Person-Centered Care to Manage Behavioral and Psychological Symptoms of Dementia in the Elderly

By

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has been approved

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Abstract

Aim: This project explored the impact of person-centered care (PCC) approaches (holistic, individualized, respectful, and empowering) for Skilled Nursing Facility (SNF) residents with Behavioral and Psychological Symptoms of Dementia (BPSD). The project was conducted from July 2019 to September 2019. *Method:* A pilot project was conducted in a 62-bed SNF that offers short-term rehabilitation and long-term care. Using random sampling, residents presenting with BPSD were considered for inclusion. The PCC interventions were implemented with data collected through observation of behavioral incidences, pre- and post-implementation. *Results:* Participants were observed over two stages during four weeks (n = 8 pre-intervention, n = 8 post-intervention). The mean age of participants was 85 years. Data were analyzed by computing means, standard deviations, t-values, and p-values, which indicated relevant statistical information to the clinical question. The pre-intervention mean was 57.25 and the standard deviation was 16.71. The post-intervention mean was 31.61 and the standard deviation was 10.94. The computed value of the paired t-statistic was -5.98, which was less than α-level of 0.05 and the exact p-value was 0.001 ($p = .001$). There was an approximately 50% decreased BPSD occurrence post-intervention. *Conclusion:* PCC approaches can be successfully implemented on an elderly dementia resident in the SNF setting with the reduction of BPSD incidence. Thus, the conclusion was participants exhibited a decrease in daily BPSD following the PCC interventions.

Keywords: behavioral and psychological symptoms of dementia, dementia, person-centered care

Table of Contents

Chapter I

Behavioral and Psychological Symptoms of Dementia (BPSD), are a set of neuropsychiatric symptoms, including a heterogeneous group of noncognitive symptoms and behaviors. With the rapid aging of the United States population and the high prevalence of BPSD among elderly residents in long-term care facilities, effective management and treatment of those with BPSD is quickly becoming a global, public health challenge (Alzheimer's Association, 2017). A better understanding of the person-centered care (PCC) approach in managing BPSD is critical to the future of public health policy and implementation.

"The PCC sees dementia as a condition that needs to be understood from a biological, a psychological, and a sociological (bio-psychosocial) perspective and to recognize that all these perspectives interact to determine the person's experience of the condition" (Brooker, 2014). The concept of PCC is increasingly being encouraged and incorporated into the management of BPSD in the elderly. Despite the growing availability of pharmacological interventions to address and manage dementia, including Alzheimer's disease, these afflictions remain incurable.

Those persons with BPSD, exhibit behaviors which include but are not limited to, (1) Physical behavioral symptoms directed towards others (e.g., hitting, kicking, pushing, scratching, grabbing, and abusing others sexually), (2) Verbal behavioral symptoms directed towards others (e.g., threatening others, screaming at others, and cursing at others), and (3) Other behavioral symptoms not directed towards others (e.g., physical symptoms such as hitting or scratching self, pacing, rummaging, public sexual acts, disrobing in public, throwing or smearing food or bodily wastes, and verbal/vocal symptoms like screaming and disruptive sounds).

BPSD alters an resident's overall health and well-being, as well as a resident's quality of life (Alzheimer's Association, 2017). PCC for dementia residents in the long-term care setting

has a significant role in reducing BPSD. This PCC project was intended to promote the use of PCC interventions to manage BPSD, as well as enhance the awareness that it is more advantageous than the use of pharmacological interventions in long-term care residents with dementia.

Background and Significance

The incidence of Dementia worldwide doubled with every 5.9-year increase with age, from 3.1/ 1000 per person-years at age 60-64, to 175.0/ 1000 per person-years at age 95 plus years (World Health Organization, 2017). Dementia is a global epidemic. In 2015, it was estimated that 47.47 million were living with dementia worldwide and it is estimated this prevalence will increase to 75.63 million in 2030 and to 135.46 million in 2050 secondary to the rapid aging of the population in the world. In 2017, the World Health Organization reported an increased incidence of dementia slightly less than twofold in Europe, slightly more than twofold in North America, threefold in Asia, and fourfold in Latin America and Africa. Overall, 37% of the people living with dementia live in high-income countries, 63% live in low and middle-income countries (World Health Organization, 2017).

Dementia is not a specific disease; it is an irreversible, progressive brain disorder that slowly causes a loss of thinking, remembering, and reasoning skills that interferes with a person's daily life and activities. While these dysfunctions are more prevalent with advanced age, it is not a normal part of aging (World Health Organization, 2017). The primary underlying cause of memory loss and confusion is the progressive damage to brain cells. Alzheimers disease, the most common type of dementia, accounts for an estimated 60 to 80% of dementia cases (Alzheimers Association, 2017). The cause of Alzheimers disease is unknown but it is predicted that it is a combination of age-related brain changes, genetics, and factors related to health,

environment, and lifestyle. These types of dementia include Vascular dementia, Dementia with Lewy bodies, Mixed dementia, Parkinsons disease, Frontotemporal dementia, Creutzfeldt -Jakob disease, Normal pressure hydrocephalus, Huntingtons disease and Wernicke -Korsakoff Syndrome (Alzheimers Association, 2017). Dementia is causing a significant impact on the health of the vulnerable elderly population. Thus, dementia compromises good health, quality of life, and interferes significantly with a person's ability to maintain their activities of daily living.

The Problem Statement

According to the Alzheimers Association, in 2013, 5 million Americans were afflicted with Alzheimers disease . The dementia condition is now the 7th leading cause of death in the United States (Centers for Disease Control and Prevention, 2017). Future projections are staggering; suggesting an increase to 14 million Americans by 2050; this is nearly a threefold increase. The prevalence of psychotropic medications being used to reduce the frequency and severity of BPSD in long-term care facilities is frequent, and the results often are reported to have potentially hazardous side effects, with little evidence of effectiveness. There is evidence that the use of antipsychotic medication for BPSD is associated with an increased risk of death (Alzheimer s Association, 2017). BPSD is devastating to residents and families; it is also disruptive to and adds to the potential burnout of health care workers, charged with the task of providing adequate, individualized care to all residents. Residents with dementia living in the long-term care setting demonstrate challenging behavioral symptoms, which increases the level of stress experienced by nursing staff and clinicians. These stressors, combined with the residents' ever-changing health care needs, can be overwhelming to both facility caregivers and community-based care providers who are working to ensure PCC, with value-based outcomes in long-term care settings.

If ineffective management of BPSD is allowed to persist, with the anticipated rise of those afflicted with BPSD, both residents' quality of life and the work environment for health care workers will rapidly decline. Overall, this will result in inadequate and ineffective care of residents, loss of work productivity, and burnout in Registered Nurses (RN), Licensed Practical Nurses (LPN), and Certified Nursing Assistants (CNA). These factors increase overall medical costs due to inadequate resident care, high staff turnover, and the associated increased staffing costs. Ineffective management of BPSD negatively impacts individuals, families, and communities; therefore, this phenomenon should be evaluated. Thus, the implementation of health care organization partnerships needs to consider training interprofessional and intraprofessional health care teams in enhanced PCC within long-term care practice and within the context of collaborative practice. This training will result in a life-saving alternative to pharmacological treatment. Forging these partnerships and working collaboratively, will help in the ongoing efforts of health care providers to ensure PCC with value-based outcomes (Alzheimers Association, 2017).

The Purpose of the Project

Dementia is a global epidemic; there is an urgent need to develop a partnership to train interprofessional healthcare teams to implement nonpharmacological approaches for BPSD (Centers for Disease Control and Prevention, 2017). The evidence-based PCC as a nonpharmacological intervention in long-term care, will improve the health, function, and enhance the quality of life for persons with dementia.

This project is aimed to evaluate the effectiveness of PCC approaches as nonpharmacological interventions to manage BPSD in the elderly population at a SNF in an eastern state by using statistical analysis over six weeks duration of this project.

PICo Clinical Research Question

In long-term care residents with dementia (P), does the use of PCC as a nonpharmacological intervention (I) reduce BPSD (O) as well as or better than the use of pharmacological interventions (C)? Wherein, the effect of nonpharmacological interventions are independent variables, and the behavioral symptoms of residents with dementia are the dependent variables.

Behavioral symptoms of aggression, screaming, restlessness, agitation, wandering, the resistance to care, sleep disorder, and inappropriate behaviors that often occur in residents with dementia are defined as BPSD. The definition of PCC to manage BPSD describes four essential elements, which include: (1) holistic, (2) individualized, (3) respectful, and (4) empowering as nonpharmacological interventions.

Congruence with Organizational Strategic Plan

This is a 62-bed SNF that offers short-term rehabilitation and long-term care. The facility's strategic plan, mission, and vision emphasize a metaparadigm of nursing (persons, environment, health, and nursing) to enhance the holistic view of care, increasingly viewed as PCC. This SNF is dedicated to providing personalized care to ensure the highest quality of care and quality of life.

The concept of the PCC model provides the foundation for collaborative practice and helps to generate further knowledge-based practice along with a nursing metaparadigm approach to long-term care practice to develop a consistent and efficient standard for managing BPSD. The facility intends to promote the use of PCC interventions to manage BPSD, as well as enhance the awareness that it is better than the use of pharmacological interventions in long-term care residents with dementia.

The integration of the process of translating a holistic view of care model into practice at this long-term care practice will be best illustrated along with the application of the concept of the PCC model. This PCC model will establish a framework for managing BPSD within the context of collaborative practice. A better understanding of the PCC approach in managing BPSD is critical to the future of public health policy and implementation and, importantly, long-term care practice.

Synthesis of Evidence

The Cumulative Index to Nursing and Allied Health (CINAHL), Sage Journals Online, Cochrane Library, and Ovid Nursing databases were systematically searched using keyword combinations including 'Dementia' AND 'behaviors', AND 'interventions' AND 'nonpharmacological'. The resulting 75 relevant published articles that comprised of both qualitative and quantitative studies between 2009 and 2015 were reviewed. This review synthesized 12 published articles. Inclusion criteria were the most current literature reviews published referencing nonpharmacological interventions to manage BPSD in long-term care settings while exclusion criteria were referencing nonpharmacological interventions in other settings.

The purpose of the 12 articles reviewed was to explore the effect nonpharmacological interventions had on BPSD. The evidence ranged from musical therapy, dog-assisted therapy, staff education, cognitive techniques, physical exercise, sensory gardens activities, light therapy, integrated dementia intervention, and individualized activities as nonpharmacological interventions for BPSD. The sample size ranged from 7– 478. The study designs included randomized, double-blind clinical trial, and quasi-experimental methods. Data were analyzed

using quantitative and qualitative analyses. This review outlines nonpharmacological interventions to manage BPSD.

The outcome effects of the nonpharmacological interventions on BPSD were assessed by well-known instruments with documented reliability and validity. In nearly all cases, some form of nonpharmacological intervention was found to be effective in the care and treatment of residents with BPSD. The following were instruments used; Rating Anxiety in Dementia Scale (RAID), Cohen-Mansfield Agitation Inventory (CMAI), Geriatric Depression Scale (GDS), State-Trait Anxiety Inventory (STAI), Multidimensional Observation Scale for Elderly Subjects (MOSES), Western Aphasia Battery (WAB), State-Trait Anxiety Inventory (STAI) (Spielberger), Neuropsychiatric Inventor (NPI), Multi-Dimensional Dementia Assessment Scale (MDDAS), Mini-Mental Status Examination (MMSE), Observation Scale (OS), Revised NEO Personality Inventory (NEOPI- R), Psychogeriatric Dependency Rating Scale (PGDRS), and Passivity in Dementia Scale (PDS).

In Vasionytė and Madison (2013), the intent of the study was to examine a meta-analysis of the effects of various subtypes of music interventions on dementia residents. The study is directly relevant to the clinical question and indicated positive outcomes on BPSD. The data analysis and synthesis coded studies into categories including active music therapy, passive listening, individualized music, and group intervention or individual intervention. Data were analyzed by computing means, standard deviations, t-values, p-values, and F-ratios, which indicated relevant statistical information to the clinical questions. Accordingly, the conclusion is that being inexpensive and without adverse side effects as well as significant evidence, residents in all stages of dementia can benefit from music interventions (Vasionytė & Madison, 2013).

In Nordgren and Engstrom (2014), the study was designed to evaluate the effectiveness of a dog-assisted intervention on BPSD during a six-month period. The use of MDDAS and CMAI provided well-documented reliability and validity of the behavioral and psychological symptom findings. Data were analyzed using descriptive statistics, the Wilcoxon rank-sum test, and the Mann-Whitney U test to determine test differences in groups. Based on the outcome of this study, there was no statistically significant evidence secondary to the small sample size of 33 participants. Nevertheless, the study provided clinically significant support for the idea that dog-assisted intervention can be an option to consider to reduce BPSD and in turn, to promote quality of life (Nordgren & Engstrom, 2014).

The study conducted by Deuden et al. (2009) was designed to evaluate the effectiveness of a staff education intervention as a nonpharmacological intervention to manage BPSD in 16 nursing homes in the French regions of the Alpes Maritimes and Gironde. The study included 306 residents presenting with BPSD, who were randomly selected into an intervention group or a control group. The use of an OS and CMAI provided well-documented reliability and validity of the behavioral and psychological symptom findings.

During an eight-week period, data was analyzed (statistical analysis) using a statistical package for the social sciences (SPSS), version 11.0 software. The values were expressed as mean and standard deviation by using a level of significance of less than 0.05. The Wilcoxon non-parametric test was used to compare mean between the two groups. The study showed a significant decrease in the CMAI score between baseline and following an eight week period (-7.8; $p > 0.01$) and between baseline and following a 12 week period (-6.5; $p > 0.01$) in the intervention group but not in the control group. As a result, the CMAI and OS global score showed a significant decrease ($p < 0.001$) in the intervention group (Deuden et al., 2009).

In further support of nonpharmacological interventions, three systematic evidence-based reviews of quantitative and qualitative studies were conducted by Elvish, Lever, Johnstone, Cawley, and Keady (2013); Konno, Kang, and Makimoto (2014); and Hopper et al. (2013). The reviews evaluated the effectiveness of therapeutic communication, cognitive interventions, and educational programs for caregivers as nonpharmacological interventions to BPSD. The sample sizes ranged from 19 to 43 studies. Data were analyzed using descriptive statistics to determine test differences in groups.

The research evidence encouraged the use of therapeutic communication, cognitive interventions, and educational programs for caregivers as nonpharmacological approaches for efficient management of BPSD according to the three-systematic evidence-based reviews of quantitative and qualitative studies. The successful use of nonpharmacological interventions required staff education to promote staff understanding of BPSD for effective management of BPSD (Kolanowski, Fick, Frazer & Penrod, 2010). In turn, this will reduce staff burden and stress, secondary to BPSD, to promote quality of care in a long-term care setting (Konno et al., 2014). Future studies within psychoeducational interventions are recommended to strengthen the knowledge of psychoeducational interventions to promote quality of care (Elvish et al., 2013).

The knowledge needed and management skills of behavioral symptoms in residents with dementia require educational interventions to promote the understanding of the challenging components of the illness. In long-term care settings, cognitive intervention techniques such as verbal instruction or cueing for individuals with dementia can be equally significant as therapeutic communication for dementia residents. The implications for practice in the review showed that evidence-based research supported the use of cognitive interventions for BPSD to facilitate optimal outcomes (Hopper et al., 2013).

Olsen et al. (2015) established the positive effects of exercise to promote self-efficacy in residents with BPSD. The study was a qualitative study with eight elderly residents with dementia who participated in a 10-week high-intensity exercise program. The study data were analyzed using inductive content analysis. Despite a small sample size, the researchers were able to show the importance of social influences linked to physical exercise in the improvement of the well-being of elderly residents with dementia (Olsen et al., 2015).

A study conducted by Brown et al. (2013) used the design of meta-analysis to evaluate the effectiveness of light therapy as a nonpharmacological intervention to manage BPSD. The researchers analyzed 29 studies with a literature review using the methodological quality evaluation strategy. Moreover, it concluded that future studies would show that it was a reliable evidenced-based study for light therapy as a nonpharmacological intervention for disordered sleep, to manage sleepless behavioral symptoms in residents with dementia.

The study conducted by Kang et al. (2010) was intended to evaluate the effects of an integrated dementia intervention (consisted of cognitive stimulation training, exercise, music, art, and horticultural therapy) for elderly dementia residents in Korea by using a quasi-experimental and nonequivalent control group pretest-posttest design. The strength of the study was the homogeneity of the groups. The study limitation included a non-randomized sample from one senior welfare center that is unlikely to represent the entire Korean people with mild dementia. However, findings were significant, indicating that integrated dementia intervention does enhance cognitive function, mental-emotional health, and reductions in depression levels.

In Gonzalez and Kirkevold (2014), the benefits related to horticultural activities and sensory gardens were examined in 16 studies with eight to 129 dementia residents. Researchers used descriptive analysis and selected empirical studies to determine the findings. They

concluded that sensory gardens and horticultural activities as nonpharmacological interventions might improve behavioral symptoms in residents with dementia, consequently avoiding the side effects of the use of psychotropic drugs (Gonzalez & Kirkevold, 2014).

In a study by Kolanowski, Litaker, Buettner, Moeller, and Costa (2011), the difference between individualized activities related to residents' personality style of interest (PSI) and functional level (FL), and behavioral symptoms of dementia in nine nursing homes in Pennsylvania was examined. The study was a randomized clinical trial with 28 participants. The behavioral symptoms of dementia were assessed with the NEOPI-R, PDS, CMAI, MMSE, and PGDRS, which are well-known instruments with documented reliability and validity. The researchers used the one-way analysis of variance (ANOVA) test to examine the efficacy of activities in behavioral symptoms of dementia.

The ANOVA statistical test gave important information (p-value) to answer the research question and hypothesis of the study. The computed p-value was 0.04, which is less than a significant level (α-level) of 0.05. Thus, the conclusion was that there were substantial differences present in the mean of individualized activities to the different level of residents' PSI and FL. The application of individualized activities related to residents' PSI and FL, showed significantly improved behavioral outcomes during the interventions, which indicated that individualized activities related to the level of residents' PSI and FL reduced the BPSD in nursing home residents (Kolanowski et al., 2011).

Thus, it is of considerable importance to improve the management of BPSD in long-term care facilities by implantation of PCC approaches. PCC, which is the concept of nonpharmacological interventions an essential aspect of delivering quality care to manage BPSD. My review concluded that there is sufficient evidence for practice recommendations for PCC

within the context of nonpharmacological interventions. This notion increased knowledge-based practice that the variety of nonpharmacological evidence ranged from music therapy, dog-assisted therapy, staff education, cognitive techniques, physical exercise, sensory gardens activities, light therapy, integrated dementia intervention, and individualized activities are increasingly viewed as PCC with value-based outcomes for the management of BPSD.

Theoretical Framework

The Donabedian's structure, process, and outcome model was utilized for the project to ensure a systematic approach to evaluate the effectiveness of the four essential elements of PCC as nonpharmacological interventions to manage BPSD (Donabedian, 1988). Using this process provided a systematic approach, a focus, a rationale, and a tool for the integration and interpretation of PCC into practice at this long-term care facility.

The Donabedian model is a framework to develop the project structure (selection appropriate implementation project site and project members), and the process (applying intervention and delivery system). Lastly, the outcome (what will be measured, reviewed, or assessed) ensures the successful implementation of PCC with value-based outcomes in long-term care settings (Donabedian, 1988). The Donabedian's structure, process, and outcome model established a platform to design and pilot PCC techniques and deliver to the nursing employees through an employee education program. The Donabedian's structure, process, and outcome model ensured successful integration and interpretation of PCC into practice in the long-term care practice.

In my synthesis of evidence, I found that PCC as nonpharmacological interventions for dementia has a significant role in promoting better management of BPSD in long-term care settings. The PCC within a long-term care health care setting resulted in the following defining

attributes: (1) holistic, (2) individualized, (3) respectful, and (4) empowering. Morgan and Yoder (2012) describe these attributes of a concept as an essential aspect of PCC. Holistic care is defined as an integrated approach that recognizes and values whole persons as well as the interdependence of their parts (Morgan & Yoder, 2012). A holistic approach focuses on the biological, social, psychological, and spiritual aspects of an individual. The term individualized focuses on unique needs and the specific health concerns of the person to provide customized care to ensure patients' personal needs and preferences, instead of facility standards or routine care. Respectful is an essential attribute of PCC to promote offering choices in care and ensuring the inherent value of each individual. Being respectful supports a person's strength and abilities, and it encourages human freedom. Empowering focuses on enhancing autonomy and self-confidence as significant factors when an individual is most vulnerable to promote self-determination (Morgan & Yoder, 2012).

PCC demonstrated the range of implications for clinical practice, including maintaining adequate levels of stimulation, decreasing behavioral symptoms associated with dementia, and improving the quality of life. The application of PCC ensures "a holistic (bio-psychosocial-spiritual) approach to delivering care that is respectful and individualized, allowing negotiation of care and offering choice through a therapeutic relationship where persons are empowered to be involved in health decisions at whatever level is desired by that individual who is receiving the care" (Morgan & Yoder, 2012).

Thus, it was concluded that the application of PCC within a long-term care health care setting resulted in the following defining attributes: (1) holistic, (2) individualized, (3) respectful, and (4) empowering which can improve the management of the persons with BPSD; therefore, it is essential to further explore the PCC approach to manage BPSD in the elderly. Such

interventions have the potential to enhance the well-being of residents with dementia while receiving care in a long-term care facility.

Chapter II

The integration of the process of translating PCC evidence into practice in the long-term care practice is best illustrated through the application of the concept of the PCC attributes: (1) holistic, (2) individualized, (3) respectful, and (4) empowering to develop and pilot a framework for BPSD among elderly residents within the context of collaborative practice. The concept of the PCC model was to provide the professional foundation collaborative and help to generate further knowledge-based practice with a nursing metaparadigm approach for effective BPSD management.

The stakeholder team ensured successful collaborative practice implementation and included an Administrator, Medical Director, Director of Nursing Services, Nursing Services Supervisors, Department Managers, 4 CNAs, 2 RNs, and Director of Rehabilitation Services.

The goal of the project was to establish the PCC as a nonpharmacological intervention through a staff training program trial based on a sample of 4 CNAs and 2 RNs to pilot the project. The objective of this approach was to develop a consistent and efficient standard for managing BPSD among elderly residents in long-term care.

Methodology

The project intended to assess the effects of the intervention of staff training based on PCC in managing BPSD among elderly residents in long-term care. The project established the PCC as a nonpharmacological intervention through a staff training program trial based on a sample of 4 CNAs and 2 RNs to a pilot project with 8 residents with BPSD. All participants received the 2 hours of PCC training focused on managing BPSD among elderly residents in

long-term care. The use of the CMAI is considered a routine clinical procedure in the resident population residing in the long-term care facility.

Staff Education. The content of the training curriculum was focused on practical skill building for nursing staff behavior change toward the resident with BPSD. The training was conducted by the DNP FNP student who piloted the project. The content of the training curriculum was based on the PCC attributes: (1) holistic, (2) individualized, (3) respectful, and (4) empowering as a nonpharmacological intervention. The PCC curriculum was delivered in 4 sessions, each of which was accompanied by learning objectives.

Session 1. A holistic approach focuses on understanding the world of dementia: The Person and the Disease. This segment is a foundational overview of the PCC model and its significance to residents with dementia. By the end of this segment, the participants were able to: (1) Define dementia and BPSD, (2) Describe a holistic approach that embraces a person as a whole and focuses on the biological, social, psychological, and spiritual aspects of an individual.

Session 2. Respectful is an essential attribute of PCC, with emphasis on being with a person with dementia to promote listening and initiating the interaction to develop empathy for persons with BPSD by better understanding their condition. This session emphasized the impact of respectful interactions with an individual with BPSD as well as enforced the significance of "being with" a person with BPSD. Being respectful supports a person's strength and abilities, and it encourages human freedom. By the end of this segment, participants were able to: (1) Verbalize the importance of seeing a person with BPSD as a unique individual, (2) Recognize the need to identify unique communication strategies for the person with BPSD.

Session 3. The term individualized focuses on unique needs and the specific health concerns of the person to provide customized care to ensure patients' personal needs and

preferences, instead of facility standards or routine care. Thus, offering choices in care to ensure the inherent value of each individual with BPSD. This session focuses on understanding the unique actions and reactions of persons with dementia as forms of communication. This segment promotes a deeper understanding of BPSD, ways to support the resident, and minimize challenging behaviors, as each person with BPSD is an individual. By the end of this segment, participants were able to: (1) Verbalize understanding of the actions and reactions of persons with BPSD as forms of communication, (2) State recognition that "being" with a resident with BPSD means seeing things from his or her unique perspective and responding to that resident as an individual, (3) Verbalize effective strategies for communicating with a person with BPSD.

Session 4. Empowering focuses on enhancing autonomy and self-confidence as significant factors when an individual is most vulnerable to promote self-determination. Being with a person with BPSD is the whole individual who has strengths and abilities as well as weaknesses and disabilities. This session focused on how recognizing the resident's strengths, helps nursing staff to see persons with dementia beyond the resident diagnosis. A person with BPSD is not problems to be solved or as duties that need to be accomplished, but as individuals with human needs that we can help fulfill through an empowering approach. By the end of this session, participants were able to: (1) Verbalize that an empowering approach promotes strengths and abilities of persons with BPSD, (2) Verbalize ways to connect with persons with BPSD (3) Verbalize their role in making a difference in the lives of persons with BPSD.

Evaluation of Participant Training. The project established the PCC as a nonpharmacological intervention through a staff training program trial based on a sample of 4 CNAs and 2 RNs for the project. The project developed and employed the behavioral measurement system for coding pre- and post-intervention behavior to determine if the PCC techniques (new

knowledge, skills, and behavior) learned transfer into PCC approaches in managing BPSD. The behavioral measurement system developed using a 3-stage process to include pretraining, posttraining, and sustained evaluation. The sustained evaluation was conducted four weeks after training. The DNP FNP student, who was a project investigator, evaluated participants on the four essential aspects of PCC dimensions. The sustained evaluation conducted after training, which indicated that PCC skills were sustained after the training had ended.

Needs Assessment

BPSD is devastating to residents and families; it is also disruptive to and adds to the potential burnout of health care workers, charged with the task of providing adequate, individualized care to all residents. The residents demonstrate challenging behavioral symptoms, which increases the level of stress experienced by nursing staff and clinicians. These stressors, combined with the resident's ever-changing health care needs, are overwhelming to facility caregivers working to ensure PCC, with value-based outcomes in long-term care settings. Ineffective management of BPSD negatively impacts individuals, families, and communities; therefore, this phenomenon should be evaluated.

Design

This pilot project was a repeated measures design, with measures completed before commencing training, after completion of PCC training, and six weeks post PCC training. The CMAI scoring system is a non-invasive routine type of assessment that uses 29 item scales to examine a range of physically aggressive, physically non-aggressive, and verbal behaviors from never to several times per hour on a seven-point scale. The CMAI was used to evaluate at baseline, at the end of the 'intervention' period and at two weeks after the end of the 'intervention' period to determine PCC's effectiveness in the management of BPSD.

Setting.

Data was collected at a SNF in an eastern state that offers subacute rehabilitation and long-term care for elderly residents with BPSD.

Population/sample.

Informed consent and authorization to use or disclose health information was obtained from the total 48 residents who resided at the facility of which 25 residents fit the criteria. Those 25 residents that fit inclusion criteria were entered into a blind lottery method of sampling, where 8 residents were randomly selected as participants for the PCC project. This random subject selection process ensured the selection was equitable and not arbitrary (i.e., a choice not based on a personal bias). Eight residents (N= 8) with dementia, including Alzheimers disease with BPSD, were selected for the project to determine PCC's effectiveness in the management of BPSD.

Inclusion criteria included: (1) The resident with a diagnosis of dementia, including Alzheimers disease according to the 10th revision of the international statistical classification of diseases and related health problems criteria (ICD 10), (2) The resident with an MMSE score less than or equal to 24 and presenting with at least one of the following BPSD at least four times per week: aggression, screaming, restlessness, agitation, wandering, the resistance to care, sleep disorder and inappropriate behaviors, (3) The resident's healthcare agent invoked by a physician (MD) or Nurse Practitioner (NP).

Exclusion criteria included: (1) Resident without a diagnosis of dementia, including Alzheimers disease according to the ICD 10, (2) The resident did not present with at least one of the BPSD at least four times per week.

Four CNAs (N = 4) and two RNs (N = 2) were the project sample group. Inclusion criteria included CNAs and RNs with one and more years of experience in a long-term care setting. Exclusion criteria included CNAs and RN with less than one year of experience in a long-term care setting.

The project information did not identify participants by name in any reports using information obtained from this PCC training and that confidentiality will remain secure. Subsequent uses of records and data were subject to standard data use policies, which protected the confidentiality of individuals and institutions. Specifically, to protect participant residents', CNAs', and RNs' privacy, the project did not include any information that could directly identify participants. The investigator preserved the confidentiality of the participants research records. The investigator has collected the data confidentially. There is no link between participants' names and the research record.

Tools and/or instruments. The CMAI (Cohen-Mansfield, 1989), which is a well-known instrument with documented reliability and validity, was utilized to collect behavioral symptoms data for SPSS analysis, version 11.0 software, in order to determine PCC's effectiveness in the management of BPSD. The DNP FNP student collected intervention result data for analysis. The CMAI Specifically detailed in Appendix A.

Project Plan.

The six weeks project plan (Table 1) was developed and implemented along with PCC interventional program as a nonpharmacological intervention through a staff training program trial to manage BPSD.

This project was based on a convenience sample of nursing staff with three measurement points at baseline, at the end of the 'intervention' period and following six weeks. The PCC

educational program involved participants in interactive sessions with the instructor, who is a DNP FNP a student. The two-hour interactive training sessions provided constructive feedback through the application of the following defining PCC attributes: (1) holistic, (2) individualized, (3) respectful, and (4) empowering in the management of BPSD. Each session included 30 minutes per week for a total training time of two hours. The pre-intervention BPSD data was collected before the PCC intervention implementation. Then, PCC interventions were implemented, and post-intervention BPSD results were obtained using CMAI for statistical analysis using SPSS, version 11.0 software.

Table 1.

Project Outline Tasks

Project Outline Tasks	Week 1 -2	Week 2-3	Week 3-5	Week 5-6
Project plan notification of Administration	X			
BPSD resident pre-assessment/Baseline Data collection	X			
CNAs, RNs Pretraining Evaluation		X		
CNAs, RNs Training Sessions		X		
CNAs, RNs Post-Training Evaluation		X		
PCC intervention implementation by trained staff			X	
BPSD Post-test – Intervention Data collection			X	
CNAs, RNs Sustained Post-Training Evaluation				X
BPSD Post-test - Result and Conclusion				X

Intervention Evaluation.

The resident participants continued all their medications, treatments, and routine care, as indicated according to the physician orders. The project investigator did not deploy any systematic elimination of routine care in place of the PCC approaches. The PCC approaches were the nonpharmacological interventions in conjunction with participants' regular medications and treatments as no treatments or drugs were withheld once the PCC approaches were deployed

or during the PCC interventional study duration. PCC approaches are considered a standard of care and are not an experimental procedure or approach.

The project implemented the CMAI score system to evaluate at pre- and post-intervention to determine PCC's effectiveness in the management of BPSD. The project site consisted of long-term residents with a mean age of 85 years old. More than 98% are diagnosed with dementia with behavioral disturbance. Of that number, approximately 92% have BPSD. Eight residents (N= 8) with dementia with BPSD, were selected for the project to determine PCC's effectiveness in the management of BPSD.

Data Analysis.

This project used descriptive statistics and inferential statistical analysis to evaluate the effectiveness of PCC approaches as nonpharmacological interventions to manage BPSD in the elderly population. Descriptive statistics provided the summary statistic that quantitatively describes or summarize in percentage the test differences in groups (pre-and post-intervention). Inferential statistical analysis (paired t-test statistical test) gave important information (p-value) to answer the project question and hypothesis of the project. Importantly, the paired t-test is used to determine whether this average difference is statistically significant or whether it is probably just due to chance or the result of random error. The statistical analysis of the paired *t*-test statistic was computed using SPSS, version 11.0 software, to determine PCC's effectiveness in the management of BPSD.

Ethical Issues.

The implementation of the PCC education program is classified as a routine clinical procedure. Because the subjects (participant residents) were considered a vulnerable subject population, the resident healthcare agent signed informed consent and authorization to use or

disclose (release) health information to participate in the pilot project. Additionally, participants (employees) signed informed consent to participate in the pilot project.

The project investigator, who is a DNP FNP student, reached out to all the health care agents of the residents at the project site to obtain project participant informed consent and authorization to use or disclose (release) health information before subject selection at the project site. Prior authorization and approval from the resident health care agent ensured the project investigator had permission to view the record for subject recruitment purposes as well as permission for the resident to participate in the PCC project.

Institutional Review Board

The project, PCC to Manage BPSD in the Elderly was approved by Bradley University Committee on the Use of Human Subjects in Research. The Committee found the study to be expeditable. All participants provided written, informed consent to participate in this study.

Chapter III

The site is a SNF in an eastern state that offers subacute rehabilitation and long-term care. The SNF is a privately-owned corporation, dedicated to providing personalized care to ensure the highest quality of care and quality of life.

Organizational Assessment

The SNF has 108 employees and demonstrated a willingness to improve quality and efficiency through an innovative approach to delivering comprehensive PCC. The organizational assessment indicated a dedication to providing personalized care to ensure the highest quality of care and quality of life. This SNF is the appropriate organization to implement the PCC project in the context of addressing a person's physical, spiritual, psychological, and sociocultural components through an efficient, nonpharmacological approach within the interprofessional collaborative practice, and enhance overall quality, while simultaneously reducing costs.

Cost factors. The determinants of the SNF expenditures was crucial to developing effective PCC implementation, while simultaneously reducing costs. The budget plan developed and implemented is explicitly detailed in Table 2.

Table 2.

Project Budget Plan

Item Description	Student	Facility	Total
CNAs and RNs	$0	$0	$0
Instructor – DNP FNP student	$0	$0	$0
Intervention Data collection - DNP FNP student	$0	$0	$0
Materials/Stationary	$0	$20	$20
Snacks at training sessions	$50	$0	$50
Total Cost	$50	$ 20	$70

The staff training program trial implemented was based on a sample of 4 CNAs (N=4) and 2 RNs (N=2) and training was scheduled within their regular working hours with no overtime expense incurred. Residents with BPSD, exhibit behaviors that include aggression, screaming, restlessness, agitation, wandering, resistance to care, sleep disorder, and other inappropriate behaviors. Ineffective management of BPSD results in inadequate and ineffective care of residents, loss of work productivity, and burnout in nursing staff. These factors increase overall medical costs due to inadequate resident care, high staff turnover, and the associated increased staffing costs. PCC for dementia residents in the long-term care setting has a significant role in reducing costs in long-term care facilities.

Chapter IV: Results

This pilot project is a repeated measures design, with measures completed before commencing training, after completion of PCC training, and following six weeks.

Analysis of Implementation Process

The purpose of the CMAI used in the project was to assess the frequency of manifestations of BPSD in participants. The CMAI is a rating questionnaire consisting of 29 agitated behaviors, each rated on a 7-point scale of frequency as observed by the investigator during pre- and post-intervention. The CMAI global score (range 0–203), includes subscale scores: Physically aggressive behavior (9 items), Physically non-aggressive behavior (13 items), Verbally aggressive behavior (3 items), and Verbally non-aggressive behavior (4 items). The scores for each subgroup were the sum of the frequency pre- and post-intervention number of BPSD observation recorded.

Analysis of Project Outcome Data

As seen in Table 3., the pre-intervention number of BPSD observation data (458 BPSD recorded) was significantly higher than the post-intervention (253 BPSD recorded), indicating that BPSD observation records after participating in the PCC approach project significantly reduced BPSD occurrence.

Table 3.

CMAI scores for pre -and post intervention assessments data

CMAI CATEGORIES	Resident 1	Resident 2	Resident 3	Resident 4	Resident 5	Resident 6	Resident 7	Resident 8	TOTAL
Physical Aggressive	30(18)	36(24)	24(16)	14(10)	21(16)	14(9)	7(2)	7(3)	153(98)
Physical Non-Aggressive	7(2)	14(5)	7(3)	21(11)	7(2)	21(13)	7(3)	35(17)	119(56)
Verbal Aggressive	14(7)	14(7)	14(6)	12(9)	12(4)	6(3)	6(3)	7(3)	85(42)
Verbal Non-aggressive	19(12)	20(13)	14(7)	7(4)	7(4)	13(9)	7(3)	14(5)	101(57)
CMAI CATEGORIES TOTAL	70(39)	84(49)	59(32)	54(34)	47(26)	54(34)	27(11)	63(28)	458(253)

Numbers not in parenthesis represent the number of pre-intervention observations recorded and numbers in parenthesis represent the number of post-intervention observations recorded.

During a six-week period, data was analyzed (statistical analysis) using SPSS, version 11.0 software (SPSS Inc. Chicago, Illinois, USA). The values were expressed as mean and standard deviation by using a level of significance of less than 0.05, which indicated relevant statistical information to the clinical question. The paired *t* parametric test was used to compare the mean between the two groups (pre- and post-intervention assessments data).

The project data (Table 4) showed a significant decrease in the CMAI score between pre-intervention assessment data (mean was 57.25, and the standard deviation was 16.71) and post-intervention assessment data (mean was 31.61, and the standard deviation was 10.94). The mean represented the average number of BPSD observations recorded. The standard deviations represented a measure of the average distance between the values of the pre- and post-intervention assessment data and the mean.

Table 4.

Mean (SD) scores for the outcome - Paired Samples Statistics

	Pre- and post-intervention	Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Participant Number	4.5000	8	2.44949	.86603
	Before participating in the project	57.2500	8	16.71398	5.90928
Pair 2	Participant Number	4.5000	8	2.44949	.86603
	After participating in the project	31.6250	8	10.94059	3.86808

As a result, the CMAI score (Table 5) showed a significant decrease ($p < 0.001$) in the intervention group. The paired t-test is a parametric test that compared the mean of the two correlated (paired) groups. By "paired," it means that pre- and post-intervention observations are in some way connected and therefore are not independent of each other.

Table 5.

Paired Samples Test - Paired Differences

Pre- and post-intervention		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Participant Number - Before participating in the project	-52.75000	18.33615	6.48281	-68.07940	-37.42060	-8.137	7	.000
Pair 2	Participant Number - After participating in the project	-27.12500	12.81113	4.52942	-37.83537	-16.41463	-5.989	7	.001

The computed value of the paired t-statistic is -5.99, which is less than α-level of 0.05, and the exact p-value is 0.001 (p = 0.001). Thus, the conclusion is that residents (participants) who exhibit BPSD after participating in the PCC approach project significantly reduced BPSD occurrence.

Chapter V: Discussion

This pilot project explored the effectiveness of PCC approaches (holistic, individualized, respectful, and empowering) as nonpharmacological interventions to manage BPSD at a SNF in an eastern state. BPSD include, but are not limited to, (1) physical behavioral symptoms directed towards others (e.g., hitting, kicking, pushing, scratching, grabbing, abusing others sexually), (2) verbal behavioral symptoms directed towards others (e.g., threatening others, screaming at others, cursing at others), and (3) other behavioral symptoms not directed towards others (e.g., physical symptoms such as hitting or scratching self, pacing, rummaging, public sexual acts, disrobing in public, throwing or smearing food or bodily wastes, and verbal/vocal symptoms like screaming, disruptive sounds).

Findings and Implications

Despite considerable progress in the treatment of behaviors associated with dementia, the management of BPSD remains challenging in the long-term care setting to promote resident quality of care. The anticipated increase of those afflicted with BPSD, and in turn, the number of persons requiring nursing home care as a result of BPSD, will be overwhelming to the current long-term care provider system and community caregiver supports. Both strive to ensure PCC is maintained and value-based outcomes prevail in long-term care settings. The influx of those with BPSD will be disruptive to the already taxed health care workers and the caregiver system, who are already challenged by patients' ever-changing health care needs, and dwindling resources of support.

The critical result of ineffective management of BPSD within the community, if allowed to continue, will be the decline in residents' quality of life and burnout of current community caregivers and current nursing facility staff. We could easily be faced with critical nursing home staff shortages, which will negatively impact all nursing facility residents and their families. Despite a network of community caregiver support and residential care facilities, long-term care communities will not escape the impact of this increased burden on our current resources. Therefore, this growing phenomenon should be evaluated and addressed from a multitude of perspectives and approaches, along with implementing supported, effective PCC along with nonpharmacological interventions. In my synthesis of evidence, I found that PCC as nonpharmacological interventions for dementia will have a significant role to promote better management of BPSD in long-term care settings. Concerning BPSD in the SNF setting, a broad consensus that management of BPSD should not be limited to pharmacological treatment but should also include nonpharmacological approaches.

The application of the Donabedian model (structure, process, and outcomes) established a systematic approach for the project to assess the effectiveness of the four essential elements of PCC as nonpharmacological interventions to manage BPSD. The use of the Donabedian model provided well-documented reliability and validity that provides a framework for examining health services and evaluating the quality of health care (Donabedian, 1988). The application of the Donabedian model generated further knowledge-based practice to pilot the PCC project successful. The model was used to design a qualitative method to reveal that nonpharmacological interventions are essential to the future of the long-term care setting to reduce and manage BPSD. The PCC project was designed from three categories: “structure,” “process,” and “outcomes" (Donabedian, 1988). The structure represented a SNF as a project site, BPSD residents, CNAs, and RNs as project participants. The process represents PCC interventions as a nonpharmacological delivery model. The outcome of the model was demonstrated through the results of CMAI score and the paired t-test statistic to determine PCC’s effectiveness in the management of BPSD. The Donabedian framework facilitated organization of these findings into a meaningful perspective.

Based on this project, there is positive evidence accumulated regarding nonpharmacological approaches for BPSD. As well as, the evidenced-based reviews recommended nonpharmacological treatment options as the first line of a management strategy for BPSD to reduce side effects from pharmacological treatment. The project demonstrated that there are evidence-based nonpharmacological interventions to manage BPSD. A strength of the project was by using a qualitative method to reveal that nonpharmacological interventions are essential to the future of the long-term care setting to reduce and manage BPSD.

The purpose of the CMAI used in the project was to assess the frequency of manifestations of BPSD in participants. The scores for each subgroup were the sum of the frequency pre- and post-intervention number of BPSD observations recorded. Regarding the CMAI scale, analyses indicated that the global score was significantly different between the pre- and post-intervention. The pre- and post-intervention difference was 205 CMAI scores (Table 3) between the two measures. In each CMAI category, the pre-intervention number of BPSD observations recorded (458) were significantly higher than the post-intervention (253), indicating that BPSD observations recorded after participating in the PCC approach project were reduced. There was an approximately 50% decreased BPSD occurrence post-intervention.

The statistical analysis was computed using SPSS software, the paired *t*-test statistic, determined PCC's effectiveness in the management of BPSD. The data are "Paired"; that is, the measurement of the same BPSD residents at two different points (pre- and post-intervention) was compared. Regarding the statistical analysis computed (Table 4), the mean represented the average number of BPSD observations recorded. The standard deviations represented a measure of the average distance between the values of the pre-and post-intervention data and the mean. A low standard deviation indicated that the data points tend to be very close to the mean; a high standard deviation indicated that the data points are spread out over a broad range of values.

The statistical analysis indicated that the CMAI global score was different between the pre- and post-intervention. Importantly, differences between the pre-and post-intervention values indicate a positive change in BPSD occurrence. The pre- and post-intervention differences of the mean (25.63 points) and standard deviations (5.773 points) are shown in Table 4. Paired statistics mean score changes were observed between the pre- and post-intervention assessments (57.25 in the pre-intervention group vs. 31.62 in the post-intervention group). Overall, the pre-intervention

mean scores (57.25 in the pre-intervention result vs. 31.61 in the post-intervention result) and standard deviations (16.71 in the pre-intervention group vs. 10.94 in the post-intervention group) were higher than the post-intervention mean scores by 25.61 points and standard deviations scores by 5.77 points.

Conceptually, the paired t-test determines whether this average difference is statistically significant or whether it is probably just due to chance or the result of random error. To say that a statistically significant difference exists in the means of the two measures, the computed value of the sample t-statistic must be less than the α-level of 0.05. The project computed the value of paired t-statistic was -5.989, less than the α-level of 0.05, and the exact p-value was 0.001. Because all the assumptions are met, statistical analysis suggested that the PCC intervention result was statistically significant at $p = 0.05$ or $p < 0.05$ by the paired t-test (two-tailed). Thus, the conclusion that the BPSD observation record after participating in the PCC approach project significantly reduced BPSD occurrence with 50% decreased BPSD occurrence with a statistically significant reduction in BPSD occurrence post-intervention reported at $p = 0.001$.

Limitations from Project Plan

The PCC project nevertheless has several limitations, which included a small sample size (N=8) and an inability to conduct a ‘pure’ non-pharmacological pilot project as participants (residents) continued to receive their usual pharmacological treatment. Even with these limitations, such results are critical that PCC interventions have the potential to enhance the well-being of residents with dementia while receiving care in a long-term care facility. Thus, PCC approaches can be successfully implemented with elderly residents with BPSD in the SNF setting with the reduction of BPSD incidence.

Chapter VI: Conclusion

Despite the growing availability of pharmacological interventions, BPSD remains incurable. BPSD is overwhelming, not only for the people who have it but also for their caregivers and families. The critical result of ineffective management of BPSD within the community, if allowed to continue, will be the decline in residents' quality of life and burnout of current community caregivers and current nursing facility staff. We could easily be faced with critical nursing home staff shortages, which would negatively impact all nursing facility residents and their families. Thus, it is of considerable importance to reduce BPSD in long-term care facilities.

Value of the Project

This pilot project found that PCC as nonpharmacological interventions for dementia has a significant role in promoting better management of BPSD in long-term care settings. PCC nonpharmacological intervention was found to be effective in the care and treatment of residents with BPSD. The computed value of the paired t-statistic was -5.99, which is less than α-level of 0.05, and the exact p-value was 0.001 ($p = 0.001$). Thus, the conclusion is that residents (participants) who exhibit BPSD after participating in the PCC approach project significantly reduced (50% decreased) BPSD occurrence. Subsequently, the PCC application showed significantly improved behavioral outcomes during the interventions, which indicated that PCC related to the nonpharmacological interventions reduced the BPSD in SNF residents.

Overall, we concluded that the application of PCC within this long-term care health care system setting resulted in the following defining attributes: (1) holistic, (2) individualized, (3) respectful, and (4) empowering. These attributes can improve the management of the persons with BPSD; therefore, it is essential to further explore the PCC to manage BPSD in the elderly in SNF settings. Such interventions have the potential to enhance the well-being of residents with dementia while receiving care in a long-term care facility.

DNP Essentials

The DNP Essentials 1 through 8 are the foundational outcome competencies that provided the foundation for establishing leadership skills to develop successful interprofessional relationships to design pilot PCC project. I learned how to develop useful pilot project associated with nursing theories based on the concept of the PCC attributes: (1) holistic, (2) individualized, (3) respectful, and (4) empowering to enhance the understanding of PCC within the context of collaborative practice to manage BPSD.

Plan for Dissemination

Completed on October 30, 2019.

Attainment of Personal and Professional Goals

Nurse Practitioners (CNP) plays a significant role in patient-centered care in our societies. Notably, with the resident's ever-changing health care needs, requires Nurse Practitioners (CNP) to ensure patient-centered care, with value-based outcomes in the health care delivery system. My ultimate goal to become Family Nurse Practitioner-Board Certified (FNP-BC) to promote patient-centered care (PCC) with value-based outcomes in long-term care settings.

References

Alzheimers Association (2017). *Behavioral Symptoms.* Retrieved from http://alz.org/professionals_ and_researchers_14310.asp

Brooker, D. (2014). Person-centered dementia care: Making services better (3rd ed.). Philadelphia, PA: Jessica Kingsley Publishers.

Centers for Disease Control and Prevention (2017). *Alzheimers Disease.* Retrieved from https://www.cdc.gov/aging/aginginfo/alzheimers.htm

Cohen-Mansfield J. 1989. Agitation in the elderly. In *Advances in Psychosomatic Medicine: Geriatric Psychiatry*, Bilig N, Rabins P (eds). Karger: Basel; 101–113.

Donabedian, A. (1988). The quality of care: How can it be assessed? *Journal of the American Medical Association,* 260, 1743–1748.

Elvish, R., Lever, S., Johnstone, J., Cawley, R., & Keady, J. (2013). Psychological interventions for carers of people with dementia: A systematic review of quantitative and qualitative evidence. *Counselling & Psychotherapy Research*, 13, 106-125 doi:10.1080/14733145.2012.739632

Hopper, T., Bourgeois, M., Pimentel, J., Qualls, C. D., Hickey, E., Frymark, T., & Schooling, T. (2013). An evidence-based systematic review on cognitive interventions for individuals with dementia. *American Journal of Speech-Language Pathology*, 22, 126-145. doi:1058-0360(2012/11-0137

Konno, R., Kang, H. S., & Makimoto, K. (2014). A best-evidence review of intervention studies for minimizing resistance-to-care behaviors for older adults with dementia in nursing homes. *Journal of Advanced Nursing*, 70, 2167-2180. doi:10.1111/jan.12432

Morgan, S., & Yoder, L. H. (2012). A concept analysis of PCC. *Journal of Holistic Nursing*, 30, 6-15. doi:10.1177/089801011141289

World Health Organization (2017). *Dementia.* Retrieved from http://www.who.int/mediacentre /factsheets/fs362/en10.1177/089801011141289

Appendix A

Name:_____ Dates: From_____to _____

Cohen-Mansfield Agitation Inventory (CMAI)[1] – Short

Instructions: For each of the behaviours below, check the rating that indicates the average frequency of occurrence over the last 2 weeks.

	1 - Never	2 - Less than once a week	3 - Once or twice a week	4 - Several times a week	5 - Once or twice a day	6 - Several times a day	7 - Several times an hour
Physical / Aggressive							
1. Hitting (including self)	1	2	3	4	5	6	7
2. Kicking	1	2	3	4	5	6	7
3. Grabbing onto people	1	2	3	4	5	6	7
4. Pushing	1	2	3	4	5	6	7
5. Throwing things	1	2	3	4	5	6	7
6. Biting	1	2	3	4	5	6	7
7. Scratching	1	2	3	4	5	6	7
8. Spitting	1	2	3	4	5	6	7
9. Hurting self or others	1	2	3	4	5	6	7
10. Tearing things or destroying property	1	2	3	4	5	6	7
11. Making physical sexual advances	1	2	3	4	5	6	7
Physical / Non-Aggressive							
12. Pace, aimless wandering	1	2	3	4	5	6	7
13. Inappropriate dress or disrobing	1	2	3	4	5	6	7
14. Trying to get to a different place	1	2	3	4	5	6	7
15. Intentional falling	1	2	3	4	5	6	7
16. Eating / drinking inappropriate substance	1	2	3	4	5	6	7
17. Handling things inappropriately	1	2	3	4	5	6	7
18. Hiding things	1	2	3	4	5	6	7
19. Hoarding things	1	2	3	4	5	6	7
20. Performing repetitive mannerisms	1	2	3	4	5	6	7
21. General restlessness	1	2	3	4	5	6	7
Verbal / Aggressive							
22. Screaming	1	2	3	4	5	6	7
23. Making verbal sexual advances	1	2	3	4	5	6	7
24. Cursing or verbal aggression	1	2	3	4	5	6	7
Verbal / Non-aggressive							
25. Repetitive sentences or questions	1	2	3	4	5	6	7
26. Strange noises (weird laughter or crying)	1	2	3	4	5	6	7
27. Complaining	1	2	3	4	5	6	7
28. Negativism	1	2	3	4	5	6	7
29. Constant unwarranted request for attention or help	1	2	3	4	5	6	7

Signature:_____ Date: _____

Reference

Donabedian, A. (1988). The quality of care: How can it be assessed? *Journal of the American Medical Association,* 260, 1743–1748.