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# Non-pharmacological Interventions in Residents with Behavioral and Psychological Symptoms of Dementia

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**Non-pharmacological Interventions in Residents with Behavioral and  
Psychological Symptoms of Dementia**

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The Clinical Research Project is a graduation requirement for MSW students at St. Catherine University - University of St. Thomas School of Social Work in St. Paul, Minnesota and is conducted within a nine-month time frame to demonstrate facility with basic social research methods. Students must independently conceptualize a research problem, formulate a research design that is approved by a research committee and the university Institutional Review Board, implement the project, and publicly present the findings of the study. This project is neither a Master's thesis nor a dissertation.

### **Abstract**

Changes in behavior are common in dementia and can be challenging to address. The purpose of this pilot study was to look at how effective non-pharmacological interventions are in decreasing associated behaviors among residents in a skilled nursing facility. Pharmacological interventions have been the primary method to decreasing these behaviors; however, these interventions may lead to faster disease progression. There is an increased awareness of the potential uses of non-pharmacological treatment for residents with dementia; however, there are challenges that go along with this approach. A set of interview questions was asked to four staff members of a nursing home piloting a non-pharmacological approach. Three main categories emerged from the interviews. These categories include: decision to use the non-pharmacological interventions, alternative interventions used, and the responsiveness to using the interventions. Findings suggest that these non-pharmacological interventions were effective in decreasing problematic behaviors. Findings also suggest the need for continued education and ongoing research involving the topic of using non-pharmacological interventions to treat these behaviors residents with dementia sometimes exhibit.

### **Acknowledgement**

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**Table of Contents**

Introduction

Literature Review

    Definitions of Dementia

        Alzheimer's disease

        Vascular dementia

        Dementia with Lewy Bodies/Parkinson's

        Frontotemporal dementia

    Signs and Symptoms

    Prevalence

    Behaviors

    Common Interventions

        Pharmacological

        Non-pharmacological

    Challenges/Barriers to Non-Pharmacological Interventions

        Evidence

        Providers

        Families

Intervention Description

    Aromatherapy

    Healing Music

    Therapy dolls

    Comfort touch

Methods

Research Design

Population

Protection of Human Participants

Data Collection

Data Analysis

Strengths/Limitations

Results

“Well-Kit”

Decision to use the “Well-Kit”

Positive experiences with the “Well-Kit”

Negative or unforeseen experiences with the “Well-Kit”

Other Interventions

Non-pharmacological

Pharmacological

Responsiveness of others

Discussion

Interpretation of Findings

Implications

Practice and Teaching

Policy

Strengths and Limitations

Future Studies or Research

References

Appendices (listed in the order in which they are referenced)

Appendix A. Consent Form

Appendix B. Interview Questions

## Non-pharmacological Interventions in Residents with Behavioral and Psychological Symptoms of Dementia

According to Mayo Clinic (2017), dementia isn't a specific disease; instead, it describes a group of symptoms that affect memory, thinking, and social abilities. Dementia is not a predictable part of aging, but the result of disease, infection, injury or another sickness (Morris, 2004). Dementia is caused by damage to brain cells and the damage interferes with the ability of the brain cells to communicate with each other. Memory loss alone does not mean a person has dementia. Dementia is an umbrella term and its causes are numerous. To be diagnosed with a form of dementia, an individual must have impairment in two of the core mental functions. "The core mental functions are: memory, communication and language, ability to focus and pay attention, reasoning and judgement and visual perception" (Alzheimer's Association, 2017).

According to the Alzheimer's Association (2017), one in ten people over the age of 65 has a diagnosis of Alzheimer's dementia. Reiger and Gitlin (2017) report that dementia is becoming an increasingly prevalent disease and by 2050 dementia is expected to affect about fourteen-million Americans. Livingston et al. (2014) report that the number of people with dementia is increasing rapidly and people are living longer with the disease. People with Alzheimer's or other forms of dementia make up a large proportion of elderly people who receive nursing home care (Alzheimer's Association, 2017; Reiger & Gitlen, 2017).

Many forms of dementia are progressive; therefore, symptoms start out slowly and progress as time goes on and different types of dementia are associated with particular types of brain cells (Alzheimer's Association, 2017). There are different forms of dementia and symptoms can vary greatly; however, Alzheimer's is the most common (Mayo Clinic, 2017).

Other forms of dementia include: vascular dementia, dementia with Lewy Bodies/Parkinson's, and frontotemporal dementia (Picks' Disease).

Changes in behavior are a common symptom that people with dementia experience. Changes in behavior occur over the disease process and often worsen or become more intense as the disease progresses. As the disease progresses, personality and behavior changes develop in persons with dementia. These behavior changes can be the most challenging and distressing effect of the disease more challenging than the actual cognitive loss (Alzheimer Association, 2017; Rayner, O'Brien, Shoenbachler, 2006; Regier & Gitlin, 2017). The Alzheimer's Association offers suggestions for interventions, which include pharmacological as well as non-pharmacological approaches.

The purpose of this research was to look at how effective non-pharmacological interventions are in a pilot study across a single skilled nursing facility. The study explored the challenges and successes associated with a pilot program being conducted by a skilled nursing organization in the Midwest. This nursing facility has implemented a "Well-Kit" in five skilled nursing homes in the Midwest to assess the effectiveness of non-pharmacological interventions in residents with behavioral and psychological symptoms of dementia (BPSD). Specifically, this study evaluated the use of aromatherapy, therapy dolls, music and comforting touch, which are the interventions packaged together to form the "Well-Kit." The purpose of the "Well-Kit" is to equip staff with tools and training to successfully provide non-pharmacological interventions to residents displaying BPSD. This study used a qualitative approach to understand the perspective from direct care staff implementing these interventions, with the goal of better understanding the effectiveness of the non-pharmacological interventions on reducing BPSD.

## Literature Review

### Definition of Dementia

Dementia is a group of symptoms that has many causes. Dementia is not an expected part of aging, rather a result of a disease, infection, injury or other ailment. Dementia is a progressive, chronic brain condition that causes problems with thinking, behavior and memory. Dementia will most often become worse over time and treatment will be specific to each person's dementia diagnosis (WebMD, 2017). It can be hard to detect in the early stages, because the symptoms can be fairly mild at first. Many people are initially able to compensate for the early memory issues. In progressive dementia, a person's memory doesn't just slip, it disappears (Morris, 2004).

**Alzheimer's disease.** Alzheimer's disease is the most common type of dementia. The disease progresses over time and its exact cause remains unknown. According to the Alzheimer's Association (2017), it is estimated that 5.5 million Americans are living with Alzheimer's disease. Alzheimer's is the sixth leading cause of death in the United States (Alzheimer's Association, 2017). Many scientists hypothesize that brain cells degenerate and the brain becomes full of telltale debris, also referred to as plaques and tangles. These are clumps of abnormal protein nursed by dead or damaged tissue. Medical problems such as high blood pressure, high cholesterol and high levels of homocysteine (an amino acid associated with heart disease) could contribute to the likelihood of a person being diagnosed with Alzheimer's disease. In addition, genetics play an important role in the likelihood someone may be diagnosed with Alzheimer's disease at an early age (Morris, 2004). Familial Alzheimer's disease affects memory, language, and thought (Healthline, 2016). The symptoms are typically mild at first, but become progressively worse over time. Symptoms may include confusion regarding time, problems with language or speaking, poor judgement, and mood or personality changes.

**Vascular dementia.** This cause of dementia is the second most common type of dementia. Vascular dementia is a result of damage to blood vessels that supply blood to one's brain (Mayo Clinic, 2017). Damage to blood vessels is usually a result of a major stroke or multiple "silent" strokes a person may not be aware that they are having. Symptoms exhibited are dependent upon which part of the brain is affected by the stroke. One of the first signs of Vascular Dementia is poor judgement or trouble making decisions. Other common symptoms may be trouble speaking, or understanding speech, frequent falls, having trouble walking, changes in mood or personality and being confused or agitated (WebMD, 2017).

**Dementia with Lewy Bodies/Parkinson's.** Dementia with Lewy Bodies is a common diagnosis of progressive dementia. It is caused by abnormal clumps of protein that form on the cortex of the brain. Some common symptoms may include: problems thinking clearly or paying attention, hallucinations, day time sleepiness, blank staring, and problems with movement (WebMD, 2017). Parkinson's disease dementia develops in people who have nervous system disorders. This type is very similar to Lewy Body dementia. They have similar symptoms and people who have Parkinson's dementia have signs of Lewy Bodies in their brains (WebMD, 2017).

**Frontotemporal dementia.** This cause of dementia is characterized by a breakdown of the nerve cells in the frontal and temporal parts of the brain. These areas are typically associated with personality, behavior and language (Mayo Clinic, 2017). People experiencing frontotemporal dementia may have personality or behavior changes, sudden change in social settings, trouble finding the right words and balance problems (WebMD, 2017).

## **Signs and Symptoms**

Morris (2004) describes ten common symptoms of dementia. These symptoms represent how a resident is affected by dementia and how the symptoms become increasingly worse over time. Memory loss is one of the most common symptoms of dementia. A person may have trouble remembering recent conversations, information, and/or dates. A person with dementia may become confused about simple everyday tasks such as cleaning. In addition to having difficulty with simple tasks, math skills may also become difficult. A person may have trouble balancing their checkbook or paying bills. They may also have trouble with word finding or using words in the wrong context. The person may become completely disoriented to familiar places or become lost easily. Personal hygiene and grooming are often neglected when someone is displaying signs of dementia. Persons experiencing signs of dementia may make poor and unsafe decisions.

Sometimes an individual may make unusual decisions that they would not have made prior to the disease. Mood and personality may also change when someone is displaying signs and symptoms of dementia. An individual may become easily upset or agitated. They also may seem “not themselves”, and lose interest in things they once enjoyed and become socially withdrawn. Lastly, a person with dementia may frequently repeat themselves or will do the same thing over and over. Many elders over the age of eighty will experience some decline in their memory. Therefore, it becomes hard to differentiate early signs of dementia or benign memory loss, which is fairly common in elders (Morris, 2004).

## **Prevalence**

Dementia is becoming a prevalent disease and the number of people affected by the disease is on the rise (Reiger & Gitlin, 2017). According to the Alzheimer Association (2017),

one in ten people over the age of 65 are diagnosed specifically with Alzheimer's disease. Additionally, one in three seniors die with a form of dementia.

The increasing number of people affected by dementia contributes to substantial health care and long term care costs. Total payments for individuals with dementia are estimated to cost over \$259 billion dollars. Medicare and Medicaid are expected to cover about 67% of the total health care and long term care costs for people with dementia. People with dementia are likely to have twice the number of hospitalizations compared to other older adults (Alzheimer Association, 2017). Furthermore, the cost of care in a nursing home is generally higher for people with dementia due to their disruptive behaviors. About half of nursing home residents are affected by dementia. Long-term care facilities hesitate to admit people with challenging behaviors, since caring for them may be stressful and challenging (Cooke, Moyle, Shum, Harrison, Murfield, 2010; Hyochol & Horgas, 2013).

The Alzheimer Association (2017) estimated in 2016 that 18.2 billion hours of unpaid assistance were provided to people suffering from a form of dementia. Many of the unpaid hours is assistance provided by the family. The caregiver may be caring for an aging parent, as well as their own children under the age of 18. There has been an increase of focus on the pathogenesis of the disease, but less focus on the ways of palliating behavioral symptoms of the disease (Alzheimer Association, 2017; Kales, Gitlin & Lyketsos, 2014).

### **Behaviors**

The main issue for people with Alzheimer's disease, as well as other forms of dementia, is the management of the behavioral and psychological symptoms of dementia (BPSD). These symptoms are often distressing and problematic. BPSD has three main set of symptoms: agitation, psychosis and mood disorder. BPSD is often distressing for the residents, as well as the

caregivers. BPSD are often associated with a reduced quality of life. It is common for more than one BPSD condition to be present at the same time (Ballard, Corbett, Chitramohan, Aarsland, 2009). BPSD are common in people with dementia, and more than 50% of people in a clinical setting suffer from BPSD. BPSD have been associated with a poor prognosis and an increased rate of decline and illness progression (Margallo-Lana et al., 2001; Martini de Oliveria et al., 2015).

A clinical assessment is essential before specific interventions or therapies are considered. Physical problems are common and often intensify BPSD. Pain is hard to assess in people with dementia and is often a trigger for BPSD. Pain is underdiagnosed, but better pain management has been shown to reduce BPSD. A systematic approach to managing pain in residents with dementia has shown to reduce agitation; however, it is challenging because of the difficulty of assessing pain in individuals with dementia (Ballard & Corbett, 2010; Ballard et al., 2009 & Hyochol & Horgas, 2013;).

Increased behaviors may occur because of the person's inability to communicate a physical or psychiatric distress from an unmet need. Vision and hearing impairments can also be a cause of BPSD. Behaviors may be due to an attempt to meet the unmet need, communicate the unmet need or the outcome of a need not being met (Ballard & Corbett, 2010; Livingston et al., 2014; Regier & Gitlin, 2017 & Ridder, Stige, Qvale & Gold, 2013). The management of agitation should always begin with a physical and environmental assessment. Behavioral symptoms are common in dementia and do occur at different stages. It is important to understand the person's phenotype and frequency to provide the most effective care. Therefore, there continues to be a heightened attentiveness of the importance of preventing, observing, and

handling behavioral symptoms to assist in recognizing and addressing potential unmet needs (Regier and Gitlin, 2017).

### **Common Interventions**

Hyochol & Horgas (2013) discuss three major approaches to managing disruptive behaviors: physical restraint, pharmacological interventions and non-pharmacological interventions. Studies have shown that the use of physical restraints may lead to functional disabilities and/or psychological harm. Resident's dignity and autonomy may be lost with the use of physical restraints, raising ethical concerns for caregivers. Traditionally, the primary interventions have been physical restraints and pharmacological interventions. Attempts have been made to look closer at the non-pharmacological interventions due to the ethical concerns of physical restraints and the potential harmful side-effects of pharmacological interventions (Cooke et al., 2010 & Hyochol & Horgas, 2013).

**Pharmacological.** Pharmacological interventions use psychoactive medications to manage disruptive behaviors in dementia. Historically, pharmacological treatment has been the primary treatment for behaviors in dementia. Most common pharmacological interventions are cholinesterase inhibitors, antipsychotics, antidepressants and mood stabilizers. There is no universally accepted standard of care for using these medications in residents with dementia. Despite widespread use of psychotropic medications to manage behavioral symptoms, the medications show a modest effect in improving behavioral symptoms. Not treating behavioral symptoms is associated with faster disease progression (Hyochol & Horgas, 2013; Kales et al., 2014 & Sink, Holden, & Yaffee, 2005).

Margallo-Lana et al. (2001) report that nursing home residents receive up to four times the amount of psychotropic medications as compared to elderly persons in the community. These

medications are often prescribed inappropriately and not reviewed on a regular basis. For example, many residents were prescribed psychotropic drugs when they had depression and not prescribed an antidepressant (Margallo-Lana et al, 2001). Since medications, especially antipsychotics, are over used in this population, the Centers for Medicare & Medicaid (CMS) have begun to look at the use of unnecessary medications in nursing home residents (Kales et al., 2014).

Finkel (2004) suggests that pharmacological interventions must be considered if the agitation or behavior interferes with everyday functioning for the resident; however, the provider must investigate if there is an underlying medical condition causing the psychotic symptoms. Pharmacological interventions are necessary when the non-pharmacological interventions are not successful, or if the person meets criteria for psychosis or if symptoms are severe (Madhusoodanan & Ting, 2014 & Margolla-Luna et al., 2001). Rayner, O'Brien, & Schoenbachler (2006), recommends that if pharmacological interventions are needed, to use a "first do no harm and start low, go slow" approach (p. 648). The authors report the goal of pharmacological intervention is not to eliminate the behaviors, but to reduce and control the symptoms or behavior.

The small improvements with pharmacological interventions may benefit the person. Medications may be necessary if initial trials of non-pharmacological interventions are not successful. However, the recommendation is to start with the least harmful medication for the shortest period of time. For example, even with the known safety concerns, atypical antipsychotics have the best pharmacological evidence for treating aggression; however, they should be used in short durations (Ballard et. al, 2009).

Medications may be necessary at times; however, all other underlying medical causes, environmental causes and unmet basic needs should be considered first. Medication can lead to unwanted side effects such as sedation, falls, worsening cognitive function, urinary tract infection, abnormal gait and increased risk for cerebrovascular disease (Douglas, James, & Ballard, 2004; Kong, Evans & Guevara, 2009 & Sink et al., 2005;).

While there is no clear standard of care for people with dementia a medication regimen may be warranted for the symptoms displayed by the resident (Cohen-Mansfield, Jensen, Resnick, and Norris, 2012; Hyochol & Horgas, 2013; Sink et al., 2005). Medication may be warranted in addition to the non-pharmacological interventions; however, each provider must rule out physical or medical reasons for the illness or behaviors. Medications are often prescribed prior to trying other interventions. For that reason, interventions should be selected based on the behavior and need of each person. Typically, antipsychotics have been used to manage agitation but have limited efficiency as well as increased risk of mortality (Cohen-Mansfield et al. 2012; Douglas et al., 2004; Jutkowitz et al., 2016 & Turner, 2005)

Providers caring for people with dementia have different viewpoints on approaches to behavioral symptoms; however, most agree that the initial approach to behavioral symptoms should be non-pharmacological interventions. However, many practitioners choose to use pharmacological interventions prior to a full psychosocial assessment. There is no Food and Drug Administration (FDA) approval for the use of psychotropic medication in treating behavioral symptoms in dementia residents. Non-pharmacological interventions seem to provide safer and effective alternatives to pharmacological interventions. Therefore, non-pharmacological management of behavioral symptoms is increasing (Callaway, 1998; Cohen-Mansfield et al., 2012; Kales et al., 2014 & Martini de Oliveria, 2015).

**Non-pharmacological.** Non-pharmacological interventions may be a better alternative to the pharmacological interventions commonly used due to the limited benefits and risk of side-effects associated with pharmacology. Non-pharmacological management is starting to be recognized as a critical part of dementia care. The goal of non-pharmacological treatment is to prevent and relieve symptoms and attempt to reduce caregiver burden (Kales et al., 2014). Cohen-Mansfield (2001) discusses three reasons for using the non-pharmacologic interventions in treating behaviors. First, the non-pharmacological interventions aim at addressing the psychosocial and environmental issues as underlying reasons for the behavior. Second, non-pharmacologic interventions avoid the pharmacologic interventions, adverse side effects, and drug to drug interactions that may occur with the use of medication. Lastly, the author describes that the medication may mask the actual need the person may be communicating through their behaviors.

Several non-pharmacological interventions used have no reports of adverse side effects to the resident. Interventions are typically categorized into cognitive/emotional interventions, sensory interventions, behavior management and environmental interventions (Jutkowitz et al., 2016; Kales et al., 2014; Kong et al, 2009 & O'Neil, 2011). Reducing the stress of the environment and stimuli are basic non-pharmacological interventions to reduce behaviors. The environment can be more stressful for people with dementia due to the stimuli and can cause fearful reactions in people with dementia, which could lead to associated behaviors (Regier & Gitlin, 2017).

Literature suggests that sensory interventions may be more effective than other categories. Sensory interventions may include aromatherapy, massage/touch, or music (O'Neil, 2011). Music is an intervention that has been shown to reduce behaviors in residents with

dementia as well as increasing levels of happiness, providing positive social interactions and expansion in autobiographical memory. Additionally, when residents were provided music therapy as an intervention for behaviors relating to dementia, the use of psychotropic medication decreased. Although music has been shown to decrease agitation for short periods of time, there is no evidence music will help in the long term. In addition, music has been shown to decrease irritability and increase social behavior and has been found to be an effective intervention in a variety of ways. The reason that music decreases behaviors is still unclear and future research continues to be needed to explore the effect music has on decreasing behaviors (Cohen-Mansfield et al. 2012; Douglas et al., 2004; O'Neil, 2011; Ridder et al., 2013 & Sherratt, Thornton & Hatton, 2002).

In addition to musical interventions, Kong, Evans and Guevara (2009) researched sensory interventions for reducing behaviors in residents with dementia. Sensory interventions include aromatherapy, thermal bath, and hand massages. The authors found through their study that sensory interventions showed moderate beneficial effects on residents exhibiting agitation (Kong et al., 2009).

Awareness of the negative impacts medications can have on the elderly is increasing; therefore, there is increased awareness of alternative interventions to improve quality of life in elders. Some studies have shown that non-pharmacological interventions positively reduce common behaviors. Several studies note that it is best to individualize the interventions to each person. It is important to individualize the treatment to a person's past and their preferences. It is important to try to understand the individual's experience and to implement interventions to improve quality of life (Cohen-Mansfield, 2001; Cooke et al., 2010 & Douglas et al., 2004).

Non-pharmacological interventions are also recommended to be used in addition to medication when medications have been deemed appropriate, as they can be important additions to the effectiveness of pharmacological interventions (Rayner et al., 2006; Turner, 2005).

### **Challenges/Barriers to Non-Pharmacological Interventions**

Non-pharmacological interventions continue to be the recommended initial approach to behaviors in dementia residents, but these interventions are sometimes harder to implement than pharmacological interventions. Non-pharmacological interventions can be hard to implement due to recommendations of implementation and the varying ways in which they are delivered. In addition to the varying degree of delivery, the intensity, and the duration and frequency of the intervention also vary. Even though they have been shown to reduce behaviors in residents with dementia, these interventions are time consuming and require resources and training of staff members (Cohen-Mansfield et al., 2012; Hyochol & Horgas, 2013 & Jutkowitz et al., 2016).

**Evidence.** A lack of consistent evidence to support the use of non-pharmacological interventions exists. Many reviews and literature are mixed on the effectiveness and feasibility of these types of interventions. For that reason, clinicians' willingness to use non-pharmacological interventions depends on the clinician's confidence in the effectiveness of these interventions. (Jutkowitz et al., 2016; O'Neil, 2011).

**Providers.** Physicians may overestimate the effectiveness of antipsychotics therefore, prescribe the medication before using the non-pharmacological interventions. Some providers think that the non-pharmacological interventions may take more time before they are successful. Providers who choose pharmacological interventions may not be aware of the effectiveness of non-pharmacological interventions (Janus, van Manen, van Til, Zuidema, Ijerman, 2017). Additionally, the providers often prescribe the medication prior to being able to implement an

adequate psychosocial intervention. Providers also have little training and do not receive much information on the effectiveness of non-pharmacological interventions (Callaway, 1998 & Martini de Oliveria et al., 2015)

**Families.** Family members may unintentionally become barriers to residents, if the family member is unwilling to implement non-pharmacological interventions. Family members and caregivers must to be willing to learn and engage in the implementation of interventions. Family members may lack knowledge of how to care for someone with cognitive issues and the perception has been that medicine is easier to administer and more effective (Cohen-Mansfield, 2001; Rose and Gitlin, 2017).

Therefore, this skilled nursing organization has implemented the “Well-Kit” interventions into five nursing homes to explore the effectiveness of non-pharmacological interventions in residents exhibiting BPSD. The skilled nursing organization offers integrative healthcare to families and residents to promote the highest quality of life and to assist in the healing process.

### **Intervention Description**

Nursing home residents are a vulnerable population. In addition to BPSD, residents often suffer from medical comorbidities and take multiple medications that often interact with one another. These drug interactions may cause a functional decline over time, which often results in a nursing home placement. Guidelines recommend that both pharmacological and non-pharmacological interventions be used to treat BPSD; however, in practice this has not been universally implemented. The nation has focused on quality of life as a culture change for nursing homes and has attempted to empower caregivers to deliver resident-centered care (Kolanowski, Fick, Frazer & Penrod, 2010). The skilled nursing facility has focused primarily on symptom management with the use of the “Well-Kit” to provide non-pharmacological interventions as well as an emergency-kit with medications to provide comfort.

The skilled nursing organization care delivery model uses integrative health services. The goal is to focus on the whole person: mind, body and spirit. The intent is not to replace standard medical care, but to support each person from a holistic perspective and enhance the care being provided. The skilled nursing organization developed the “Well-Kit” to provide staff with tools to implement non-pharmacological interventions in residents with dementia. The goal of the “Well-Kit” is to equip staff members with resources to comfort and calm residents through their sense of smell, sound and touch.

The “Well-Kit” is composed of four unique approaches to offering non-pharmacological interventions. Each intervention may not work for every person. Staff members are empowered to trial interventions when residents with dementia experience BPSD. The four approaches are: aromatherapy, healing music, therapy dolls and comforting touch.

**Aromatherapy.** The skilled nursing organization has provided six different essential oils to assist with various target symptoms, such as changes in mood (anxiety and depression) gastrointestinal function (nausea), physical pain and respiratory difficulties. Staff have diverse delivery options for administering the oils. There are five primary methods of delivery that the skilled nursing organization has chosen that are available for resident care. The first method of application is via a cotton ball; this could be used in a variety of ways such as securing a cotton ball with a few drops of essential oil on the resident's clothes. The second method of application is using a pre-filled aroma stick to allow residents to inhale deeply through their nostrils. The third method of application is topical application, by way of massaging diluted essential oils onto areas of discomfort where joint or soft tissue exists. The fourth method of application is diffusion. The essential oils are administered via a small personal diffuser or larger diffusers for group use. The essential oil may also be added to a bath to help promote relaxation and provide a calming effect.

**Healing music.** The skilled nursing organization has provided the communities with an iPad mini-4, a Bluetooth speaker as well as headphones and a streaming music subscription. The goal is to utilize music to help reduce BPSD, reduce pain, reduce psychotropic medications, improve food intake, and enhance the over-all well-being. Music can be streamed at mealtimes, in small group activity, or individualized via head phones to deliver more personalized music experience.

**Therapy dolls.** The skilled nursing organization provided the facilities with three therapy dolls that appear life-like and are weighted like a newborn. Therapy dolls are introduced to residents to help provide a sense of purpose and connection. Often times, residents with cognitive impairments feel comforted and soothed when holding the life-like baby. The therapy

dolls can increase attachment and interactions with staff and families as well as increased engagement in activities. Therapy dolls often give residents a sense of purpose and focus. It can give them a sense of self-worth and allows them to feel they are playing a meaningful role in life. Even if the resident does not want to hold the baby, it can promote increased conversation around their own family, children, grandchildren and their past life. Therapy dolls have also been shown to promote and maintain attachment and allow residents with dementia to relate to others in their surroundings (Mitchell, 2014).

Not everyone will want to engage with the therapy doll when introduced to this intervention, it is important to know their personal life story. However, anyone at any stage of dementia may benefit from the therapy doll, if the person chooses. It is important to let the resident decide if it is a toy or a real baby and the caregiver should not invalidate this belief. As a caregiver caring for residents with dementia, it is important to treat the doll like a real baby. Caregivers are not trying to make the resident believe that they are a real baby, but meet them where they are and communicate with them in a way that will make sense to the resident (Mitchell, 2014).

**Comforting Touch.** Comforting touch allows the caregiver to provide a slow stroke massage to the feet, hands, and/or back. Comforting touch has benefits of reducing or alleviating agitation, lowering blood pressure and improving meal intakes. Comforting touch is gentle touch using basic massage strokes as well as acupressure points to relax muscles, reduce pain and joint stiffness. Research is very limited on the benefits of comforting touch; however, the research that is available does support these interventions.

The sequence to providing comforting touch takes about ten minutes to complete. All the touch provided by the caregiver is done over the clothes. The caregiver starts at the lower back

and makes gentle circles following the spine up to the neck. Next the caregiver presses gently down on the muscles between the neck and shoulders. Thereafter, they move to the arms making circles around the shoulders all the way down the arms. Finally, they will massage gently the acupressure points of the hands as well as circling the top of the hand. Each of these steps is usually repeated three to five times.

Literature suggests that the sensory interventions may be more effective than other categories. Sensory interventions may include aromatherapy massage/touch or music. Music is an intervention that has been shown to reduce behaviors in residents with dementia, as well as increasing levels of happiness, providing positive social interactions and expansion in autobiographical memory. Additionally, when residents were provided music therapy as an intervention for behaviors relating to dementia the use of psychotropic medication decreased (Cohen-Mansfield et al. 2012; Douglas et al., 2004; Ridder et al., 2013; O'Neil, 2011; Sherratt, et al., 2004).

I evaluated the efficacy of these "Well-Kit" interventions by asking questions and listening to the nurses and direct caregivers who are providing these interventions to residents with BPSD. Obtaining information directly from staff that are providing the interventions allowed for real time data and will speak to positive and/or negative outcomes, as well as the success of these interventions in achieving their intended aims. In addition, the researcher was able to inquire on unintended consequences from implementing these interventions.

## **Methods**

### **Research Design**

This study was a qualitative and exploratory pilot study. The purpose of the pilot study was to interview nursing staff who work in the skilled nursing facility that are part of the implementation of the “Well-Kit”, serving as a form of program evaluation. The advantage to interviewing the direct care staff was to get first-hand information on the degree of effectiveness of the non-pharmacologic interventions provided to residents experiencing BPSD. Another advantage of interviewing the staff who implemented the interventions was to gain insight and further knowledge about how to better implement the interventions or what would work better. This exploratory study provided further information about the effectiveness of non-pharmacological interventions in residents with dementia. In addition, direct care staff were interviewed with the hope they may offer a first-hand understanding of how to best care for residents, using these approaches and have implemented these interventions across the skilled nursing organization.

### **Sample**

The sample consisted of licensed nurses, nursing assistants, and other interdisciplinary staff who provided care to residents at the facility. Preference was given to staff directly providing care and interventions to residents. Purposive sampling was used; an email was sent out to facility staff via email on three separate occasions. Staff who utilized the interventions were invited to participate in the study. The study also used purposive sampling by asking for volunteers from the facility who have knowledge and experience with the interventions and who were willing to participate in the study. Staff members who participated in the interview could

also ask other co-workers who used the interventions if they were interested in participating in the study.

### **Protection of Human Participants**

The proposal was reviewed by the University of St. Thomas Institutional Review Board (IRB) prior to the data collection. Consents explaining the purpose of the study, the procedure, confidentiality and voluntary participation were explained to each participant prior to conducting the interview (See Appendix A). The form was reviewed and approved by the researcher's chair, committee and the IRB. The participant reviewed and signed the form prior to beginning the interview and was offered a copy. Participants were given an electronic copy of the interview questions prior to the interview. Participants were asked questions regarding their perception of the effectiveness of the "Well-Kit" interventions for residents living with dementia.

Interviews were conducted at a time and place that was comfortable for the participant. All interviews were conducted at their place of employment. Participants were reminded that they may choose not to answer any questions or withdraw from the study at any time. Interviews were recorded using a digital recording device. Potential identifying information was not transcribed. The recording device was a password protected cell phone and the interviews were deleted within two weeks of transcription. The transcription was stored on a password protected computer at the researcher's work desk, as well as on a password protected Google-drive.

The researcher supervises four people at the facility. If a direct supervisee contacted the researcher to participate in the study, the researcher opted out of interviewing them. Two of the researcher's direct supervisees contacted the researcher to participate in the interview. These two participants were not chosen to participate in the research.

**Data Collection**

The researcher conducted individual, semi-structured interviews that consisted of ten questions to address the effectiveness of the non-pharmacological interventions (see Appendix B). The researcher expected to conduct between six to eight interviews. The researcher conducted a total of four interviews. Two additional interviews were declined due to being supervisees of the researcher. The questions were formulated based on the literature reviewed and reviewed by my committee. The researcher reached out to potential staff via email communication. The email was sent out to the facility staff on three different occasions. The email communicated the purpose of the study and the voluntary participation. Interviews were conducted using a recording device in a private location at the work place. All interviews took place in the researcher's office. Employees were offered the chance to participate in the interview during their scheduled hours. Each interview took approximately 30 minutes. The interviews were transcribed by the researcher and were deleted within two weeks of the interview. Interviewees were primarily female staff who have practiced specifically in the nursing or nursing assistant field.

**Data Analysis**

Qualitative data analysis was used. Data were transcribed by the researcher and the researcher looked for specific themes from the interviews. The researcher's goal was to learn about the extent in which the "Well-Kit" was achieving its stated aims in reducing BPSD in the nursing home. The researcher first looked for specific codes or similar words from each interview and developed the themes and sub-themes. Three main categories were developed. The researcher first re-listened to the interviews and used an inductive approach. The researcher took notes and found general themes from the interviews. Next, the researcher used a deductive

approach and found specific concepts and themes that emerged. The researcher was listening for positive and negative consequences of the use of the “Well-Kit”, the participants decision to use the “Well-Kit” and the responsiveness of others. The researcher then put the quotes and themes into groups using an outline method. The researcher created an outline using the themes as the header and put quotes from the participants in each appropriate group. Themes and sub-themes were developed and specific quotes were chosen using the outline method as well.

### **Strengths/Limitations**

The pilot study was beneficial to the facility and to the program that the researcher is evaluating. However, there are four other test sites that may implement things differently, and information from the other sites was not available during the initial pilot study. Due to geographical limitations the study was only conducted at one facility. The pilot study also gave more attention to the topic, since research is limited. The pilot study used a qualitative approach, which allowed for the respondent to give more detail than could be captured in a survey. The “Well-Kit” is only specific to one skilled nursing organization. Other nursing facilities may be using similar integrative health programs, but those were not evaluated.

## Results

Throughout the interviews, participants spoke of the use of interventions with residents experiencing BPSD using three main categories. First, participants discussed the use of the Well-Kit provided by the skilled nursing organization to staff. Participants then described other interventions they used, which included alternative non-pharmacological interventions and pharmacological interventions. Lastly, participants explained the responsiveness to using these non-pharmacological interventions. The participants described responsiveness of staff, families and residents.

### “Well-Kit”

Participants gave a thorough explanation of the use of the “Well-Kit” and their experiences with utilizing the interventions. There were three main themes that emerged from the data collected. The sub themes are: the decisions to use the “Well-Kit”, positive experiences with the “Well-Kit” and negative or unforeseen experiences with the “Well-Kit.” A theme didn’t emerge about which intervention was more effective than others in relation to the “Well-Kit.” One participant stated, *“They are all equally effective, it’s just pairing up the right one with the right resident and the right behavior you are trying to decrease.”*

**Decision to use the “Well-Kit.”** Most of the participants described residents’ visual cues as a primary prompt to use an intervention from the “Well-Kit.” In addition to visual cues, participants spoke about the importance of knowing the resident’s dementia diagnosis. One participant stated, *“I think it depends on the type of dementia too, where you see the behaviors come out. Some people are just pleasantly confused throughout their dementia and others really get delusional and feel persecuted and think everyone is stealing their things.”* Participants had a variety of visual cues that would trigger the use of the “Well-Kit.” One participant described the

behaviors as visual cues since residents with BPSD are unable to communicate their needs at that time in their lives. The participant stated, *“People don’t have the ability to use that portion of their brain so they are acting in manners that they normally wouldn’t and they can’t control their behaviors.”* This participant used the behaviors as visual cues to utilize an intervention from the “Well-Kit.” The participant then stated,

*“I have found with aromatherapy, some touch therapy, music therapy and some of the doll therapy, it brings out positive changes and allows them to use a different facet of their brain that can help ease some of the symptoms they are having.”*

Another participant described visual cues as seeing residents becoming visibly upset or beginning to wander around the facility. The participant stated, *“We have a few that get visibly upset, almost to the point they start shaking. With certain residents that start to wander, you know something is starting to come up.”* Most of the participants reported they recognize the visual cues and behaviors of the residents at the facility, which allows them to anticipate when a resident was having increased signs of BPSD.

At least two of the participants spoke about knowing resident’s preferences and their life history when deciding to utilize “Well-Kit” interventions. The participants reported that this can be helpful in selecting an intervention and knowing when the intervention was no longer effective. One participant stated,

*“I look at the resident and what they were used to doing, just because they don’t sleep at night, doesn’t mean we have to put them on a medication. Maybe they worked night shift so I think really understanding their background and what they liked to do.”*

Another participant spoke about knowing the resident's preferences and history by saying, *"Everyone is so individual, I try to look for what interventions might make them more disruptive or less disruptive and obviously tending towards the ones that work better."*

Lastly, one participant had a different perspective on using the "Well-Kit" interventions. This participant used them with residents; however, described how they used the interventions on themselves to help provide a calming environment. The participant stated *"Sometimes I wear it [aromatherapy] myself; I am usually pretty close to someone when I am working with them, so it does seem to calm them down."* This participant also described how the residents are able to sense the caregiver's anxiety level as well. The participant stated, *"They can sense if you have some anxiety, so wearing it myself helps me calm down, too."*

Participants had many similarities in their decision to utilize the "Well-Kit" interventions. The participants also described using the interventions before medication administration in order to divert or calm the resident before they became too agitated or upset. Participants felt when they made the decision to utilize a "Well-Kit" intervention; it primarily had a positive effect on the resident, which could be identified fairly immediately.

**Positive experiences with the "Well-Kit."** Participants spoke of numerous benefits of the "Well-Kit." Many similar themes emerged from the utilization of each intervention. One participant gave a general comment about the benefit that they experienced as staff members used the "Well-Kit." The participant described the experience as *"bringing out positive changes and allowing them to use different facets of their brain that can help ease some of the symptoms that they are having."* The participant further described the benefit of the "Well-Kit" by saying *"I have found that in other manners because we have it for pain, discomfort, anxiety and things that don't just come with dementia, but with other factors and it still allows them to function but*

*with less stress, anxiety and pain.*” Another participant spoke about the uniqueness of the “Well-Kit” opportunities and being able to assist more residents than before. Prior to the “Well-Kit” participants described alternative interventions that they used, but this was limited based on the cognitive level of the resident who is displaying signs of BPSD. One participant stated, *“Not everyone can do the jobs, not everyone has the cognitive ability to do the jobs.”* Another participant stated, *“Before we had it, it was limited to who we could help with different things, if you give them a job, it’s too hard for them, or they get bored with it. The “Well-Kit” almost everyone can participate in.”*

Many participants spoke about the therapy doll providing meaning and a sense of belonging for the residents at the facility. Some female resident’s maternal instinct came alive and they were described as having a sense of purpose and worth. One participant stated, *“The babies work well for some people, not all, but the ladies, the maternal instinct comes into play and you can divert their attention to something else where they can still be a caregiver.”* Participants spoke of the benefit of the therapy dolls, as well as the accessories that go with the babies. The participant stated *“I will undo clothing, towels, and baby items and ask for their help in folding the items. It helps redirect them.”* The use of the therapy dolls provided a sense of purpose and belonging for residents at the facility, but it has also provided a sense of language for some residents who may have lost some of that ability due to dementia. One participant specifically stated, *“I have visibly seen residents who don’t really talk actually hold the baby and start talking to the baby, they have a smile on their face and they are calm.”*

One participant viewed the use of the therapy doll in a different way. This participant would use the therapy dolls as a motivating factor for residents. The participant stated, *“I use it as a motivating tool, OT [occupational therapy] might use the babies more to have residents*

*change the diaper or pass the baby back and forth.”* The same participant further described the use of motivation by stating, *“I think they have a dog here, and I have used the dog to motivate a resident to walk. We would take the dog on a walk, and then the resident was more willing to walk.”* In addition to motivating residents, some participants described the therapy doll as a motivating factor to help them with exercise by stating, *I have used the babies with some residents when I’m doing passive range of motion, where they mostly just need to see the baby there. They like something to hold to keep them busy.”*

In addition to the therapy doll used from the “Well-Kit”, participants spoke about the benefit of using aromatherapy with residents at the facility. One participant spoke generally of the benefit of aromatherapy by saying, *“We diffuse them in the common areas, and have different oils in lotions, and it is a combination of human touch and the aromatherapy that makes a difference.”* Participants spoke about using aromatherapy for other residents, not only ones experiencing BPSD. The participant stated,

*“I have really found great successes down on our TCU unit using essential oils in the bath tub. It is not so much they are dementia residents, but they have anxiety, they had surgery, they have pain and are in a different place. It helps them to calm and be at ease. I will put a couple of drops of lavender in their tub and it helps them settle.”*

One participant described how they used aromatherapy and the positive effects on residents at the facility. This participant’s role is slightly different than nursing and they describe the benefits of aromatherapy by stating, *“I have definitely seen faster healing and lower incidents of cellulitis with the lymphedema treatments ever since I started using the oils.”*

Most participants spoke highly of using aromatherapy on a regular basis to keep symptoms of BPSD from escalating. A participant gave a specific example of the routine they use to help residents have a calming night. They stated,

*"If you diffuse lavender for the hour that everyone is down at the dining hall, by the time they come back the atmosphere is calming and it reduces sundowning. If you bring them back and then start to diffuse it for that hour the behaviors are about in between. If you don't do it at all, we have a wild night."*

Participants stressed having a routine or using aromatherapy on a regular basis, and they spoke about knowing resident preferences and when they may need aromatherapy. One participant validated this by stating, *"I feel like residents we use the aromatherapy or the doll therapy with on a more regular basis with them, are calmer overall."* Participants also stated the oil they use depends on the situation and the time of day the behavior is occurring. One participant stated, *"I can think of several residents, you ask them if they are having a 'spell' and they will say 'yes' and if you ask them if they want a flower and put aromatherapy on the flower, it visibly calms them."* Another participant described how they choose to use oil by stating, *"If it's right before a meal and they are wandering around, I have used tummy ease [an essential oil from the "Well-Kit"], it helps with hunger. Someone who isn't feeling well I've used the anti-nausea one and it's helped."*

In addition to the therapy doll encouraging language for some residents, participants gave examples of how music also can encourage language in residents experiencing dementia. One participant gave an example by stating, *"I've seen the music work really well for people that may not be able to communicate well, but can still recall the words to songs."*

Not only has music helped provide language, it has decreased wandering and agitated behaviors. However, it is important to know the residents' preference relating to music. One participant described the success in using music; however, stressed the importance of knowing the resident's preference by stating, *"There are a couple of residents who hate classical music, and so if you put that on for them, it won't help."* A few participants described the decreased wandering behaviors of residents when using the music intervention on a regular basis. One respondent described the decrease in wandering behaviors by stating, *"I have given them the music and they have stayed in one place and visibly looked calmer and they like listening to the music."*

Music can be used in a calming way; however, one participant viewed using the music intervention of the "Well-Kit" in a motivating, uplifting way as well. This participant stated, *"I have some CD's that I use for the physiological relaxation, or more upbeat music if we are trying to get them to participate in exercise."* One participant described faster improvement and less pain in residents while using music as an intervention. This participant stated, *"They can get more out of each exercise session, they can tolerate more exercise so they improve faster, music is something to focus on and move with the rhythm."* With increasing the use of music in a positive upbeat way, one participant described the long-term stability that has happened and residents continuing to use the music in a social manner, *"I started using music in the Assisted Living, since there were a lot of dancers, we started doing more of a bar type class with them. It really helped and had long term adherence. Now I go over there and sometimes see them doing it."*

One participant described music in a different way. This participant described the use of music as all sounds the residents are hearing. This participant described how even with loud

noises on the unit, they can see a difference in the behaviors of residents. This participant stated, *“If there is something obnoxious on the TV, such as, loud noises, banging and disruption, you can see the difference in dementia residents. If it is calming and soothing, you can see the reverse affect.”*

The last intervention of the “Well-Kit” relates to touch. Most of the participants described the use of touch in addition to the other “Well-Kit” interventions as a positive intervention. Participants describe touch in a variety of ways. Many of the participants used aromatherapy and touch together to help with pain, anxiety, and nausea. One participant described the positive correlation between touch and aromatherapy by stating, *“You can massage them for even five minutes and it makes a world of a difference. It is a combination of the human touch and the aromatherapy that makes a difference.”*

Another participant described the use of touch by stating, *“Touch can be very effective to get people to calm down, or you can use it to facilitate movement for pain relief, I feel our elders do not get enough touch from others.”* Participants had a harder time speaking to the intervention of touch and utilizing it as an independent intervention.

In summary, participants spoke highly of the use of the “Well-Kit” and experienced many positive outcomes for residents. Participants did have some experience with negative outcomes, but more of their experiences were unforeseen outcomes and experiences.

**Negative or unforeseen experiences with the “Well-Kit.”** Participants spoke generally about the negative and unforeseen experiences with the “Well-Kit.” Many participants didn’t call them negative experiences, however suggested that it was finding the right intervention for the right resident. One participant simply put it, *“I would just say when you are trying, that is when you maybe have the negative ones, trying to find the right thing and it’s just not working until*

*you find the right intervention.*” However, many participants explained that even though one intervention may not work at that time, it was important to continue to try to find another “Well-Kit” intervention that may work, before utilizing a medication. In addition, participants described ongoing communication when an intervention didn’t work for a resident. One participant stated, *“If I give a resident something, I let the nurse know I gave it and within ten minutes or so, if they are still escalating, I let the nurse know. Maybe there is something else to try or the nurse has a different idea.”* One participant described communication with the nurse and trying other interventions when one “Well-Kit” intervention is not effective. They stated, *“It is not just do what you want and go on about it, you have to be reporting to the nurse when you use an intervention. You need to reassess within the hour.”*

Participants described the babies the most and having negative or unforeseen experiences with them. One participant stated, *“I think with the babies sometimes they aren’t sure if they are alive or dead and they think you have given them this dead baby.”* Participants explained how they have all generally seen this and it can cause worry or anxiety for the resident.

Participants described the importance of using the aromatherapy in the appropriate way or it may have negative consequences. One participant described the over use of aromatherapy by stating, *“If you diffuse lavender in a room for three hours, staff and everyone get tired, if it’s not used appropriately or over used it can be negative.”*

Some participants described how music is a beneficial intervention; however, at times it may not be an effective intervention. One participant described the following, *“Sometimes you think it’s going to be a great intervention for them, and they end up hiding it in a drawer somewhere, or they don’t like the headset.”* Another participant had an unintended experience with music. The participant described the situation by stating,

*“I didn’t think the music would work because they don’t like noise, noise seems to be too much for them. They will wander away from groups of people, so I thought the music may not work for them, but we tried it and it worked. I think it was just one noise they had instead of a large group.”*

Other participants had not experienced any negative or unforeseen experiences. One participant gave an example of how they implement the interventions without any unforeseen experiences by stating, *“I am pretty careful with how I implement it, so it’s hard to say, I really haven’t noticed any resistance. Usually they like it.”*

One participant described a negative consequence where the resident became visibly upset with the use of aromatherapy. When asked further, pharmacological intervention was necessary at that time. The participant stated,

*“I had someone get really stinking mad and it was supposed to be a calming. Like, off the hook mad. It was not effective at all. I was getting sworn at and I just removed it all and took it all away. We had both agreed to try it previously.”*

### **Other Interventions**

Participants primarily discussed the use of the “Well-Kit” and the effects the interventions had on residents experiencing BPSD. Participants also spoke about other non-pharmacological interventions they have used as well as the use of pharmacological interventions. Participants described the use of non-pharmacological interventions in conjunction with pharmacological interventions.

**Non-pharmacological.** Many participants stated giving residents a job or a task to do as another non-pharmacological intervention. Participants described having residents play games with them, doing puzzles, or playing cards. Participants described how this could be challenging at times since some of the residents did not have the cognitive ability to do such tasks. Participants agreed that they still use some of these interventions in addition to the “Well-Kit.” One participant stated, *“I still use these, but the “Well-Kit” is just an added bonus and something else you can use with the residents.”*

Another participant spoke of using picture books as a non-pharmacological intervention and having a resident find specific things or have them make lists or have them do busy work to decrease agitation. They stated, *“I would get a picture book and I would sit it in front of them and I’d pretend I needed their help finding a specific something in the book.”*

Other non-pharmacological interventions participants spoke of related to the approach of the resident exhibiting BPSD. One participant stated, *“I speak calm and dim the lights if they are more anxious.”* In addition to the approach, participants stated changing routines as another non-pharmacological intervention to decreasing BPSD. The participant stated, *“I just switch how I do things, the order, time of day, the location or the interventions. I just kind of change the environment.”* In addition to changing routines or environment, participants described the importance of validation. Not trying to bring the resident back to reality but meeting them where they are at. One participant described this by saying, *“My practice is more validation therapy, I am not trying to bring them back to reality but trying to live in their reality and validate their feelings or beliefs about what is going on.”* In addition to validating the resident’s feelings at the time, many participants described the importance of validating the residents thought about the baby used in the “Well-Kit.” A participant stated, *“The main key is to honor whatever they*

*believe about that doll and to always respectfully treat all of them because someone down the hall doesn't realize it is a baby doll." With validation, participants described diverting the resident's attention as well. Sometimes the resident may just be agitated for a short while and if you can divert their attention before the use of medication that will sometimes help the resident through their situation. One participant stated, "I would always start with the least invasive, if we can divert their attention rather than giving them medication, they may settle down. Sometimes it's just a short period of time you need to get them through."*

One participant spoke about the importance of exercise as another non-pharmacological intervention. The participant stated, *"Mostly what I do is exercise, if you think of restless leg syndrome, that is when people go to pharmacological right away, but really, exercise is more effective. It senses that the leg wants to move, so let's move the leg instead of using things to calm the nervous system with potential side effects."*

Overall, most participants spoke about the importance of preparing for situations ahead of time. One participant stated,

*"It is an inevitable situation that is not going to change, so if you know the hall and what you need to be doing, you should prepare ahead of time because it will make the night flow better. While they are at dinner you can have things set up so when they come back you can have proper activity and a calming environment for them."*

**Pharmacological.** Another sub-theme that emerged was the use of pharmacological interventions. Many participants described seeing a reduction in the use of pharmacological interventions; however, discussed the importance of them at times. One participant stated,

*“I think they are appropriate for a time and then you can get rid of them as they advance with their dementia and behaviors change, the agitation varies, so I don’t think it’s something that is required forever but might get them through a certain period of time.”*

Many of the participants described using all of the possible non-pharmacological interventions prior to using pharmacological interventions. With the use of the “Well-Kit”, most participants agreed that the use of the medications, especially the as needed medications have decreased. One participant stated, *“I think we have more utilization of the “Well-Kit” and we have gotten several people off atypical antipsychotics.”*

Participants described that medication may be necessary, but it is important to assess what the actual behavior or diagnosis is so the resident can be prescribed the correct medication. One participant stated, *“I think depression is prevalent with the elderly, sometimes medication can help with those behaviors and treating their depression is appropriate.”* Assessing the actual behavior and appropriate diagnosis can lead to an appropriate use of the least restrictive medication to treat the behavior.

One participant described a time when medication may be necessary and that a resident wasn’t prescribed the appropriate medication dose. This participant stated,

*“There are times we can tell if they are on too little[medication]. Primarily with anxiety, if they can’t pay attention or follow our recommendations, that can be an issue. Sometimes pharmacological agents can help. Sometimes once that is taken care of; it is easier for them to participate.”*

Another participant stated that medication may be necessary, however, it takes a while for it to become effective in the resident’s system. This participant stated,

*“You can tell when they get put back on the medication, the behavior kind of goes away, but it takes days for it to come and go. With the non-pharmacological it can be a matter of 20 seconds to a couple of minutes and their behavior has gone down or away. Even if it’s temporary, it helps.”*

Other participants did not directly administer medication or may not be familiar with specifics of a resident’s medication regimen. These participants described being able to recognize when a resident has been put on a medication to help with behaviors. One participant stated, *“I can tell with the resident when they are messing with their medication because their behaviors go wonky or they are super zonked out and tired all the time. It takes so long to get the medication worked out.”* Another participant described their experience with medications, especially if appropriately dosed, by stating,

*“You can really tell if it’s inappropriate or too much, you see them in almost a vegetative state or flaccidity in the extremities. Suddenly, they can’t walk or transfer because they are so weak from these agents making them calm, kind of like the barbituate that might make them not be able to contract their muscles as well. However, there is a pro and a con to them, if they are so bad that they are a potential danger to themselves, it may be necessary for medication, it is a hard balance.”*

Participants spoke of the side effects they see from the use of medication to treat behaviors. One participant stated, *“A lot of the medicines really have a heavy sleepy affect or cause the resident to be really groggy. It makes it tough because you want them to live and experience family and activities but unfortunately the medicine and the combination of medicines cause them not to be very alive so to speak.”*

### **Responsiveness of Others**

The last theme that emerged from the interviews with participants was the overall responsiveness to the nonpharmacological interventions and the use of the “Well-Kit.” Participants generally had a positive response from others with the use of the non-pharmacological interventions and the “Well-Kit.” One participant described the importance of education to the floor staff on the “Well-Kit.” The participant stated, *“We had the ‘Well-Kit’ for a while, but people didn’t understand, so the education piece has been huge.”* Education has been important for staff members. Participants described how sometimes staff don’t believe in the interventions and it can be hard for them to see the benefits; however, once the staff member experiences the benefit they acknowledge the importance of the intervention. One participant stated, *“Some staff think it is a bunch of ‘spoof’, but when we diffuse lavender down a hall for an hour in the evening, they can see the difference when it’s done and not done.”* Participants overall agreed that staff are more apt to use the interventions when they can see instant results. One participant stated, *“I think the babies are the biggest impact on the staff because they can see that automatic response.”*

Other participants described the responsiveness of residents in a positive way by stating, *“Sometimes people say they are so tired of taking pills, so I ask them if I can rub their feet or back with some lotion and they usually say yes.”* Participants described minimal resistance from residents. One participant described the resistance they see by saying,

*“Some people are just set on being agitated. If you aren’t open to it and you are set that you are going to be agitated no matter what, it doesn’t matter if you take a nice bath or have a massage, your mind is not settled and your heart is not settled. Nothing is going to work.”*

Participants did not mention resistance from families with the use of non-pharmacological interventions and the “Well-Kit.” Many participants stated that families will recognize the benefits of the interventions. One participant stated, *“I think most of them are pretty okay with it, especially the ones who come in regularly, they see the props and they understand what it does to help the resident.”* Another participant described the occasional need for education with families, so they are able to see the benefits of non-pharmacological interventions compared to medications. This participant stated, *“You have to do a little education that these medications aren’t good for the residents and we don’t want them on a large dose if it is unnecessary.”*

## Discussion

### Interpretation of Findings

Participants described the “Well-Kit” as being successful in decreasing BPSD. Participants discussed the interventions used in the “Well-Kit”, as well as other non-pharmacological methods used in decreasing BPSD. Participants also described the “Well-Kit” as being accessible and practical to use. Participants described the “Well-Kit” as fast acting and has minimal risk compared to pharmacological interventions. Generally, the conclusion was that the “Well-Kit” is helpful in reducing BPSD and improving quality of life in the residents’.

Using visual cues as a primary prompt in interventions was also agreed upon as a benefit to residents. Visual cues varied based on the resident; however, staff reported getting to know the resident is important. The primary method for a participant’s decision to use the “Well-Kit”, or another non-pharmacological intervention was based on visual cues received from the resident. Participants utilized a variety of visual cues, and they discussed the importance of getting to know residents and their life story. This approach is also supported by the literature. Cohen-Mansfield (2001) reported that non-pharmacological interventions aim to address the environmental and psychosocial reasons for behaviors. Participants also addressed the need for environmental modifications, which may assist in reducing BPSD.

Participants described positive experiences with the use of the “Well-Kit”. These positive experiences from staff members suggest that the “Well-Kit” has been successful in reducing BPSD in one skilled nursing facility. Participants did discuss the importance of preferences related to all the interventions. Many of the interventions described by participants as successful were sensory interventions. The literature supports that sensory interventions may be more effective than other non-pharmacological interventions in reducing BPSD. O’Neil (2011), states

sensory interventions may be more effective than other categories. Sensory interventions may include aromatherapy, massage/touch, and/or music.

The participants described the therapy doll as an effective intervention in reducing BPSD. Participants discussed the importance of attachment and that many elderly have a caring instinct. The importance of attachment and dolls has been supported by the literature, as well as the pilot study of the “Well-Kit”. Doll Therapy has also been shown to promote and maintain attachment and allow residents with dementia to relate to others in their surroundings (Mitchell, 2014).

The use of music is also supported by the literature, as well as the findings of this study. Music is an intervention that has been shown to reduce behaviors in residents with dementia, as well as increasing levels of happiness, providing positive social interactions and expansion in autobiographical memory. (Cohen-Mansfield et al. 2012; Douglas et al., 2004; Ridder et al., 2013; O’Neil, 2011; Sherratt, et al., 2004). Participants of the study also described music as encouraging language for some residents and decreasing wandering and agitation. Participants primarily described music as a calming intervention, and one participant described music as an uplifting or motivating tool for residents.

Participants described aromatherapy as primarily effective for anxiety. Participants had used aromatherapy for residents experiencing BPSD, but also with residents who have recently had surgery or were experiencing pain. Participants did describe the essential oils provided in the “Well-Kit” to be effective. The participants described the primary delivery methods as diffusion, topical, cotton ball placed on a residents clothing and adding them in the bath tub. Participants described diffusing essential oils in common areas as effective in reducing BPSD in certain units.

The last intervention of the “Well-Kit” is comforting touch. Participants did describe the use of the intervention in conjunction with the other interventions, primarily aromatherapy. Participants described touch as being effective in reducing pain when lotion was applied to residents who may not want to take additional medication. Utilizing a massage with aromatherapy to help residents calm down prior to pharmacological interventions was also effective. Participants described the importance of touch, but also discussed how it can be a harder intervention to implement.

Participants did not provide negative experiences with the “Well-Kit”, however unforeseen or unexpected outcomes were described. Participants stated these experiences occurred when they were trialing various interventions with a resident. In this period of trialing, participants generally discussed the importance of communication to nursing staff in regard to the effectiveness of the interventions. Participants report feeling empowered to trial these interventions prior to using pharmacological interventions. Even if one intervention from the “Well-Kit” doesn’t decrease the behavior or area of concern for the resident, participants trialed other non-pharmacological interventions to determine which intervention would be most effective for an individual resident.

Participants did describe a few negative experiences, primarily with the therapy doll. At times residents were unsure if the baby was alive or not. In addition, participants noted negative experiences with the aromatherapy. Residents may not like the scent; however, the participants spoke about the importance of utilizing the essential oils appropriately and not over using them.

Overall, participants described the benefits to residents in using the “Well-Kit” interventions. The participants all described unforeseen experiences, which is likely due to

trialing interventions that might be effective individual residents. Participants described the benefits of other non-pharmacological interventions that are not included in the “Well-Kit”.

Participants described utilizing these other non-pharmacological interventions prior to having the “Well-Kit” interventions. Participants described the importance of personalization of interventions for residents either using the “Well-Kit” or other non-pharmacological interventions. Literature has suggested that it is best to individualize the interventions and not provide the same treatment or interventions to each person based on their preferences. It is important to try to understand the individual’s experience and to implement interventions to improve quality of life (Cohen-Mansfield, 2001; Cooke et al., 2010 & Douglas et al., 2004). The “Well-Kit” allows to the staff member to assess the resident in the moment on what intervention may be effective at that time.

Participants described using other non-pharmacological interventions in addition to the “Well-Kit”. Interventions may include giving residents a specific job, looking at picture books, making lists, or playing games. With these interventions participants did report challenges as some residents do not have the cognitive ability to participate in the game or job. Therefore, participants felt the “Well-Kit” was beneficial to all levels of cognition.

Other participants described environmental or routine changes as alternative non-pharmacological interventions. Environmental modifications and validation are supported by the literature. Regier & Gitlin (2017) suggest reducing the stress of the environment and stimuli are basic non-pharmacological interventions to reduce behaviors. The environment can be more stressful for people with dementia due to the stimuli and can cause fearful reactions in people with dementia, which could lead to associated behaviors.

Lastly, participants discussed the occasional need for pharmacological interventions. However, these interventions should be used in the least restrictive way possible. Participants discussed the importance of getting to the root cause of the actual behavior before starting a medication. Ballard et al. (2009), suggest starting with the least harmful medication for the shortest period of time, if non-pharmacological interventions are not successful in reducing BPSD.

Participants also discussed the reduction of medications, especially antipsychotic medication, with the implementation of the “Well-Kit”. If participants did not directly pass medications, participants could tell when a resident’s medication was being adjusted. Participants did discuss the occasional need for medications; however, at an appropriate dose and for the appropriate diagnosis. Participants also described the appropriateness of medications for a period of time, but with advancing dementia it is likely the medications can be discontinued or changed with behavior changes.

The last theme that emerged from the participants, which is supported by the literature is the responsiveness of others to use non-pharmacological interventions and the “Well-Kit”. Literature remains mixed on the acceptance of the use of non-pharmacological interventions. At times, families and providers can become barriers to the use of non-pharmacological interventions due to their lack of understanding. Literature suggests a lack of consistent evidence to support the use of non-pharmacological interventions. Many reviews and literature are mixed on the effectiveness and feasibility of non-pharmacological interventions; therefore, a provider’s willingness to use non-pharmacological interventions depends on the provider’s confidence in the effectiveness of these interventions (Jutkowitz et al., 2016; O’Neil, 2011). In this pilot study, participants discussed the need for occasional education with staff on the “Well-Kit”, however,

they did not experience resistance or unwillingness to use the interventions. Participants described the importance of staff visibly being able to see results when the “Well-Kit” interventions have been implemented. This visible, immediate result has increased the use of the “Well-Kit” and other non-pharmacological interventions.

Furthermore, participants have primarily experienced a positive reaction to the use of the “Well-Kit” from residents and families. Participants felt that most of the families were open to the use of the interventions because they are focused on comfort and quality of life for their loved one. Education was an important component for both the staff and families if participants experienced any resistiveness to the use of the non-pharmacological interventions.

### **Implications**

Two implications are suggested by the findings of the effectiveness of the “Well-Kit” and other non-pharmacological interventions described in this study. Throughout the literature, research is still inconsistent or even lacking on the effectiveness of various non-pharmacological interventions for residents experiences BPSD. In addition, the education to providers, families, and staff is minimal on the use of non-pharmacological interventions as well as the use of pharmacological interventions. Throughout the nation, CMS has begun to look at the use of unnecessary medications, especially antipsychotics, in the nursing home.

**Practice and Teaching.** Consistent with the literature, many participants discussed the importance of ongoing teaching to families and to staff who are working directly with residents experiencing BPSD. Participants found when they would consistently use the non-pharmacological interventions other staff members were more willing to utilize them. However, it did take education and training from participants to other direct care staff prior to implementation. The goal of the “Well-Kit” is to provide readily available tools for staff to use in

decrease BPSD. Participants described the importance of interventional education, and staff's ability to visibly see the effects. In the literature, there is a lack of consistent evidence to support the use of non-pharmacological interventions. The literature that does exist has mixed reviews on the feasibility and effectiveness of the non-pharmacological interventions.

Literature describes families and providers as being potential barriers to the use of non-pharmacological interventions. Providers may choose pharmacological interventions because they may not be aware of the effectiveness of non-pharmacological interventions. Providers' lack of awareness is often due to limited training on non-pharmacological interventions and often they receive little information about these interventions (Callaway, 1998, Janus, van Manen, van Til, Zuidema, Ijerman, 2017 & Martini de Oliveria et al., 2015). However, participants did not discuss any barriers with providers and the utilization of the "Well-Kit" or other non-pharmacological interventions.

Participants described the importance of families receiving non-pharmacological intervention education. They felt once families had this education they were more supportive of the interventions. Literature describes how families may unintentionally become barriers to the implementation of non-pharmacological interventions; however, with education and teaching most families are willing to trial such interventions. Family members may lack knowledge of how to care for someone with cognitive issues and the perception has been that medicine is easier to administer and more effective (Cohen-Mansfield, 2001; Rose and Gitlin, 2017).

Participants described the use of the "Well-Kit" to be effective in their practice and reported that they have seen a decrease in the use of medication and pharmacological interventions. Participants describe the importance of education to other staff members and families to assist them in understanding the effectiveness of non-pharmacological interventions.

**Policy.** CMS and the nation have focused on the importance of quality of life in nursing homes and empowering caregivers to deliver resident-centered care. Literature suggests that residents in a nursing home are prescribed four times the amount of psychotropic medications as compared to elderly persons in the community. Furthermore, these medications are often prescribed inappropriately and not reviewed on a regular basis (Margallo-Lana et al., 2001). With the use of the “Well-Kit” some staff has reported a decline in the use of pharmacological interventions, which is consistent with the literature and the recommendations from CMS.

### **Strengths and Limitations**

A primary strength was being able to hear directly from the staff who utilize the “Well-Kit” interventions. Many studies have used a quantitative method and this pilot study used a qualitative method getting information from direct care staff. Another strength was the ability to evaluate four specific interventions from the “Well-Kit”. Many studies have looked at interventions broadly instead of looking at specific interventions and their effectiveness.

A limitation of this study is that it was a pilot, taking the form of program evaluation, evaluating one site that implemented the “Well-Kit”. Research was not conducted at other health care organizations and their utilization of non-pharmacological interventions. This pilot study looked solely at one skilled nursing organization. Participation was a limitation to the study. Only four participants participated despite multiple email attempts.

### **Future Studies or Research**

Any future studies should continue to research the effectiveness of non-pharmacological interventions in residents with BPSD. Additional sites and other organizations should be researched regarding their use of non-pharmacological interventions. Additional settings or environments should be studied such as hospice, memory care or palliative care. The literature is

limited in relation to this topic, and it is suggested that further research is completed on non-pharmacological interventions.

Through this pilot study it appears that the “Well-Kit” has been successful in reducing BPSD in residents at the facility studied. The study also concluded that other non-pharmacological interventions may also be effective in reducing BPSD. These additional interventions might be worth exploring in depth including the use of environmental changes, using picture books or list making, and giving a resident a specific task to complete.

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## Appendix A: Informed Consent

**Consent Form****Non-Pharmacological Interventions in Residents with Dementia****IRBNet Tracking Number: 1147438-1**

You are invited to participate in a research study about the effectiveness of non-pharmacological interventions in residents with behavioral and psychologic symptoms of dementia (BPSD). You were selected as a possible participant because you work in a nursing home and are utilizing the “Well-Kit” (aromatherapy, therapy dolls, healing music, and comfort touch) as non-pharmacological interventions for residents with BPSD. You are eligible to participate in this study because you are providing direct care to residents with dementia. The following information is provided in order to help you make an informed decision on whether or not you would like to participate. Please read this form and ask any questions you may have before agreeing to be in the study.

This study is being conducted by Kelli Ray, LSW, a graduate student at St. Catherine University/University of St. Thomas School of Social Work. The supervisor of the project is Dr. David Roseborough, Ph.D., LICSW. This study was approved by the Institutional Review Board at the University of St. Thomas.

**Background Information**

The purpose of this study is to gain additional information from direct care staff on the positive or negative effects that specific non-pharmacological interventions may provide to residents displaying BPSD.

**Procedures**

If you agree to participate in this study, I will ask you to do the following things:

1. Participate in a face-to-face interview. The interview will last approximately 45-50 minutes. The interview may take place at the work setting in a private location or in a public place of your choice.
2. Answer questions that look at the effects of using non-pharmacological interventions in caring for dementia residents who are displaying behaviors.
3. The interview will be recorded using a password protected cell phone. I will be transcribing the interviews and deleting the audio recording within two weeks.
4. The findings of the project will be presented in May of 2018 in my final research paper. Potentially identifying information will be excluded.
5. The findings from my project will be published online in my clinical research paper. Quotes may be used, but identifying information will be left out. Findings may be used for future research as well.
6. I will only follow up with you after the study if you request.

**Risks and Benefits of Being in the Study**

The study has minimal risks. There is some risk to confidentiality since the interviews are going to be audio-taped and transcribed. The cell phone is password protected which should minimize this risk. The transcription will be done by the researcher and stored on password protected computer.

During the transcription, potentially identifying information will be removed. Quotes will be used, but the quotes that may have identifying factors will not be used.

While there are no direct benefits for participation in this research, you will be helping to further the knowledge base in the field of non-pharmacologic interventions in individuals with BPSD.

### **Privacy**

Your privacy will be protected while you participate in this study. Interviews will be conducted in a quiet location of your choice and should last no longer than one hour. Information shared may be used in the final report, but potential identifying information will be left out.

### **Confidentiality**

The records of this study will be kept confidential. In any sort of report I publish, I will not include information that will make it possible to identify you. The types of records I will create include: audio recording that will be on a password protected cell phone, transcription of the interview that will be kept on a password protected desktop computer as well as a google drive. Audio recordings will be destroyed within two weeks of transcription. The transcription will be destroyed at the completion of the project in May of 2018. All signed consent forms will be kept for a minimum of three years upon completion of the study. Institutional Review Board officials at the University of St. Thomas reserve the right to inspect all research records to ensure compliance.

### **Voluntary Nature of the Study**

Your participation in this study is entirely voluntary. Your decision whether or not to participate will not affect your current or future relations with your current position at the skilled nursing facility, current or future employers, or the University of St. Thomas or St. Catherine University. There are no penalties or consequences if you choose not to participate. If you decide to participate, you are free to withdraw at any time without penalty or loss of any benefits to which you are otherwise entitled. Should you decide to withdraw, data collected about you will not be used for the final report. You can withdraw by letting the researcher know you no longer wish to participate in

the interview up to a week after the interview. (You can let me know by reaching out to me by phone or email). You are also free to skip any questions I may ask.

**Contacts and Questions**

My name is Kelli Ray. You may ask any questions you have now and any time during or after the research procedures. If you have questions later, you may contact me. You may also contact my instructor, David Roseborough. You may also contact the University of St. Thomas Institutional Review Board at 651-962-6035 or with any questions or concerns.

**Statement of Consent**

I have had a conversation with the researcher about this study and have read the above information. My questions have been answered to my satisfaction. I consent to participate in the study. I am at least 18 years of age. I give permission to be audio recorded during this study.

**You will be given a copy of this form to keep for your records.**

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**Signature of Study Participant**

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**Date**

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**Print Name of Study Participant**

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**Signature of Researcher**

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**Date**

## Appendix B: Research Questions

## General Questions:

1. What is your current role and title at the facility?
2. How long have you been employed?
3. How long have you worked for the skilled nursing facility?

## Interview Questions

4. What is your practice approach or process in providing interventions to residents with dementia exhibiting disruptive behaviors?
5. What behavior changes have you seen in residents with dementia through the use of pharmacological interventions?
6. Have you used non-pharmacological interventions, if so, which ones work well and what effect have you seen?
7. How do you decide when and if to use the “Well-Kit” interventions with a resident?
  - a. What goes into that decision?
  - b. What would you use if you did not have non-pharmacological interventions offered to you?
8. What behavior changes have you seen in residents with dementia with the use of non-pharmacological interventions, if any?
  - a. Have you found any of the four “Well-Kit” interventions to be more effective than others?
  - b. Any specific strategies that you find more or less effective?
9. Can you tell me about any positive, negative, or unintended consequences in relation to using these non-pharmacologic interventions?

10. What is your practice if a non-pharmacological intervention does not decrease the behaviors being exhibited in a resident with dementia?
11. Do you have any other experience with non-pharmacological interventions? If so, what are they?