementia. Any article that did not mention assessment strategy and patients with a diagnosis of dementia was discarded. The final analysis was done using SQUIRE 2 (see Walden University, 2019). Articles included and excluded, along with the reason for exclusion, are presented using the PRISMA flow diagram located later in this section (see Walden University, 2019). I assessed the level of evidence of all included studies according to Fineout-Overholt, Melnyk, Stillwell, and Williamson's (2010) level of evidence. After selection, grading, and appraisal of

literature, articles were incorporated into a Summary of Evidence Table (see Appendix A).

Findings and Implications

The search for literature between the years 2013 and 2020 returned 422 studies. Analysis of the titles of the 422 articles helped me discard 115 duplicate studies and seven studies with a different language than English. After examining the abstracts, I rejected 102 articles as they did not include either patients above age 59 with dementia or cognitive impairments or pain assessment strategies or both. The full articles for the remaining 198 studies were extracted for further study. Out of eight articles included in this review, three were cluster randomized control trials, and five were systematic reviews. The Prisma flow diagram (see Figure 1) illustrates these findings along with a breakdown of literature classifications. The studies' findings are summarized below.

According to Atee, Hoti, Parsons & Hughes (2018), patients with moderate to severe dementia lose the ability to report their pain verbally. They studied how reliable electronic pain assessment tools were among providers when they assessed pain for patients with cognitive impairment. Atee et al. concluded that electronic pain assessment tools(ePAT) have an exceptional reliability property and can be used in assessing pain for patients with moderate to severe dementia. The study was done in one facility with 10 residents, using convenience and purposive sampling. Therefore, it is nearly impossible to generalize the outcome of this study. The use of ePAT requires training as pain behaviors incorporated in ePAT are subtle and difficult to identify by healthcare professionals.

Beltramini, Milojevic, and Pateron (2017) conducted a study on pain assessment for newborns, infants, and children. They claimed that the ideal pain assessment strategy should be sensitive and free from bias. It should also have good internal consistency, good inter-rater reliability, useful construct and discriminant validity, and be easy to understand and use for all children and all types of pain in all clinical settings (Beltramini et al., 2017). However, no pain assessment strategy has all of these attributes. Beltramini et al. indicated that any pain assessment strategy should include caregivers' experience, knowledge of the infant's usual behavior (outside a painful context), and sufficient observation time. Parents are also able to help healthcare providers assess unusual behavior in their loved ones.

There are many factors and approaches that could cause pain. For that purpose, Brand and Al-Rais (2019) indicated that pain treatment must also be a comprehensive one. All available pain assessment tools are not effective in managing pain for nonverbal kids. Including family, caregivers, healthcare professionals, and other IDT, along with the use of behavioral pain, can help to effectively assess pain for these patients (Brand & Al-Rais, 2019).

Chen and Lin (2016) compared the effect of pain recognition and treatment (PRT) protocol coupled with basic pain education versus basic pain education alone in reducing pain-related expressions of patients with dementia. The number of patients who participated was 195. They concluded that the use of the PRT protocol improved pain management practices and relieving pain in patients with dementia (Chen & Lin, 2016).

The study's limitations were small sample size and the shortest amount of time it took for completion.

Chow et al. (2016) had a goal of documenting pain assessment tools used in long-term care facilities and compared self-report and observer-rated instruments. Of 1,033 works of literature, 23 were selected for inclusion. Six instruments were self-rated, and an observer administered 18 tools. Thirteen studies addressed the reliability/validity of pain scales; four studies compared different scales against each other. Chow et al. concluded that self-report should be the first-line approach when possible, with observational assessment used as a supplementary tool.

Gregory (2013) stated that three behavioral pain assessment tools: Abbey, the PAINAD, and the Checklist of Nonverbal Pain Intensity were used in everyday practice over 6 weeks and then evaluated by healthcare professionals. According to Gregory, these three pain assessment tools failed to identify pain occasionally. The patient's family member was able to tell when a patient was in pain. The study indicated that adding a section for the family of the patient to add pain behavior information about a patient to the three behavioral pain scales mentioned above would help to assess patients' pain adequately.

Husebo, Achterberg, and Flo (2016) tried to ascertain whether the observational pain tools used in the included efficacy trials were tested for responsiveness. Their search yielded 3,138 unique hits, published between 1990 and October 2015. Husebo et al. concluded that validated pain tools are available but not implemented and not thoroughly

tested on responsiveness to treatment. There is a limited possibility to compare the studies in terms of quality and methods.

Lichtner et al. (2014) summarized evidence of the psychometric properties and clinical effectiveness of pain assessment strategies for patients with cognitive impairment. They acknowledged many procedural limitations across the literature reviewed. For that reason, they could not conclude by recommending any particular tool for use in any clinical setting. Lichtner et al. indicated that there were no data to support that any one particular pain assessment tool is effective in assessing pain for patients with a diagnosis of moderate to severe dementia.

Liu and Lai (2017) conducted a study on observational pain assessment strategy and its implementation for patients with a diagnosis of cognitive impairment. A total of 128 patients with dementia participated in the study. Based on their findings, Liu and Lai posited that nonpharmacological intervention helps to relieve pain for patients with moderate to severe dementia and pain-related behaviors. Liu and Lai did not rule out the Hawthorne effects in their study.

Manocha and Taneja (2016) thought that although considerable progress has been made, there is a critical need for a more accurate measurement tool for both research and clinical purposes. They concluded that available pain assessment tools are not effective, and there is a need for a more accurate pain assessment strategy (Manocha & Taneja, 2016). They also indicated that physiological pain responses are not ideal for assessing pain and suggested that pain assessment tools be based on behavioral pain indicators.

However, there were inadequate data to establish a direct correlation between physiological responses and the pain a patient is experiencing (Manocha & Taneja, 2016).

Ngu et al. (2015) studied pain assessment strategies using client- and nurse-reported data, and observational pain assessment strategy among patients with dementia. These authors also suggested that the use of proxy raters might help in effectively assessing pain for these patients. Ngu et al. stressed that more research is needed to find an effective pain assessment strategy.

Pieper et al. (2017) studied whether the implementation of the stepwise IDT intervention reduced pain and improved pain management for patients with dementia. Out of 288 selected patients with dementia, 148 were included in the study group and 140 in the placebo group. Pieper et al. indicated in their study that any pain assessment strategies that include pain-related behavior would help in managing pain for patients with a diagnosis of dementia. They failed to exclude Hawthorne effects from their study.

Rostad et al. (2018) evaluated whether using a pain assessment strategy is linked with changes in pain scores and pain medication use for patients with moderate to advanced dementia. The study included 112 patients with a diagnosis of dementia and who could not verbally report their pain. Rostad et al. concluded that there is no effective pain assessment strategy. They recommended more research on how pain assessment strategy will be used in effectively managing pain for patients with moderate to advanced dementia.

Tapp et al. (2019) reviewed studies about the reliability and validity of observational pain assessment tools for use with nonverbal patients at the end-of-life.

They only included a sample size of four. Four studies linked to four different tools met the inclusion criteria. As a result, they concluded that they would not recommend any of the pain assessment at this time.

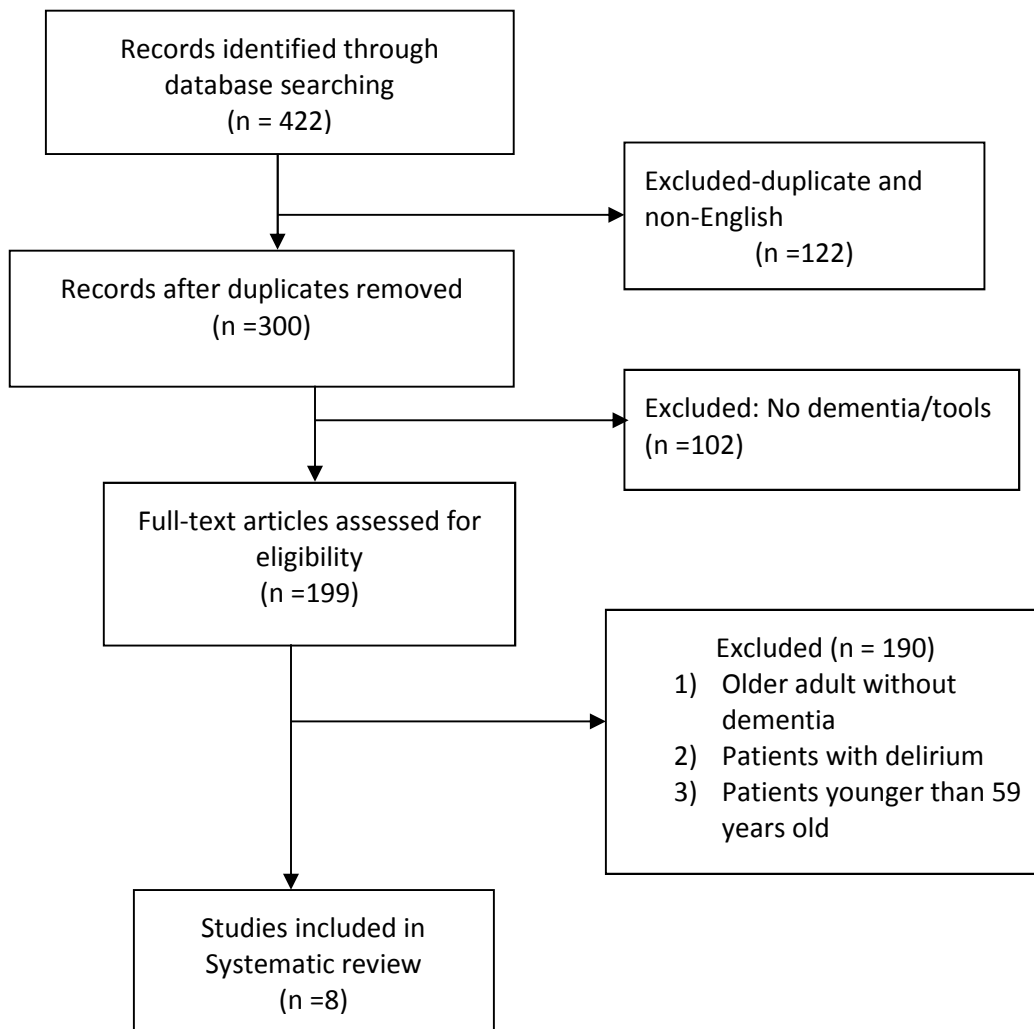


Figure 1. PRISMA flow diagram. Adapted from Moher, D., Shamseer, L., Clarke, M., Gherzi, D., Liberati, A., & Stewart, L. A. The PRISMA Group. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols.

Implications

The vital point of this systematic review was to find the best and most effective pain assessment strategy for patients with moderate to severe dementia or cognitive impairment. Findings from this project indicate that there is no single means of pain assessment effective for patients with moderate to severe dementia. Findings also suggest that healthcare professionals need to be trained to use observational assessment correctly. Likewise, actively engaging family, caregivers, and the IDT team to adequately assess these patients' pain is significant. Having a comprehensive pain assessment strategy in place will contribute to a promising outcome.

The Implications for Social Change

The purpose of this DNP final study was to recommend an effective pain assessment strategy for patients with moderate to severe dementia to enhance their quality of life and to alleviate their suffering. Having a comprehensive and effective pain assessment strategy will benefit caregivers, families, and all others who take part in patient care. The social implications of this project are its ability to positively affect patients' care and its cost in taking care of them. The findings from this systematic review will help bridge the gaps in pain assessment strategy for patients with cognitive impairment. Many healthcare facilities that provide care to patients with dementia can implement the findings from this project to enhance the care and quality of life for these patients. The findings from this project can improve healthcare professional-patient relationships and reduce the prescription of psychoactive drugs, which then reduces the cost of caring for patients with moderate to severe dementia.

Recommendations

Per the evidence presented above, it is difficult to provide a comprehensive comparative descriptive summary. Nevertheless, most of these pain assessment tools were recognized as observational tools implying that healthcare professionals observe pain and then intervene accordingly. Most pain assessment tools were also judged as requiring training to be used effectively.

After analyzing and synthesizing articles included in this systematic review, the recommendation was that an effective pain assessment strategy should consist of the involvement of culturally diverse populations, caregivers, family members, and the IDT team in addition to observational assessment tools. Caregivers and healthcare professionals who will be taking care of these patients should also be trained to use these pain assessment tools effectively. Eliciting family members' or caregivers' knowledge of the patient will help to identify behavior changes suggestive of their loved one in pain (Quinn, Solodiuk, Morrill, & Mauskar, 2018). IDT team, including social works, will also help in identifying pain in patients with cognitive impairments along with the use of observational assessments even when the patient is sleeping, or there is a change in their mental status (Quinn et al., 2018).

The strategy in assessing pain for patients with cognitive impairments or dementia should include: (a) the use of observational pain assessment tools, (b) involvement of family and caregivers, (c) participation of IDT team including social workers, and (d) providing continuous training on the correct usage of observational pain assessment tools.

This comprehensive pain assessment approach will help alleviate pain for patients with a diagnosis of moderate to severe dementia or cognitive impairment. Once patients' pain is alleviated, their quality of life will be enhanced, which could then lead to social changes. These patients will have less chance to get a prescription of dangerous psychoactive medications as they might not show agitations and aggressive behaviors in the absence of pain. It will also improve the provider-patient relationship and reduce the cost of caring for these patients.

Strengths and Limitations of the Project

The review of the literature incorporated in this systematic review published in the last 7 years, with its evidence graded at the highest level, helped in formulating recommendations of an effective pain assessment strategy for patients with a diagnosis of dementia. All of the articles included in this systematic review indicated that a comprehensive pain assessment should be used as there is no single and effective pain assessment tool available. The result of this final DNP project is promising. It can be used to engage family members, caregivers, and the IDT team to adopt this evidence-based pain assessment strategies to improve the early detection of pain in patients with moderate to severe dementia and then effectively managing it. Kolcaba's (2001) comfort theory also provided applicable theoretical support for the project.

From reviewed articles, some data are missing on the validity of the identified pain assessment tools, which makes it difficult to recommend a single pain assessment tool. There might also be research done in a language different from English on the validity of existing pain assessment tools that were not included in this study. Such

exclusion may have limited the necessary knowledge to recommend a single and effective pain assessment tool.

Summary

An effective strategy for pain assessment and management for patients with a diagnosis of dementia is a required element to improve patients' quality of life. Improving patients' quality of life can lead to positive social change. Without an effective assessment strategy in place, patients with cognitive impairments will continue suffering, which will lead to lower quality of life. Information obtained from the included literature indicates that there is no single pain assessment strategy for these patients. Pain can be managed effectively when the family of patients, previous caregivers, nursing staff, and IDT team, along with behavioral observational tools, are included in the comprehensive pain assessment strategies.

Section 5: Dissemination Plan

In this final DNP project, I recommend a comprehensive pain assessment strategy for patients suffering from cognitive impairment at the project site. The outcome of this study will be disseminated to stakeholders at the location where I work during our weekly IDT meeting. The goal of the final DNP project dissemination is eventually to include a family member of a patient, caregiver, nursing staff, and IDT, including a social worker. An observational pain assessment tool, along with everyone involved in the care of a patient, will effectively help in assessing pain for patients with a diagnosis of moderate to advanced dementia at the nursing home where I work. The implementation of this comprehensive pain assessment strategy may improve the patient's quality of life with a diagnosis of dementia.

Analysis of Self

I have grown personally and professionally after the completion of this DNP project. The knowledge gained from attending Walden University while attending the DNP program and completion of this DNP project taught me to understand the relationship between scientific knowledge and evidence-based practice. Through this final DNP project, I had the chance to synthesize and analyze available literature to close the existing gap in assessing pain for patients with a diagnosis of dementia.

As a practitioner, I was motivated to advocate for an effective pain assessment strategy for patients with moderate to advanced dementia. My learning experience improved my competency to become a better leader and to influence the translation of new scientific knowledge into evidence-based practice. Working with the leadership team

exposed me to unique leadership skills, which will provide me with the chance to become involved at the organization level and establish a good relationship with leaders in many nursing homes where I make rounds and used to work.

I have learned more about key issues regarding patient care through my journey to become a DNP prepared nurse practitioner. I have also learned how to find peer-reviewed literature to analyze and synthesize that will support my practice. Analyzing and synthesizing the included literature helped me to recommend a comprehensive pain assessment strategy to effectively assess and manage pain for patients with moderate to advanced dementia. By incorporating Kolcaba's comfort theory into this final DNP project, I was able to integrate theory into practice to achieve the best outcome for patients under my care.

With the help and direction of my DNP project chair and project committee member, I have developed the confidence to foster mutual partnerships engrained in reciprocated respect and promise. I have learned to assess the day-to-day issues affecting patient care and find a solution to effectively address the problem and provide solutions and identify gaps in practice that can lead to improved delivery of care and nursing practice. The outcome of this DNP project initiated my desire to examine ways to impact social change.

Summary

An effective pain assessment strategy in place for patients with a diagnosis of moderate to advanced dementia could improve the patient's quality of life. Available evidence indicated that available pain assessment tools alone are not useful in assessing

pain for patients with moderate to advanced dementia. Providing effective interventions in managing pain for this type of patient requires an effective pain assessment strategy that includes a multidisciplinary team including family members and caregivers. This DNP project indicated that an effective and comprehensive pain assessment strategy is a requirement to manage pain for patients with moderate to advanced dementia effectively. I also noted that the IDT, a family member of patients, and caregivers should be included in the pain assessment strategy after training is provided on the use of observational pain assessment tools.

References

- Achterberg, W., Pieper, M. J. C., van Dalen-Kok, A. H., de Waal, M. W. M., Husebo, B. S., Lautenbacher, S., ... Corbett, A. (2013). Pain management in patients with dementia. *Clinical Interventions in Aging*, 2013(8), 1471-1482.
<https://doi.org/10.2147/cia.s36739>
- Alzheimer's Association. (2019). Alzheimer's facts and figures report. Retrieved from <https://www.alz.org/alzheimers-dementia/facts-figures>
- Atee, M., Hoti, K., & Hughes, J. (2017). Psychometric evaluation of the electronic pain assessment tool: An innovative instrument for individuals with moderate-to-severe dementia. *Dementia and Geriatric Cognitive Disorders*, 44(5-6), 256-267.
<https://doi.org/10.1159/000485377>
- Atee, M., Hoti, K., Parsons, R., & Hughes, J. D. (2018). A novel pain assessment tool incorporating automated facial analysis: Interrater reliability in advanced dementia. *Clinical Interventions in Aging*, 13, 1245–1258.
<https://doi.org/10.2147/CIA.S168024>
- Beltramini, A., Milojevic, K., & Pateron, D. (2017). Pain assessment in newborns, infants, and children. *Pediatric Annals*, 46(10), e387-e395.
<https://doi.org/10.3928/19382359-20170921-03>
- Brand, K., & Al-Rais, A. (2019). Pain assessment in children. *Anaesthesia & Intensive Care Medicine*, 20(6), 314–317. <https://doi.org/10.1016/j.mpaic.2019.03.003>

- Buyukturan, O., Naharci, M. I., Buyukturan, B., Kirdi, N., & Yetis, A. (2018). The Turkish version of pain assessment in advanced dementia Scale. *Archives of Neuropsychiatry*, 55(3), 271-275. <https://doi.org/10.29399/npa.22997>
- Chen, Y., & Lin, L. (2016). Ability of the pain recognition and treatment protocol to reduce expressions of pain among institutionalized residents with dementia: A cluster randomized controlled trial. *Pain Management Nursing*, 17(1), 14-24. <https://doi.org/10.1016/j.pmn.2015.08.003>
- Chow, S., Chow, R., Lam, M., Rowbottom, L., Hollenberg, D., Friesen, E., ... Herrmann, N. (2016). Pain assessment tools for older adults with dementia in long-term care facilities: a systematic review. *Neurodegenerative Disease Management*, 6(6), 525-538. <https://doi.org/10.2217/nmt-2016-0033>
- Danise, E. J., & Turk, D. C. (2013). Assessment of patients with chronic pain. *British Journal of Anaesthesia*, 111(1), 19-25. <https://doi.org/10.1093/bja/aet124>
- Dayoub, E. J., & Jena, A. B. (2015). Does pain lead to tachycardia? Revisiting the association between self-reported pain and heart rate in a national sample of urgent emergency department visits. *Mayo Clinic Proceedings*, 90(8), 1165-1166. <https://doi.org/10.1016/j.mayocp.2015.06.007>
- Duenas, M., Ojeda, B., Salazar, A., Mico, J. A., & Failde, I. (2016). A review of chronic pain impact on patients, their social environment and the health care system. *Journal of Pain Research, Volume 9*, 457-467. <https://doi.org/10.2147/jpr.s105892>

- Edwards, N., Coddington, J., Erler, C., & Kirkpatrick, J. (2018). The impact of the role of Doctor of Nursing Practice nurses on healthcare and leadership. *Medical Research Archives*, 6(4). <https://doi.org/10.18103/mra.v6i4.1734>
- Gaskin, D. J., & Richard, P. (2012). The economic costs of pain in the United States. *Journal of Pain*, 13(8), 715-724.
<https://doi.org/10.1016/j.jpain.2012.03.009>
- Gregory, J. (2013). Developing a pain assessment tool for people with cognitive impairment and dementia. *International Journal of Orthopaedic and Trauma Nursing*, 17(4), 211–211. <https://doi.org/10.1016/j.ijotn.2013.08.005>
- Husebo, B. S., Achterberg, W., & Flo, E. (2016). Identifying and managing pain in people with Alzheimer’s disease and other types of dementia: A systematic review. *CNS Drugs*, 30(6), 481-497. <https://doi.org/10.1007/s40263-016-0342-7>
- Karjalainen, M., Saltevo, J., Tiihonen, M., Haanpää, M., Kautiainen, H., & Mäntyselkä, P. (2018). Frequent pain in older people with and without diabetes – Finnish community-based study. *BMC Geriatrics*, 18(1).
<https://doi.org/10.1186/s12877-018-0762-y>
- Kolcaba, K. (2001). Evolution of the mid-range theory of comfort for outcomes research. *Nursing Outlook*, 49(2), 86-92.
<https://doi.org/10.1067/mno.2001.110268>
- Langa, K. M. (2018). *Future directions for the demography of aging: proceedings of a workshop*. Retrieved from <https://www.ncbi.nlm.nih.gov/books/NBK513075/>

- Lichtner, V., Dowding, D., Allcock, N., Keady, J., Sampson, E. L., Briggs, M., ...
Closs, S. J. (2016). The assessment and management of pain in patients with dementia in hospital settings: a multi-case exploratory study from a decision-making perspective. *BMC Health Services Research*, *16*(1).
<https://doi.org/10.1186/s12913-016-1690-1>
- Lichtner, V., Dowding, D., Esterhuizen, P., Closs, S. J., Long, A. F., Corbett, A., & Briggs, M. (2014). Pain assessment for people with dementia: a systematic review of systematic reviews of pain assessment tools. *BMC Geriatrics*, *14*(1).
<https://doi.org/10.1186/1471-2318-14-138>
- Liu, J. Y., & Lai, C. K. (2017). Implementation of observational pain management protocol for residents with dementia: A cluster-randomized control trail. *Journal of the American Geriatrics Society*, *65*(3), e56-e63.
<https://doi.org/10.1111/jgs.14763>
- Manocha, S., & Taneja, N. (2016). Assessment of paediatric pain: A critical review. *Journal of Basic & Clinical Physiology & Pharmacology*, *27*(4), 323-31
<https://doi.org/10.1515/jbcpp-2015-0041>
- Miu, D., & Chan, K. (2014). Under-detection of pain in elderly nursing home residents with moderate to severe dementia. *Journal of Clinical Gerontology and Geriatrics*, *5*(1), 23-27. <https://doi.org/10.1016/j.jcgg.2013.09.001>
- Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., & Stewart, L. A. (2015). Preferred reporting items for systematic review and meta-analysis protocols

(PRISMA-P) 2015 statement. *Systematic Reviews*, 4(1), 1.

<https://doi.org/10.1186/2046-4053-4-1>

Ngu, S. S. C., Tan, M. P., Subramanian, P., Abdul Rahman, R., Kamaruzzaman, S., Chin, A.-V., ... Poi, P. J. H. (2015). Pain assessment using self-reported, nurse-reported, and observational pain assessment tools among older individuals with cognitive impairment. *Pain Management Nursing*, 16(4), 595–601.

<https://doi.org/10.1016/j.pmn.2014.12.002>

Ogrinc, G., Davies, L., Goodman, D., Batalden, P., Davidoff, F., & Stevens, D. (2016).

SQUIRE 2.0 (Standards for Quality Improvement Reporting Excellence). *Journal of Nursing Care Quality*, 31(1), 1-8.

<https://doi.org/10.1097/ncq.000000000000153>

Pieper, M. J., Van der Steen, J. T., Francke, A. L., Scherder, E. J., Twisk, J. W., &

Achterberg, W. P. (2017). Effects on pain of a stepwise multidisciplinary intervention (STA OP!) that targets pain and behavior in advanced dementia: A cluster randomized controlled trial. *Palliative Medicine*, 32(3), 682-692.

<https://doi.org/10.1177/0269216316689237>

Quinn, B., Solodiuk, J., Morrill, D., & Mauskar, S. (2018). Original research pain in nonverbal children with medical complexity a two-year retrospective study. *AJN, American Journal of Nursing*, 118(8), 28-37.

<https://doi.org/10.1097/01.NAJ.0000544137.55887.5a>

- Rababa, M. (2018). The role of nurses' uncertainty in decision-making process of pain management in people with dementia. *Pain Research and Treatment*, 2018, 1-7. <https://doi.org/10.1155/2018/7281657>
- Reid, M. C., Eccleston, C., & Pillemer, K. (2015). Management of chronic pain in older adults. *British Medical Journal*, 350(feb13 2), h532–h532. <https://doi.org/10.1136/bmj.h532>
- Rostad, H. M., Utne, I., Grov, E. K., Småstuen, M. C., Puts, M., & Halvorsrud, L. (2018). The impact of a pain assessment intervention on pain score and analgesic use in older nursing home residents with severe dementia: A cluster randomised controlled trial. *International Journal of Nursing Studies*, 84, 52-60. <https://doi.org/10.1016/j.ijnurstu.2018.04.017>
- Stillwell, S. B., Fineout-Overholt, E., Melnyk, B. M., & Williamson, K. M. (2010). Evidence-based practice, step by step: Searching for the evidence. *AJN, American Journal of Nursing*, 110(5), 41-47. <https://doi.org/10.1097/01.naj.0000372071.24134.7e>
- Tapp, D., Chenacher, S., Gérard, N. P., Bérubé-Mercier, P., Gelin, C., Douville, F., & Desbiens, J. (2019). Observational pain assessment instruments for use with nonverbal patients at the end-of-life: A systematic review. *Journal of Palliative Care*, 34(4), 255-266. <https://doi.org/10.1177/0825859718816073>
- Walden University. (2019). *Manual for systemic review*. Retrieved from Walden University website: <https://academicguides.waldenu.edu/doctoralcapstoneresources/dnp>

West, L., Cole, S., Goodkind, D., & He, W. (2014). *65+ in the United States: 2010* (23-

212). Retrieved from US Census Bureau website:

<https://www.census.gov/content/dam/Census/library/publications/2014/demo/p23->

212.pdf

Appendix: Summary of Evidence Table

Authors	Aim/Setting/Samples	Design/Intervention	Results/Conclusion	Limitations	LOE
Chen, Y & Lin, L (2016). The ability of the pain recognition and treatment protocol to reduce expressions of pain among Institutionalized residents with dementia: A cluster randomized controlled trial. <i>Pain Management Nursing</i> , 17(1), 14-24. doi: 10.1016/j.pmn.2015.08.003	To compare the effect of the PRT protocol coupled with basic pain education versus basic pain education alone in reducing pain-related expressions of residents with dementia. N = 195	A double-blind cluster randomized controlled trial. Intervention: Six hours of pain management education.	No significant difference in demographic data between the study group and the placebo group. Conclusion: the use of the PRT protocol will help in pain management for patients with cognitive impairment.	Short Implementation period due to lack of support, Mini sample size	I
Chow, S., Chow, R., Lam, M., Rowbottom, L., Hollenberg, D., Friesen, E., ... Herrmann, N. (2016). Pain assessment tools for older adults with dementia in long-term care facilities: a systematic review. <i>Neurodegenerative Disease Management</i> , 6(6), 525-538. doi:10.2217/ndmt-2016-0033	To document pain assessment tools used primarily for older adults in long-term care facilities and compare self-report and observer-rated tools. n = 23	A systematic review of the literature using MEDLINE, Embase, Cochrane, and PsycINFO.	Of 1033 references, 23 articles were selected for inclusion. Six tools were self-rated, and an observer administered 18 tools. Thirteen studies evaluated the reliability/validity of their scales; four studies compared different scales against each other. Conclusion: Self-report should be the first-line approach when possible, with observational assessment used as a supplementary tool.	Eligibility criteria only included Reliability/validity testing for tools that did not examine practicability, which was included in some other reviews.	I
Husebo, B. S., Achterberg, W., & Flo, E. (2016). Identifying and managing pain in people with Alzheimer's disease and other types of dementia: A systematic review. <i>CNS Drugs</i> , 30(6),	To see if the observational pain tools used in the included efficacy trials were tested for responsiveness.	Systematic review of literature.	Their search yielded 3138 unique hits, published between 1990 and October 2015 Conclusion: Validated pain tools are available but not implemented and not thoroughly tested on responsiveness to treatment.	Limited chance to compare studies included in this systematic review based on quality and methods.	I

481-497. doi:10.1007/s4 0263-016- 0342-7					
Lichtner, V., Dowding, D., Esterhuizen, P , Closs, S. J., Long, A. F., Corbett, A., & Briggs, M. (2014). Pain assessment for people with dementia: a systematic review of systematic reviews of pain assessment tools. <i>BMC Geriatrics, 14</i> (1). doi:10.1186/1 471-2318-14- 138	To give an outline of data dealing with the usability of a pain assessment strategy for patients with a diagnosis of dementia.	A systematic review of literature.	No single pain assessment strategy is recommended.	Their search did not specifically target reviews reporting on the feasibility or clinical utility of the tools, which makes their evidence more limited on those aspects than it might have been otherwise.	I
Liu, J. Y., & Lai, C. K. (2017). Implementatio n of an observational pain management protocol for residents with dementia: A cluster- randomized control trial. <i>Journal of the American Geriatrics Society, 65</i> (3), e56-e63. doi:10.1111/jg s.14763	To evaluate if the implementation of the observational pain strategy Protocol will enhance pain. N = 28	Cluster-randomized controlled trial.	This study supports that nonpharmacological pain management strategy will lead to a reduction in pain- related behaviors.	The Hawthorne effects	I
Pieper, M. J., Van der Steen, J. T., Francke, A. L. ,	To evaluate if the implementation of the stepwise IDT team intervention the reason for pain	Cluster randomized controlled trial	The implementation of the stepwise IDT team will reduce observed.	Hawthorn's effect cannot be ruled out as nurses were not blinded.	I

<p>Scherder, E. J., Twisk, J. W., & Achterberg, W. P. (2017). Effects on pain of a stepwise multidisciplinary intervention (STA OP!) that targets pain and behavior in advanced dementia: A cluster randomized controlled trial. <i>Palliative Medicine</i>, 32(3), 682-692. doi:10.1177/0269216316689237</p>	<p>reductions and improvement in pain management. N = 288</p>		<p>Conclusion: STA OP! will decrease "observed pain."</p>		
<p>Rostad, H. M., Utne, I., Grov, E. K., Småstuen, M. C., Puts, M., & Halvorsrud, L. (2018). The impact of a pain assessment intervention on pain score and analgesic use in older nursing home residents with severe dementia: A cluster randomized controlled trial. <i>International Journal of Nursing Studies</i>, 84, 52-60. doi: 10.1016/j.ijnurstu.2018.04.017</p>	<p>The study aimed to see if pain assessment strategy can affect pain score and medication for pain for patients with cognitive impairment.</p>	<p>Cluster-randomized controlled trial. N= 112</p>	<p>The authors indicated that no single and effective pain assessment tools were identified. Conclusion: Additional research is needed.</p>	<p>It's difficult to conclude that there was no improvement in the residents' pain therapy.</p>	<p>I</p>
<p>Tapp, D., Chenacher, S., Gérard, N. P., Bérubé-Mercier, P., Gelinas, C., Douville, F., &</p>	<p>To check studies about the reliability and validity of observational pain assessment tools for use with nonverbal patients at the end-of-life. N= 4</p>	<p>Systematic reviews of literature.</p>	<p>The study reviewed received poor COSMIN ratings and it is impossible to recommend any tools at this time.</p>	<p>The use of a translated but not validated tool negatively influenced the ratings. They have a limited sample size.</p>	<p>I</p>

<p>Desbiens, J. (2019). Observational pain assessment instruments for use with nonverbal patients at the end-of-life: A systematic review. <i>Journal of Palliative Care</i>, 34(4), 255-266. doi:10.1177/0825859718816073</p>					
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