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Supporting Dining Occupations for Dementia Residents in Skilled Nursing Facilities

Esther Yu *Dominican University of California*

Nooshin Moslehi *Dominican University of California*

Vickie Nguyen *Dominican University of California*

Aileen Quach *Dominican University of California*

Cierra Passey *Dominican University of California*

See next page for additional authors

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Esther Yu, Nooshin Moslehi, Vickie Nguyen, Aileen Quach, Cierra Passey, and Julia Lee
Candidate

Julia Wilbarger, PhD, OTR/L
Program Chair

Gina Tucker-Roghi OTD, OTR/L, BCG
First Reader

Author(s)

Esther Yu, Nooshin Moslehi, Vickie Nguyen, Aileen Quach, Cierra Passey, and Julia Lee

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by

Julia Lee

Nooshin Moslehi

Vickie Nguyen

Cierra Passey

Aileen Quach

Esther Yu

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Abstract

Dementia Friendly Dining provides skilled nursing facilities (SNFs) with a practice guideline and training resources for caregivers. The program is informed by existing research on environmental modifications, both physical and social, to enhance the occupations of feeding, eating, and dining for individuals with dementia (IwD) in SNF settings. The physical and social environment has a significant effect in supporting the dining experience for IwD and their caregivers (Keller et al., 2015; Hung et al, 2016; Palese et al., 2018), but many facilities have not integrated physical and social modifications, creating a gap in practice. Therefore, an evidence-based dining program that addresses both the physical and social environments, and fits the cultural context of the SNF is needed in order to support dining occupations for individuals with early and middle stage dementia. The Dementia Friendly Dining program materials include: evidence tables that summarize evidence-based practices for caregiver staff and families, a toolkit of familiar and meaningful items to enhance social interactions, an interactive online training module for caregivers, and a user guide for all facility staff with recommendations on how to set-up the environment and facilitate tasks that will enrich the individual's dining experience. A survey to assess the feasibility and usefulness of the materials was completed by the partnering facility's rehab director, OT and SLP practitioners, and a content expert. Findings from the survey indicate the materials are feasible and would be an effective tool to implement in the New Braunfels SNF. Program modifications are suggested by the reviewers in order to promote generalization to other SNFs. In addition, programming to support individuals with middle and late stage dementia are suggested. The Dementia Friendly Dining program illustrates the valuable role OT practitioners have as direct providers and consultants in adapting the environment for an organization or population.

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Section 1: Proposal

Introduction

The physical and social environment has a direct influence on successful feeding during dining for individuals with dementia (IwD) (Hung et al., 2016). Aspects of the physical environment include furniture, silverware, and other sensory components that can influence IwD's engagement in dining activities. Social aspects of the environment include rituals, routines, and preparatory activities that may take place prior to or during dining. Due to the powerful influence of the physical and social environment on IwD's participation and engagement during feeding, there is an opportunity to improve the dining experience through environmental modifications and the intentional use of routines and socialization. Therefore, the purpose of the Dementia Friendly Dining program is to develop and implement an evidence-based dining toolkit with interventions that modify or intentionally utilize the physical and social environment to enhance dining experiences among IwD in a skilled nursing facility (SNF).

Dementia is a neurological condition produced by abnormal changes in the brain, which negatively affects cognitive abilities and daily functioning (Alzheimer's Association, 2019a). Dementia is one of the most widespread conditions among older adults in the world, impacting 5.8 million American adults in the United States and the impact continues to grow as the population ages (Alzheimer's Association, 2019a). Roughly 50% of IwD are admitted into a SNF for long-term care due to the progressive nature of the disorder and the subsequent functional impairments (Alzheimer's Association, 2019a). As cognition declines and dementia becomes more severe, all areas of occupation are impacted. Self-feeding and participation in dining is considered a "late-loss" activity of daily living (ADL) and is retained into the late stages of dementia. Programming to support this important occupation is essential.

For IwD, feeding is one of the most prevalent occupations that involves assistance from others to successfully engage in (Alzheimer's Association, 2020). Feeding is a significant occupation for IwD to maintain because the ability to feed oneself allows them to uphold their autonomy, respect, and self-efficacy (Hung et al., 2016). Therefore, a supportive environment an IwD receives in a SNF is crucial for establishing health and wellness to maintain quality of life (QOL). The environment and policies embedded in a SNF may also magnify the cognitive and functional impairments presented throughout the progression of dementia. Moreover, IwD's engagement in occupations are further limited due to the structure of institutional care within SNFs. As a result, the physical and social environment can be altered to promote engagement in feeding and eating and provide continuous support as the condition progresses.

Occupational therapy (OT) practitioners have a significant role in supporting IwD in long-term care settings as they serve as direct care providers and as consultants to provide interventions that are client-centered, prioritize individual choice, and promote optimal performance (AOTA, 2017; Rafeedie, Metzler, & Lamb, 2018). OTs have the expertise and training to assist those with dementia to maintain independence and participation in the occupation of dining through environmental evaluation and adaptation, as well as the education to develop and implement programs at an individual, population, and organizational level in SNFs (AOTA, 2017). OT practitioners also utilize a holistic approach in which they look at the client as a whole and consider many aspects of the client's well-being including physical, emotional, social, and spiritual health. Using a holistic approach, OTs apply a distinct set of skills to design culturally appropriate and client-centered physical and social environments in order to support engagement during the dining experience (AOTA, 2017). Through training, education, and modifications of the environment, OTs are able to develop and implement dining

programs that support interactions between the residents and caregivers, which can increase the residents' engagement in feeding.

Literature Review

Dementia

As dementia progresses, the severity of its associated symptoms, such as cognitive decline, difficulty communicating, disorientation, wandering, neuromuscular dysfunction, and behavioral and psychological changes limits a person's functional ability to engage in everyday activities (Alzheimer's Society, 2019). The continuous decline in health for IwD results in an escalated burden of care, which may include physical, emotional, social, and financial obstacles experienced by both family and staff caregivers. As a result, family members and loved ones often struggle in providing care in the home setting, which is followed by increased admissions to SNFs (Wong & Leland, 2018). As of now, 3% of people between the ages of 65 and 74 have dementia, 17% of people between the ages of 75 and 84 have dementia, and 32% of people above the age of 85 have dementia (Alzheimer's Association, 2020). SNFs have become the premier long-term care provider for people with cognitive decline with 47.8% of SNF residents having dementia (United States Department of Health & Human Services, 2016). With the rising number of IwD residing within SNFs in the United States, the focus of services provided by SNFs have shifted, with greater provision of assistance with ADLs including bathing, dressing, toileting, ambulation, bed transfers, and feeding (United States Department of Health & Human Services, 2016).

Strength-Based Approach in Dementia Care

A commonly utilized tool to assess the progression of dementia and the assistance an IwD may require is the Global Deterioration Scale (GDS), which focuses on the progressive decline of cognitive function (Reisberg, et al., 1982). Although the GDS provides an accurate progression of cognitive deterioration for IwD, individuals in every stage of dementia have

remaining abilities and strengths that can support their participation in daily life activities. These abilities and strengths are often reflected in life experiences and stories, personal traits and qualities, culture, and the community in which one lives in (McCormick et al., 2018). Remaining abilities and strengths may include learned skills and abilities, such as playing an instrument (McCormick et al., 2018). It can also include the ability to use body language and gestures to communicate, changing one's tone of voice to fit the context of a situation, and using creativity during participation in activities (McCormick et al., 2018).

The Allen Cognitive Disabilities Model (CDM) is a strength-based approach that provides a framework for OT practitioners to understand the progression of dementia while focusing on the IwD's functional cognition in order to identify present remaining abilities (Earhart & Elgas, 2017). The CDM allows OT practitioners to support IwD's best ability to function, along with identifying goals that are realistic and match the person's current abilities (Earhart & Elgas, 2017). Within the CDM are the Allen Cognitive Levels (ACL), a tool that guides practitioners to determine remaining abilities. In SNF settings, OTs utilize the ACL to conduct an activity analysis in order to identify cognitive and motor functions necessary to partake in activities that the IwD deems as meaningful (Earhart & Elgas, 2017). Along with utilizing a strength-based approach, OTs incorporate a client-centered approach in dementia care to support continued participation in meaningful occupations that will aid in maintaining abilities and reducing the burden of care (Earhart & Elgas, 2017; McCormick et al., 2018).

Feeding and Eating as an Occupation

As symptoms of dementia progress, individuals often experience difficulty with independently participating in the act of feeding and eating (Cipriani et al., 2016; Herke et al., 2018; Alzheimer's Society, 2020). According to the Occupational Therapy Practice Framework:

Domain and Process (third edition) (Framework III) (AOTA, 2014) feeding involves the performance of setting up, arranging, and bringing food or fluid from the plate or cup to the mouth, whereas eating is distinguished as the ability to keep and manipulate food or fluid in the mouth to ingest it (AOTA, 2014). Feeding and eating are important occupations to address among IwD in SNF settings, as low food and fluid intake are major health disturbances (Douglas & Lawrence, 2015). Also, feeding and eating provides an opportunity for performance in meaningful activities during the dining experience, even for individuals in middle stage dementia who may have lost independence in many of their ADLs. The dining experience provides an opportunity to promote meaningful engagement for IwD by incorporating ADLs and instrumental activities of daily living (IADLs), including meal preparation, clean-up, and the opportunity for social participation with other residents, family members, and staff caregivers (AOTA, 2014).

As an IwD's condition progresses from mild to severe they are likely to need increased assistance with feeding. The deterioration of cognitive skills will impact the ability of an IwD to begin feeding tasks, maintain attention and focus throughout the meal, recognize the appropriate and necessary times to eat, as well as understand and appropriately convey feelings of hunger (Hsiao et al., 2013; Lieu et al., 2014; Cipriani et al., 2016; Liu et al., 2019). IwD may also encounter difficulties with visually tracking their food and manipulating utensils due to decreased fine motor skills, all of which makes feeding independently a difficult task to complete (Hsiao et al., 2013; Lieu et al., 2014; Zimmerman et al., 2014; Herke et al., 2018; Fetherstonhaugh et al., 2019). Lastly, IwD may develop wandering behaviors in which they lose sight of their aim or goal of feeding, which often results in incompletion of eating (Alzheimer's Society, 2019).

As the ability to self-feed declines, eating is also impacted. The various changes in mood and personality, such as anxiety and impulsivity, can develop harmful eating behaviors as IwD rapidly consume food at a worrisome rate, place substantial amounts of food into their mouth at once, keep food in their mouth, and experience dysphagia (Hsiao et al., 2013; Lieu et al., 2014; Cipriani et al., 2016; Herke et al., 2018). These impairments limit IwD's level of participation in eating and feeding, increasing the level of assistance needed from caregivers and family members in SNFs. In order to gain a greater understanding of the components of dementia that limit participation during dining, caregivers need additional education regarding the developing impairments that occur in the various stages and approaches to enhance feeding for IwD. Therefore, it is vital to train caregivers to identify and respond early to functional decline in eating and feeding among IwD to prevent inadequate nutrition that results in malnutrition and dehydration, increased infections, weight loss, mortality, decreased independence, and diminished QOL and well-being (Lin et al., 2011; Liu et al., 2019).

Caregivers

Caregivers are considered integral in the lives of IwD and are relied on to provide assistance during the dining experience. Caregivers entail paid individuals such as nursing staff, in addition to unpaid individuals such as spouses, partners, family members, friends, or volunteers. Caregivers provide vital support for IwD, especially in the occupations of dining. Through pertinent support, caregivers have the ability to boost participation in the occupation of dining and ensure safety in the feeding and eating aspects of the occupation (Davis et al., 2009). In fact, Liu et al. (2019) carried out an observational study analyzing the behaviors of IwD, caregiver assistance, and environmental stimulation during mealtimes and the impact on food intake. Results indicated that IwD increased participation in dining tasks and had higher levels of

food intake when provided with visuals cues and appropriate physical assistance from their caregiver (Liu et al., 2019). Additionally, residents who receive increased physical assistance during mealtimes consequently have additional caloric and protein intake compared to those who receive less or irregular physical assistance (Liu et al., 2019). Other than support with ADLs and IADLs, caregivers can help enhance social interactions, encourage dialogue, and share stories and experiences, all of which can encourage identity and QOL among IwD (Wong & Leland, 2018).

Caregiver Interactions

As dementia progresses in individuals, there is an increased need for care. As a result, caregivers may experience increased caregiver burden and are likely to need additional support to gain knowledge and skills in better caring for an IwD utilizing a strength-based approach. Research has shown that caregivers have a great influence on IwD and play a significant role in creating a positive dining experience (Davis et al., 2009; Padilla, 2011; Jensen et al., 2016; Hung et al., 2016; Palese et al., 2018). Caregivers can benefit from evidence-based resources, education, training, and support during the dining experience. For instance, education and utilization of non-verbal gestures, simplified language use, and environmental modifications are effective in supporting the IwD during dining. As caregivers work to reduce environmental stress factors such as loud noises, overcrowded and cluttered spaces, and bright lights to better support IwD during dining, they are also creating an environment that relieves stress themselves (Padilla, 2011). Caregivers have a significant role in creating a social atmosphere that is warm, positive, and supportive of all residents during the dining experience, which is a foundation for person-centered care.

Social Environment

Caregivers carry an important role in creating a positive social environment that enhances and supports social interaction between residents with dementia. Components of the social environment during the dining experience involve social connections, ethics, and performance patterns. Performance patterns are distinguished as habits, routines, roles, and rituals employed when engaging in occupations (AOTA, 2014). Roles can be strengthened through the process of preparation, distribution, and food preferences throughout mealtimes and related activities, which further reinforces one's identity and values by acquiring meaningful roles, promoting autonomy, protecting dignity, and regain one's sense of being (Gustaffon et al., 2003 as cited in Genoe et al., 2012). Roles and routines are also supported by maintaining the IwD's current practices and habits, or incorporating established ones into recently generated contexts.

Simple routines and rituals, such as having meal options and beverages such as getting coffee or tea before a meal, can prepare an individual for feeding and eating. A beverage routine for recently institutionalized older adults also improves hydration behavior and daily performance (Getz-Rice, 2018). Hung et al. (2016) conducted a qualitative study that examined the impact of the environment during dining tasks on caregiver practices and resident mealtime experiences. They found caregiver and resident behaviors and experiences are enhanced when the social environment is appropriately adjusted to the residents' preferences, such as incorporating familiar routines and rituations within the SNF setting (Hung et al., 2016). Familiar routines and rituals, repetitive movements, and tasks may recover moments of clarity, reduce anxiety, and diminish feelings of helplessness that IwD often experience, which creates barriers in engaging in dining occupations (Hung et al., 2016; Lin et al., 2011). An accustomed routine or ritual in the dining environment also provides IwD and caregivers with a sense of security and

belonging, which can further increase engagement in feeding occupations (Palese et al., 2018; Hung et al., 2016).

Apart from roles and routines, the dining experience creates a time and space for social activities and emotional connectedness (Keller et al., 2010). Therefore, it is vital for caregivers to receive education and training on communicating with IwD in order to foster an interactive relationship. Dining also promotes the establishment and maintenance of routines, therefore, constructing optimal dining experiences is crucial in supporting meaningful mealtimes and healthy relationships. When individuals dine with others, it provides a sense of comfort and reassurance, as well as presenting opportunities to gain support and foster meaningful relationships in long-term care facilities (Genoe et al., 2012). Consequently, a lack of familiarity and emotional support or companionship during dining can lead to negative behavioral and psychosocial consequences, such as emotions of apathy and loss of meaning (Genoe et al., 2012). The loss of meaning during the social aspect of dining is a central area for OTs to focus on when supporting meaningful mealtime. As a result, it is significant for OTs and caregivers to address social aspects of dining that include social interactions, values, and performance patterns in order to improve participation, engagement, and social activity for the well-being and QOL of IwD.

The social interactions seen between residents and caregivers are also a chief aspect involved during engagement in feeding occupations, and can be further enhanced through modifications in furniture, face-to-face interactions, and with education on supportive strategies for caregivers (Hung et al., 2016; Keller et al., 2010). Notable strategies that promote social engagement for sincere mealtimes involve reminiscing, supporting decision making, incorporating conversation aids, integrating IwD during group conversations, and navigating various techniques to overcome social challenges (Keller et al., 2015). Furniture arrangement can

enhance feeding and eating because the layout of the room can support the exposure to interaction a resident obtains (Hung et al., 2016). For reference, allowing multiple seating arrangements and areas such as private seating or family seating options can foster social interaction and create opportunities to connect with other residents (Hung et al., 2016). Additionally, face-to-face interactions also help establish relationships with other residents, allowing residents to feel interconnected with themselves and others on physical, emotional, and psychological levels (Hung et al., 2016; Keller et al., 2010). With increased chances for residents to conversate and create positive social connections with caregivers and others, and collectively engage in the dining experience, IwD are more likely to experience productive dining experiences and eating behaviors which may result in increased food consumption, weight, and independence (Hung et al., 2016; Lin et al., 2011; Murphy et al., 2017).

Physical Environment

The physical environment has significant influences on the feeding and eating experience during dining for IwD. Sensory elements and furniture arrangement of the environment can present opportunities for the IwD to express personal preferences and choices, which further promotes the dining experience through the opportunities for social engagement, and for IwD to feel respected and supported in their independence and identity (Hung et al., 2016). Research has indicated there is a relationship between the physical environment of SNF dining rooms, mealtime behavior, and feeding performance among IwD (Garre-Olmo et al., 2012; Hung et al., 2016). Physical aspects of the environment include sensory stimuli varying from visual, thermal, auditory, and olfactory, as well as the arrangement of furniture and presentation of meals. All of these aspects of the physical environment have the potential to increase the quality of the dining experience and increase consumption of food (Hung et al, 2016; Liu et al., 2019).

Sensory Aspects of the Dining Environment

Sensory features within the physical environment include visual, thermal, auditory and olfactory, which can be modified in order to improve an IwD's participation in dining occupations. Research demonstrates how incorporating visual stimuli can amplify the dining experience and subsequently result in increased self-feeding behaviors. For example, adequate lighting is crucial for individuals to see their meals and utensils during mealtimes (Hung et al., 2016). Furthermore, reducing glares and providing visual contrast in different aspects of the environment including the flooring, table surfaces, tablecloths, dishware, and food facilitate autonomy and promote food consumption (Davis et al., 2009; Hung et al., 2016).

Invigorating colors in the dining room have also been demonstrated to promote eating activities. For instance, using warmer toned colors in the dining area such as yellow, peach, and coral, along with meals that incorporate visually stimulating colors can increase intake of food (Davis et al., 2009). This suggests the importance of meals being presented in an appealing and delectable manner to the IwD, which can be achieved by use of colors and flavors to stimulate the visual and olfactory sensory system and encourage increased participation in feeding (Murphy et al., 2017). When visual components of the environment are modified to meet the needs of the resident and support their abilities, opportunities are created for the IwD to participate in dining.

Although increasing visual stimuli may boost attention and intake of food, researchers have also stated that the SNF dining environment may be overstimulating and can result in individuals becoming easily distracted and inattentive during the task of eating. (Liu et al., 2019). Interventions such as providing a single food option at a time and or using picture cards in lieu of menus for meal selection in order to promote attention, are examples of visual adaptation (Liu et

al., 2019). Caregivers can also be trained to remove overstimulating items that may distract an IwD from participating in feeding and eating (Padilla, 2011). Modifications to decrease overstimulating dining environments enhance independence and choice, and reduce sensory overstimulation through visual input and processing.

Comparatively, noise levels can correspond to diversion from feeding and eating, and elicit behaviors of distress, agitation, and fear. Generally, researchers have found exposure to noise levels exceeding 40-50 dB correspond with negative outcomes, and noise levels exceeding 55-60 dB have been found to provoke an increase in cortisol and catecholamine (Garre-Olmo et al, 2012). Whereas interventions such as playing relaxing or classical music have been linked with a calming atmosphere, reducing negative behaviors and increasing intake of food (Chaudhury et al., 2013; Jensen et al., 2016; Padilla, 2011).

Furthermore, IwD are often unable to react appropriately to sensory aspects of the environment such as olfactory and thermal stimuli. As a result, ambient temperature control and aromatherapy, which promote awareness among IwD, are noteworthy aspects of environmental interventions to support the dining experience as IwD (Fung et al., 2012; Garre-Olmo et al., 2012; Hung et al, 2016; Palese et al., 2018). For example, higher temperatures throughout the daytime in a SNF setting resulted in lower QOL for the residents with dementia, and they were more likely to request attention from the caregiving staff (Garre-Olmo et al., 2012). An average temperature of 78.4 degrees Fahrenheit may be pleasant in the dining room setting, but the unique needs and preferences of the residents and facility must be taken into consideration (Garre-Olmo et al., 2012). Moreover, incorporating aromatherapy through baked goods, beverages, and meals can help elevate the dining room context, stimulate appetite, bring about

awareness and orientation, and improve cognitive functioning for engagement in feeding and eating activities (Fung et al., 2012; Hung et al, 2016; Palese et al., 2018).

Home-like Environments

Although home-like environments overlap with the social and physical aspects of the dining environment, the home-like environment is a distinct construct that research has consistently shown to be helpful during dining. Home-like environments provide residents with feelings of reassurance, safety, and predictability, which has been linked to increased caloric intake, by as much as 490 calories compared to a standard institutionalized dining room setting (Chaudhury et al., 2013; Hung et al, 2016). Interventions to make the dining room feel more home-like include using small dining tables with optimized seating, displaying a clock, having the food delivered to the table, and utilizing appropriate utensils (Chaudhury et al., 2013; Fetherstonhaugh et al., 2019; Hung et al., 2016). These interventions provide contextual cues from the environment to support the IwD's awareness, orientation, and memory, further promoting one's desire to eat (Palese et al., 2018).

Correspondingly, incorporating bright décor, personalized items, along with memorabilia can be beneficial to IwD as it encourages a sense of belonging, familiarity, and ownership of the dining area, further contributing to an enhanced dining experience in which residents are satisfied with their dining experiences through personal and caregiver perspectives (Chaudhury et al., 2013; Hung et al, 2016). As a result, an enhanced dining experience affects IwDs' QOL and perception of well-being. Chaudhury et al. (2013) conducted an in depth literature review and synthesis on evidence-based physical and social environmental interventions for residents with dementia. The review focused on the role of a supportive dining environment in supporting functional ability, social interaction, familiarity, safety, and personal control. Critical review of

the literature showed that renovations to the dining room from an institutional appearance to a homelike setting led to increased intake of food and positive social interactions during mealtimes (Chaudhury et al., 2013). Furthermore, Chaudhury et al. (2013) emphasized the common theme in their literature review of including IwD's pictures and personal belongings in the dining room as it promotes a sense of belonging and ownership of the room. Allowing for appropriate home-like environmental changes that assist with an IwD's needs and routines is proven to be beneficial in behavior reduction in addition to fostering effective behaviors, such as increasing social contact with others in the dining room, leading to an enhanced dining experience (Chaudhury et al., 2013). Thoughtful use of home-like elements in the environment can also be a valuable resource for supporting the cultural, social, and psychological needs of IwD (Chaudhury et al., 2013). Mealtimes allow for increased chances for IwD to form connections with noteworthy memories, engraved habits, and special events; therefore, it is important that environmental modifications are meaningful and person-centered (Chaudhury et al., 2013).

Moreover, researchers have examined how the layout of the dining area in conjunction to staff-to-resident ratio and kitchenettes for residents contributed to IwD sense of safety and security. For example, a kitchenette within the dining area provides residents with opportunities to get beverages and snacks as they please to functionally explore and engage in feeding and eating activities (Hung et al., 2016). This also helps to strengthen their independence and identity through personal choices of beverages and snacks (Hung et al, 2016). Additionally, home-like characteristics such as incorporating smaller groups of residents dining together helps in facilitating a more intimate and familiar setting. This also allows caregivers to provide a more personalized dining experience for the residents.

Role of Occupational Therapy

A workforce survey in 2015 indicated 19.2% of OTs and 55.9% of OTAs are employed in a long-term care facility or SNF, and the percentage is anticipated to rise as the population continues to age (AOTA, 2015). OTs are essential practitioners within SNF settings and can offer a wide range of holistic services that target the needs of the dementia population. OT interventions lessen the negative influences that are present due to a lack of goodness of fit between the individual, occupations, and the corresponding physical and social environments (Liu et al., 2019). Utilizing a strength-based approach and identifying barriers to improve goodness of fit, OT practitioners focus on the strengths and remaining abilities of IwD to create interventions that will improve feeding performance and the overall dining experience.

During feeding and eating occupations, OTs evaluate and analyze many components of IwD's cognitive, physical, and social well-being in order to adjust and create an optimal environment for increased participation in occupations (AOTA, 2014). For example, modifying the activity demands of an occupation can help to promote engagement among individuals who are no longer able to partake in meaningful activities. Activity demands are particular features of an occupation that affect the type and amount of effort needed in order to successfully engage (AOTA, 2008). Activity demands can be modified by changing the environment and context the activity takes place in, as well as enhancing and reducing the activity features, also known as grading (Laver et al., 2014; Padilla, 2011).

Through modification of the environment and activity demands, OT practitioners provide client-centered interventions on both an individual and organizational level. OT practitioners adapt environments and tasks to maximize the clients' strengths and remaining abilities and increase participation in occupations. Providing client-centered interventions on an

organizational or population level is challenging due to the difficulty of accommodating individual preferences and functional abilities. Although this challenge exists, OTs are trained to apply holistic interventions for groups of people by considering a specific population's needs, the environment, and the occupation. Organization level OT interventions are supported by comprehensive needs assessment process and ongoing program evaluation. The Dementia Friendly Dining program aims to address the needs of IwD residing in a SNF at an organizational level by educating staff and introducing interventions that can be modified to fit the culture of a specific SNF, allowing for client-centered care at an organizational level. The program provides caregivers with simple activities and communication techniques that are feasible to implement within the SNF setting. The program also supports OT practitioners to provide holistic individual feeding and dining interventions in an environment that supports familiar routines and rituals, and social interactions with caregivers in order to optimize engagement and performance during dining (AOTA, 2017). Occupational therapists can serve in a variety of roles in the SNF, which includes consulting with the facility leadership team, developing programs that address the occupational needs of the nursing home population, and advocating for policy changes within the organization. OT practitioners have the knowledge and skills to assist SNF staff to adjust their actions and the environment to increase resident participation in all aspects of the dining occupation (i.e. feeding, eating, and building social relationships). OTs contribute a holistic perspective on engagement and participation in daily activities, such as feeding and eating, within a multitude of contexts. They are trained to advocate for IwD’s remaining strengths, abilities, and capabilities, as well as advocate to eliminate service limitations and increase funding for programs that provide support for IwD (Stover, 2016). OTs also develop and implement programs at an organizational level, presenting opportunities for collaborative

community-based services that support organizations to meet the needs of target populations in order to promote their health and well-being. OT practitioners are equipped with the expertise to positively transform facilities and their client populations through practicing client-centered care and cost effective strategies (Rafeedie et al., 2018). Furthermore, through clinical reasoning and a commitment to evidence-based practice, OTs promote the use of evidence-based strategies and policies that are cost-effective and efficient for the frontline of health care environments, such as SNFs (Hildenbrand & Lamb, 2013).

Additionally, OTs further support health and wellness through developing caregiver training and education that allows family members and staff caregivers to incorporate supplemental skills and strategies to provide quality care for their IwD and promote engagement in desired occupations. Educational resources are important tools to increase caregiver knowledge about the stages of dementia and how to utilize effective strategies to engage in social interactions with the IwD. Caregiver training opportunities have been shown to reduce caregiver burden, enabling caregivers to further assist residents with dementia in order to be involved in positive, successful, and meaningful interactions and occupations (Padilla, 2011).

OTs are an essential resource within the SNF setting as they have the ability to provide valuable services that enhance the occupation of dining for IwD. OTs are equipped with skills to provide consultative and educational services, which support participation in the feeding, eating, and building relationships during the dining occupation. Furthermore, OT services can prepare caregivers to modify the environment and assist IwD through in-service training, which may not normally occur during regular training sessions. OTs are skilled to facilitate caregiver assistance by providing foundational knowledge and skills to adapt various aspects of the dining occupation to support IwD.

Conclusion

Throughout the course of dementia, a substantial decline in cognitive and functional abilities negatively impacts an individual's ability to engage in feeding and eating. An IwD may have difficulty communicating feelings of hunger, initiating the process of eating, manipulating utensils, or visually tracking food (Hsiao et al., 2013; Lieu et al., 2014; Zimmerman et al., 2014; Cipriani et al., 2016; Herke et al., 2018; Fetherstonhaugh et al., 2019; Liu et al., 2019). The cognitive and behavioral factors of dementia can negatively affect various occupations and impact one's overall health and QOL. Moreover, emotions such as agitation, anxiety, and other challenging behaviors can serve as barriers for caregivers of IwD (Hung et al., 2016; Lin et al., 2011). The progressive decline in health can lead to emotional, physical, and social challenges experienced by caregivers.

It is important for the physical and social aspects of the dining environment to meet the needs of the IwD, as this can lead to a positive impact on mealtime behavior and feeding performance. Research indicates that modifying the physical and social environment can foster autonomy and control, social engagement, and reduce caregiver burden (Gustaffon et al., 2003 as cited in Genoe et al., 2012). Evidence also reveal the use of sensory components within a home-like environment, such as visual, auditory, and olfactory stimuli can enhance the dining experience, reduce challenging behaviors, and promote mealtime engagement (Chaudhury et al., 2013; Hung et al, 2016; Liu et al., 2019). By incorporating physical and social alterations to enhance the dining experience, IwD will have a more supportive and meaningful dining experience.

Notably, caregivers play a vital role in helping IwD partake in feeding and dining occupations as they are the ones who closely monitor and provide assistance during the feeding

process to ensure safety. Caregivers can also foster a positive and supportive environment during dining and provide opportunities for socialization by sharing stories and experiences (Davis et al., 2009; Padilla, 2011; Jensen et al., 2016; Hung et al., 2016; Palese et al., 2018; Liu et al., 2019). Since caregivers have such a significant role in fostering a welcoming and supportive environment for IwD during mealtimes, they require evidence-based tools, education, training, and support during the dining experience.

In addition to caregivers, OTs play a vital role in enhancing the dining experience for IwD as they are trained to assess and evaluate the environment, person, and occupation (AOTA, 2014). OTs are skilled in identifying strengths and remaining abilities, such as personal traits and qualities to match the functional abilities to tasks that the IwD can perform. OT practitioners utilize clinical reasoning in adapting and modifying the environment, along with implementing evidence-based programs at an individual, organizational, or population level to better support remaining abilities for IwD and enhance engagement during dining.

Statement of Purpose

Occupational therapists play a vital role in dementia care through enhancing and retaining existing function, encouraging meaningful relationships and social participation, and improving QOL for those with dementia (Schaber & Lieberman, 2010). While providing care and utilizing a holistic approach, OTs can act as direct providers and consultants in adapting the environment to best fit the individual. The Dementia Friendly Dining program is a toolkit and educational resource that has been developed to support OTs and SNFs in creating adaptive environments that support the occupation of dining for IwD. This program addresses the current gap in practice by supporting OT practitioners to apply evidence-based modifications to the social and physical dining environment in SNFs.

Research demonstrates how individuals' direct environment influences their subsequent performance in occupations of daily functioning. Specifically, individuals living with dementia experience many difficulties associated with their debilitating condition, often demanding full-time care and support. Consequently, most IwD eventually relocate to a SNF when lacking the appropriate caregiver support at home. The environment in the SNF may not support meaningful engagement in occupations, particularly in dining activities. Having an unsupportive physical and social environment during the dining experience can result in decreased engagement during feeding and eating occupations, with a negative impact on the IwD's behavior, resulting in poor intake of food. Therefore, incorporating evidence-based physical and social environmental adaptations suggested in the Dementia Friendly Dining program will benefit IwD by promoting an increase in caloric intake, increased participation in self-feeding, and improved QOL.

Theoretical Frameworks

Two theoretical frameworks that directed the development and creation of the Dementia Friendly Dining program are the Allen Cognitive Disabilities Model (CDM) and the Social Ecological Model. The CDM focuses on identifying and supporting remaining abilities to help IwD have purpose and meaning in their daily life, rather than focusing on the remediation of weaknesses or limitations. The Allen Cognitive Levels (ACL) are a critical element of the CDM as they are used to identify the IwD's remaining abilities and stage of dementia to support their best ability to function. OTs identify remaining functional abilities and modify tasks or occupations so that the IwD can still successfully complete occupations. The Social Ecological Model consists of different levels that influence an IwD's ability to engage in feeding and dining occupations. The Social Ecological Model focuses on how individual, relationship, community, and societal levels can influence each other to affect IwD's engagement in an occupation.

Allen Cognitive Disabilities Model (CDM)

The CDM is used to identify the best ability to function for IwD. Instead of focusing on loss of function and limitations, the focus is helping the IwD find purpose, value, and meaning in their occupations. The CDM is pertinent for IwD as it navigates healthcare professionals, such as OTs and caregivers, understanding of individuals' cognitive capacity and resulting occupational performance. During task analysis, OT practitioners identify variations in cognition and note the demands associated with an occupation in order to suggest environmental modifications, so that IwD can utilize their remaining abilities to their advantage (Henry et al., 1998). The core of the model is the six ACLs, which bring attention to strengths and remaining abilities as opposed to deficits that need to be remediated. Through the CDM, the Dementia Friendly Dining program aims to build a physical and social environment that is supportive of residents' best ability to

function. The ACL principles include the concepts of "can do," "will do," and "may do." The "can do" concept refers to individuals' realistic abilities and what they are capable of doing. The "will do" refers to how relevant or meaningful a task is to the individual, which can personally influence and motivate them to engage, and the "may do" refers to the actions that are possible within the environment and context that IwD engages in their occupations.

The main focus of the program is to provide caregivers evidence-based interventions and physical and social environmental modifications, which are reflected in the "may do" aspect of the CDM. OTs examine the cognitive, physical, and cultural factors of the IwD to create a dining environment that is inclusive of social occupations and holistic interventions. For example, OTs may examine how residents utilize utensils to bring food to their mouths, provide caregiver training, and evaluate performance patterns for optimal engagement in dining. According to the CDM, there are six levels of cognitive performance for IwD that are organized into a hierarchical and ordinal scale: automatic actions (ACL 1), postural actions (ACL 2), manual actions (ACL 3), goal-directed actions (ACL 4), exploratory actions (ACL 5), and planned actions (ACL 6) (Table I).

Table 1

The Allen Cognitive Levels

Title of Levels	Summary and Relevance to Eating and Feeding
Level 1: Automatic Actions	Individuals respond to internal cues and total assistance is needed for care, but when one is introduced to external stimuli automatic reactions may occur without assistance. Autonomic reactions are the primary remaining ability. They can swallow and respond to oral stimuli.
Level 2: Postural Actions	Individual's awareness is focused on their own postural security and they have the ability to use a few words to respond to others. Individuals lack understanding the effects of actions on objects and people. They can self-feed with finger foods, but may have difficulty focusing due to postural insecurity that may cause

	fearfulness.
Level 3: Manual Actions	Individuals complete manual actions in reply to tactile cues, but there is a lack of awareness regarding cause-and-effect or the end goal. Attention span is brief and actions are arbitrary. Problem solving and judgement are significantly impaired. They are able to use objects such as utensils and incorporate familiar objects related to meaningful routines.
Level 4: Goal-Directed Actions	Individuals comprehend cause-and-effect relationships and are cognizant of tangible cues, but may have difficulty with solving novel problems or correcting mistakes. They lack thoroughness and the capacity for novel learning is limited. They have a desire for social engagement, but may have problems with social behaviors and understanding cultural norms related to dining activities.

Cognitive disability and reimbursement for rehabilitation and psychiatry (Allen, 1991).

Social Ecological Model

The Social Ecological Model is a theory-based framework that elucidates the various determinants within and surrounding an individual, and how they affect their engagement in occupations including feeding (Liu et al., 2019). This model highlights the interactions between the person and environment, and how it affects individuals' behaviors. Determinants are divided into multiple levels including individual, relationship, community, and societal. At the individual level, OTs evaluate elements that may affect individuals' ability to participate in a certain activity, such as physiological conditions, medical history, medication side effects, and other determinants related to the individual. At the individual level, IwD may encounter cognitive and functional decline, such as the ability to taste or smell food, which is followed by a decrease in appetite, oral health, onset of dysphagia, and the inability to perform complex eating tasks (Liu et al., 2019). The Dementia Friendly Dining, addressed the individual level through the promotion

of individual choice, environmental modifications, and numerous toolkit items that support essential and enrichment tasks related to dining.

At the relationship level, OTs evaluate the established correspondences between the individual, family members, staff, residents, and other peers. With the Dementia Friendly Dining program, IwD will have opportunities to build social relationships as they are encompassed by their peers in the dining room during mealtimes, and while caregivers are assisting them with eating, preparing for meal time, and other occupations. The caregiver's capacity to support residents' independence during mealtimes is positively related to heightened food consumption (Liu et al., 2019).

At the community level, OTs are examining the individual's correspondence with community and social environments, particularly a dining room in a residential care facility. For example, an OT may observe how residents feel during their time in the dining room with others or how residents perform with a dining schedule in order to promote the best possible mealtime experience (Liu et al., 2019). For this program, physical and social environmental modifications are to be implemented simultaneously to support IwD during the dining experience and to improve engagement in feeding and eating occupations. Lastly, at the societal level, OTs examine the various laws, rules, regulations, social norms, and policies that comprises an area that ultimately influences the individual and their capacity to engage in occupations. Overall, the Social Ecological Model supplies a broad understanding of factors and influences associated with an activity by assessing the individual, relationship, community, and societal level.

Ethical and Legal Considerations

The Dementia Friendly Dining program follows the principles outlined by the American Occupational Therapy Association Code of Ethics during its development and implementation (AOTA, 2015). The principles include: fidelity, veracity, justice, and autonomy. Necessary steps to follow all ethical and legal procedures were taken, such as obtaining permission from the Director of Rehabilitation, written consent by residents or their loved one to use photos taken from Legend Oaks Healthcare and Rehabilitation in New Braunfels, Texas, and following copyright guidelines for all materials created. Review and approval of the program was obtained from the thesis supervisor in the department of Occupational Therapy at Dominican University of California.

Fidelity

Fidelity has been sustained throughout this program by considering specific duties and protecting private information to maintain anonymity, unless otherwise identified by given laws. The program developers have also maintained continuous contact with the partnering facility to provide ideas and suggestions throughout the development of the program, which guided the developers to modify components of the program to meet the needs of the partnering facility. Guidance and support to the partnering facility to support caregivers in utilizing and implementing the program will be maintained when the facility begins to utilize and implement the program resources.

Veracity

Veracity is established by building trust with collaborating partners and strengthening professional relationships by providing accurate information about OT best practices that are supported by current evidence (AOTA, 2015). Accurate and comprehensive information from

the user guide and evidence tables in the dining toolkit have been provided in order to uphold veracity with the program partners. Additionally, the use of the grants that have been awarded for the development of this program have been monitored from an excel spreadsheet and transparently utilized for the physical dining toolkit items and training materials.

Justice

The principle of justice relates to addressing obstacles and voicing for systemic change regarding policies that may be limiting successful participation in the dining experience (AOTA, 2015). Barriers have been addressed in a professional fashion to uphold affiliations, as well as in facilitating an understanding of residents' history, lifestyle, culture and preferences, and treatment of residents with dignity and respect during dining activities. In addition, the program resources utilize h current evidence to support and advocate for a reduction of various social and physical barriers that currently exist in SNFs.

Autonomy

Autonomy is an important principle to consider for this program due to potential conflicts of person-centered choice when implementing routine and rituals for the dining experience as cultural differences may vary among residents. During dining activities, resident’s autonomy shall be upheld by allowing them the opportunity to decline to participate in the various dining tasks that may conflict with their personal rituals and routines. Additionally, consent for measurement of food intake, weight, and negative behaviors will be acquired through alliance with the director of rehabilitation and inclusion of their facility’s policies in order to respect structural decisions (AOTA, 2015).

Methodology

Design

The purpose of the Dementia Friendly Dining program is to enhance the dining experience for IwD by incorporating physical and social environmental changes supported by evidence-based practice. The program design includes the creation of a detailed and abbreviated version of evidence tables, online training modules, a dining toolkit user guide, and dining toolkit items.

Table 2

Program Materials and Rationale

Components of the Program Design	Rationale
1. Evidence Tables	Overview of research supporting the physical and social environmental features that enhance the dining experience for IwD. A detailed and summary version of the evidence table is included to ensure useability. The evidence table includes sections on physical and social environmental adaptations. Physical environmental adaptations are sectioned into visuals, which focus on home-like features using decor and sensory features, and social environmental adaptation research is sectioned into caregiver interactions, routines and rituals with an emphasis on familiarity, and roles.The evidence tables provide support for the reasoning behind the tasks presented in the user guide and online training modules and build foundational knowledge to OT practitioners to adapt the program for feasibility.
2. Online Training Modules	Interactive and visually engaging training tool, with modules that provide background knowledge about dementia as it relates to the impact and importance of the dining occupation. Training is also provided on various communication techniques to enhance interactions between caregivers and IwD. The modules provide directions on how to utilize the program with both physical and social environmental changes to support the experience of dining. Overall, the modules provide a wealth of knowledge and skills to better serve the dementia population during their dining experiences.
3. User Guide	Detailed instructions for the rehab director and staff implementing the program, on how to carry out tasks, understand the purpose of each item in the toolkit, and adapt the tasks for feasibility.

4. Physical Item Toolkit	Physical items provided within the program include a centerpiece, candles, utensil and condiment organizers, a cracker basket, a pitcher of juice/water, contrasting tableware, menu cards, reminiscence cards, warm towelettes, and a music playlist. The use of the toolkit will support the use of routines and rituals as research has noted that it increases independence in feeding, reduces caregiver burden, and enhances the dining experience for IwD (Keller et al., 2015; Lin et al., 2011).

The program was designed to focus on creating materials and providing recommendations that could be easily implemented within the existing culture of the partnering SNF. It was apparent to all program development members that big changes or modifications that were too difficult to implement would diminish the potential for successful implementation. Therefore, the activities and suggestions included in the training modules, user guide, and evidence table were simple modifications to increase feasibility and usability. Although the program's primary goal is to increase independence during the occupation of dining for IwD, the program also aims to increase confidence and feelings of success for caregivers during the dining experience.

The materials of Dementia Friendly Dining consist of a combination of digital and physical resources. The training module, user guide, and toolkit items were uniquely tailored for the cultural context of Legend Oaks Health Care and Rehabilitation in order to incorporate both environmental and social modifications that are desirable and feasible for the facility to enhance the dining experiences for IwD.

The evidence tables provides a summary of research supporting the physical and social environmental changes utilized in the program. Caregivers will be able to understand and apply evidence-based interventions that have been proven to enhance feeding and eating occupations in SNFs to improve the dining occupation for IwD. Caregivers will also be able to adapt the suggested modifications to fit the culture and needs of residents within their SNF.

The online training module is an educational and interactive course created on the Articulate 360 Rise learning software that provides detailed instructions on how to carry out each of the tasks within the program. The course provides text instructions, imagery, and videos in order to address various learning styles of the users. A quiz provides an opportunity to demonstrate the learner's knowledge following completion of the course. These training modules aim to support the dining occupation for residents, while supplying caregivers and residents with increased opportunities for quality, social interactions during dining activities.

The dining toolkit user guide is a booklet of instructions for staff members to implement within the dining environment. This booklet guides the staff members on how to make social and physical evidence-based modifications to enhance the dining experience for residents during mealtimes. The user guide includes step-by-step directions on how to use the dining toolkit for quick reference and easy administration. The training module and user guide consist of similar information that is presented in different formats to address different learning needs of the staff.

The dining toolkit includes familiar items commonly used in routines and rituals during mealtime. Furthermore, providing such items has been found to provide beneficial effects on agitation, social behavior, mood, attention, and relaxation (Aldridge, 2007). The dining environment can be adjusted by using items such as a centerpiece, organizers that hold the utensils and condiments, as well as color contrasting plates, bowls, and cups.

Agency Description

Legend Oaks Healthcare and Rehabilitation is a skilled nursing facility located in New Braunfels, Texas. Legend Oaks is an Ensign-affiliated facility and therefore, the materials provided for this program have the opportunity to be scaled and distributed to over 250 other Ensign-affiliated facilities in the United States. Legend Oaks serves a diverse population and

provides short-term rehabilitation and long-term care. Though both short-term and long-term care residents live within the same facility, they reside on opposite sides of the building. Within the facility, there are two dining rooms, one for long-term care residents and the other for short-term care residents. The Dementia Friendly Dining program, focuses on the long-term care dining room, as Legend Oaks has received a grant through CMS to help modify their long-term care dining room to enhance the occupation of feeding and dining for their residents. The funding received has been allocated to the prescribed list of environmental changes including those listed within the evidence table. On average, 12 residents dine in the long-term dining room daily with staff members and loved ones. The team of staff members consists of nurses and caregivers, OTs, physical therapists (PT), speech and language pathologists (SLP), rehab aides, and other clinicians who collaborate on unique goals for the residents.

Figure 1 Dining Counter

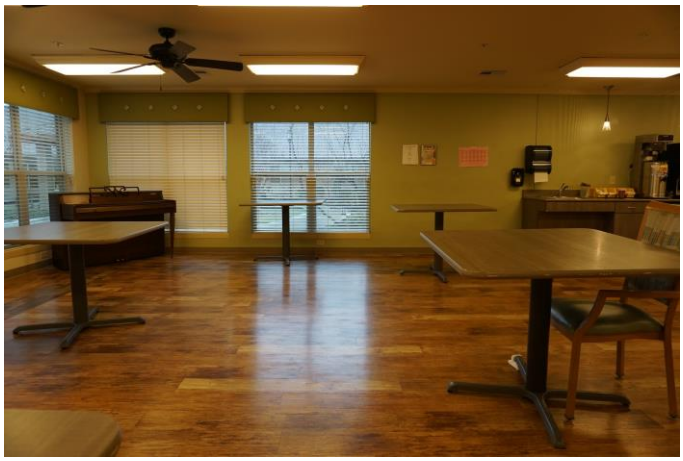

Figure 2 Dining Room

Target Population

The primary target population for this program includes individuals with early to middle stage dementia. It is expected the modifications of the physical and social environment will benefit IwD resulting in increased nutritional intake and weight, as well as reduced neuropsychiatric behaviors during meals. Dementia Friendly Dining also supports the caregivers, as improvement in the dining experience is dependent on the caregivers implementing the changes with the IwD. For the program, caregivers will be informed in environmental modifications and trained in implementing the dining toolkit to support the dining experience for residents with dementia.

Program Development

Dementia Friendly Dining was influenced and guided by current and published literature, along with a needs assessment and onsite visit to Legend Oaks. During this time, the needs of the residents and caregivers were determined, along with feasible physical and social modifications of the facility were discussed, information regarding the facility's policies and safety regulations were gathered, program content was determined, and program resources were collected. Feedback from the facility rehab director, staff, and an OT dementia care expert, who provides

training and education for Ensign Services, was also received. Feedback included the feasibility and evaluation of the program.

Program Implementation Plan

Dementia Friendly Dining was partially implemented through a virtual overview and education on the program components to the Legend Oaks leadership team, which consisted of the rehab director, OT, and speech language pathologist (SLP). Initial feedback of the program and its materials from the Legend Oaks team and an OT dementia care content expert was received, revisions were made, and re-distribution of the materials occurred. When the facility is ready to fully implement the program, they will provide a virtual training session for their staff. The facility will collect program outcome data and conduct an evaluation of the program for effectiveness and impact.

The virtual overview included discussion of the evidence table, toolkit items, online training modules, and user guide. The discussion involved the format and evidence-based interventions listed in the evidence table, a detailed explanation of the six module topics in the online training modules, and a detailed explanation of how to use and apply the user guide. After the overview, an initial feedback survey measuring the satisfaction and feasibility of the program components through the staff's perspective was conducted by the rehab director and staff of Legend Oaks. Revisions, such as creating a summary version of the evidence table, was done to provide staff with a quick and user friendly evidence table to refer to during practice.

Unfortunately due to the impact of COVID-19, social distancing regulations, and SNFs temporary discontinuation of communal dining, the program's full implementation is delayed. As a result, the program developers utilized a consultative and collaborative approach with Legend Oaks to continue education and consultation for preventative care during the occupation

of dining. Once the facility is able and fully ready to implement the program, they will provide virtual training sessions for their staff. The training will include a preview of the evidence tables and a thorough explanation of the dining toolkit user guide and toolkit items. Staff will then complete the interactive online training modules. With thorough training, the staff will understand the purpose of the program and carry out each of the recommended tasks during mealtimes with residents. Once all staff have completed the program with their residents, the facility will collect data and conduct an evaluation of the program to identify the effectiveness and impact the program has had.

Table 3

Program Timeline for Pilot Implementation

Resource Program Components	**Prospective Dates of Completion/Administration**
Toolkit (evidence tables, physical items, user guide, training module)	Completed April 2020
Virtual Overview of Program Components	Completed August 2020
Feedback Survey	Completed October 2020

* The dates of training and pilot implementation are to be determined in the later future due to the current COVID-19 impact (Table III).

Program Evaluation Plan

A formative evaluation process was completed while designing the components of the Dementia Friendly Dining program. Program materials were sent to Legend Oaks and initial feedback was provided by the Legend Oaks leadership team on its content and format. Feedback was provided in order to shape the program to better serve the target population and the facility's culture. After revisions from the initial feedback were made, the final program materials and a feasibility survey was sent to all staff members of Legend Oaks to obtain data regarding the program feasibility, useability and the clarity of the program materials, and potential

effectiveness within the facility's culture and existing procedures. Also, an OT content expert on dementia care who provides training and education for Ensign Services reviewed the program and provided feedback on its feasibility. The feasibility survey included a series of three open-ended questions regarding recommendations and improvements, and nine Likert-scale questions to rate the program components on a scale of 1-5; 1 being hard to navigate, unclear and includes inappropriate information; and 5 being highly organized, clear, and includes very relevant information.

Once the facility is ready to implement the program, an evaluation of the expected outcomes for IwD and caregivers will be completed by the facility. The expected program outcomes include decreasing caregiver burden, increasing residents' nutritional intake and weight, and decreasing negative behaviors during mealtime. In addition to an evaluation of the program outcomes, a summative survey will evaluate the overall effectiveness of the pilot implementation. The summative survey may consist of a questionnaire that uses a Likert-scale to measure caregivers' and staff members' viewpoints on the quality, feasibility, and usefulness of the dining toolkit. The aim of the evaluation process is to identify areas of improvement within the Dementia Friendly Dining program, as well as determine the benefits and outcomes of utilizing this program for residents and caregivers.

Results and Discussion

Research has demonstrated the beneficial effects of modifying the physical and social environment on the occupation of feeding and dining for IwD. However, due to institutional regulations in SNFs, many facilities are unable to incorporate physical and social environmental changes to support feeding and dining occupations, creating a gap in practice. As dementia progresses, many IwD lose their ability to independently feed and eat, which requires an increased level of care from caregivers. In order to support IwD in the occupation of feeding and eating, the Dementia Friendly Dining program was created, utilizing a holistic approach. The program provides suggestions to modify the physical environment, as well as the social environment that are part of the whole dining experience. Dementia Friendly Dining is focused on the unique dining needs and concerns of the residents at Legend Oaks Healthcare and Rehabilitation. A collaborative partnership has been developed with this SNF to gain a better understanding of the facility's culture, organization, and structural policies.

Through a virtual meeting, the evidence table, toolkit items, online training modules, and user guide were discussed and provided to the Legend Oaks team. The materials were also distributed to an OT dementia care expert who provides training and education for Ensign Services. The Legend Oaks team and OT dementia care expert provided feedback and revisions were made. After suggested revisions, the final materials and a feasibility survey were sent to the Legend Oaks staff, who provided feedback on the overall value and potential effectiveness of the program components. Participants scored the Evidence Table, User Guide, and Training Modules as 5's on a 5 point Likert-scale. Results from the survey indicate the Dementia Friendly Dining Program materials are feasible, clear, and visually appealing. The Legend Oaks leadership team also believed the program would be easy to incorporate and provide their interdisciplinary staff

with evidence-based interventions to utilize when interacting with residents during the occupation of dining. The reviewers also appreciated that the activities incorporated both the physical and social aspects of the environment to address the gap in practice.

However, some suggestions were provided in order to promote generalization of the program. Recommendations included incorporating environmental modifications that can be made to various facilities, providing alerting activities, and implementing interventions that support individuals with middle and late stage dementia. For future implementation of the Dining Toolkit, a comprehensive evaluation process is recommended to measure the program outcomes for IwD and caregivers, which can be accomplished through existing resident data and facility systems. A survey is recommended to evaluate the overall effectiveness of program implementation, which may consist of a questionnaire to measure caregivers' and staff members' opinions on the quality, feasibility, and usefulness of the dining toolkit in correspondence with the suggested expected outcomes.

Occupational Therapy and Future Implications

OT practitioners utilize a consultative, holistic, and strength-based approach in modifying and enhancing the environmental and social contexts of dining occupations in SNFs. Within Dementia Friendly Dining, the OT practitioners utilize a consultative approach that includes caregiver education, training programs, and resources to improve skills needed for feeding and dining occupations among IwD (AOTA, 2017). A holistic approach is commonly utilized by OT practitioners and is demonstrated when the practitioner analyzes the physical, social, and emotional aspects of a person and their environment in relation to the demands of the activity in order to identify the best fit and promote increased occupational participation. Lastly, a strength-based approach is applied by creating interventions that focus on remaining abilities of residents

to improve feeding performance and enhance the overall dining experience. OT practitioners are trained with a unique set of skills to evaluate, analyze, and create culturally appropriate environments that support IwD to participate in their daily activities and engage in dining occupations (AOTA, 2017). In addition to the implementation of the program in a facility's dining room, future programs can address in-room resident dining occupations for later stages of dementia and develop pathways for holistic, client-centered, individual prevention.

Furthermore, the Dementia Friendly Dining program allows OTs to collaborate with an interdisciplinary team to better support the improvement of the dining environment and promote individuals to participate in meaningful self-feeding and dining activities on a population and organizational level. Additionally, this program provides a foundation for OTs to address the forms of social interaction that involve individuals' culture, food choices, and rituals surrounding dining occupations, along with the physiological, psychosocial, cultural, and environmental factors that are fundamental components of the overall dining experience at a facility level for IwD.

Once safety precautions and social distancing regulations from the COVID-19 pandemic are no longer required, the program can be piloted. An evaluation of the benefits to caregivers and IwD will demonstrate the program's impact. In addition to implementation of the Dementia Friendly Dining program in the dining room, future programs can address in-room dining occupations for later stages of dementia and develop pathways for holistic, client-centered and individual prevention.

Limitations

Dementia Friendly Dining has great implications for the field of occupational therapy within SNFs on an organizational level. However, a potential limitation of the program that may

serve as a barrier during implementation includes losing sight of client-centeredness as one tries to intervene at a population level. OT practitioners may also face challenges in implementing this program in other settings due to its limited generalization among other SNFs. The Dementia Friendly Dining's central focus was on its partnering facilities cultural, structural, and organizational context. Additionally, practitioners may encounter challenges regarding buy-in from facilities when attempting to change their entire dining programs to implement the program components. Suggestions for counteracting these limitations include collaborating closely with facility directors and staff members to maintain their existing organizational policies and beliefs through needs assessments and ongoing evaluations, while simultaneously expanding the program's implications by finding creative avenues to provide skilled interventions when addressing individual needs.

Conclusion

Dementia is one of the most widespread conditions among elderly populations, impacting 5.8 million American adults in the United States with growing numbers as the population ages (Alzheimer's Association, 2019a). As the condition progresses, many IwD exhibit reduced participation in their occupations and 50% of IwD are admitted into a SNF for long-term care (Alzheimer's Association, 2019a). Due to continuous decline in cognitive capacities, IwD living in SNFs often experience problems with performing basic ADLs, such as feeding and eating. The occupations of feeding, eating, and dining are essential to daily life, as they fulfill the fundamental needs for survival and provide residents with opportunities for social interactions and relationships in the dining room.

Research has shown the physical and social environment can positively impact the engagement of an IwD's participation in dining, but many SNFs are unable to implement physical and social interventions simultaneously. Modifications of the physical environment can reinforce the dining experience for IwD through intensified lighting, color contrast, decreased noise levels, consistent temperature, meal presentation, and furniture arrangement (Fung et al., 2012; Garre-Olmo et al., 2012; Hung et al, 2016; Palese et al., 2018). The social environment can also allow for a supportive social context for the IwD to engage in during the dining experience and foster meaningful social interactions through rituals and routines (Hung et al., 2016; Keller et al., 2010; Palese et al., 2018). Making appropriate home-like modifications such as incorporating personalized items and memorabilia can promote a sense of belonging and familiarity, which can lead to resident satisfaction and a more supported dining experience (Chaudhury et al., 2013). These modifications can increase nutritional intake, prevent weight loss, and decrease negative behaviors (Chaudhury et al., 2013; Hung et al, 2016).

Therefore, the purpose of the Dementia Friendly Dining program is to strengthen the dining experience through physical and social alterations by providing program resources and recommended interventions informed by current evidence. The resources include an evidence table, online training modules, user guide, and toolkit items for staff and caregivers at Legend Oaks Healthcare and Rehabilitation. The main aim of the program is to magnify the dining environment and to provide effective caregiver training to better support IwD during mealtimes. By integrating environmental and social modifications within the SNF setting, the expected program outcomes include increasing residents' nutritional intake and weight, while decreasing negative behaviors during mealtime. The dining toolkit facilitates greater engagement during the dining experience, which can reinforce participation in feeding for IwD, while reinforcing recreation to improve QOL.

OTs contribute a unique perspective on engagement and participation in daily activities and occupations, such as feeding and eating, as they have the education to analyze and modify task demands and environmental contexts. Modifications of tasks and the environment allows OTs to create an optimal fit between the person, environment, and task, allowing for enhanced participation in desired occupations. Therefore, OTs have a pivotal role in designing culturally appropriate physical and social modifications to support the IwD and caregivers by creating a physical environment that is stimulating and a social environment that supports the daily rituals and routines needed to support and enhance the dining experience.

Dementia Friendly Dining is pertinent to OT as it entails a strength-based approach in order to determine the elements that influence an IwD's ability to partake in feeding, eating and dining. OTs have a significant role in supporting continued participation in ADLs for IwD in the SNF setting and have an opportunity to develop evidence-based programming that supports the

occupation of dining for the population of older adults with dementia who live in SNFs (Schaber & Lieberman, 2010). OTs can work as collaborative partners with SNFs as they continue to advocate for changes in dining practices and policies to promote justice and ethical practices to further support IwD.

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Appendix Feasibility Survey

User Guide Feedback Survey

1. Were you able to easily navigate the guide?
   Mark only one oval

No, it was confusing and difficult to navigate	1	2	3	4	5	Yes, it was organized and easy to navigate

2. Were you able to understand the written language used within the guide?
   Mark only one oval

No, it was difficult to understand	1	2	3	4	5	Yes, it was easy to understand

3. Were the visuals used within the guide relevant and appropriate?
   Mark only one oval

No, the visuals were irrelevant and inappropriate	1	2	3	4	5	Yes, the visuals were relevant and appropriate

4. What other improvements would you suggest (e.g. use simpler vocabulary, use more images to understand how to carry out each task, change organization of guide, etc.)?

Module Feedback Survey

5. Were you able to easily navigate the modules? If not, explain what was confusing and suggestions for improvement?
   Mark only one oval

No, it was confusing and difficult to navigate	1	2	3	4	5	Yes, it was organized and easy to navigate

6. Were you able to easily understand the written language used within the modules?
   Mark only one oval

No, it was difficult to understand	1	2	3	4	5	Yes, it was easy to understand

7. Were the visuals used within the modules relevant and appropriate?
   Mark only one oval

No, the visuals were irrelevant and inappropriate	1	2	3	4	5	Yes, the visuals were relevant and appropriate

8. What other improvements would you suggest (e.g. e.g. use simpler vocabulary, use more images to understand how to carry out each task, change organization of guide, etc.)?

Evidence Table Survey Questions

9. Were you able to easily navigate the manual?
   Mark only one oval

No, it was confusing and difficult to navigate	1	2	3	4	5	Yes, it was organized and easy to navigate

10. Is the language clear and easy to understand?
    Mark only one oval

No, it was unclear and difficult to understand	1	2	3	4	5	Yes, it was clear and easy to understand

11. What other improvements would you suggest?
12. How likely do you think you are to use these resources?
    Mark only one oval

Unlikely	1	2	3	4	5	Very Likely

Section 2: Manuscript

Background and Literature Review

Alzheimer's disease affects 5.8 million American adults in the United States and the impact continues to grow as the population ages. Alzheimer's disease is the primary cause of dementia and the progressive nature of the disorder results in significant functional impairments. Fifty percent of individuals with dementia (IwD) are admitted into a skilled nursing facility (SNF) for long-term care (Alzheimer's Association, 2019a). As cognition declines and dementia becomes more severe, all areas of occupations are impacted, including feeding and dining.

Feeding includes setting up, arranging, and bringing food or fluid from the plate or cup to the mouth and is considered a "late-loss" activity of daily living (ADL), meaning feeding is commonly retained into the late stages of dementia (American Occupational Therapy Association, 2017). Feeding is a common occupation that requires assistance for IwD to engage in, and is an important ADL to maintain because self-feeding provides opportunities for autonomy, dignity, and self-efficacy (Alzheimer's Association, 2019a; Hung et al., 2016). The occupation of dining provides opportunities for IwD to build relationships and socialize with others during mealtimes. As a result, the environment and support an IwD receives during the dining occupation are crucial for establishing wellness and quality of life (QOL). As dementia progresses, cognitive and functional impairments may be amplified by the environment and policies of a SNF due to the structure of institutional care, further limiting IwD's participation in feeding and dining. OTs can improve participation and engagement in feeding and dining for IwD residing in SNFs through programming that supports modifications of the physical and social environment.

Literature has shown that modifications to the physical environment, such as furniture, silverware, and sensory components can support IwD in their abilities to engage in dining

activities (Hung et al., 2016). For example, providing adequate lighting and contrasting colors can help IwD better identify their meals and utensils placed in front of them, and managing noise levels facilitates a calming atmosphere and increases intake of food (Davis et al., 2009; Garre-Olmo et al, 2012; Hung et al., 2016). Social aspects of the environment include caregiver attitudes and beliefs, rituals, routines, and preparatory activities that take place prior to or during dining in order to enhance and support social interaction between residents and promote engagement during the dining occupation (Hung et al., 2016; Keller et al., 2010). Examples of social components include allowing residents to set-up the table, passing the bread basket around the table, and reminiscing.

In addition to current literature, the theoretical frameworks that guided the development of the Dementia Friendly Dining program were the Allen Cognitive Disabilities Model (CDM) and the Social Ecological Model. The CDM is used to identify the remaining abilities of an individual to support participation in occupations, rather than loss of function and limitations. The CDM provides a framework for healthcare professionals, as well as caregivers, to better understand an individual's level of cognitive functioning in relation to occupational performance. While the CDM provides a unique focus on the remaining abilities of an IwD, the Social Ecological Model is a theory-based framework that allows OTs to understand different levels of influences surrounding an individual, such as the individual, relational, community, and society levels, and how they impact IwDs engagement in occupations, such as feeding (CDC, 2020; Liu et al., 2019). The levels of influence guide practitioners to explore the numerous environmental and client factors that support or negatively impact IwD during the occupation of dining as their condition progresses. The Dementia Friendly Dining program has the potential to benefit IwD in SNFs by intervening to simultaneously address the physical and social environment. The

program includes modifications that enhance all aspects of the dining occupation, which include feeding, eating, and building social relationships.

Methodology

The development of the Dementia Friendly Dining program was influenced by literature indicating the physical and social environment plays an important role in supporting dining experiences for IwD and their caregivers. However, many SNF facilities have been unable to integrate both physical and social modifications together, creating a gap in practice. Therefore, the Dementia Friendly Dining program is designed to support SNF leaders, OT practitioners, and facility staff to enhance the dining experience for IwD by incorporating evidence-based interventions related to the physical and social environment. The program was created in collaboration with Legend Oaks Healthcare and Rehabilitation, an Ensign-affiliated SNF located in New Braunfels, Texas. This program targets the occupation of dining for individuals with early to middle stage dementia who receive long-term care in the SNF.

The program resources include a evidence table that provides a summary of the current evidence and clinical recommendations for OTs and staff; online training modules for staff to understand the importance of the occupation of dining, simple and appropriate conversation techniques for successful interactions with IwD, and how to utilize the dining toolkit; a dining toolkit user guide to assist interdisciplinary staff with learning how to perform and adapt dining tasks when implementing the program; and a Dementia Friendly Dining program toolkit with items, such as candles, a centerpiece, contrasting tableware, and a music playlist, to address the gap in practice by simultaneously utilizing physical and social modifications to increase independence in feeding, reduce caregiver burden, and improve the overall dining experience.

Implementation and Evaluation

An overview of the program was presented during a virtual meeting with the Legend Oaks Rehabilitation's Rehabilitation Director, OT, and SLP. The evidence table, toolkit items, online training modules, and user guide were introduced to the Legend Oaks team and each staff member provided feedback on the materials regarding their value and potential limitations. The team also completed a feasibility survey on the final program. The feasibility survey provided feedback from a stakeholder perspective on the overall value and potential effectiveness of the program components. An OT content expert on dementia care who provides training and education for Ensign Services also reviewed the program and provided feedback on feasibility. Results from the survey indicate the program materials are clear, feasible and valuable, and would be an effective tool to implement in the New Braunfels facility. However, the reviewers suggested program modifications in order to promote generalization among other facilities on a broader scale and provide support for individuals with middle and late stage dementia.

It is vital for OT practitioners to collaborate with the facility leadership and staff to assess the effectiveness of environmental modifications for the SNF population and make adjustments based on their facility's own context and culture, which allows for client-centered care. Communication, collaboration, and problem-solving with staff members are important skills for the OT practitioner during program implementation to ensure sustainability and feasibility. To ensure the effectiveness of the Dementia Friendly Dining program, a comprehensive evaluation process is recommended to measure the expected program outcomes, which include decreased caregiver burden, increased nutritional intake and weight, and decreased negative behaviors for the IwD and caregivers during mealtimes. A survey to evaluate the overall effectiveness of program implementation may include a questionnaire to measure caregivers' and staff members'

opinions on the quality, feasibility, and usefulness of the dining toolkit in correspondence with the expected outcomes.

Discussion

Occupational Therapy and Future Implications

OT practitioners utilize a consultative and holistic approach to support the occupation of dining through modification of the environmental and social contexts in the SNF setting. Intervening at the organization level through programming creates opportunities to facilitate the remaining abilities of IwD during their dining experience. OTs are trained with a unique set of skills to evaluate, analyze, and create culturally appropriate environments that support IwD to participate in their daily activities and engage in dining occupations (AOTA, 2017). OTs also serve as educators to caregivers by providing education, training programs, and resources to improve skills needed for feeding and dining occupations among IwD (AOTA, 2017). By using a consultative approach, Dementia Friendly Dining allows OTs to utilize a holistic approach to support dining occupations at a facility level.

Furthermore, Dementia Friendly Dining allows OTs to collaborate with an interdisciplinary team to support the improvement of specific performance skills that support the IwD to participate in meaningful self-feeding and dining activities. The program includes organization level interventions and allows OTs to comprehensively address the forms of social interaction that involve individuals' culture, food choices, and rituals surrounding dining occupations, along with the physiological, psychosocial, and environmental factors that are fundamental components of the overall dining experience at a facility level for IwD. For example, the User Guide suggests the use of aroma as a preparatory task to increase appetite for IwD before the occupation of dining. Baking cookies are suggested, but different aromas may be

used for specific mealtimes or the facility may choose to use scents that are more culturally familiar for the residents. Additionally, staff can utilize a basket of towelettes to pass around the table during dining to increase social engagement and to prepare IwD to participate in feeding and eating. Alternatives to a towelette basket are individualized pre-packaged hand sanitizer wipes or hand washing at the sink. The tasks and suggested modifications recommended in the Dementia Friendly Dining program can all be adjusted for feasibility due the varying dining contexts and environments of SNFs or cultural relevance. Some recommendations for the physical and social environment include:

Environment	**Recommendations & Suggestions**
Physical	• Provide instrumental or quiet music during mealtimes and monitor noise level • Reduce glare, increase room lighting, and improve color contrast • Use decor that brings comfort and familiarity to residents or decor that has warm and strong colors, such as coral, peach, or soft yellow • Provide food aroma to stimulate the appetite in preparation for eating. Aroma can reflect the time of the meal (breakfast, lunch, or dinner)
Social	• Utilize nonverbal techniques, such as smiling, hugging, or touching to communicate • Sit face-to-face with residents at smaller table seating options • Allow residents to routinely sit in the same spot or table • Allow for residents to make choices, such as food choice or drink choice • Create and assign meaningful roles, such as setting the table to increase participation.

Limitations

Dementia Friendly Dining has important implications for the field of occupational therapy within SNFs to create organization level change that supports inclusion of the cultural context through environmental modifications that address systemic barriers that may occur within a SNF. However, a potential limitation that may serve as a barrier during program implementation is the loss of client-centeredness for an individual client, when intervention

occurs at an organizational level. When the cultural context of the facility is incorporated into the dining program, individual cultural differences may not be supported. OT practitioners may also face challenges regarding buy-in from facilities and staff when attempting to change the entire dining practice and implement the program components. Collaborating closely with facility directors and staff members is critical in order to integrate programmatic changes into existing organizational policies and values. A careful needs assessments and ongoing program evaluation support creative problem solving in addressing barriers and challenges to program implementation and the provision of skilled interventions that address individual needs. In addition to the implementation of the program for communal dining in SNFs, future programs can address in-room resident dining occupations for later stages of dementia and develop clinical guidelines to support OT practitioners in the use of holistic, client-centered and individual dining and feeding interventions.

Conclusion

Dementia Friendly Dining is designed to enhance participation of all aspects of the dining occupation. Through caregiver training and evidence-based programmatic changes to the facility dining practices, the program will prepare staff to adapt the physical and social environment and utilize effective communication techniques with residents in order to support IwD during mealtimes. The dining toolkit facilitates greater engagement during the dining experience, which can increase participation in feeding for IwD and improve QOL. OTs have the opportunity to develop evidence-based programming that supports the occupation of dining for IwD residing in SNFs and to advocate for changes in dining practices, policies at SNFs, and to address other facility-wide barriers to occupational engagement.

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