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Improving Care of Assisted Living Residents with Dementia Through a Competency-Based Behavioral Training Curriculum for Assisted Living Caregivers

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Abstract

Behavioral and psychological symptoms of dementia (BPSD) are common among residents of assisted living facilities. Inadequately managed symptoms of BPSD can lead to problematic behaviors with significant consequences for patients and caregivers. Non-pharmacologic approaches to the management of problematic behaviors in individuals with dementia are the preferred management option. Caregiver training and education to enhance knowledge and skills in managing behavioral and psychological symptoms for assisted living caregivers is indicated to provide optimum care for patients with dementia. The purpose of this doctor of nursing practice (DNP) project was to develop and implement a caregiver-training workshop utilizing a competency-based behavioral training curriculum to improve the care of dementia residents and ultimately enhance the physical and mental well-being of both the residents and caregivers. Fifteen assisted living caregivers attended a two-hour training workshop, individualized onsite monitoring, and follow-up. Overall implementation of this quality improvement project resulted in a high level of satisfaction among participating staff. Upon completion of the training workshop, a considerable increase was evident in self-perceived knowledge of dementia and related behaviors (87%), behavior management skills (94%), inter-professional communication skills (73%), and comfort level in managing behavior problems (74%), relative to self-reported pre-training levels. In contrast, an overall reduction appeared in perceived competencies regarding the same four components six weeks after training. These results suggest that this may be an effective model for a training intervention for assisted living caregivers of dementia residents with behavioral symptoms. Additional follow-up concept review and staff support may be required to sustain the changed practice behavior and maintain the benefits of the training.

Keywords: dementia, BPSD, neuropsychiatric symptoms, caregiver training

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Section II: Introduction

Background Knowledge

Dementia Care Assisted Living Facility (DCALF) is a pseudonym for a private assisted living memory care institution serving elderly persons with dementia in Northern California, United States. The majority of the facility residents at DCALF are diagnosed with Alzheimer's Disease (AD), the most common form of dementia in the geriatric population (Alzheimer's Association, 2014). The services provided by the facility include supervision, supportive care, and daily memory assistance.

More than 50% of the DCALF assisted living facility residents exhibit behavioral and psychological symptoms of dementia (BPSD). DCALF caregivers reported that responding to residents with BPSD poses the greatest challenge in providing care for their residents. According to DCALF caregivers, the most prevalent behaviors causing the greatest distress were as follows: (a) refusal of personal care, (b) "sundowning" (increased confusion and agitation in the evening), (c) agitation, (d) screaming, and (e) oral and physical aggression. Caregiver distress in managing patients with BPSD in DCALF is consistent with findings in the available literature on dementia care (Spurlock, 2005).

Currently, the majority of DCALF residents manifesting disturbing behavior such as agitation, aggression, and screaming are prescribed as-needed medication for the management of behavior problems. Pharmacologic management has been accepted by the DCALF caregiving staff as an effective solution for addressing difficult-to-manage behaviors; however, dependence on pharmacologic therapies for the management of BPSD has been demonstrated to be clinically ineffective with significant risk of cardiovascular and cerebrovascular adverse events, even resulting in death (Jeste et al., 2007).

The preferred initial intervention for BPSD management is a non-pharmacologic behavioral intervention (NPI). Caregiver training in behavioral management has been shown to lead to a reduction of behavioral symptoms in persons with dementia (PWD) as well as reduced caregiver distress (Chiu, Wesson, & Sadavoy, 2013; Kwok, Au, Wong, Mak, & Ho, 2014; Nogales-González, Losada-Baltar, Márquez-González, & Zarit, 2014; Teri, Huda, Gibbons, Young, & van Leynseele, 2005). Although the majority of states in the United States require assisted living staff to receive some dementia-related training, the scope and extent of such training are limited and vary in content (National Center for Assisted Living, 2013; Teri et al., 2005).

The available literature suggests that overall, assisted living caregivers receive insufficient behavioral education and skills training for responding skillfully to residents with BPSD (Hyer, Yeager, Hilton, & Sacks, 2009; Speziale, Black, Coatsworth-Puspoky, Ross, & O'Regan, 2009; Zimmerman, Sloane, & Reed, 2014). Lack of proper education and training for caregivers of PWD is a significant barrier to the provision of quality care for residents in assisted living settings. Delivery of quality care for PWD and the overall rapidly expanding geriatric population depends greatly on a sufficient, well-trained, and supported caregiver workforce (Annapolis Coalition on the Behavioral Health Workforce, 2013; U.S. Department of Health and Human Services, 2014; California Health and Human Services Agency, n.d.).

Local Problem Needs Assessment

Behavioral and psychological symptoms are common among DCALF residents. A patient record and communication logbook review of DCALF residents ($N = 42$) revealed 25 residents exhibited BPSD. Of the 25 residents with BPSD, 2 manifested personal care refusal, 8 displayed sundowning, 7 wandering, 7 agitation, and 1 screaming and verbal aggressive behaviors. Nearly 100% of residents had been prescribed antipsychotic medications for the management of difficult behavior such as agitation, screaming, and aggression.

The prevalence of BPSD among DCALF residents accounts for the majority of caregiver staff distress. The DCALF inter-professional collaborative (IPC) team members, including the resident services director (RSD), visiting physician, medication assistants, shift leaders, and caregivers, reported that inadequately managed BPSD in DCALF resulted in an aggravation of problematic symptoms causing increased caregiver workload and caregiver distress. The increased workload and caregiver distress may contribute to sick-leave absences at DCALF, a problem consistent with findings in the professional literature (U.S. Department of Health and Human Services, 2011). DCALF caregiver sick-leave absences average three per month. Although turnover of caregivers at DCALF is minimal at 5% annually, perpetual unresolved caregiver stress may ultimately result in increased staff turnover for the facility and fewer available skilled caregivers.

A 2014 survey conducted among the DCALF caregivers revealed that a majority of the 26 DCALF caregivers believed they were in need of additional dementia education. In particular, the DCALF caregivers expressed the need for practical behavior skills training for intervening appropriately and skillfully with PWD exhibiting BPSD. Moreover, other members of the IPC team expressed the need for improved caregiver communication with the resident care recipients and IPC team members. The resident services director and visiting physician have expressed a keen awareness that without competent caregivers properly trained in managing BPSD, the facility cannot fulfill the organizational promise of providing residents with a safe and motivating home-like environment.

A series of individual interviews with the DCALF caregivers revealed that overall, they were unclear about the triggers of problematic behaviors among residents and the adverse effects of medications used to treat BPSD. The caregivers did not appreciate BPSD as a potential manifestation of non-verbal communication and were uncertain regarding the use of communication techniques in managing PWD exhibiting BPSD. Caregivers were also unaware of the evidence-based Antecedent-Behavior-Consequences (ABC) problem-solving approach to managing BPSD in dementia residents.

A lack of appropriate education and training on BPSD management of DCALF caregivers of PWD represents a significant obstacle to the delivery of quality care for BPSD in DCALF. Inappropriately managed or untreated BPSD could lead to suffering for both patients and caregivers (O'Donnel et al., 1992). In addition, persistent problematic behaviors increase distress among other residents resulting in an escalation of behavior symptoms among the entire community. Cognizant of the importance of this issue and the impact on both staff and residents, the RSD concluded that an effective training program to manage BPSD could improve staff satisfaction while enhancing the well-being of both residents, through improved delivery of care, and caregivers, through decreased caregiver distress due to their lack of skills in managing BPSD.

Intended Improvement

Implementation of non-pharmacologic BPSD management measures has been proven to enhance outcomes in assisted living facilities including resident quality of life (QOL) and caregiver well-being (Deudon et al., 2009; Teri et al., 2009; Testad, Mikkelsen, Ballard, & Arsland, 2010). The purpose of this project was to improve dementia care at DCALF by developing and implementing a competency-based curriculum on the management of BPSD for

DCALF's caregivers. This practice improvement project provides a model for other assisted living facilities interested in improving care for PWD. The objectives of the project were to increase caregiver self-perceptions by 20% in the following four areas:

1. Knowledge of dementia including understanding and recognition of BPSD and triggers.
2. Skills in the management of BPSD in residents with dementia.
3. Communication skills for conveying BPSD observations effectively to members of the IPC team.
4. Caregiver comfort level in managing BPSD.

Review of the Evidence

A review of the available literature on the current standard of care for dementia residents with BPSD, BPSD prevalence, antipsychotic use, cost, outcomes, and effective and feasible behavioral caregiver training programs informed the development of this project. PubMed/ Medline and CINAHL databases as well as Google Scholar were searched for current evidence using the following keywords and phrases: dementia, behavioral and psychological symptoms of dementia (BPSD), neuropsychiatric symptoms, BPSD prevalence, BPSD cost, BPSD treatment, and caregiver training.

A national agenda for dementia care. Concerns for the quality of care for PWD, high rates of caregiver staff turnover, and frontline staff shortages at long-term care facilities prompted the development of a national dementia care agenda (U.S. Department of Health and Human Services, 2014). The 2011 National Alzheimer's Project Act (NAPA) developed and promoted a national plan for addressing various issues relating to AD. Part of the strategy involves building a sufficient healthcare workforce with the necessary skills to provide culturally competent, high quality dementia care. This goal is to be accomplished by educating healthcare providers about signs and symptoms of AD and dementia related symptoms, effective behavior management, and caregiver support issues (U.S. Department of Health and Human Services, 2014).

In California, the Alzheimer's Disease and Related Disorders Advisory Committee partnered with the Alzheimer's Association to implement a State Action Plan for 2011-2021. Goal 4 of California's State Action Plan was developed to address an overall lack of basic information and training related to dementia care among caregivers. Information in the Action Plan includes detection, diagnosis, treatment, and caregiver support services relevant to all licensed health professionals (California Health and Human Services Agency, n.d.). Goal 4 focuses specifically on cultivating a well-trained culturally sensitive workforce capable of dealing with Alzheimer's and dementia related issues. The ultimate goal is to improve the care of people with dementia by improving the capacity of care providers (California Health and Human Services Agency, n.d.).

Behavioral and psychological symptoms of dementia (BPSD). BPSD are non-cognitive symptoms that affect the perception, thought process, and behavior of persons with dementia (International Psychogeriatric Association, 2002). Rather than a manifestation of cerebral dysfunction, behavioral symptoms in dementia may serve as a form of communication, a way for patients to express unmet needs or a sense of confusion which they are otherwise unable to convey (British Columbia Guidelines and Protocols Advisory Committee, 2008). Consequently, in many cases, BPSD can be mitigated through improved communication between the patient and the caregiver. Equally important is managing the underlying organic causes of

BPSD, such as hunger, pain, difficulty sleeping, or undiagnosed medical problems (British Columbia Guidelines and Protocols Advisory Committee, 2008; Hersch & Falzgraf, 2007).

Inadequately managed BPSD can result in an escalation of problematic symptoms and subsequent complications potentially incurring adverse health effects and the increased use of pharmaceuticals (Hersch & Falzgraf, 2007), premature admission to nursing homes, increased rates of injury to self and other residents, decreased quality of life, faster cognitive deterioration, and a greater caregiving burden (Margallo-Lana et al., 2001). As a result, suboptimal management of BPSD can significantly increase both poor outcomes and the costs of caring for individuals with dementia (Lawlor, 2002).

Dementia care in assisted living facilities. Assisted living facilities (ALFs) are the most common option for residential care for elderly Americans (Kopetz et al., 2000). ALFs are regulated by the state in which they operate; thus, laws in each state vary (National Center for Assisted Living, 2013). In the state of California where this project was implemented, an ALF may admit residents with dementia as long as the ALF meets licensure requirements including annual medical check-ups for residents, adequate supervision, safety requirements, and provision of appropriate program activities (National Center for Assisted Living, 2013). Specific staff-to-resident ratios have not been designated for assisted-living residences just the requirement that the care and needs of the residents be met based on PWD current appraisal. ALF administrators must complete a minimum training requirement of a 40-hour initial certification program and pass a written exam from an accredited provider. In addition, administrators must have 40 hours of continuing education units every 2 years in related knowledge areas including 8 hours of AD and dementia training. As a result, staff-to-resident ratios can be high, and clinical expertise in dementia care may be limited (Teri et al., 2005).

ALFs in California are required to include a licensed clinical staff member such as a registered nurse and/or a licensed vocational nurse to administer residents' medications; however, non-licensed staff members may provide medication assistance as long as they have completed a minimum of 6 hours of training including 2 hours of hands-on training (for ALF settings with fewer than 16 residents) or at least 16 hours including 8 hours of hands-on training in medication administration (for ALFs with 16 or more residents). In addition, non-licensed staff must pass a test on medication administration prepared by or in consultation with a licensed nurse, pharmacologist, or medical doctor. Additional (no specific number of contact hours) continuing medication education and training are also mandatory every year (National Center for Assisted Living, 2013).

Frontline staff members in California ALF settings are required to have either actual experience or have received on-the-job training caring for assisted living residents. Furthermore, in addition to the training staff initially receive on assisting residents with their activities of daily living (ADLs), staff caring for dementia residents must also receive an additional 6 hours of training in dementia care within 1 month after being hired, followed by a minimum of 8 hours of dementia care training annually provided by the ALF (National Center for Assisted Living, 2013).

Prevalence and cost of BPSD. The lifetime risk of BPSD for PWD is more than 95% (Lyketsos et al., 2000; Mega, Cummings, Fiorello, & Gornbein, 1996). Approximately 30% of the assisted living population exhibit BPSD (North Carolina Division of Aging and Adult Services, n.d.; Zimmerman et al., 2014). BPSD can range from mild in 14% of cases, to moderate in 49%, and severe in 37% (Wancata, 2004). BPSD considerably increase the costs of care for persons with dementia. The average cost to manage an AD patient with BPSD in a community setting was approximately $16,776 per patient per year (Hermann et al., 2006). Comparatively, the cost to manage an AD patient without BPSD was significantly lower at $7,380 per patient per year (Hermann et al., 2006).

Caregiver burden. It has been documented that dementia caregivers face greater caregiving demands and level of burden than caregivers of patients with other chronic diseases (Kales, Gitlin, & Lyketsos, 2014). Much of this increased burden results from attempting to manage BPSD (Kales et al., 2014). Managing BPSD can be emotionally and physically challenging for the caregivers; thus, dementia caregivers are at increased risk for developing psychological distress, depression, and anxiety (George & Gwyther, 1986). Ultimately, chronic distress may worsen caregivers' overall physical health and well-being (Kales et al., 2014).

Use of antipsychotics for dementia patients with BPSD. Pharmacologic interventions, in particular, antipsychotic medications (e.g., risperidone, olanzapine, aripiprazole, quetiapine, and haloperidol), have traditionally been used as a first-line treatment for BPSD (Banerjee, 2009). It is estimated, however, that only 20% of patients derived a clinical benefit from pharmacologic management, whereas the use of these medications carries significant risk (Banerjee, 2009). Pharmacologic interventions for BPSD are not approved by the U.S. Food and Drug Administration (FDA), which has issued a "black box" warning indicating an increased risk of death for elderly person taking the medication (FDA, 2014). Similarly, antipsychotic medications for the treatment of dementia-related BPSD are not recommended by the 2012 American Geriatric Society Beers criteria for the safe use of drugs in the geriatric population due to the increased cerebrovascular adverse events and mortality risk (Marcum & Hanlon, 2012). Nevertheless, antipsychotic medications are still used in more than 60% of all cases of dementia-associated BPSD (Barnes et al., 2012). This practice continues despite the existence of international and national best-practice treatment guidelines which dictate that antipsychotic medications be used only as second-line therapy, at the lowest dose, for the shortest duration feasible, and with close monitoring (British Columbia Guidelines and Protocols Advisory Committee, 2008; Lyketsos et al., 2006).

Behavioral management of BPSD. Evidence supports the effectiveness of non-pharmacologic management as the initial therapeutic intervention for BPSD (British Columbia Guidelines and Protocols Advisory Committee, 2008; Canadian Coalition for Seniors' Mental Health, 2006; Lyketsos et al., 2006). Available evidence supports non-pharmacologic behavioral interventions as a best practice approach to BPSD management (British Columbia Guidelines and Protocols Advisory Committee, 2008; O'Neil et al., 2011). A behavioral approach to BPSD involves identification of behaviors and the underlying causes, which are the essential elements in the proper management of BPSD (Tripathi & Vibha, 2010). Triggers can then be addressed or anticipated to prevent BPSD or complications of BPSD. BPSD in PWD can therefore be managed through non-pharmacologic strategies, such as the "ABC approach" conducted by caregivers to identify, monitor, and change behaviors for a positive outcome without pharmaceuticals.

Effective behavioral caregiver training strategies. A review of the literature was conducted to search for effective and feasible behavioral caregiver training strategies to enhance caregiver knowledge and skills in managing problematic behaviors of assisted living residents with dementia. Evidence-based literature on BPSD management training was located through searches of the PubMed/Medline and CINAHL databases, and Google Scholar, using the following keywords and phrases: (a) "dementia," (b) "behavioral and psychological symptoms of dementia (BPSD)," (c) "neuropsychiatric symptoms," and (d) "caregiver training." The first criterion for inclusion was identification of a caregiver-training program on BPSD. The second criterion was a study published within the previous 10 years. The third criterion was the availability of the studies in the English language.

Recent literature consisting of four randomized controlled trials (RCT) and four pre- and post-experimental studies (Appendix A) suggested that successful caregiver educational training on non-pharmacologic management of BPSD involves structured, multicomponent interventions that are patient- and caregiver-centered. These interventions include active caregiver participation and collaboration, use of multimedia and standardized patient simulation, direct observation, and real-time coaching. A patient-centered problem-solving approach based on the ABC model appeared to be most beneficial.

The ABC model of behavior management involves analysis of the following factors: (a) activating events or factors preceding the problem (e.g., unmet physical needs including hunger, pain, or fatigue), (b) the problem behavior, and (c) the outcomes of the behavior problem (consequences), in order to identify and change the series of events leading to the problem behavior(s). The goal of behavioral intervention is preemptively to remove or avoid the trigger(s) or antecedent(s) to BPSD (British Columbia Guidelines and Protocols Advisory Committee, 2008).

In a study by Nogales-González et al. (2014), the frequency of problematic resistant behavior on the part of three women with dementia attending an adult daycare center in Madrid, Spain was significantly reduced through the implementation of the ABC model complemented with general education on AD care. The ABC approach in this study was applied toward analyzing the antecedents, problems, and consequences of care recipient problematic behaviors reported by the caregivers. This was followed by caregiver training on intervention techniques and application of the interventions suggested by the psychologist-trainer through the use of instructions, practice, and feedback.

Behavioral frequency scores in this study (Nogales-González et al., 2014) fell by 4 to 10 points for all participants. Similarly, a significant decrease in symptoms of depression and anxiety was documented for the two participating caregivers. Although the sample size utilized by Nogales-González et al. may be insufficient for generalization, indication of clinical significance warrants replication of the study. This study intervention has the potential to provide a tailored, flexible, and cost-effective therapeutic tool to better address the individual needs of dementia patients and caregivers in the reduction of resistant behavior in PWD attending adult daycare centers (Nogales-González et al., 2014).

Similarly, in a pre- and post-experimental study, Kwok et al. (2014) reported a statistically significant reduction in BPSD severity (*N* = 26), from pretest (*M* = 11.9, *SD* = 6.37) to posttest (*M* = 7.46, *SD* = 6.07), using a caregiver support and training intervention. In addition, the study demonstrated a decrease in caregiver distress scores (*N* = 26) from pretest (*M* = 15.6, *SD* = 10.9) to posttest (*M* = 10.7, *SD* = 10.1), following implementation of an online cognitive behavioral therapy (CBT) intervention for family caregivers. This intervention consisted of two parts: (a) multimedia online self-learning basic training on patient-centered BPSD caregiving skills, stress, grief, and healthy lifestyle management, and (b) identification and recording of the PWD's problematic behaviors by the caregiver.

Subsequent to the second part of the intervention in the Kwok et al. (2014) study was a discussion of the PWD's behavior between caregivers and counselors, and application of the cognitive behavioral model in exploring how to best address problematic behavior. One aspect called for adaptive solutions and another for effective management skills. The intervention included online messaging between a counselor (clinical psychologists, social workers, or counselors with CBT training and practice) and a caregiver, as well as feedback from the caregivers. To further improve self-efficacy, which did not show any significant increase ($p = 0.122$) in this study, the researchers recommended a longer online CBT program to allow time for participants to gain experience in following the CBT program and thus achieve higher levels of self-efficacy.

Chiu et al. (2013) found that the introduction of the Reitman Centre's "Coaching, Advocacy, Respite, Education, Relationship, and Simulation" (CARERS) program improved the ability to care for family members who have dementia and BPSD. The improvement manifested itself in several ways, including both caregiving competence and mental well-being. The CARERS intervention uses structured problem solving and experiential learning, using standardized patient-guided simulations addressing the complex needs of PWD, as well as appropriate communication and interaction techniques. In addition, both caregivers and care recipients are provided with further support through integrated access to outpatient psychiatric services.

In the study conducted by Chiu et al. (2013), two mental health professionals facilitated the coaching of caregivers using an interactive didactic format with problem solving and simulation customized to individual challenges. Caregivers acquired hands-on experiential learning experience through a standardized patient simulation. Results ($N = 73$) demonstrated improvement in caregivers' self-perception of competence ($p < 0.0001$) and significant reduction in emotion-focused coping (Coping Inventory of Stressful Situations, $p < 0.01$), depression (Geriatric Depression scale, $p < 0.05$), and on Pearlin's overload scale ($p < 0.05$) after the end of the program.

The study results (Chiu et al., 2013) suggested that the key factors in teaching caregiving behavioral skills are the use of problem-solving techniques, simulation experiences, and coaching of caregivers as they respond to challenging situations during simulation exercises. Although the study did not indicate whether the caregiver's acquired problem-solving skills post-training improved care recipients' outcomes, the study supported the efficacy of the CARERS program in improving family caregivers' well-being.

In a pre- and post-experimental study by Goyder, Orrel, Wenborn, and Spector (2012), two private care homes demonstrated the Staff Training in Assisted-living Residences (STAR) intervention to be effective in reducing BPSD exhibited by residents. The intervention consisted of an educational module featuring a digital videodisc (DVD) reviewing the ABC approach. The STAR DVD contained eight scenes played by actors depicting interaction between staff and residents. Each scene was presented twice, with the first scene showing a problem behavior and the second scene showing successful management of that behavior. In addition, a psychologist trainee under the supervision of an experienced clinical psychologist working in conjunction with an occupational therapist provided each trainee with four supplemental, individually guided sessions.

This study (Goyder et al., 2012) demonstrated a reduction in depressive symptoms (effect size $d = 0.6$) and behavioral problems (effect size $d = 0.3$) among 32 resident participants. Likewise, improvement appeared for 25 care-staff members who reported an increased sense of hopefulness toward PWD (effect size $d = 0.4$) and improved competency in forming relationships with PWD residents (effect size $d = 1.2$). No significant increase was found for residents' QOL, anxiety symptoms ($p = 0.389$), or staff skill competency ($p = 0.553$). Lack of a control group, blind assessors, and separate interviewers and program trainers compromised the internal validity of the study; however, the results of this study were consistent with the findings of the original study by Teri et al. (2005), suggesting external validity.

Gonyea, O'Connor, and Boyle (2006) concluded that the introduction of Project Care ($N = 80$), a caregiver-centered multicomponent behavioral intervention conducted in the greater Boston metropolitan area, significantly reduced caregiver distress and the severity of BPSD among people with AD ($p = 0.005$). The intervention consisted of behavior training (ABC problem-solving approach, behavior goal setting, and modification and activation techniques), pleasant events training (caregivers' and patients' involvement in pleasant events generated by the caregivers), and relaxation training (distress management, experience sharing, and peer support). Although the study had limitations affecting generalizability including lack of diversity in the sample population, the findings nonetheless suggested that caregivers of individuals with AD might benefit from a targeted group-based multicomponent intervention.

Also in the United States, a RCT study (Belle et al., 2006) including a sample size of 612 participants found that a structured multicomponent intervention tailored to specific needs and risk profiles including a baseline assessment of depression, caregiver burden, self-care, social support, and problem behaviors enhanced QOL of ethnically diverse caregivers of dementia patients in five cities (Birmingham, Alabama; Memphis, Tennessee; Miami, Florida; Palo Alto, California; and Philadelphia, Pennsylvania). This intervention includes information delivery, didactic instruction, role-play, problem-solving training, stress management techniques, and telephone support groups as well as utilization of a bilingual and bicultural staff for Hispanic/ Latino participants.

Study limitations (Belle et al., 2006) included limited follow-up assessment, the combination of heterogeneous cultures within a single study group such as Mexican and Cuban

Americans potentially affecting interpretation of implementation, and exclusion of other ethnicities. Nevertheless, this study demonstrated that a multicomponent intervention customized to the needs of the caregiver that is culturally sensitive, flexible, and available in the caregiver's native language offers promise with regard to improving the QOL of caregivers and for reducing problematic behaviors among an ethnically diverse population.

Overall, the evidence suggests that behavioral training interventions for caregivers are more effective than many currently used dementia care training practices. For example, in a small cluster RCT of the STAR program conducted by Teri et al. (2005) in the state of Washington, the researchers demonstrated statistically significant improvements in behavior problems including agitation ($p < .001$), anxiety (.002), and depression ($p < .001$) relative to the control group in 31 residents whose 25 caregivers received STAR training. STAR training consisted of general information on AD, the relationship between mood and "pleasant events," hands-on training with regard to a BPSD problem-solving approach, effective communication, and caregiver support.

In another RCT conducted in the Philadelphia, Pennsylvania area, Gitlin, Winter, Dennis, Hodgson, and Hauck (2010) evaluated the effect of advanced caregiver training (ACT) consisting of the identification of triggers to behavior, caregiver feedback, behavioral strategies for modifying triggers and reducing caregiver upset, and education regarding common medical conditions that may exacerbate BPSD. Results of this study suggested that relative to the control group, the incidence of the main problem behavior was significantly decreased in the intervention (ACT) group ($p < .05$).

Summary of the review of the evidence. Overall, this review of the literature suggests that training caregivers in behavioral management and utilizing multicomponent behavioral training are effective in reducing BPSD in ALFs and in reducing caregiver distress. The effective application of the interventions among diverse populations provides further support for the generalizability of the findings. Although the available research was strongly supportive of behavioral management strategies training, the current empirical data are limited by studies using very small sample sizes (Appendix A). Small sample sizes affected the ability of researchers to ascertain statistical significance and impeded generalizability of study findings. In addition, the studies included in this review used two different intervention target samples: (a) family caregivers and (b) formal caregivers (Appendix A). Family and formal caregivers may experience a significant difference in the application of behavioral management strategies; therefore, studies comparing the two samples are warranted. Although further studies are indicated, the limited available empirical data provided tentative support for the positive effects of caregiver training on resident behavior and direct caregiver well-being. This evidence supported the promise of improving the provision of quality care to a vulnerable senior population through BPSD caregiver training.

Theoretical Framework

Successful change of practice behavior involves removal of barriers to change, provision of leadership support, and reinforcement for permanent adaptation of the new idea or practice. The concepts of Kurt Lewin's (1947) change theory have been successfully applied for quality improvement initiatives to promote practice change (Rice, 2014; Zand & Sorensen, 1975). Lewin's theoretical framework proposes that change should occur in three stages: (a) unfreezing, (b) moving to a new level or change, and (c) refreezing (Lewin, 1947), as diagrammed in Appendix B.

Unfreezing involves preparing individuals for change by making it possible for them to break old patterns or habits by eliminating barriers to change such as providing information on the project and addressing their concerns regarding the project. Unfreezing also includes encouraging awareness and recognition of the need to change by showing evidence that current practice is not meeting best practice standards. Moving to a new level involves encouraging individuals to adopt the new idea(s) or change through open communication, coaching, guidance, and regular feedback. Finally, refreezing involves reinforcing this new idea or practice change to promote sustainability through leadership support and individualized feedback, making the new pattern, the new standard (Cummings & Huse, 1989).

Lewin's force field analysis (Appendix C) is used to ensure that the new pattern or standard of practice becomes successful, sustainable, and resistant to reversal (Lewin, 1947). Using this concept, successful change would be achieved by strengthening the driving forces (motivations to prefer change), including improving job satisfaction, and weakening the restraining forces or obstacles (motivations to evade change), such as fears brought on by change. Change and force field analysis theories were applied in the training curriculum to help direct-care workers gain awareness and competency in behavioral problem solving and collaborative skills in order to change clinical practice with the goal of reducing BPSD among PWD residents at DCALF.

Section III: Method

Ethical Issues

This evidence-based quality improvement project was accepted by the DNP committee as exempt from Institutional Review Board approval by the University of San Francisco's Committee on Human Research. In advance, considerations related to respect for persons, beneficence, justice, and informed consent were evaluated. The participants in the project were consenting adult caregiver staff employed within the DCALF facility. No issues of confidentiality or privacy for subjects were noted, nor were concerns relating to confidentiality of anonymously collected quality improvement data. Participation in this DNP training project was not reflected in the participant's job performance evaluation. Moreover, patients in the facility were not part of the training program implementation; they were, however, the ultimate recipients of what was intended to be a benefit for them. Consequently, direct beneficiaries of the program were the caregivers and indirect beneficiaries were the patients with BPSD. Beneficence and social justice were served, and informed consent consisted of the support and direction of the RSD to improve the quality and knowledge of the caregivers.

Setting

The setting for this project was a 46-bed locked assisted living dementia facility in Northern California. The facility is a family-owned ranch-like community providing care for persons suffering from impaired memory. The facility currently houses 42 residents with mild to severe cognitive impairments and functional disabilities. More than half of the residents at DCALF exhibit BPSD. Six staff caregivers work during the day shift (0600 to 1400) and afternoon shift (1400 to 2200), and three caregivers during the night shift (2200 to 0600). The caregiver-to-resident ratio at this facility is 1 to 7. Most of the duties of the caregivers involve providing assistance to dementia residents with their ADLs. According to the medication assistant/shift leader, when caregivers are preoccupied with attending to the needs of one assigned resident, caregivers are not able to manage the behavior problems of other assigned residents. According to the residential director and staff, when caregivers are overextended in this way, they respond to problems of BPSD simply by reporting the behavior to the medication assistant or shift leader.

DCALF has 26 full-time (37.5 hours/week) staff caregivers with assisted living experience ranging from 1 to 20 years. The caregiving staff is ethnically diverse with more than 90% speaking a native language other than English. The educational levels of DCALF caregivers (*N* = 22) range from elementary (27%), to high school (55%), and college (18%). Although DCALF caregivers may be hired with no work experience, previous caregiving experience is preferred. Regardless of previous experience, immediately upon being hired, caregivers receive a 6-hour orientation on dementia care and facility policy and 16 hours of shift orientation. Thereafter, staff receives 8 hours of paid in-service training annually provided by an outside dementia caregiver trainer contracted by the facility. In-service topics are focused primarily on the delivery of ADL care (e.g., oral care and skin care) for dementia residents.

Attendance at in-service training is mandatory in this facility. In-service announcements are posted more than 1 month in advance or communicated in the communication logbook. The caregivers are responsible for reading the communication log to stay adequately informed about facility updates. According to the DCALF resident services director, adequate notification of in-service opportunities is essential because the majority of the caregivers hold two or three jobs affecting their ability to attend training.

The DCALF caregivers work in shift teams so that one caregiver can step in to assist with the responsibilities of another caregiver as needed. The RSD serves as the daytime leader and resource person from 0800 to 1700, while the designated staff caregiver and the afternoon medication assistant serve as the afternoon shift leaders from 1700 until 2200. The medication assistant is a medical technology graduate with 8 hours of in-service training on the administration of medications, dementia care, and DCALF facility policies as well as 16 hours of shift orientation and hands-on medication administration. The RSD is in charge of interviewing the resident's family for routine admission history information, including preferences and hobbies, as well as preparing the care plan for each resident. The RSD and the morning medication assistant meet with the visiting physician regularly, every 1-2 months or as the need arises, to discuss residents' care plans.

For residents manifesting behavior symptoms, caregivers intervene by distracting or redirecting the resident to another location (e.g., the family room or the garden). If the resident refuses, the caregiver leaves the resident alone while observing from a safe distance. Caregivers report persistent behavior symptoms negatively affecting other residents to their medication assistant/shift leader. The medication assistant/shift leader administers the prescribed "as needed medication" to treat behavior symptoms, or if no medication was ordered, the shift leader informs the doctor to obtain an order for medication to control the resident's disruptive behavior.

Newly admitted residents who came from home or another facility typically have an as-needed medication ordered for behavior symptoms triggered by a change in environment. Nearly 100% of residents at DCALF with disturbing behavior such as aggression, anxiety, and screaming receive medication to mitigate the behavior. Any problems or concerns that arose and any interventions that were implemented during the preceding shift are reported to the shift leader and recorded or documented in the communication logbook. These issues are later addressed by the RSD and reflected in the resident's care plan.

Planning the Intervention

The goal of the project was to implement a training program that would result in a self-reported change in practice. The underlying assumption was, as Lewin (1947) suggested, that participants would be resistant to change. To minimize resistance, this practice improvement project was developed in consultation with the facility caregivers, the facility's visiting doctor and shift leaders, and the RSD. The project was also discussed with the author's/project implementer's committee chair, Dr. Alexa Curtis. The decision to develop a caregiver training curriculum project was based on the current training needs of the caregivers in the project site facility, as revealed in interviews with the RSD, the caregivers, and their shift leaders. The training curriculum was based on a review of the literature and input from the RSD, visiting doctor, shift leaders, and the caregivers of DCALF. The project was designed given a realistic consideration of limited resources including time and money (Seitz et al., 2013). The following process, activities, and strategies were used to develop the change practice project.

The RSD, visiting doctor, and shift leaders were interviewed to solicit their thoughts regarding the educational needs of the caregivers and to ask them about past teaching strategies that were successful at the DCALF facility. These individuals identified the following top five areas in need of improvement: (a) pain management, (b) BPSD, (c) communication with residents, (d) recording resident information, and (e) working with the resident's family members. They also expressed the need for caregivers to enhance communication with the care recipients and communicate BPSD observations more effectively to other IPC team members, including the visiting physician and RSD.

The author/project implementer conducted a focus group involving approximately 12 caregivers, working day and afternoon shifts, that met for 30 minutes on one occasion to assess the needs of DCALF caregivers regarding the skills and knowledge that would help them better serve the residents in their care. The focus group led to revelations about the desire for better understanding of behavioral problems that a majority cited as the top educational need of

DCALF caregivers, and they indicated hands-on and role-playing as their preferred method of learning. At the same time, a survey was conducted of the caregivers to obtain additional information about caregiver needs (*N* = 22). The information obtained from the survey supported the revelations obtained from the focus group (Appendix D). In addition, a series of individual interviews of DCALF caregivers followed to assess what additional BPSD skills and knowledge they believed they needed to perform their jobs at an optimal level. The interviews also attempted to discover anything that might possibly impede their learning, Lewin's (1947) unfreezing, and caregivers clearly recognized that their current practice was not sufficient for managing behavior problems. Based on the survey results, interviews, and direct observation of the caregivers, the project implementer was able to identify caregivers' learning challenges due to written and spoken language insufficiencies and limited educational level. These findings are consistent with a survey conducted with caregivers and certified nursing assistants at long-term care facilities (U.S. Department of Health and Human Services, 2011).

Although DCALF offers in-service training to frontline staff, the scope and topics did not adequately address the need for competency in behavioral and communication skills. This was confirmed by the survey and interviews as well as from feedback from the caregivers and IPC team. Moreover, caregiving staff was inclined to observe, intervene through distraction or redirection, and report BPSD if their intervention failed without identifying the underlying cause or trigger(s) that led to the resident's behavior. In addition, the fact that the majority of residents with BPSD were on antipsychotic medication for managing difficult behavior served as staff metrics demonstrating the ineffectiveness of what staff were doing before the present training program implementation.

Based on the assessed educational and learning needs of the caregivers and consultation with the IPC team, the author/project implementer decided to use two models for the project: the STAR model (Teri et al., 2005) for training the caregivers and the ABC model as the curriculum content. Moreover, the author/project implementer developed the following three competencies based on the DCALF caregiver needs assessment, which guided the development of the training curriculum that incorporates the evidence-based ABC problem-solving approach into the management of BPSD:

Competency 1. Understand dementia, BPSD and triggers, and their management:

- Describe the significance and prevalence rate of dementia and BPSD.
- Detail the basic anatomy and physiology of dementia.
- Explain how behavior is a form of communication for PWD in dementia.
- Describe the impact of BPSD on resident and caregiver well-being.
- Identify the side effects of medication used to treat BPSD.
- Report the reasons non-pharmacologic management is preferred over pharmacologic management.
- Enumerate the different stages of AD and their manifestations.

Competency 2. Manage BPSD in dementia residents by utilizing the ABC Model:

- Detail common problematic behavioral and psychological symptoms in dementia.
- Enumerate possible triggers of BPSD.
- Discuss communication techniques to create pleasant events in PWD with BPSD.

- Apply the Antecedent-Behavior-Consequences (ABC) problem-solving approach.
    a. Describe the behavior.
    b. Enumerate triggers or causes of BPSD.
    c. Explain the consequences after the behavior occurs.
    d. Develop and implement a behavioral action plan for problematic behavior(s) (meet the resident's needs, reassure, and redirect).
    e. Monitor the response to the action plan and symptoms to report.

Competency 3. Effective inter-professional collaborative team communication, collaboration, and documentation regarding BPSD in DCALF residents with dementia:

- Discuss the importance of collaboration, communication, and teamwork.
- Document behavioral information on the behavioral flow sheet.
- Communicate with residents using effective verbal and nonverbal strategies.
- Discuss the caregiver role in the management of BPSD.
- Participate in the care planning of the residents by communicating and collaborating with the IPC team effectively.

The BPSD management curriculum is competency-based, intended to allow the learner to improve productivity and acquire measurable skill proficiency and performance through discrepancies in the quality of care given by the care provider (Ozcan & Shukla, 1993; Williams, Hyer, Kelly, Leger-Krall, & Tappen, 2005; Zhang, Luk, Arthur, & Wong, 2001). In this project, every caregiver participant was able to apply the knowledge and BPSD management skills learned using the competency checklist that reflects the step-by-step ABC approach in managing

BPSD. In addition, self-perceived competencies were measured by survey before and after the training (see the Results section).

The curriculum's learning objectives were designed to improve learning and learner participation by tailoring the educational content to the unique needs of the caregivers (Silver, Wellman, Galindo-Ciocon, & Johnson, 2004). Choosing the appropriate teaching strategy is important for addressing the literacy level of the learners (Rothman et al., 2004); thus, a combination lecture/role-play/simulation-based learning technique was used as the teaching approach for the training program in the format of the STAR model (Teri et al., 2005). Different case scenarios on common behavioral problems in the facility were used in the simulation-based learning. In each scenario, every caregiver played the parts of both patient and caregiver. Case scenarios were derived from actual clinical experiences of DCALF caregivers. This provided realistic scenarios that helped promote engaged and effective learning (Seropian, 2003).

To minimize any possible negative impact of change, such as failure of the caregiver to comply or lack of response of the resident (Lewin, 1947), and to maximize the limitations of language and literacy, simulation was a key strategy utilized for implementing the ABC behavioral training approach in the non-pharmacological management of BPSD by DCALF caregivers. Simulation is used for practice and learning that replace and intensify real-life experiences in a fully interactive application (Gaba, 2004). Simulation promotes long-term retention of course material (Bernstein & Meizlish, 2003), improves understanding and application of learning (Woodworth, Gump, & Forrester, 2005), and enhances technical, functional, problem-solving, decision-making, and inter-professional collaborative skills (Lateef, 2010). Use of simulation also addressed the specific preference of the DCALF staff caregivers for hands-on training. This preference was based on focus group interviews with caregivers as well as recommendations on the part of the RSD and the shift leaders.

Debriefing, which is considered the most crucial aspect of the simulation experience (Issenberg, McGaghie, Petrusa, Gordon, & Scalese, 2005), took place after the simulation. Debriefing or performance feedback given by the educator/trainer after the intervention allows learners to reflect on their performance so they will derive benefit from the simulation experience (Owen & Follows, 2008). Participants who participated in debriefing following the simulation showed greater improvement in their learning than participants who were not asked to engage in such activity following the simulation (Beaubien & Baker, 2003; Savoldelli et al., 2006).

The final training curriculum was implemented in three parts. The first part involved a 45-minute PowerPoint presentation, along with a step-by-step demonstration and role-playing by the caregiver participants utilizing the ABC approach toward specific case scenarios, based on specific caregiver experiences at DCALF. The second part of the final training curriculum involved the simulation of actual DCALF case scenarios, utilizing the competency checklist and behavioral document flow sheet as guides. The third part of the final training curriculum involved a debriefing of the participants.

This quality improvement project was planned for implementation in stages over a 5-month period, May-November 2014, as outlined in the Gantt chart (Appendix E). The majority of the time was to be devoted to gathering needs assessment information. This included the time between meeting with the facility caregivers, the RSD, the visiting doctor, and the shift leaders. A total of 2 hours was to be devoted to the training of caregivers. The total project length including information gathering; curriculum development; development of the chart, checklist, and flow sheet; literature review; data collection; project implementation; follow up; and final project write-up was anticipated to be approximately 7 months (Appendix E).

The initial strategy for the intended change/improvement involved a training intervention based on development of a simplified ABC chart and reference guide (Appendix F), appropriate for the caregiver staff level of written and oral skills in English. Onsite visits allowed for observation of caregiver interactions with residents to provide a baseline for providing relevant feedback. One way of taking into account the varied needs, education, and background of assisted living caregivers was to make use of the type of language that is used in everyday life and is simple to read (Teri et al., 2005) and understand (e.g., use of pictures and cartoons). Appropriate educational tools were utilized so that the training would be relevant in a very direct way to the learning of DCALF caregivers. The final curriculum was delivered using a PowerPoint presentation (Appendix G) in simple language and pictures, role-play, and simulation, using the behavioral competency checklist (Appendix H) and behavioral document flow sheet form (Appendix I) to address the learning needs of the caregivers, making it easier for staff with limited English reading skills and comprehension.

The project team included the RSD, the visiting doctor, the shift leaders, and the author/ project implementer, and the caregivers were the people connected to the process to be changed. The main anticipated outcome was an overall improvement of 20% relative to pre-training levels regarding self-perceived competence in managing BPSD among DCALF residents immediately after and 6 weeks following training. A questionnaire rating the caregiver's self-perceived overall dementia and BPSD knowledge, skills in managing BPSD, communication with IPC about BPSD, and comfort level in managing BPSD was used to measure baseline and immediate outcomes of the training and is included in the Results section and the appendix. It was anticipated that improvement would come about through enhancement of knowledge, skills, and comfort level in managing residents exhibiting BPSD.

Facilitating factors. Applying Lewin's (1947) change theory to planning and implementing the intervention began with the notion of unfreezing: determining and addressing barriers to change and finding ways to lead and encourage participants to recognize the existence of a problem and develop an interest in change. The primary impeding factor was language and literacy difficulty, as evidenced in the focus groups, interviews, and surveys of the caregivers. The second barrier was determining the interest of the caregivers in changing how they were doing their jobs, and the final impediment was to gain buy-in from the staff (Sutherland, 2013).

For this project, Lewin's (1947) theory occurred in the following stages: First was "unfreezing," identification of the three primary barriers including helping the staff understand the deficiencies of current practice and the benefits of the project intervention and determining the identities of a planning team who would be the best advocates to aid the author/project implementer in developing and implementing the project. The second phase, "moving," consisted of the development and implementation of the program, providing the training to the caregivers to help them improve the quality of care they gave the residents. The third phase was "refreezing," in which shift leaders provided supervised individual caregiver onsite practice sessions with support from the RSD and other members of the project team. Likewise, force field theory (Lewin, 1947) was applied in this project to address the two opposing forces. First, providing DCALF caregivers with information on the benefits of the project strengthened the driving forces towards change in caregiver behavior. Second, addressing the fears and concerns of the caregivers weakened the restraining forces that may have hindered the desired change in behavior.

Development and implementation of this practice change project involved the IPC team and caregivers, a combination, which had not occurred in previous DCALF in-services, or training workshops, one barrier to change identified in the unfreezing phase (Lewin, 1947). The facility's RSD stated that involving the staff as well as the visiting doctor in the practice change project could lead to better team collaboration and management of BPSD in PWD residents at DCALF. In addition, in this training workshop, the RSD was able to observe the training from nearby, with participants aware of her presence, which served as a stimulus to performance and participation on the part of the training participants. As such, leadership support and the cooperation of the IPC team members, including the visiting doctor, were all favorable factors in terms of the conduciveness of the local setting with regard to addressing the identified problem.

Resources such as rooms at DCALF were available for both the meetings and the trainings. The facility had a printer, including paper and ink, which could be used for various materials such as the competency checklist and the behavior document flow sheet. The members of the IPC team represented a human resource whose time was locally available to help facilitate the learning and testing of change. Caregivers were paid for attending the training workshop. The RSD permitted the staff to attend the project meetings and training workshop. Likewise, she allowed the staff to be interviewed. She also approved the participation of the IPC team members in the project planning and implementation. Furthermore, she authorized the project implementer frequent access to the facility and assisted her in information gathering. Finally, she was fully supportive of the goals of the change practice project.

Cost-benefit analysis. A cost-benefit analysis (Appendix J) considers the total cost of the training for all 15 participating caregivers at $460 versus the cost of potential absences resulting from caregiver stress. In an employee absence, the first possible outcome is that the facility finds a replacement caregiver at an overtime rate of $16.50 per hour. In this scenario, each daily absence costs the facility $123.75 ($11 x 1.5 overtime rate x 7.5 hours) per day, equivalent to $371.25 per month, and $4,455 per year, based on the current absenteeism rate of 3 days per month per caregiver. The overall cost to the facility is actually double: loss in productivity time resulting from sick leave plus the cost of the replacement caregiver. The second possible outcome is that a replacement cannot be found on short notice, which results in overburdening the existing caregivers by requiring them to care for additional residents beyond their standard assignment. This has negative ramifications for both the quality of care delivered to residents and the stress on the overextended caregivers.

Currently, staff turnover at DCALF is a modest 5% per year, though this could be aggravated by continuing stress on caregivers in the absence of any improvement of their situations (U.S. Department of Health and Human Services, 2014). A new staff member requires 3 days of orientation at a cost to the facility of $247.50. Additional benefits to the residents, caregivers, and facility of enhanced ability on the part of caregivers to deal with BPSD in PWD include the following: (a) improved care for residents, (b) decreased resident morbidity, (c) decreased caregiver distress, (d) improved job satisfaction for staff, and (e) improved resident satisfaction with regard to quality of care received (Appendix J). These non-monetary rewards could translate into financial gains through decreased staff absenteeism and increased DCALF occupancy.

Communication matrix plan for the project. A communication matrix plan for the project (Appendix K) identified the author/project implementer as the lead in the planning and delivery of the intervention, conducting pre-training and post-training intervention monitoring, and being responsible for obtaining feedback from the shift leaders, the caregivers, the visiting doctor, and the rest of the IPC team. As already noted, the project team consisted of the RSD, a visiting physician, and shift leaders. The author/project implementer utilized all available resources to gather the information needed for the project.

The RSD, also a member of the IPC team, reviewed and provided approval for the project plan. The visiting physician reviewed the curriculum and provided suggestions for improvement prior to approval by the project committee members. Competency-based behavioral training project team members provided feedback on a continuing basis throughout the course of the project to the project coordinator/implementer, who was responsible for communicating with the facility director, the visiting medical doctor, and the project chair regarding the project's progress. Communication with the project DNP committee occurred through the DNP project chair.

Implementation

Respecting the barriers of caregiver language and literacy, interest of the caregivers in changing their practice, and buy-in from staff identified through Lewin's (1947) theory of change, the training curriculum was developed over a 2-month period and delivered over a 6-week period by means of a 2-hour group workshop and onsite individualized follow up for reinforcement of BPSD management competency skills. The training curriculum project, which evolved over time, spanned three stages: (a) pre-training (curriculum development), (b) training (implementation of the curriculum through a training workshop), and (c) post-training (a 6-week follow-up in the work setting).

In the pre-training phase (Lewin's unfreezing phase and force field analysis opposing forces: strengthening the driving forces and weakening the restraining forces), a focus group and IPC team members provided input for the development of the curriculum as evidence of caregiver interest and buy-in by staff. Members of the project team (RSD, visiting doctor, morning and afternoon shift leaders, and the author/project implementer) were assigned. The team met twice to discuss the curriculum and educational tools (e.g., competency checklist, behavioral document flow sheet) and the role of each team member. The RSD provided logistical support and informed the members of her staff and management team about the training project. The visiting doctor, a geriatrician, served as a resource person and consultant about the topics covered in the training curriculum.

The author/project implementer prepared the curriculum along with the educational and evaluation tools (competency checklist, behavior document flow sheet, PowerPoint slideshow, questionnaire, case scenarios for the simulation based on caregivers' actual experience, and reference binder), after consultation with the project team and project chair, and interviews with the caregivers. The author/project implementer also conducted the interviews, addressed the caregivers' questions and concerns, explained the project's advantages, gathered and analyzed the data, and coordinated the project's development and implementation.

In the training phase (Lewin's moving phase), a 2-hour BPSD workshop was organized at DCALF. The author/project implementer, the visiting doctor, and the morning medication assistant/shift leader participated in the workshop. The session, attended by 15 caregivers, was held at DCALF. The project implementer offered a joint 45-minute PowerPoint lecture-presentation on BPSD, communication techniques, and the ABC approach. Volunteer caregivers role-played the case scenarios by wandering, refusing to take a bath, screaming, and displaying agitation (Appendix L). Other staff modeled the ABC approach to BPSD management. The rest of the participants and the trainer provided feedback. During the training session, the visiting doctor discussed the basic anatomy and physiology of dementia, BPSD, treatment, and side effects of medication. A question-and-answer component was designed to assess how much the attending caregivers actually understood the subject that had just been taught. This was followed by a demonstration through role-playing of the ABC approach.

The training workshop was originally planned as a 4-hour group workshop for 26 caregiver participants. Because only 15 actually showed up to participate, the workshop was conducted in 2 hours. In the simulation, caregiver participants were divided into three groups of five. The project implementer, visiting doctor, and morning shift leader/medication assistant facilitated evaluating the caregivers, using the behavioral competency checklist (Appendix H) and the behavioral document flow sheet (Appendix I) as a guide. The scenarios used in the role-play were also used in the simulation (Appendix L). Debriefing was conducted immediately after the training by the three simulation facilitators, and feedback was invited. A post-training evaluation survey was administered to complement the pre-training survey (See appendices M, N, O, and P).

In the post-training phase (Lewin's refreezing phase), individualized teaching was provided for those caregivers who the project implementer, on the basis of her direct observation, believed were in need of further support. The project team followed up by monitoring the caregivers to see whether they were applying the skills they had been taught. Using the behavior document flow sheet as a guide, the project team members evaluated the training participants during a 6-week post-training period to reinforce practice, giving feedback to both caregivers and the project implementer. The purpose of the follow-up training sessions was to assist personnel in incorporating what they learned from the workshop into their daily practice (Lewin's refreezing phase) (Ford & Weissbein, 2008).

A reference binder on the ABC model was provided for use by DCALF caregivers (Appendix F). A behavior document flow sheet (Appendix I) was also available in the facility station for use by caregivers and shift leaders in communicating BPSD to the IPC team members. The project implementer conducted a post-training interview and survey 6 weeks following the workshop to obtain feedback from the caregivers and the project team (appendices M, N, O, and P) as well as a training satisfaction survey (Appendix Q).

Planning the Study of the Intervention

Participation of staff in training is essential for increasing the effectiveness of learning (Blume, Ford, Baldwin, & Huang, 2009); thus, to ensure a successful caregiver turnout in the training workshop, the RSD and project implementer informed the caregivers 3 months in advance about the training. Due to an emergency in-service that was held the same month of the project implementation, only 15 caregivers of a total of 26 at the facility participated, 57.7% of DCALF caregivers. To observe accuracy in data collection, which could provide feedback on the effectiveness and feasibility of the change practice project being implemented, non-training participants were excluded from data collection.

In terms of the gap between the current situation and the projected goal (Appendix R), the caregivers' "current state" self-reported self-perceptions in four categories broke down as follows: (a) knowledge of dementia and BPSD, (b) skills in dealing with BPSD, (c) communication skills, and (d) comfort level (Appendix M). Of the 15 caregivers surveyed, none (0%) reported that they considered themselves as having a high level of general knowledge about dementia and BPSD, 6% considered themselves as having a high level of skills in dealing with BPSD, 14% considered their communication skills in this area to be high, and 6% considered themselves to have a high comfort level in dealing with BPSD exhibited by DCALF residents.

To measure the impact of the training program on the four categories identified, participants were surveyed at baseline, immediately after training for initial impact, and again 6 weeks later for long-term effect. The results are shown in appendices M, N, O, and P. In addition, a training satisfaction survey was administered (Appendix Q).

Methods of Evaluation

A questionnaire was used to rate the caregivers' self-perceptions about the following: (a) overall knowledge of dementia and BPSD, (b) ability to manage BPSD, (c) effectiveness in communicating about BPSD, and (d) comfort level with managing BPSD. The post-training survey also measured caregiver and IPC satisfaction about the curriculum and the usefulness of the training workshop for purposes of job performance. The financial impact of the training was also considered through a strengths, weaknesses, opportunities, and threats (SWOT) analysis; a cost/benefit analysis; and a return on investment analysis.

Survey. The results of the survey were confirmed by means of a competency checklist (Appendix H) and behavior document flow sheet (Appendix I) as well as post-training 6-week follow-up documentation using the behavior document flow sheet, IPC feedback, and caregiver survey, interviews, and feedback. The questionnaire used was developed with consideration of the participants' educational levels using simple language to accommodate caregivers who spoke languages other than English at home. Questions were also explained to participants in simple, conversational language, assisted by colleagues who explained the questions to the participants in their native languages.

SWOT analysis. The SWOT analysis (Appendix S) confirmed DCALF's current situation in terms of the existing gap between best practice and current practice in managing BPSD. The identified SWOT elements guided the author/project implementer in planning project strategies to implement in the facility. The strengths (S) of the project included: (a) the state requirement of in-service training for caregivers in ALFs; (b) free in-service training for facility caregivers provided by the DCALF visiting doctor with a geriatric specialization, a DNP student, and the author/project implementer, saving the facility $250 for 2 hours of in-service fees; (c) endorsement of the project by a visiting physician; (d) evidence-based in-service training specifically developed to address BPSD care in DCALF by tailoring the intervention to the varied learning abilities of the DCALF caregivers; (e) an experienced and dedicated workforce; (f) support on the part of the RSD; and (g) fluency in the language spoken by most caregivers of the author/project implementer and in the second most frequent language by another caregiver who helped with translation as needed.

The weaknesses (W) of the project were as follows: (a) unavailability of training tools such as a projector, the survey questionnaire, and training manuals; (b) exclusion of caregivers from decision making in BPSD management of the residents they served by not being included in the care planning meeting; and (c) lack of accountability due to no set standard of practice on the part of the resident administrator and the caregivers with regard to achieving clear and measurable levels of performance. The opportunities (O) included: (a) opportunities for caregivers to improve practice, (b) the availability of qualified trainers for an evidence-based quality improvement project for purposes of improving the quality of dementia care, and (c) management's decision to allow all caregivers to attend the training workshop. On the other hand, the threats (T) involved were the project time constraints and caregivers' limited English oral and written language skills.

Budget. The budget for this educational training program, excluding the staff time cost, was minimal ($460.00), as outlined in Appendix T. The majority of the budget was for staff time

($198.00). The facility management allocated payment for staff time from the caregiver in-service budget. Staff time did not, however, exceed regularly scheduled hours. The author/ project implementer's personal funds were accessed to cover the remainder of the project costs ($262.00), including the cost of paper and index cards ($16.00), ink for the printer ($35.00), presentation materials ($61.00), and refreshments provided during the training workshop ($150.00).

Budgetary return on investment. As shown in Appendix U, the cost of implementation of the curriculum at DCALF was $460. The cost of new hire orientation ($247.50), replacement for caregivers who called in sick requiring overtime pay for an average of three incidents per month at an annual cost of $4,455, and in-service costs of $250.00 for a 2-hour class were expected to disappear following the training. With the implementation of the behavioral competency-based curriculum at DCALF, the facility therefore has the potential to save $4,492.50. In addition, an effective and feasible evidence-based behavioral training curriculum for DCALF caregivers is expected to improve caregiver and resident outcomes including improved staff satisfaction, delivery of care, and facility costs. Ultimately, the anticipated outcomes are increased retention of workforce personnel, improved quality of care for residents, and availability of BPSD skilled workers to meet the demands of direct-care workers in the future. All of this is expected to lead to significant cost decreases for ALF residents with dementia and their families and a lower burden for society as a whole.

Analysis

This practice improvement project consisted of the following: (a) identification of a problem in DCALF, (b) review of the evidence that could lead to solving the problem, (c) designing a training program intervention based on evidence-based practice that might resolve the problem, (d) planning the implementation and evaluation of the training program intervention, and (e) reporting the results. The methodology followed standard project development, implementation, and evaluation protocols: (a) problem identification, (b) intervention development, (c) intervention implementation, and (d) project evaluation (Patton, 1982).

To identify the problem specifically, questionnaires and oral interviews were conducted to elicit DCALF caregivers' self-perceptions in the following four identified problem areas: (a) overall knowledge of BPSD and dementia, (b) ability to manage BPSD, (c) effective communication in BPSD, and (d) comfort level in managing BPSD. In addition, caregiver satisfaction with the training curriculum and usefulness of the program to the caregivers' jobs were also evaluated. Furthermore, observation of participants was conducted as they demonstrated the competencies using the competency checklist and the behavior document flow sheet for three categories: (a) understanding BPSD, (b) management of BPSD, and (c) effective communication. Sample participants' comments, both oral and written, regarding the training program were grouped into two categories: (a) feedback on the training curriculum and the lecturers and (b) reflections on the level of satisfaction on the part of the participants with the project. Data from the evaluation tools were entered into an Excel spreadsheet to facilitate analysis.

Section IV: Results

Program Evaluation/Outcomes

The positive impact of the training project for the DCALF caregivers, RSD, and the rest of the IPC team in terms of the self-reported level of satisfaction relating to DCALF caregiver knowledge, BPSD management skills, comfort level, and usefulness of the training workshop is evident in the pre- and post-training questionnaire (both oral and written) responses (see appendices M, N, O, P, and Q). More specifically, immediately following the training, 12 of the caregivers rated the training program at 5 (*most valuable*), while three caregivers rated it at 4 (*valuable*). All the caregivers listed the ABC problem-solving approach, good communication, and teamwork as the three most important things they learned in the training workshop.

All 15 caregivers included additional comments and feedback about the training workshop. A sample of comments received from the DCALF caregivers, both oral and written, reflected the benefits of the project in terms of caregiver satisfaction with the training curriculum and the lecturers. For example, their comments included the following: (a) "Simple but helpful"; (b) "I learned something different that is helpful in performing my job"; (c) " Excellent job, thank you"; (d) "Very well explained"; (e) "I am happy that I learned a lot on how to deal with dementia patients"; and (f) "Very satisfied." In the survey completed by means of an oral interview 6 weeks following training, 9 of 11 (82%) caregivers rated the program a 5 (*greatest usefulness for their jobs as caregivers*), and 2 (18%) of the caregivers gave a rating of 3 (*neutral*).

DCALF caregivers, management, and the IPC team were generally very satisfied with the training curriculum. Immediately following training, an overall self-reported increase appeared in terms of percentages of knowledge of dementia and BPSD (87%), BPSD management (94%), BPSD communication skills (73%), and comfort level in dealing with BPSD (74%). In contrast, a general reduction in terms of knowledge of dementia and BPSD (14%), BPSD management (36%), BPSD communication skills (41%), and comfort level in dealing with BPSD (16%) was evident among DCALF assisted living caregivers 6 weeks following training (appendices M-P). These findings thus indicate that the DCALF caregivers reported increased knowledge and skills in managing BPSD; however, this outcome was not sustained at the 6-week follow-up point, which is consistent with studies in the literature (Spector, Orrell, & Goyder, 2013).

Although a significant decrease in self-perceived competencies appeared 6 weeks after training compared to immediately after training (appendices M and N), compared to baseline or pre-training, an increase was evident in the self-perceived competencies from baseline or pre-training to 6 weeks after training (Appendix O). This finding shows that overall, the training resulted in an increase in the caregivers' self-perceived competencies with some lasting effect 6 weeks after training.

Section V: Discussion

Summary

This evidence-based change practice project aimed to improve dementia care in DCALF by implementing a behavioral competency-based curriculum that would address the learning needs of the facility caregivers on BPSD management. This project evaluated the potential of a competency-based curriculum as an effective and feasible training intervention in DCALF to help caregivers gain self-perceived understanding of BPSD management skills and apply that new knowledge and skills to care for PWD with BPSD at DCALF.

Through the STAR method of staff training (Teri et al., 2005), the project was designed to teach DCALF caregivers the ABC problem-solving approach in managing BPSD and the IPC team about effective communication of observations and interventions consistent with the ABC approach. The project incorporated multiple strategies to learning, including content lectures, simulation, individualized coaching on follow-up, role-play, demonstrations, and actual resident-based case scenarios. The training content was simple and brief, customized to the learning needs of the participants. Overall, the project objectives were achieved. The results of this change practice project were promising, indicating that training assisted living caregivers using this approach can improve assisted living caregiver self-perceived competence in managing BPSD.

The challenges met during the implementation of the project were the time available for the caregivers to follow the step-by-step approach in the ABC problem-solving approach and the limited oral and written English language skills of some. Similarly, the shift leaders and RSD lacked the time to follow up on the caregivers due to time constraints required of their normal work duties. Moreover, because of the busy schedules of caregivers and shift leaders, it was difficult to schedule individualized follow-up meetings for the purpose of assisting personnel with working strategies into their daily practice (Spector et al., 2013). In spite of the limitations noted, generally, the outcomes of this project suggest that change in practice behavior can occur by customizing the intervention to the individual requirements of the caregivers; however, an effective follow-up supervision system is crucial for the sustainability of the change practice behavior (Burgio et al., 2002).

The results of this change practice project are encouraging. The DCALF RSD supports the inclusion of the competency-based project into regular in-service training for mastery of the subject matter content and skills in managing BPSD as well as for effective communication of observations regarding BPSD to the IPC team. Management was also receptive to the idea of implementing the project in its other ALF. The visiting doctor expressed an interest in recommending the project to the other long-term care settings that she visits regularly. The curriculum will be disseminated through printed handouts and project implementer consultation as needed.

Relation to Other Evidence

A scarcity of studies is available in the published literature regarding caregiver training on behavioral management in ALFs. Most of the studies for non-pharmacological behavioral caregiver training were done in nursing homes, care homes, or the patients' homes, according to a systematic review by Spector et al. (2013). In an ALF, the resident receives patient-centered care, based on a social rather than a medical model in a housing service. This translates into a greater degree of choice and privacy than is the case for nursing homes (Zimmerman, Sloane, & Eckert, 2001), making ALFs a unique care delivery model (Teri et al., 2005).

The STAR program was one behavioral training study specifically developed for ALF caregivers (Spector et al., 2013; Teri et al., 2005) and was the delivery model for the implemented ABC approach curriculum. Overall, the outcomes in this change practice project are consistent with the findings of the study by Teri et al., in which the STAR training was well-received by both staff and management. The STAR program addressed the learning needs of the assisted living caregivers; however, behavioral skills of the caregivers were not evaluated.

Barriers to Implementation/Limitations

Overall, the attendance rate at the training workshop was 58%, as only 15 of the 26 caregivers were able to attend. Absences occurred due to difficulties attending any activities outside normal work hours and getting a day off from other jobs with short (less than 1 month) notice. It proved logistically challenging to implement the individualized follow-up sessions, mainly due to the work pressures and the demands of caring for the residents, leaving little time available for individual reinforcements, feedback, and follow up. In addition, due to time constraints, shift leaders who were tasked with observing, reinforcing the intervention, and providing feedback with the caregivers following training did not monitor all caregivers. This combination of problems, mostly related to time, may therefore have prevented staff from applying in their practice the knowledge and skills they acquired in training consistently (Visser et al., 2008). Another limitation was the burdensome nature of data collection resulting from the time constraints and the limited command of English of some caregivers. All these factors may have limited the implementation of the change practice project and could have contributed to inaccuracy influencing the outcomes of the project. The creation of feedback loops between the project implementer and DCALF staff and administrators resulted in these insights that could then be used to design program "tune-ups" to increase the sustainability, or refreezing (Lewin, 1947), of the ABC approach for managing BPSD among persons with dementia.

Implementing measures, adapted from the study of the STAR program by Teri et al. (2005) such as the project implementer's adjusting to the time the caregivers were available for individual follow up, mitigated these limitations. In addition, the burdensome data collection was addressed by making the questions brief and simple and also by the implementer's interviewing the caregivers instead of distributing the questionnaire for the caregivers to fill out. Ongoing feedback was also solicited to intervene in a timely manner.

Due to a lack of resources, time, and costs, the project implementer also served as the interviewer, with interviews conducted orally using the survey questionnaire. Although the author/project implementer was fluent in the language of the majority of the caregivers and a caregiver colleague fluent in the second language assisted other non-native English speakers, strategies expected to address the language disparity, the program was delivered in English to caregiver participants whose first language was not English, which could have influenced the outcomes of the project.

Interpretation

Although the project met its objective of improving self-perceived competence of DCALF caregivers through a competency-based behavioral training curriculum, the effect of the change practice behavior was not sustained over time (appendices M, N, O, P, and Q). The short duration of the project in terms of follow up and lack of an effective and structured supervision system may have influenced the outcomes of the change practice project (Burgio et al., 2002). The lack of a system of supervision for ensuring that caregivers implement the step-by-step approach to BPSD management could have also affected the outcomes of the training program. Consequently, with no ongoing supervisory system, it is common for caregivers to return to their pre-training practices (Spector et al., 2013), an example of Lewin's (1947) refreezing.

Further macrosystem implementation of this practice change will require a structured system of supervision to monitor project reinforcement, regular reporting of progress, reevaluation of the program based on feedback, and an incentive system for the caregivers (Burgio et al., 2002). Additionally, supervised follow-up sessions to reinforce retention of the learned knowledge and skills may optimize the transfer of learning and would be particularly beneficial for relatively short-term programs (Ford & Weissbein, 2008). Moreover, the facility's project implementers need to prepare themselves to address many specific challenges, such as time constraints, varied languages, cultures, and learning skills, along with organizational factors such as leadership style. Finally, project implementers should factor in the characteristics of the learners because they may make a difference in the ability of the learning to be transferred (Blume et al., 2009). Although the project implementer will not be available to participate in subsequent training and follow up, the training curriculum and tools will be available to DCALF in printed form, and the project implementer will be available for consultation. Actual competency can continue to be measured through direct observation, behavior document flow sheet review, and the behavioral competency skills checklist.

Conclusion

BPSD in long-term care residents with dementia represents a pressing global concern. Providing assisted living caregivers with skills to manage PWD with BPSD without resorting to pharmacologic treatment is crucial for both the safety of residents with dementia and their QOL (Banerjee, 2009). A competency-based behavioral caregiver training and education project incorporating multi-strategic interventions tailored to the needs of the caregivers and PWD exhibiting BPSD may enhance knowledge and skills in managing BPSD. Moreover, supplemented by supervised individual sessions of sufficient intensity and an effective system of supervision with good leadership support may prove beneficial for caregivers in enhancing their skills for the management of BPSD in PWD and for reducing caregiver stress and absence. Further empirical studies are needed to provide evidence for the feasibility and efficacy of training programs on the basis of caregivers' needs and other considerations.

Section VI: Other Information

Funding

The evidence-based change practice project implemented at DCALF involved a combination of project implementer self-funding and utilization of resources provided by the facility (e.g., staff time, meeting rooms, and copy machine/printer, although most pages printed used the implementer's personal printer for reasons of convenience). The project implementer, who had no conflict of interest associated with the project, received no grants, other monies, or gifts for this project.

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Section VIII: Appendices

Appendix A

Studies of Non-pharmacological Behavioral Caregiver Training

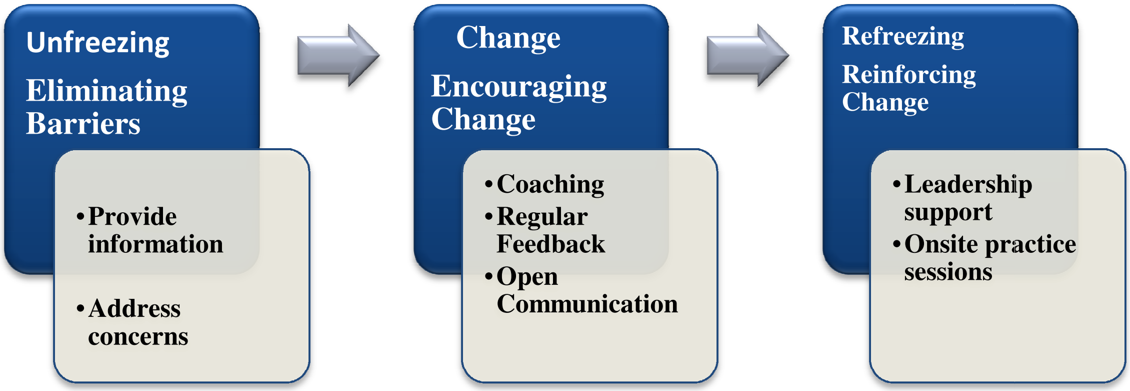
Author (year)	Design/Strength	Setting	Participants			Training Intervention	Outcome
			PWD	FamC	FormC		
Gonyea et al. (2006)	RCT/Level 1/ Good quality	In-home		80		Project Care: Multi-component behavioral	Reduction in caregiver distress related to neuro-psychiatric symptoms; comparative intervention group improvement in QOL among Hispanic or Latino and White or Caucasian caregivers
Belle et al. (2006)	RCT/Level 1/ High quality	In-home		612		Multi-strategies: provision of information, didactic instruction, role playing, problem solving, skills training, stress management techniques, telephone support groups	Improvement in Black or African American spouse caregivers; less clinical depression in intervention group of caregivers
Teri et al. (2005)	RCT/Level 1/Low quality	Assisted living residence	31		25	STAR program: ABC approach and hands-on	Improvement in BPSD and positive staff outcomes
Nogales-Gonzáles et al. (2014)	Pre- and post-experimental/ Level 2/Low quality	Adult day care	3	3		ABC model with education on AD, including communication skills	Reduction in frequency of residents' behavior problems; improvement in depressive and anxiety symptoms of caregivers

Author (year)	Design/Strength	Setting	Participants			Training Intervention	Outcome
			PWD	FamC	FormC		
Kwok et al. (2014)	Pre- and post-experimental/ Level 2/Low quality	In-home	36	36		Online intervention using CBT model; includes ABC	Reduction in BPSD for PWD and related distress among their caregivers
Chiu et al. (2013)	Quasi-experimental pre-/post-treatment/Level 2/Low quality	In-home		73		CARERS program including problem-solving techniques and simulation	Improvement in caregiving competence, stress coping ability, and mental well-being among family caregivers of PWD
Goyder et al. (2012)	Pre- and post-experimental/ Level 2/Low quality	Care home	32		25	STAR program including STAR DVD module on dementia, communication, and ABC problem-solving approach	Reduction in depression and behavioral symptoms among residents; improvement in staff sense of hopefulness and competence at forming relationships with residents
Gitlin et al. (2010)	RCT/Level 1/High quality	In-home	272	272		Trainers identified potential triggers of problematic behavior(s) with caregivers including training in trigger modification with follow-up phone calls	Improvement in patient behavioral symptoms and caregiver well-being and skills

Note. PWD = Person(s) with dementia. FamC = Family caregiver. FormC = Formal caregiver. AD = Alzheimer's disease.

Appendix B

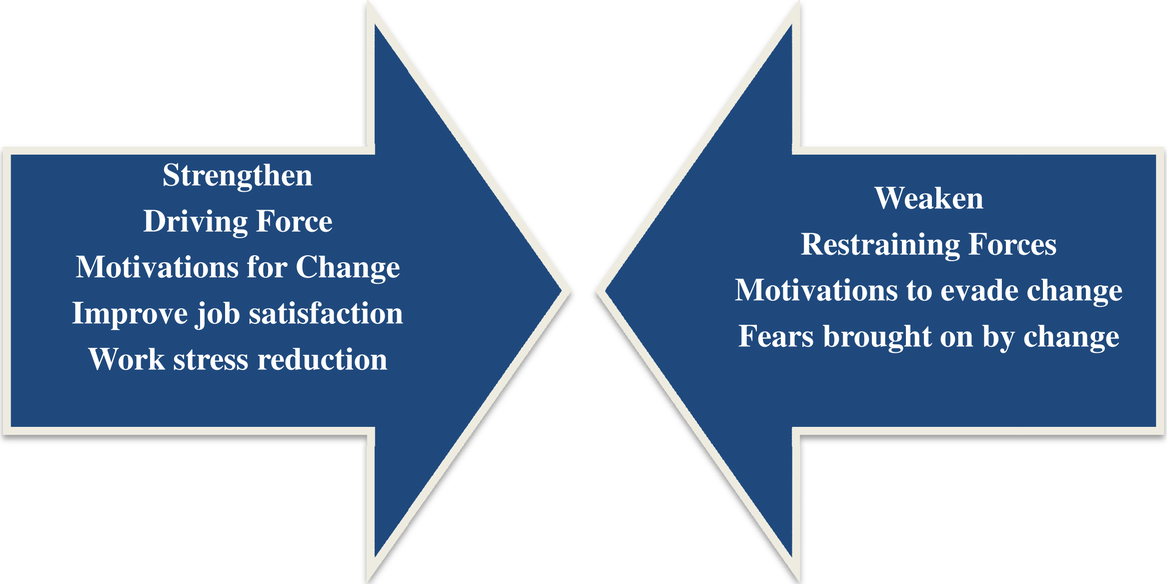
Kurt Lewin's Theory of Change


Unfreezing
Eliminating Barriers
Provide information
Address concerns
Change
Encouraging Change
Coaching
Regular Feedback
Open Communication
Refreezing
Reinforcing Change
Leadership support
Onsite practice sessions

Appendix C

Kurt Lewin’s Force Field Theory Analysis

Change in Practice Behavior


Strengthen
Driving Force
Motivations for Change
Improve job satisfaction
Work stress reduction
Weaken
Restraining Forces
Motivations to evade change
Fears brought on by change

Opposing Forces

Appendix D

Educational Needs Assessment Survey

Please rate the job areas you feel you need to improve.

Category	**1**	**2**	**3**	**4**	**5**	**6**
1. Assisting residents with ADL						22
2. Recognizing residents who are in pain			2		6	14
3. Talking with residents				12		10
4. Discussing resident care with family members	2		4			16
5. Recording resident's information		6	6			10
6. Working and dealing with patient's behavioral problems	10	6			2	4
7. Recognizing and reporting behavioral signs and symptoms to licensed personnel and physician	6	6				8

Note. Rating scale: 1 = most need of improvement and 6 the least need for improvement. Numbers in cells are *n* of responses to that rating.

Appendix E

Gantt Chart

TASK	MAY	JUN	JULY	AUG	SEP	OCT	NOV-DEC
Information gathering from facility caregivers, RDS, shift leaders, and chart review	🟦	🟦					
Get approval from Project Committee chair and members	🟦	🟦					
Curriculum development			🟦	🟦			
Development of chart, flow-sheet, index cards with case scenarios, and ABC problem solving approach			🟦	🟦			
Team formation and meeting				🟦	🟦		
Training workshop					🟦		
Post-training follow-up						🟦	🟦
Data gathering for post-training evaluation							🟦
Evaluation and reporting of results							🟦
Manuscript write up							🟦

Appendix F

ABC Chart and Reference Guide

Behavior	Trigger	Intervention
Aggression: Verbal: ▪ Shouting ▪ Calling names ▪ Angry outbursts ▪ Yelling/screaming ▪ Physical ▪ Hitting ▪ Grabbing ▪ Biting ▪ Throwing things	Frustrating situations Pain Unmet needs Staff touch and interaction	**Reassure**, be positive, remain calm, and speak slowly (using a soft tone of voice). Limit distractions in the resident's environment. Relaxing activity Music **Redirect** to another activity. Protect yourself and the resident. Be safe. Let the individual express his or her feelings. Observe the cause of the behavior to avoid the same events in the future. Reward patients for their silence or appropriate requests. Use touch with selected patients.
Anxiety or agitation: ▪ Restless ▪ Pacing	Frustration Boredom Adjustment response to increasing dependency	Listen to the frustration or feelings of the resident. **Reassure:** Let the individual know you are there; use calming words. **Distract** from anxiety by including the person in activities: ▪ Art or other relaxing activities like music that suits the resident

Behavior	Trigger	Intervention
		Redirect: Provide meaningful activities such as folding towels or kneading dough. Make changes to the environment: ▪ Reduce noise and minimize other distractions. ▪ Exercise and walking
Repetition: Repeating word, question, or activity	Looking for comfort, security, or familiarity Boredom	Respond to the feelings, not the behavior. **Reassurance** with calm and gentle touch **Redirect:** Change the behavior or action into an activity: ▪ Ask for help with dusting after offering a cloth. Answer the resident's questions even if you do it over and over again, or you can write it down and post it in a place where the resident can see it. **Distract:** Find an activity in which to engage the resident. Use aids for memory aids (for repetitive questions): ▪ Offer methods of making reminders that will be meaningful to the person (e.g., use of calendars, clocks, and photos)

Behavior	Trigger	Intervention
		Accept the behavior and do not worry about it if it is not harmful, but find ways to work with it. **Use distraction** to change the topic. Respond to the emotions behind questions: Where is my son? Tell me about your son. Write down notes or reminders. Use touch for redirecting the person when the individual is physically repetitive. Offer the resident something to touch in some way (e.g., pet or stroke).
Suspiciousness: Accuses other person of: ▪ Theft ▪ Infidelity ▪ Other improper behavior	Memory loss and confusion Misinterprets what he or she sees or hears	Don’t be offended. Listen to what is troubling the person. **Reassurance:** Respond to the feeling behind the question or action, communicating to the person your care and concern. Do not argue. Allow the person to express ideas. Accept the opinions of that person. Keep explanation simple. **Distract/Redirect** Involve the person in an activity, or ask for assistance with doing some chore.

Behavior	Trigger	Intervention
		Exchange any items that the resident lost. If the resident is always looking for his or her purse, have two of the same kind available at all times.
Hallucinations: Resident is seeing, hearing, or feeling things that you do not see, hear, or feel—for example, hearing voices.	Loss of vision Loss of hearing	Don't argue. Offer **reassurance.** Distract to another topic. Change the environment. Eye glasses or hearing aids: Provide better-fitting eyeglasses, or better-fitting hearing aids.
Wandering	Part of the illness The person may attempt to return home or try to relive some familiar routine, such as going to school or work. Pain Discomfort	Keep track of the individual's location. Make sure to meet the needs of the resident (e.g., hunger and thirst). Maintain regular stimulation. Encourage activity or walk in the garden or other safe place. Engage the individual in various activities of daily living (e.g., washing dishes or folding laundry). Look for health issues or pain. Use activities to create distractions. Make sure that surroundings are safe.

Behavior	Trigger	Intervention
		Redirect the person to areas that are free from danger. Daily exercise may be beneficial. Accompany the resident in walking or pacing, then slow the pace and gradually come to a stop. Replace lost calories with high-calorie finger foods. **Identify** places where the person pacing can sit and rest.
Sundowning	Changes in sleep patterns: ▪ These include restless leg syndrome, and other sleep disorders. Sensory deprivation Loneliness Reduced social and physical time	Increase exercise. Decrease nighttime interruptions.
Resistance to care	Frightening Embarrassing Confusion Threatening Unpleasant experience Staff touch and interaction	Let the resident do as much as he or she can (bathing, brushing teeth). Focus positively on the person's abilities rather than deficiencies. Be flexible (e.g., with regard to meal time, bed time and bathing). Encourage and do your best to help the individual keep up with his or her lifelong routines. Keep a daily schedule and do the best to follow it closely. Limit distractions.

Behavior	Trigger	Intervention
		Use communication techniques. Encourage independence: ▪ Let the individual do whichever part of the activity is reasonable for him or her. Take extra time with things to do them well without rushing. Break down instructions into steps. Do not argue. If the individual is resistant, leave the individual, and try again later.

Bathing

Keep routine consistent.
Provide privacy.
Provide sufficient lighting.
Avoid surprising the person.
Make sure that the water is the appropriate temperature.
Prepare bath water and supplies for use.
Keep bathing and hair washing separate.
Be aware that bathing every day may not be needed for the resident.
Keep the bathroom environment like the resident’s bathroom at home as much as possible.
Minimize noise and distractions.
Encourage the individual to get involved in the activity.
Gently guide the individual every step of the activity.
Minimize the use of full baths or showers, remembering that sponge baths are often sufficient.

Toileting

Have a schedule to remind the individual to use the toilet or for helping him or her get to the restroom.
Pay attention to any nonverbal cues indicating that someone needs to use the toilet (e.g., increased agitation, picking at an object).

At night:

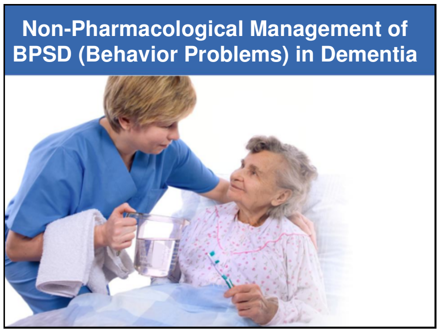
The decision as to whether to wake the individual at night should be based on the situation and the resident’s need.

Behavior	**Trigger**	**Intervention**
Dressing		
Do your best to maintain a consistent routine. Make sure that clothing and grooming supplies are organized. Remove unnecessary clutter in closets, cabinets, and elsewhere. Gently remind the patient about everything he or she will need to know. Offer no more helps than needed. Avoid taking over. Lay out the clothing for the day in order that the individual may dress himself or herself independently. Minimize the number of choices. Always speak calmly. Keep instructions short and to the point. Allow ample time for the individual to do as you have asked. Limit unwelcome distractions such as television or other people speaking with each other. Encourage individuals to “dress up” (in attractive outfits). Offer help with accessories. Show the individual what you want him or her to do. Give the individual something that can be manipulated or stroked. Encourage independence to the maximum extent possible.		

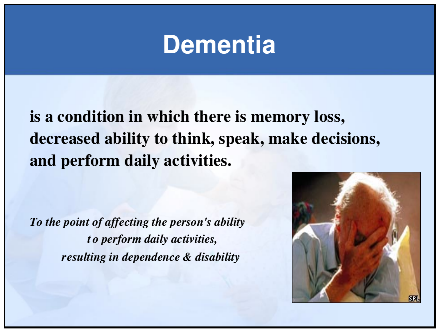
Note. Bendigo Health (2014); New Jersey Department of Health and Senior Services (2005).

Appendix G

PowerPoint Presentation



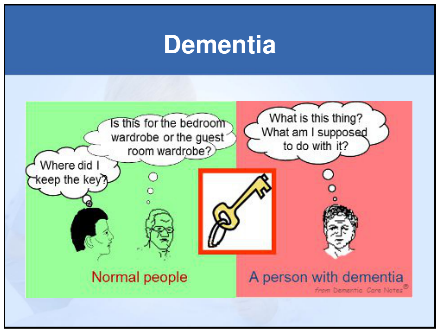
Non-Pharmacological Management of BPSD (Behavior Problems) in Dementia



Dementia

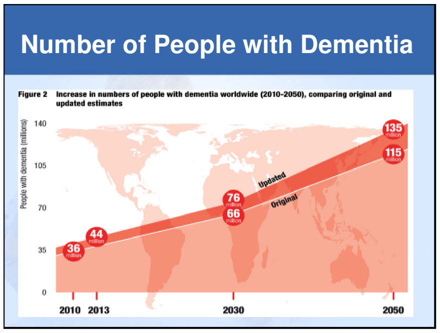
is a condition in which there is memory loss, decreased ability to think, speak, make decisions, and perform daily activities.

To the point of affecting the person's ability to perform daily activities, resulting in dependence & disability



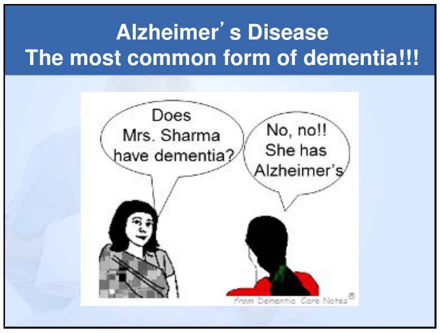
Dementia

Where did I keep the key?
Is this for the bedroom wardrobe or the guest room wardrobe?
What is this thing? What am I supposed to do with it?
Normal people
A person with dementia
from Dementia Care Notes®



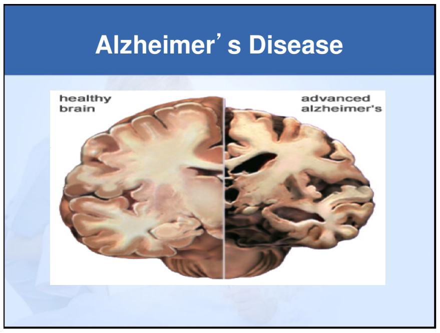
Number of People with Dementia

Figure 2 **Increase in numbers of people with dementia worldwide (2010-2050), comparing original and updated estimates**



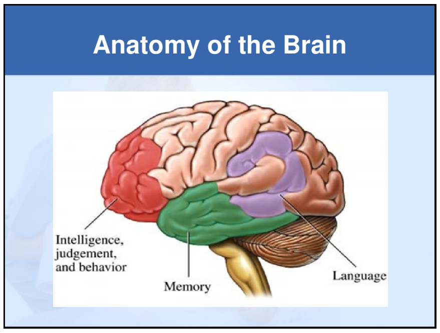
Alzheimer's Disease
The most common form of dementia!!!

Does Mrs. Sharma have dementia?
No, no!! She has Alzheimer's
from Dementia Care Notes®



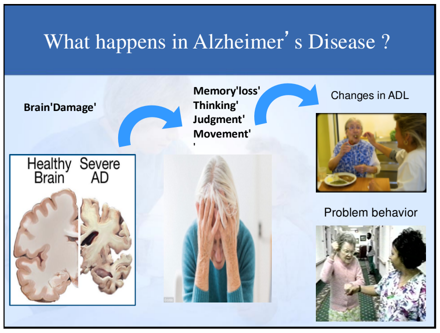
Alzheimer's Disease

healthy brain
advanced alzheimer's



Anatomy of the Brain

Intelligence, judgement, and behavior
Memory
Language



What happens in Alzheimer's Disease ?

Brain'Damage'

Memory'loss'
Thinking'
Judgment'
Movement'

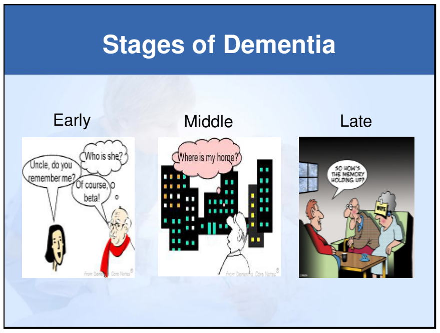
Changes in ADL

Problem behavior

Healthy Brain
Severe AD

Stages of Alzheimer's Disease

Early Stage	Middle Stage	Late Stage
Changes in short term memory loss Anxious Loss of interest	Get lost easily More confuse about time Agitated	Loss of motor skills like walking and eating Bladder and bowel incontinence
Trouble paying bills Difficulty w/ words Takes longer to finish ADL Shorter attention span	Sleep disturbances Needs help with ADL Needs constant supervision	Swallowing Problems Does not recognize self or family Meaningful speech is gone



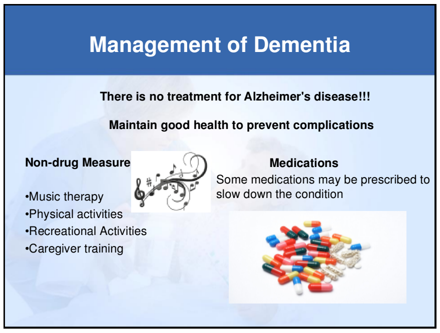
Stages of Dementia

Early

Middle

Late

Uncle, do you remember me?
Who is she?
Of course, beta!
Where is my home?
SO HOW'S THE MEMORY HOLDING UP?
WIFE
from Dementia Care Notes
from Dementia Care Notes



Management of Dementia

There is no treatment for Alzheimer's disease!!!

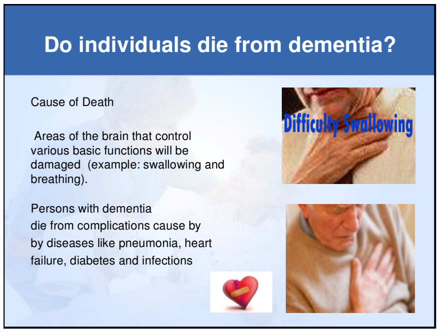
Maintain good health to prevent complications

Non-drug Measure

- Music therapy
- Physical activities
- Recreational Activities
- Caregiver training

Medications

Some medications may be prescribed to slow down the condition



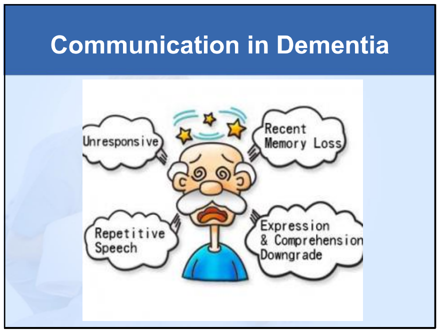
Do individuals die from dementia?

Cause of Death

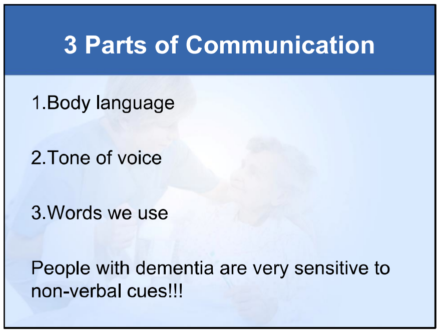
Areas of the brain that control various basic functions will be damaged (example: swallowing and breathing).

Persons with dementia die from complications cause by by diseases like pneumonia, heart failure, diabetes and infections

Difficulty Swallowing



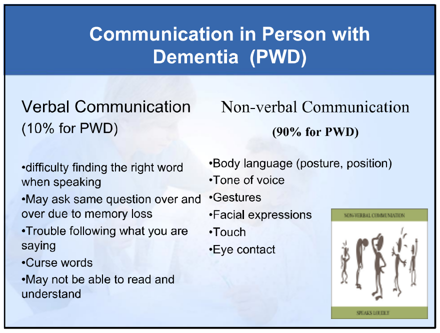
Communication in Dementia



3 Parts of Communication

1. Body language
2. Tone of voice
3. Words we use

People with dementia are very sensitive to non-verbal cues!!!



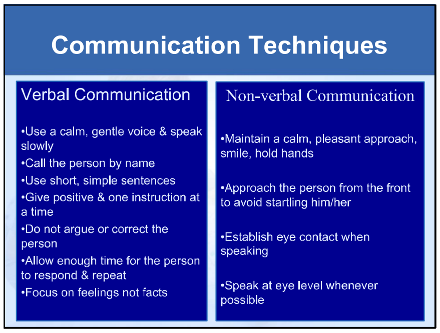
Communication in Person with Dementia (PWD)

Verbal Communication (10% for PWD)

- difficulty finding the right word when speaking
- May ask same question over and over due to memory loss
- Trouble following what you are saying
- Curse words
- May not be able to read and understand

Non-verbal Communication (90% for PWD)

- Body language (posture, position)
- Tone of voice
- Gestures
- Facial expressions
- Touch
- Eye contact



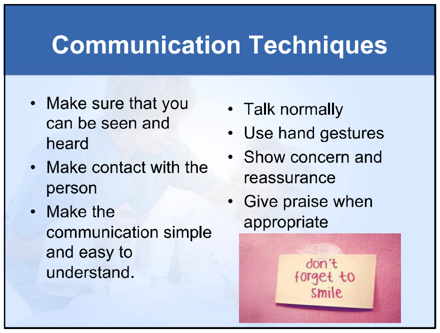
Communication Techniques

Verbal Communication

- Use a calm, gentle voice & speak slowly
- Call the person by name
- Use short, simple sentences
- Give positive & one instruction at a time
- Do not argue or correct the person
- Allow enough time for the person to respond & repeat
- Focus on feelings not facts

Non-verbal Communication

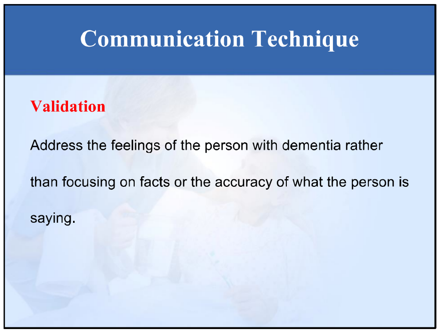
- Maintain a calm, pleasant approach, smile, hold hands
- Approach the person from the front to avoid startling him/her
- Establish eye contact when speaking
- Speak at eye level whenever possible



Communication Techniques

- Make sure that you can be seen and heard
- Make contact with the person
- Make the communication simple and easy to understand.
- Talk normally
- Use hand gestures
- Show concern and reassurance
- Give praise when appropriate

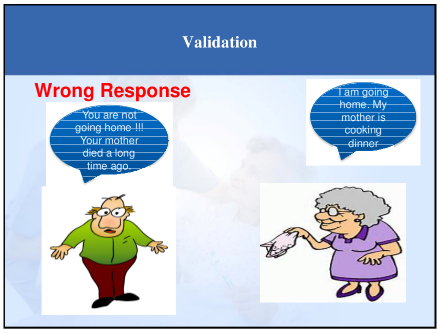
don't forget to smile



Communication Technique

Validation

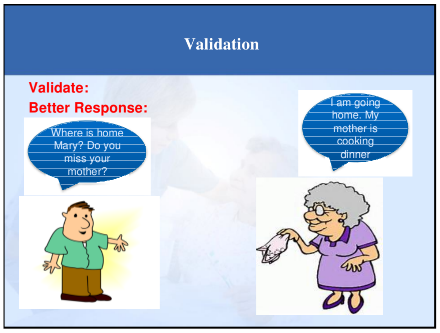
Address the feelings of the person with dementia rather than focusing on facts or the accuracy of what the person is saying.



Validation

Wrong Response

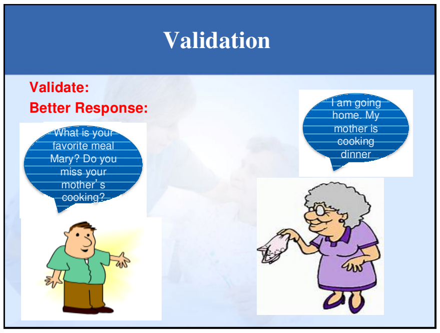
You are not going home !!! Your mother died a long time ago.
I am going home. My mother is cooking dinner



Validation

Validate:
Better Response:

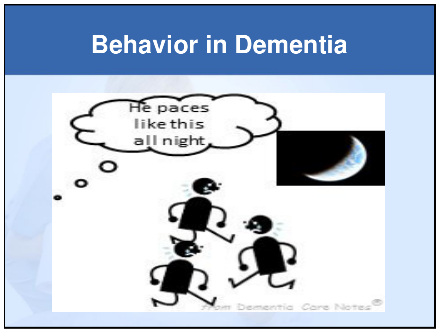
Where is home Mary? Do you miss your mother?
I am going home. My mother is cooking dinner



Validation

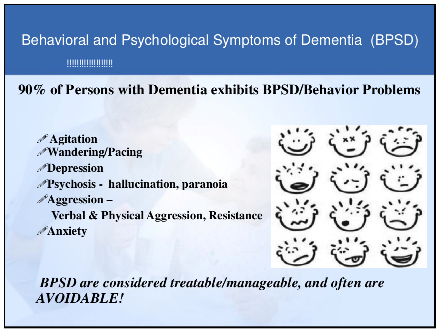
Validate:
Better Response:

What is your favorite meal Mary? Do you miss your mother's cooking?
I am going home. My mother is cooking dinner



Behavior in Dementia

He paces like this all night
From Dementia Care Notes©

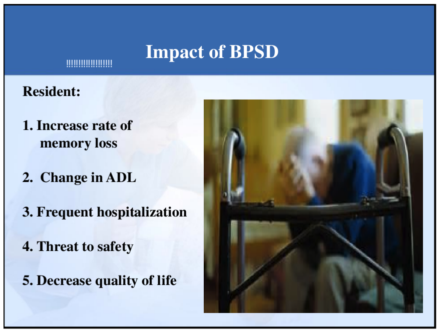


Behavioral and Psychological Symptoms of Dementia (BPSD)

90% of Persons with Dementia exhibits BPSD/Behavior Problems

- **Agitation**
- **Wandering/Pacing**
- **Depression**
- **Psychosis - hallucination, paranoia**
- **Aggression –**
  - **Verbal & Physical Aggression, Resistance**
- **Anxiety**

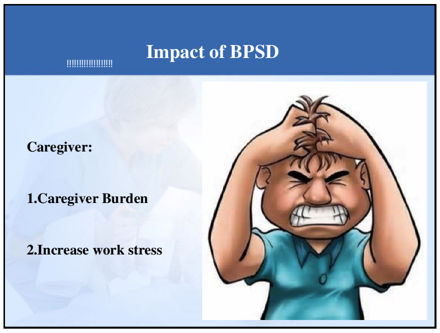
BPSD are considered treatable/manageable, and often are AVOIDABLE!



Impact of BPSD

Resident:

1. **Increase rate of memory loss**
2. **Change in ADL**
3. **Frequent hospitalization**
4. **Threat to safety**
5. **Decrease quality of life**

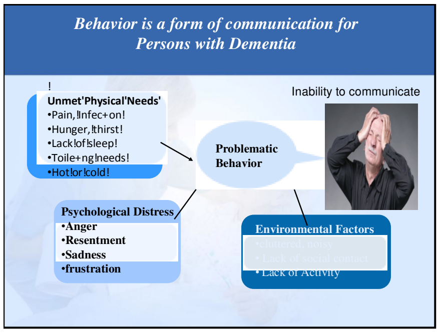


Impact of BPSD

Caregiver:

1.Caregiver Burden

2.Increase work stress



Behavior is a form of communication for Persons with Dementia

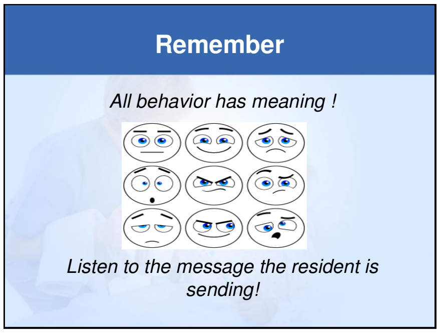
Inability to communicate

Unmet Physical Needs
- Pain, Infection
- Hunger, thirst
- Lack of sleep
- Toileting needs
- Hot or cold

Problematic Behavior

Psychological Distress
- **Anger**
- **Resentment**
- **Sadness**
- **frustration**

Environmental Factors
- cluttered, noisy
- Lack of social contact
- Lack of Activity



Remember

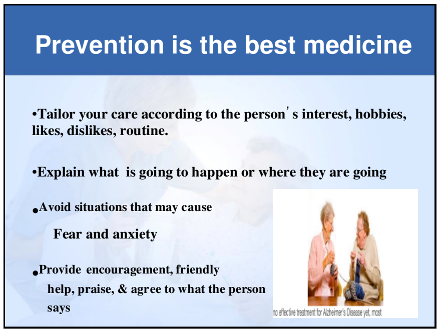
All behavior has meaning !

Listen to the message the resident is sending!

Remember

"Prevention is the Best Medicine"

POWER OF PREVENTION



Prevention is the best medicine

- **Tailor your care according to the person's interest, hobbies, likes, dislikes, routine.**
- **Explain what is going to happen or where they are going**
- **Avoid situations that may cause Fear and anxiety**
- **Provide encouragement, friendly help, praise, & agree to what the person says**

no effective treatment for Alzheimer's Disease yet, most

How do we manage problematic behavior/s?

We cannot change the behavior but we can manage it!

A. Non-pharmacological / Non-drug Intervention

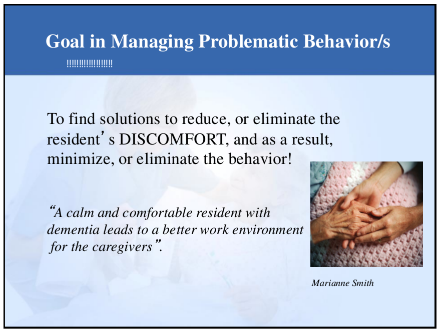
The ideal way to manage problematic behaviors

Proven effective and less side effects

B. Medication

Last resort !!!

Sid effects: Brain Stroke (CVA), Death

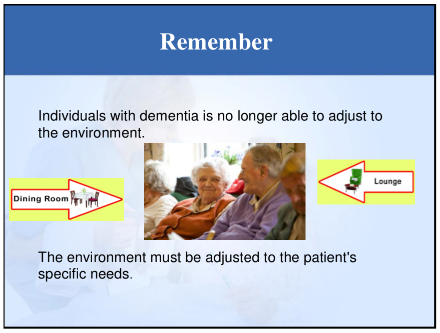


Goal in Managing Problematic Behavior/s

To find solutions to reduce, or eliminate the resident' s DISCOMFORT, and as a result, minimize, or eliminate the behavior!

"A calm and comfortable resident with dementia leads to a better work environment for the caregivers".

Marianne Smith



Remember

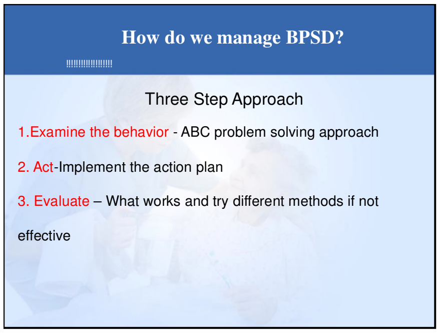
Individuals with dementia is no longer able to adjust to the environment.

Dining Room
Lounge

The environment must be adjusted to the patient's specific needs.

Remember

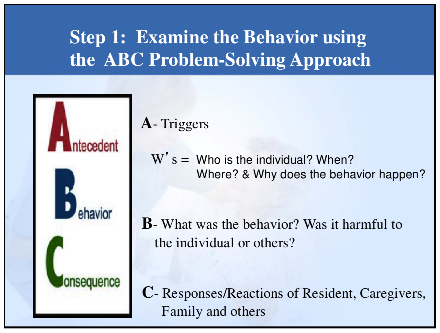
Make sure patient is not a danger to self and to others!!!



How do we manage BPSD?

Three Step Approach

1. Examine the behavior - ABC problem solving approach
2. Act-Implement the action plan
3. Evaluate – What works and try different methods if not effective



Step 1: Examine the Behavior using the ABC Problem-Solving Approach

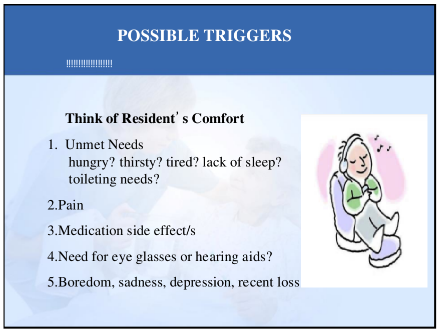
Antecedent
Behavior
Consequence

A- Triggers

W' s = Who is the individual? When? Where? & Why does the behavior happen?

B- What was the behavior? Was it harmful to the individual or others?

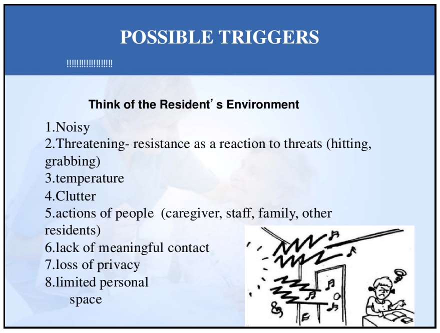
C- Responses/Reactions of Resident, Caregivers, Family and others



POSSIBLE TRIGGERS

Think of Resident' s Comfort

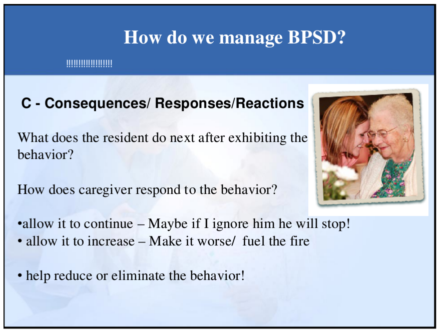
1. Unmet Needs
   hungry? thirsty? tired? lack of sleep? toileting needs?
2. Pain
3. Medication side effect/s
4. Need for eye glasses or hearing aids?
5. Boredom, sadness, depression, recent loss



POSSIBLE TRIGGERS

Think of the Resident's Environment

1. Noisy
2. Threatening- resistance as a reaction to threats (hitting, grabbing)
3. temperature
4. Clutter
5. actions of people (caregiver, staff, family, other residents)
6. lack of meaningful contact
7. loss of privacy
8. limited personal space



How do we manage BPSD?

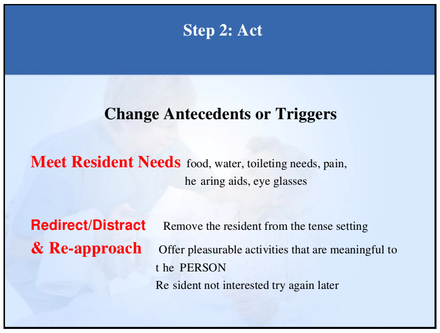
C - Consequences/ Responses/Reactions

What does the resident do next after exhibiting the behavior?

How does caregiver respond to the behavior?

- allow it to continue – Maybe if I ignore him he will stop!
- allow it to increase – Make it worse/ fuel the fire

- help reduce or eliminate the behavior!



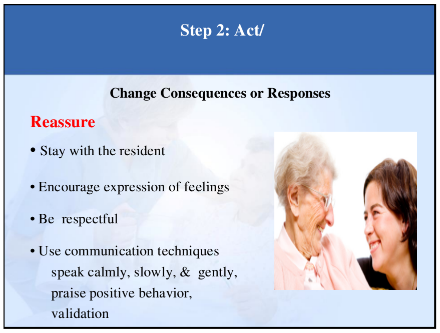
Step 2: Act

Change Antecedents or Triggers

Meet Resident Needs food, water, toileting needs, pain, hearing aids, eye glasses

Redirect/Distract Remove the resident from the tense setting

& Re-approach Offer pleasurable activities that are meaningful to the PERSON
Resident not interested try again later

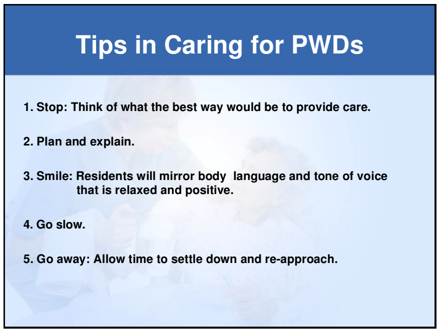


Step 2: Act/

Change Consequences or Responses

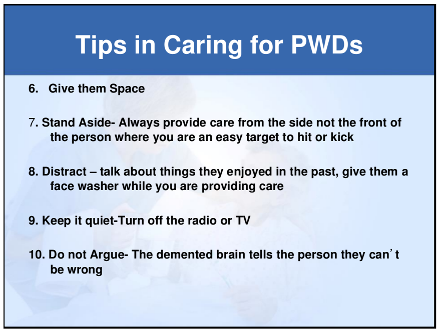
Reassure

- Stay with the resident
- Encourage expression of feelings
- Be respectful
- Use communication techniques
  speak calmly, slowly, & gently,
  praise positive behavior,
  validation



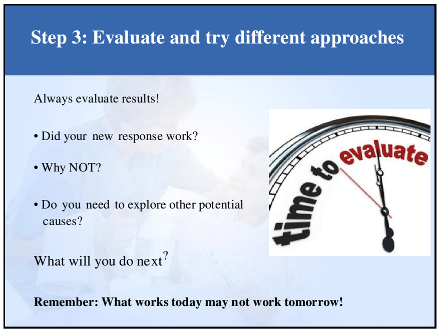
Tips in Caring for PWDs

1. Stop: Think of what the best way would be to provide care.
2. Plan and explain.
3. Smile: Residents will mirror body language and tone of voice that is relaxed and positive.
4. Go slow.
5. Go away: Allow time to settle down and re-approach.



Tips in Caring for PWDs

6. Give them Space
7. Stand Aside- Always provide care from the side not the front of the person where you are an easy target to hit or kick
8. Distract – talk about things they enjoyed in the past, give them a face washer while you are providing care
9. Keep it quiet-Turn off the radio or TV
10. Do not Argue- The demented brain tells the person they can't be wrong



Step 3: Evaluate and try different approaches

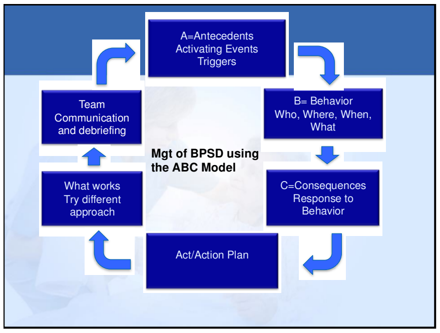
Always evaluate results!

- Did your new response work?
- Why NOT?
- Do you need to explore other potential causes?

What will you do next?

Remember: What works today may not work tomorrow!

time to evaluate



A=Antecedents
Activating Events
Triggers

B= Behavior
Who, Where, When, What

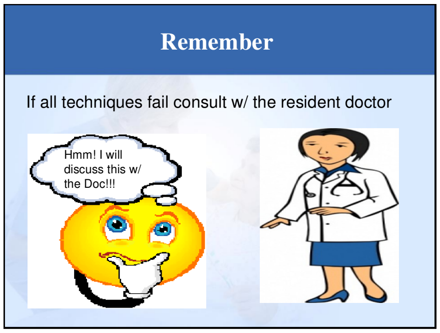
C=Consequences
Response to Behavior

Act/Action Plan

What works
Try different approach

Team Communication and debriefing

Mgt of BPSD using the ABC Model

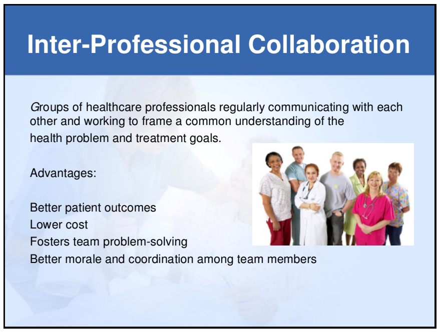


Remember

If all techniques fail consult w/ the resident doctor

Hmm! I will discuss this w/ the Doc!!!

Inter-professional /Interdisciplinary Collaboration

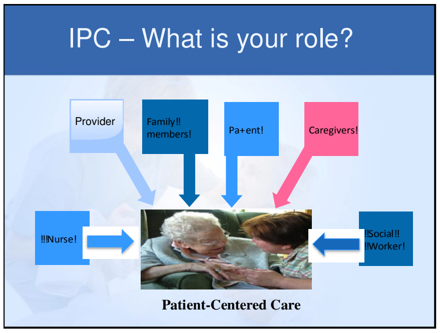


Inter-Professional Collaboration

Groups of healthcare professionals regularly communicating with each other and working to frame a common understanding of the health problem and treatment goals.

Advantages:

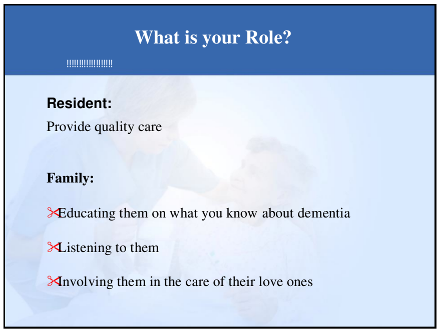
Better patient outcomes
Lower cost
Fosters team problem-solving
Better morale and coordination among team members



IPC – What is your role?

Provider
Family!! members!
Pa+ent!
Caregivers!
!!!Nurse!
!!Social!! !!Worker!

Patient-Centered Care



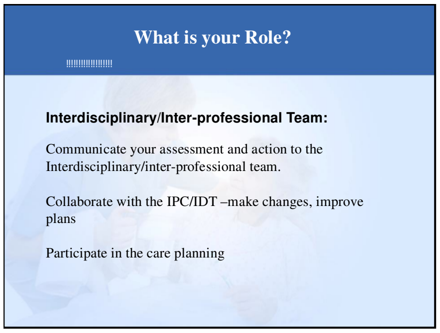
What is your Role?

Resident:

Provide quality care

Family:

- Educating them on what you know about dementia
- Listening to them
- Involving them in the care of their love ones



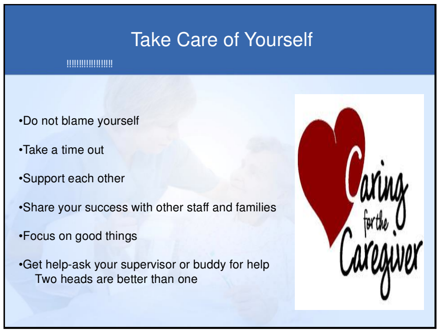
What is your Role?

Interdisciplinary/Inter-professional Team:

Communicate your assessment and action to the Interdisciplinary/inter-professional team.

Collaborate with the IPC/IDT –make changes, improve plans

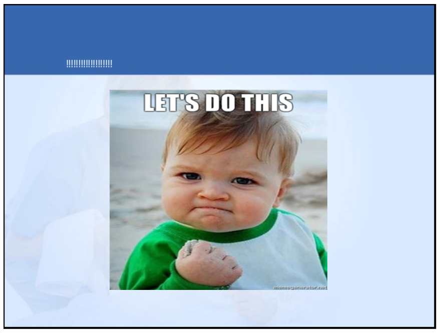
Participate in the care planning

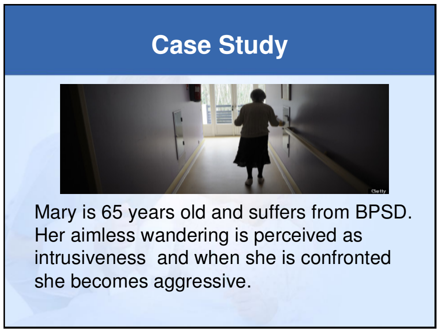


Take Care of Yourself

- Do not blame yourself
- Take a time out
- Support each other
- Share your success with other staff and families
- Focus on good things
- Get help-ask your supervisor or buddy for help
  Two heads are better than one

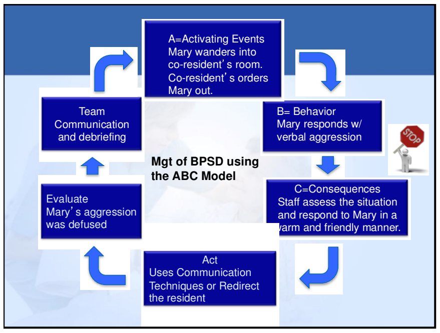
Caring for the Caregiver





Case Study

Mary is 65 years old and suffers from BPSD. Her aimless wandering is perceived as intrusiveness and when she is confronted she becomes aggressive.



Mgt of BPSD using the ABC Model

A=Activating Events
Mary wanders into co-resident's room. Co-resident's orders Mary out.

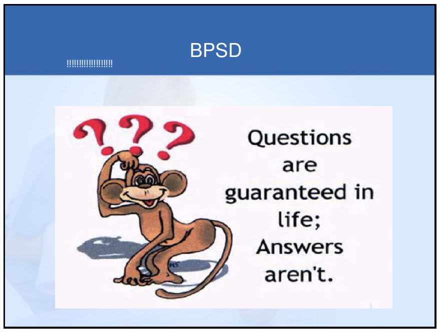
B= Behavior
Mary responds w/ verbal aggression

C=Consequences
Staff assess the situation and respond to Mary in a warm and friendly manner.

Act
Uses Communication Techniques or Redirect the resident

Evaluate
Mary's aggression was defused

Team Communication and debriefing

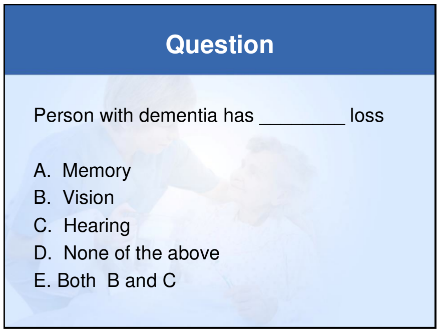


BPSD

Questions are guaranteed in life; Answers aren't.

Mary Ann de Vera, DNPc,RN,FNP,MSN,CNL,CCRN

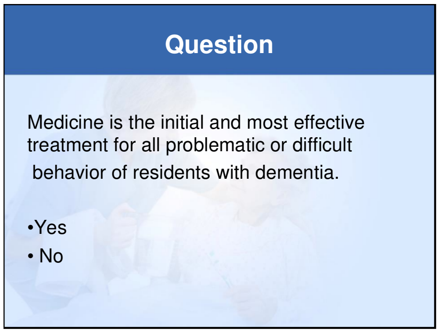
University of San Francisco



Question

Person with dementia has ________ loss

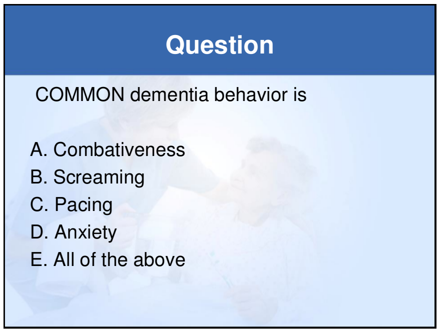
A. Memory
B. Vision
C. Hearing
D. None of the above
E. Both B and C



Question

Medicine is the initial and most effective treatment for all problematic or difficult behavior of residents with dementia.

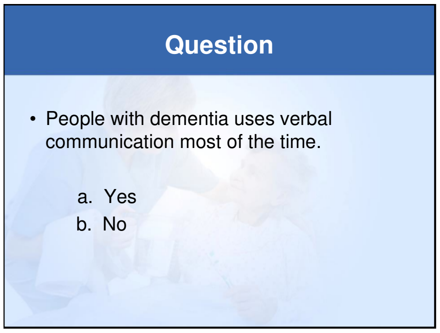
- Yes
- No



Question

COMMON dementia behavior is

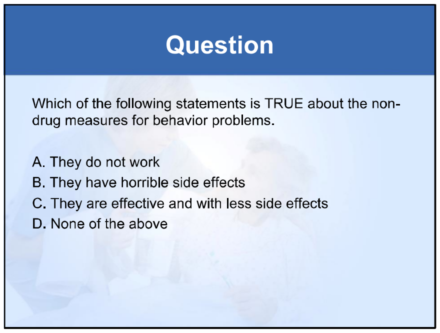
A. Combativeness
B. Screaming
C. Pacing
D. Anxiety
E. All of the above



Question

- People with dementia uses verbal communication most of the time.

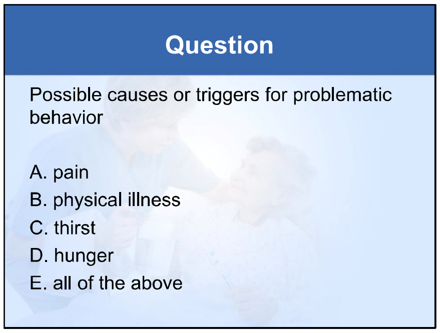
  a. Yes
  b. No



Question

Which of the following statements is TRUE about the non-drug measures for behavior problems.

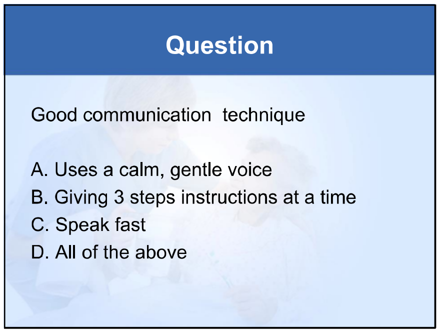
A. They do not work
B. They have horrible side effects
C. They are effective and with less side effects
D. None of the above



Question

Possible causes or triggers for problematic behavior

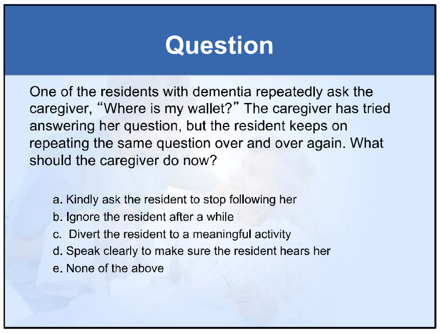
A. pain
B. physical illness
C. thirst
D. hunger
E. all of the above



Question

Good communication technique

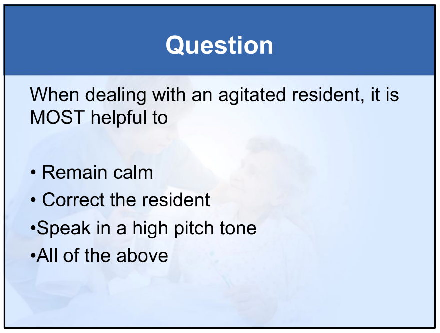
A. Uses a calm, gentle voice
B. Giving 3 steps instructions at a time
C. Speak fast
D. All of the above



Question

One of the residents with dementia repeatedly ask the caregiver, “Where is my wallet?” The caregiver has tried answering her question, but the resident keeps on repeating the same question over and over again. What should the caregiver do now?

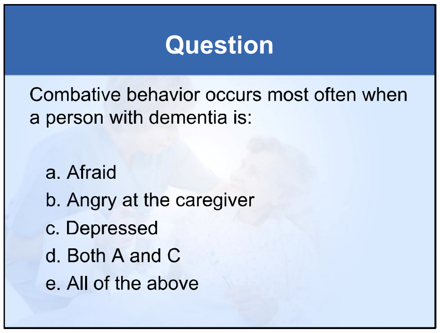
a. Kindly ask the resident to stop following her
b. Ignore the resident after a while
c. Divert the resident to a meaningful activity
d. Speak clearly to make sure the resident hears her
e. None of the above



Question

When dealing with an agitated resident, it is MOST helpful to

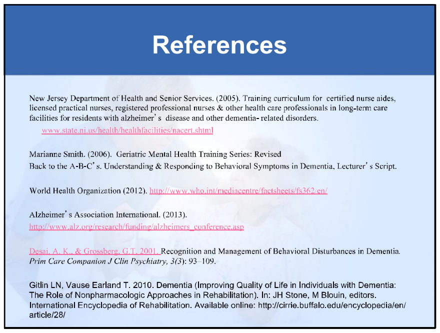
- Remain calm
- Correct the resident
- Speak in a high pitch tone
- All of the above



Question

Combative behavior occurs most often when a person with dementia is:

a. Afraid
b. Angry at the caregiver
c. Depressed
d. Both A and C
e. All of the above



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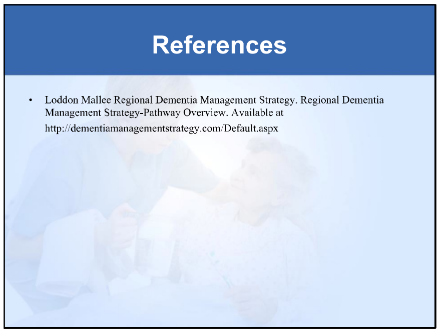

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Appendix H

Behavioral Competency Checklist

Name:
Job Title:

	Date	**Able to do independently**	**Unable to do independently**	**Supervisor initials**	**Comment**
Demonstrates ABC approach					
Describes behavior					
Identifies triggers					
Describes consequences					
Demonstrates intervention					
Meets needs Reassures Redirects					
Evaluates results					
Identifies resident's response to NPI					
Lists alternative approaches					
IPC communication					
Reporting (BDF) Documentation (BDF)					

Staff signature: ______________________________ Date: ________________________

Educator signature: __________________________ Date: ________________________

Appendix I

Behavior Document Flow Sheet

Date	Time	Duration	Behavior	Trigger	Intervention

Time	Response	Comments	Initials

Caregiver signature	Initials

Resident name:

Appendix J

Cost-Benefit Analysis

Item	Cost
Project Cost (15 caregivers)	$460.00
Project Benefits	$4,492.50
5 Year Estimated Savings	$22,462.50

Other Benefits:

Staff:

Improved job satisfaction

Decreased stress

Decreased number of sick days/leaves

Decreased turnover rates

Residents:

Improved care

Improved satisfaction

Decreased morbidity and mortality

Decreased medical costs

Appendix K

Communication Matrix Plan for the Project

	Project chair	**Project implementer (PI)**	**Resident services director (RDS)**	**Visiting doctor (VI)**	**Shift leaders (SL)**	**Caregivers**
Definition of project aims	Provided advice on the project	Met with IPC team; conducted focus group interview and surveys	Discussed project with PI	PI discussed project with VI	PI informed SL	Attended focus group meeting; agreed to interviews and surveys
Project development	Approval from Project Committee	Formed project team (PT)	Attended project meetings	Attended project meetings	Attended project meetings	
Sharing the plan		Arranged for project team meetings	Informed management and staff; agreed to meet	Agreed to meet	Briefed by PI	Answered all questions and concerns
Progress reporting	Provided updates on the project	Updated IPC team and project chair	Updated on changes to timetable	Discussed curriculum	Briefed on curriculum and education tools	Informed of the date of the training
Training		Conducted and facilitated the training	Informed staff about the training	Spoke and facilitated training simulation	Facilitated training simulation and follow-up	Attended the training
Post-training follow-up		Obtained project feedback	Provided reinforcement	Wrote an order for documentation BDF	Monitored onsite practice sessions	Practiced onsite
Outcome evaluation	Provided updates	Gathered, analyzed, interpreted, and reported results to IPT and project chair	Informed staff	PI informed of results and discussed plans for expansion		

Appendix L

Role-Playing/Simulation Case Scenarios

Role-Playing/Simulation Case Scenarios

Case 1

Ms. A is a 72-year-old woman diagnosed with Alzheimer's disease. She has been agitated for the last 3 days. She has been very restless and has been pacing the room back and forth and appears to be upset.

Case 2

Mr. X has dementia and had been physically/verbally aggressive and screaming over the past 24 hours.

Case 3

Mrs. J gets very agitated every late afternoon for the past 3 days. She keeps on saying that her mother is waiting for her at home.

Case 4

Mr. D, diagnosed with dementia is restless, paces, and makes repetitive movements. He has difficulty locating familiar places like the bathroom, bedroom, or dining room. He constantly asks the whereabouts of his friends and family.

Case 5

Mrs. E has been refusing care and bath for the past 1 week. She starts hitting whenever the caregiver tries to give her a bath.

Appendix M

Survey Results Before and Immediately After Training

Category *N* = 15	Low		Medium		High		Margin
	Pre	Post	Pre	Post	Pre	Post	
Overall knowledge of dementia and BPSD	6 40%		9 60%	2 13%		13 87%	87%
Ability to manage BPSD	4 27%		10 67%		1 6%	15 100%	94%
Communication in BPSD	5 33%		8 53%	2 13%	2 14%	13 87%	73%
Comfort level in managing BPSD	4 27%		10 67%	3 20%	1 6%	12 80%	74%

Appendix N

Survey Results Immediately and Six Weeks After Training

Category	Low		Medium		High		Margin
	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2	
Overall knowledge of dementia and BPSD			2 13%	3 27%	13 87%	8 73%	-14%
Ability to manage BPSD				4 36%	15 100%	7 64%	-36%
Communication in BPSD		2 18%	2 13%	4 36%	13 87%	5 46%	-41%
Comfort level in managing BPSD			3 20%	4 36%	12 80%	7 64%	-16%

Note. Time 1 = immediately post-training (*N* = 15). Time 2 = 6 weeks post-training (*N* = 11).

Appendix O

Survey Results Pre-Training and Six Weeks After Training

Category	Low		Medium		High		Margin
	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2	
Overall knowledge of dementia and BPSD	6 40%		9 60%	3 27%		8 73%	73%
Ability to manage BPSD	4 27%		10 67%	4 36%	1 6%	7 64%	58%
Communication in BPSD	5 33%	2 18%	8 53%	4 36%	2 14%	5 46%	32%
Comfort level in managing BPSD	4 27%		10 67%	4 36%	1 6%	7 64%	58%

Note. Time 1 = pre-training ($N = 15$). Time 2 = 6 weeks post-training ($N = 11$).

Appendix P

Survey Question Results

Question: To what extent do you think this training will make a difference in your job as a caregiver?

Scale	Time 1	%	Time 2	%
5	12	80	9	82
4	3	20	0	0
3	0	0	2	18
2	0	0	0	0
1	0	0	0	0
Total	15	100	11	100

Note. Rating scale: 1 = no difference, 5 = most difference. Time 1 = immediately post-training (*N* = 15). Time 2 = 6 weeks post-training (*N* = 11).

Appendix Q

Training Satisfaction Survey Results

Caregivers’ question: How satisfied are you with the training workshop?

Scale	Time 1	%	Time 2	%
Very satisfied	13	87	9	82
Satisfied	2	13	2	18
Somewhat satisfied	0	0	0	0
Not satisfied	0	0	0	0
Total	15	0	11	0

Note. Rating scale: 1 = not satisfied, 4 = very satisfied. Time 1 = immediately post-training (*N* = 15). Time 2 = 6 weeks post-training (*N* = 11).

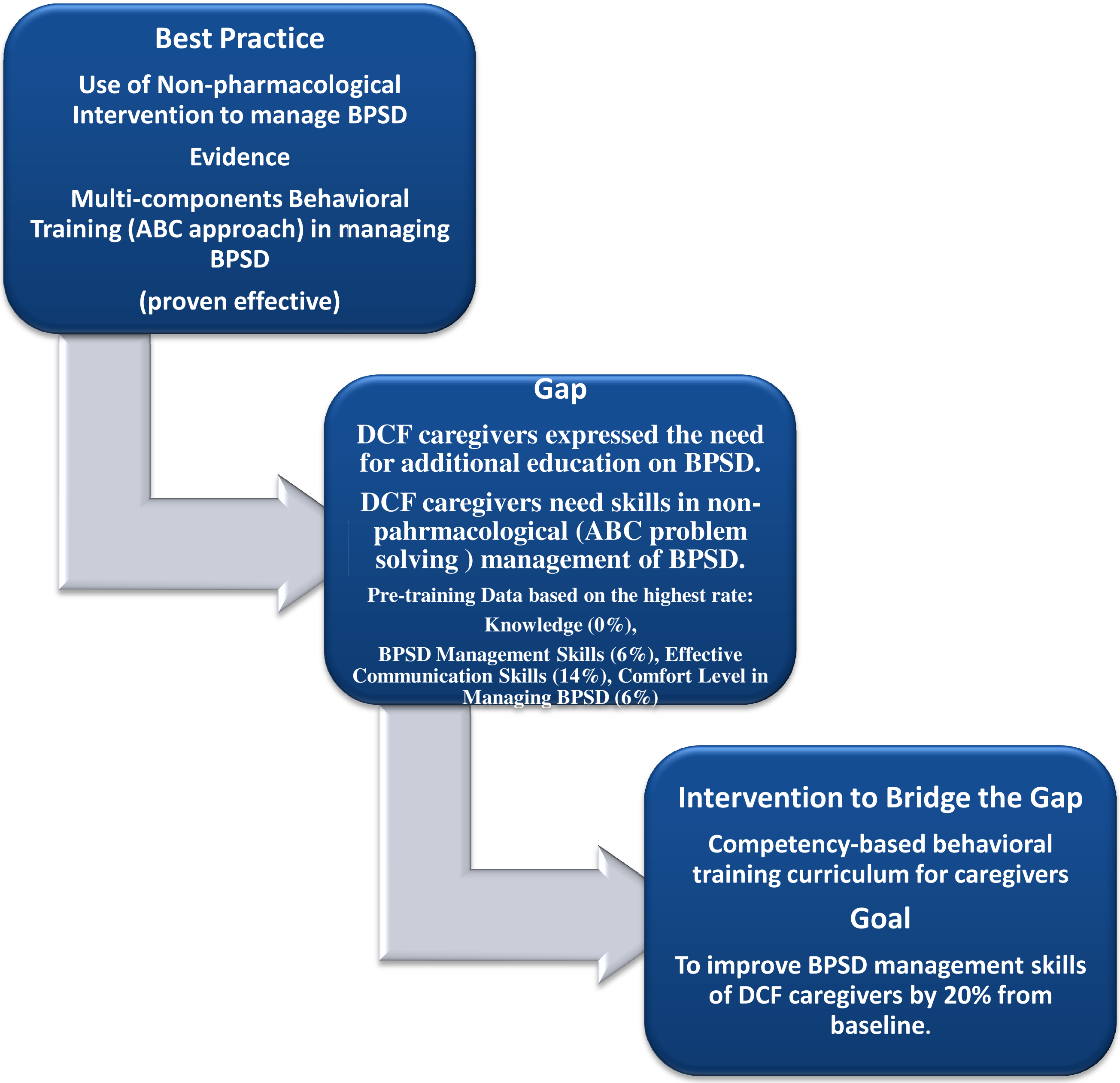
Inter-professional collaborative team (RDS, MD, Shift Leaders) question: How satisfied are you with the training workshop?

Scale	Time 1	%	Time 2	%
Very satisfied	5	83	5	83
Satisfied	1	17	1	17
Somewhat satisfied	0	0	0	0
Not satisfied	0	0	0	0
Total	6	100	6	100

Note. Rating scale: 1 = not satisfied, 4 = very satisfied. Time 1 = immediately post-training (*N* = 6). Time 2 = 6 weeks post-training (*N* = 6).

Appendix R

Gap Analysis



Best Practice

Use of Non-pharmacological Intervention to manage BPSD

Evidence

Multi-components Behavioral Training (ABC approach) in managing BPSD

(proven effective)

Gap

DCF caregivers expressed the need for additional education on BPSD.

DCF caregivers need skills in non-pahrmacological (ABC problem solving) management of BPSD.

Pre-training Data based on the highest rate:

Knowledge (0%),

BPSD Management Skills (6%), Effective Communication Skills (14%), Comfort Level in Managing BPSD (6%)

Intervention to Bridge the Gap

Competency-based behavioral training curriculum for caregivers

Goal

To improve BPSD management skills of DCF caregivers by 20% from baseline.

Appendix S

SWOT Analysis

SWOT Analysis		
	Favorable	Unfavorable
	Strengths	Weaknesses
Internal	State required in-service for caregivers in assisted living facility. Free in-service for the facility caregivers provided by an MD with geriatric specialties and a DNP student who speaks a second language (save the facility 2 hours of in-service fees). Visiting physician endorses the project. In-service is based on evidence base and is particularly developed to address BPSD care in DCF by tailoring intervention to varied learning abilities of the DCF caregivers. Experienced dedicated workforce. Resident services director support. Fluency in the language spoken by most caregivers of the author/project implementer	Training tools such as projector, survey questionnaire, and training manuals were not available. Caregivers not included in the decision making in BPSD management of the resident they serve. Lack of accountability of resident administrator and caregivers to meet standard performance level.
	Opportunities	Threats
External	Opportunity for DCF caregivers to change practice. Evidence-based quality improvement project to improve quality dementia care for assisted living caregivers.	Caregiver’s inability to attend the training due to work schedule conflict (inability to request time off from other workplace). Limited oral and written English language skills of caregivers

Appendix T

Project Budget

Items	Material Cost	Staff Cost
Paper (surveys and outcome measures) and index cards (case scenarios)	$ 16.00	
Ink for printer	35.00	
Binder, colored pens, folders, binder tabs	61.00	
Refreshments: Styrofoam cups, paper plates, napkins, coffee, tea, soda, pastries, and bread (training = 2 hours)	150.00	
Facility room	--	
Staff:		
Time for facility administrator to review the project proposal (working lunch)		--
Time for 15 caregivers to attend the training program (15 6-shift overlaps = 9 x 2 hours x $11.00 per hour)		$ 198.00
Subtotal	$ 262.00	$ 198.00
Total project cost		$ 460.00

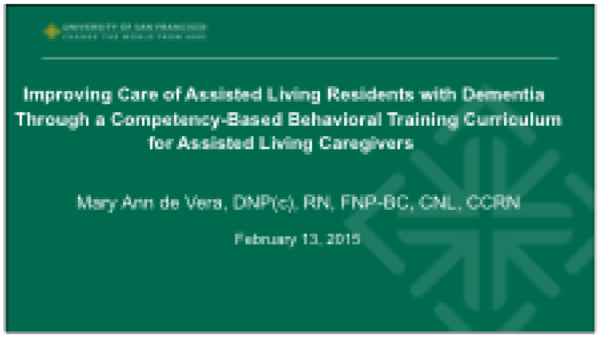
Appendix U

Return on Investment Plan

Item	Cost	Total
New hire orientation (3 days x 7.5 hours/day x $11 per hour)	$ 247.50	$ 247.50
Average caregiver replacement/year ($11 x 1.5 days x 7.5 hours per day x average 3 sick leaves/month)	$ 371.25 per month	$4,455.00 per year
In-service savings		$ 250.00
Subtotal		$4,952.50
In-service cost		($ 460.00)
Return on investment		$4,492.50

Appendix V

Final Project Presentation PowerPoint



UNIVERSITY OF SAN FRANCISCO
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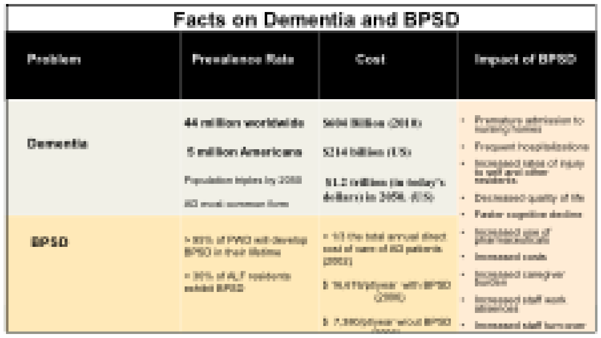
Improving Care of Assisted Living Residents with Dementia Through a Competency-Based Behavioral Training Curriculum for Assisted Living Caregivers

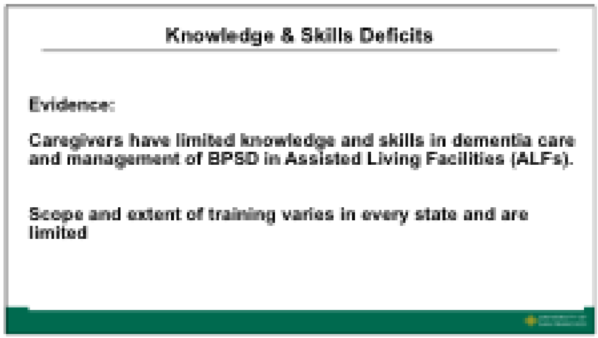
Mary Ann de Vera, DNP(c), RN, FNP-BC, CNL, CCRN

February 13, 2015



Facts on Dementia and BPSD

Problem	Prevalence Rate	Cost	Impact of BPSD
Dementia	44 million worldwide 5 million Americans Population triples by 2050 AD most common form	$604 Billion (2010) $214 billion (US) $1.2 trillion (in today's dollars) in 2050. (US)	• Premature admission to nursing homes • Frequent hospitalizations • Increased rates of injury to self and other residents • Decreased quality of life • Faster cognitive decline
BPSD	> 90% of PWD will develop BPSD in their lifetime > 80% of ALF residents exhibit BPSD	> 1/3 the total annual direct cost of care of AD patients (2002) $ 16,416/year with BPSD (2006) $ 7,380/year w/out BPSD	• Increased use of pharmaceuticals • Increased costs • Increased caregiver burden • Increased staff sick absences • Increased staff turnover

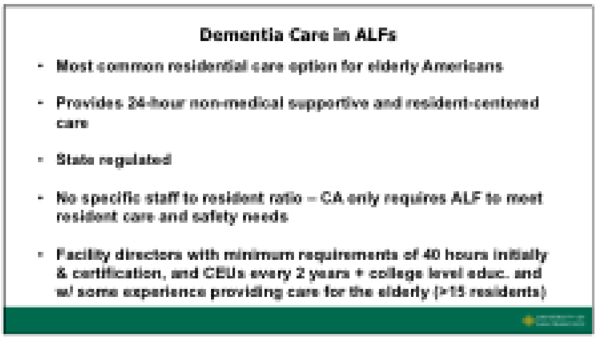


Knowledge & Skills Deficits

Evidence:

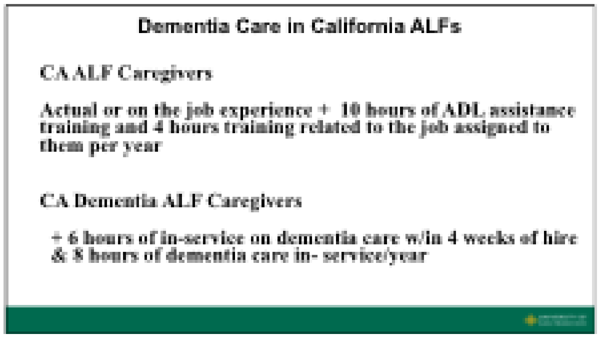
Caregivers have limited knowledge and skills in dementia care and management of BPSD in Assisted Living Facilities (ALFs).

Scope and extent of training varies in every state and are limited



Dementia Care in ALFs

- Most common residential care option for elderly Americans
- Provides 24-hour non-medical supportive and resident-centered care
- State regulated
- No specific staff to resident ratio – CA only requires ALF to meet resident care and safety needs
- Facility directors with minimum requirements of 40 hours initially & certification, and CEUs every 2 years + college level educ. and w/ some experience providing care for the elderly (>15 residents)



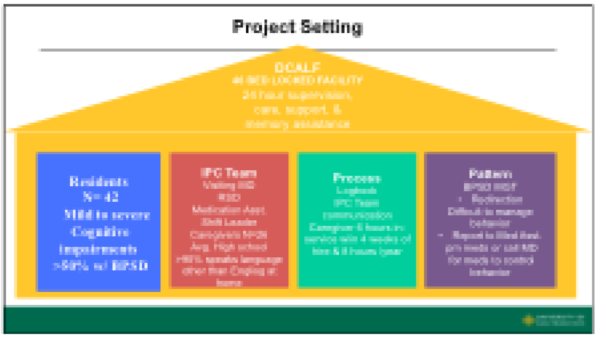
Dementia Care in California ALFs

CA ALF Caregivers

Actual or on the job experience + 10 hours of ADL assistance training and 4 hours training related to the job assigned to them per year

CA Dementia ALF Caregivers

+ 6 hours of in-service on dementia care w/in 4 weeks of hire & 8 hours of dementia care in- service/year



Project Setting

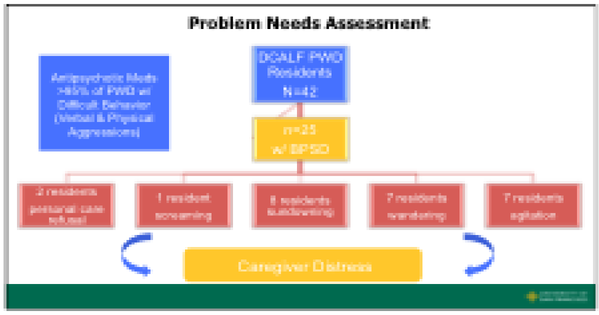
DCALF
46 BED LOCKED FACILITY
24 hour supervision,
care, support, &
memory assistance

Residents
N= 42
Mild to severe
Cognitive
impairments
>80% w/ BPSD

IPC Team
Visiting MD
RSD
Medication Asst.
Shift Leader
Caregivers N=26
Avg. High school
>90% speaks language other than English at home

Process
Logbook
IPC Team communication
Caregiver-6 hours in-service w/in 4 weeks of hire & 8 hours /year

Pattern
BPSD [illegible]
- Redirection
Difficult to manage behavior
- Report to [illegible] prn meds or call MD for meds to control behavior



Problem Needs Assessment

Antipsychotic Meds >85% of PWD w/ Difficult Behavior (Verbal & Physical Aggressions)

DCALF PWD Residents
N=42

n=25
w/ BPSD

2 residents personal care refusal

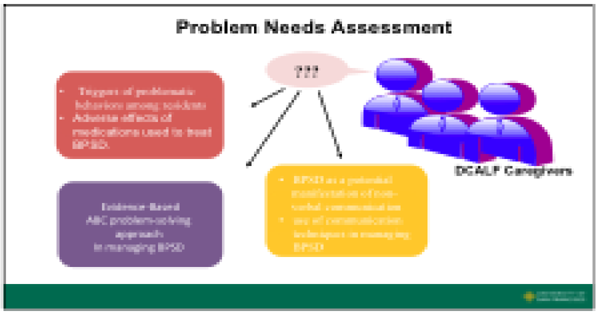
1 resident screaming

8 residents sundowning

7 residents wandering

7 residents agitation

Caregiver Distress



Problem Needs Assessment

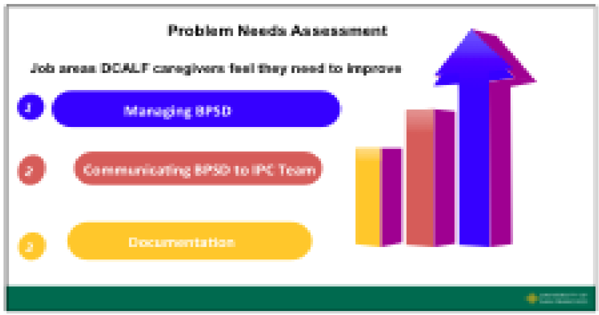
- Triggers of problematic behaviors among residents
- Adverse effects of medications used to treat BPSD.

???

DCALF Caregivers

Evidence-Based
ABC problem-solving approach
in managing BPSD

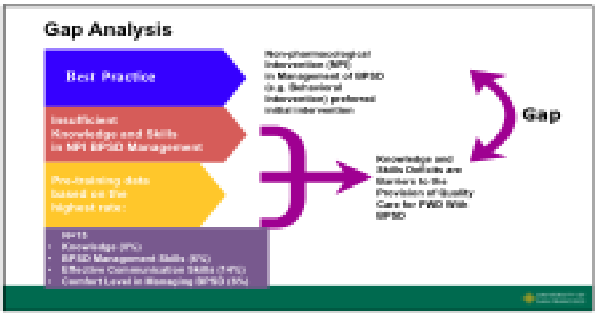
- BPSD as a potential manifestation of non-verbal communication
- use of communication techniques in managing BPSD



Problem Needs Assessment

Job areas DCALF caregivers feel they need to improve

1. Managing BPSD
2. Communicating BPSD to IPC Team
3. Documentation



Gap Analysis

Best Practice

Non-pharmacological Intervention (NPI) in Management of BPSD (e.g. Behavioral intervention) preferred initial intervention

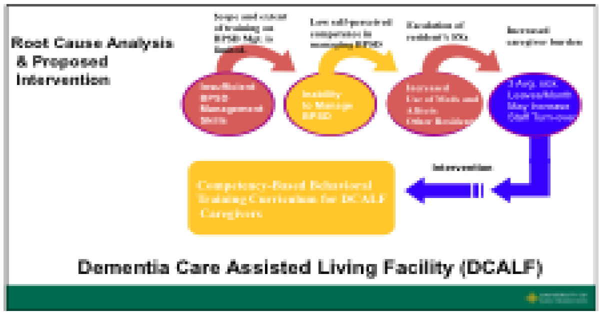
Insufficient Knowledge and Skills in NPI BPSD Management

Pre-training data based on the highest rate:

N=15
- Knowledge ([illegible]%)
- BPSD Management Skills ([illegible]%)
- Effective Communication Skills (14%)
- Comfort Level in Managing BPSD ([illegible]%)

Knowledge and Skills Deficits are Barriers to the Provision of Quality Care for PWD With BPSD

Gap



Root Cause Analysis & Proposed Intervention

Scope and extent of training on BPSD Mgt. is limited

Low self-perceived competence in managing BPSD

Escalation of resident's BXs

Increased caregiver burden

Insufficient BPSD Management Skills

Inability to Manage BPSD

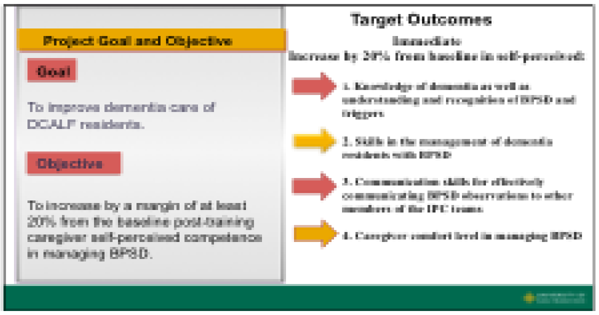
Increased Use of Meds and Affects Other Residents

3 Avg. sick Leaves/Month May Increase Staff Turn-over

Intervention

Competency-Based Behavioral Training Curriculum for DCALF Caregivers

Dementia Care Assisted Living Facility (DCALF)



Project Goal and Objective

Goal

To improve dementia care of DCALF residents.

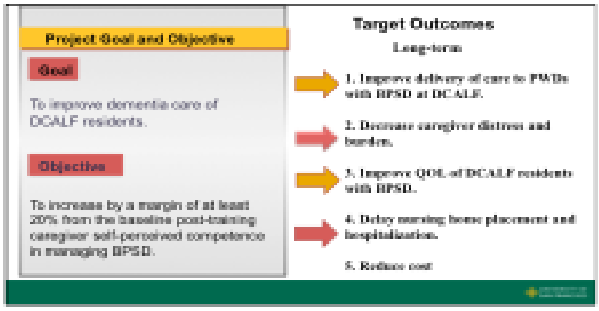
Objective

To increase by a margin of at least 20% from the baseline post-training caregiver self-perceived competence in managing BPSD.

Target Outcomes

Immediate
Increase by 20% from baseline in self-perceived:

1. Knowledge of dementia as well as understanding and recognition of BPSD and triggers
2. Skills in the management of dementia residents with BPSD
3. Communication skills for effectively communicating BPSD observations to other members of the IPC teams.
4. Caregiver comfort level in managing BPSD



Project Goal and Objective

Goal

To improve dementia care of DCALF residents.

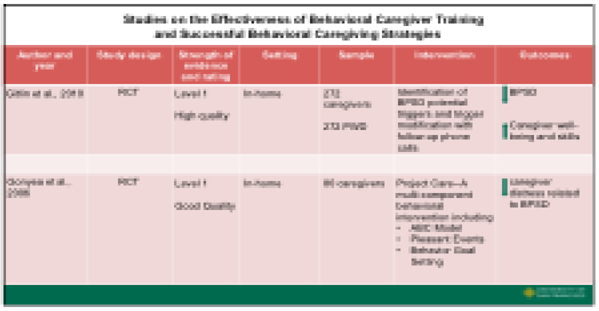
Objective

To increase by a margin of at least 20% from the baseline post-training caregiver self-perceived competence in managing BPSD.

Target Outcomes

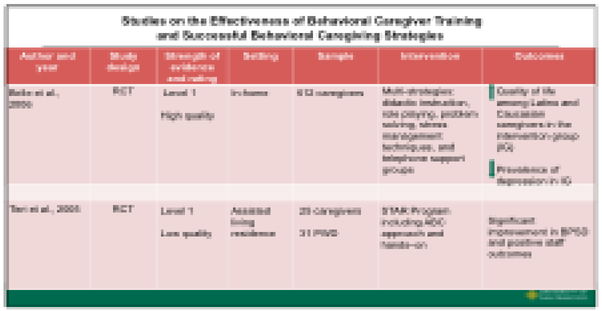
Long-term

1. Improve delivery of care to PWDs with BPSD at DCALF.
2. Decrease caregiver distress and burden.
3. Improve QOL of DCALF residents with BPSD.
4. Delay nursing home placement and hospitalization.
5. Reduce cost



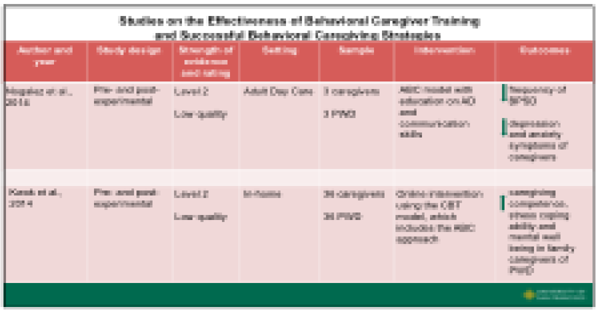
Studies on the Effectiveness of Behavioral Caregiver Training and Successful Behavioral Caregiving Strategies

Author and year	Study design	Strength of evidence and rating	Setting	Sample	Intervention	Outcomes
Gitlin et al., 2010	RCT	Level 1 High quality	In-home	272 caregivers 272 PWD	Identification of BPSD potential triggers and trigger modification with follow up phone calls	BPSD Caregiver well-being and skills
Gonyea et al., 2006	RCT	Level 1 Good Quality	In-home	[illegible] caregivers	Project Care—A multi-component behavioral intervention including - ABC Model - Pleasant Events - Behavior Goal Setting	caregiver distress related to BPSD



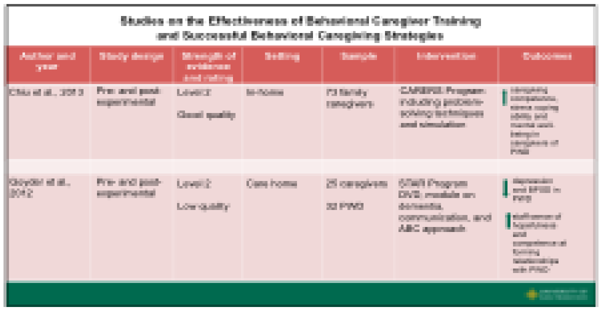
Studies on the Effectiveness of Behavioral Caregiver Training and Successful Behavioral Caregiving Strategies

Author and year	Study design	Strength of evidence and rating	Setting	Sample	Intervention	Outcomes
Belle et al., 2006	RCT	Level 1 High quality	In-home	[illegible] caregivers	Multi-strategies: didactic instruction, role playing, problem solving, stress management techniques, and telephone support groups	Quality of life among Latino and Caucasian caregivers in the intervention group (IG) Prevalence of depression in IG
Teri et al., 2005	RCT	Level 1 Low quality	Assisted living residence	25 caregivers 31 PWD	STAR Program including ABC approach and hands-on	Significant improvement in BPSD and positive staff outcomes



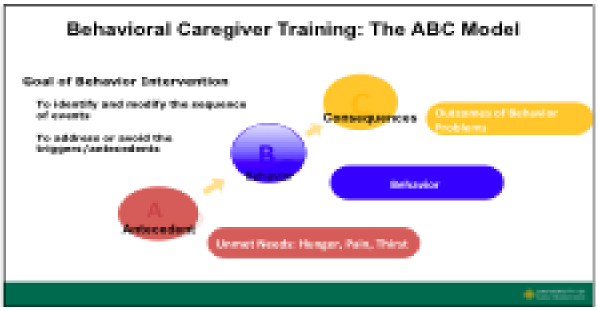
Studies on the Effectiveness of Behavioral Caregiver Training and Successful Behavioral Caregiving Strategies

Author and year	Study design	Strength of evidence and rating	Setting	Sample	Intervention	Outcomes
Nogales et al., [illegible]	Pre- and post-experimental	Level 2 Low quality	Adult Day Care	3 caregivers 3 PWD	ABC model with education on AD and communication skills	frequency of BPSD depression and anxiety symptoms of caregivers
Kwok et al., 2014	Pre- and post-experimental	Level 2 Low quality	In-home	36 caregivers 36 PWD	Online intervention using the CBT model, which includes the ABC approach	caregiving competence, stress coping ability and mental well being in family caregivers of PWD



Studies on the Effectiveness of Behavioral Caregiver Training and Successful Behavioral Caregiving Strategies

Author and year	Study design	Strength of evidence and rating	Setting	Sample	Intervention	Outcomes
Chiu et al., 2013	Pre- and post-experimental	Level 2 Good quality	In-home	73 family caregivers	CARERS Program including problem-solving techniques and simulation	caregiving competence, stress coping ability and mental well-being in caregivers of PWD
Goyder et al., 2012	Pre- and post-experimental	Level 2 Low quality	Care home	25 caregivers 32 PWD	STAR Program DVD, module on dementia, communication, and ABC approach	depression and BPSD in PWD staff sense of hopefulness and competence at forming relationships with PWD



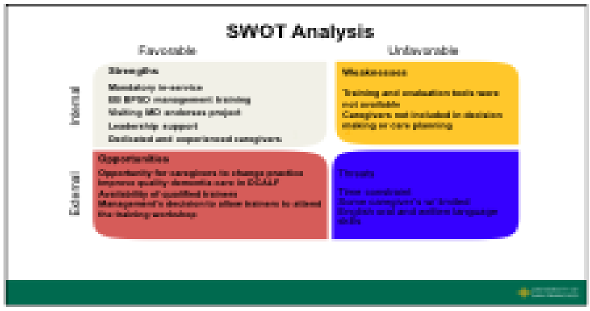
Behavioral Caregiver Training: The ABC Model

Goal of Behavior Intervention

To identify and modify the sequence of events

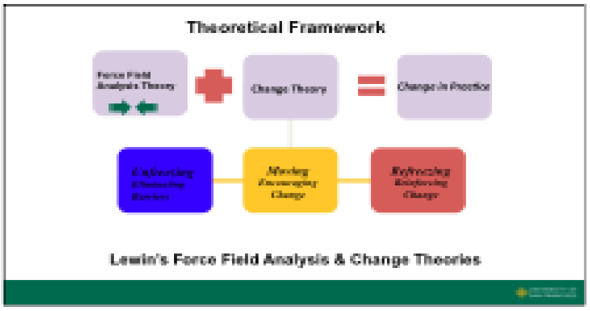
To address or avoid the triggers/antecedents

A
Antecedent
B
Behavior
C
Consequences
Unmet Needs: Hunger, Pain, Thirst
Behavior
Outcomes of Behavior Problems



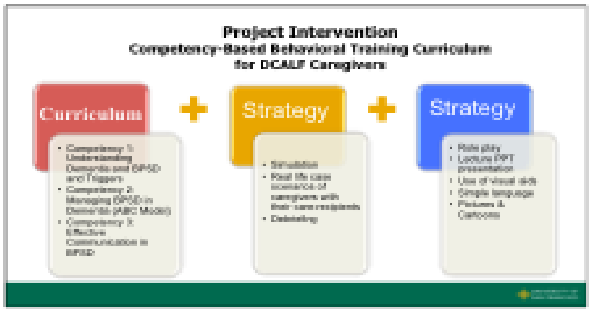
SWOT Analysis

	Favorable	Unfavorable
Internal	**Strengths** Mandatory in-service [illegible] BPSD management training Visiting MD endorses project Leadership support Dedicated and experienced caregivers	**Weaknesses** Training and evaluation tools were not available Caregivers not included in decision making or care planning
External	**Opportunities** Opportunity for caregivers to change practice Improve quality dementia care in DCALF Availability of qualified trainers Management's decision to allow trainers to attend the training workshop	Threats Time constraint Some caregiver's w/ limited English oral and written language skills



Theoretical Framework

Lewin's Force Field Analysis & Change Theories

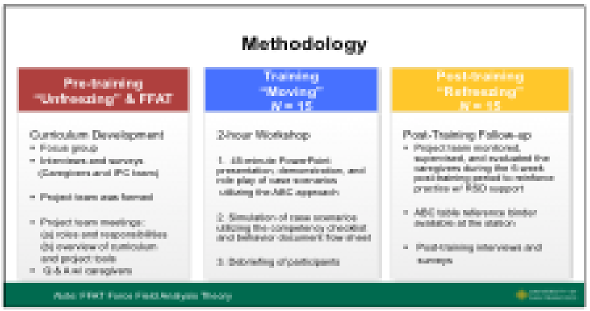


Project Intervention
Competency-Based Behavioral Training Curriculum for DCALF Caregivers

Curriculum
- Competency 1: Understanding Dementia and BPSD and Triggers
- Competency 2: Managing BPSD in Dementia (ABC Model)
- Competency 3: Effective Communication in BPSD

Strategy
- Simulation
- Real life case scenarios of caregivers with their care recipients
- Debriefing

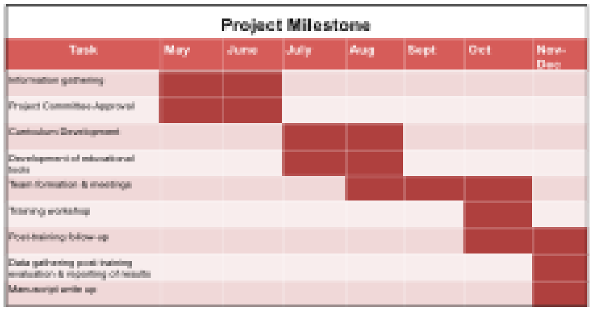
Strategy
- Role play
- Lecture PPT presentation
- Use of visual aids
- Simple language
- Pictures & Cartoons



Methodology

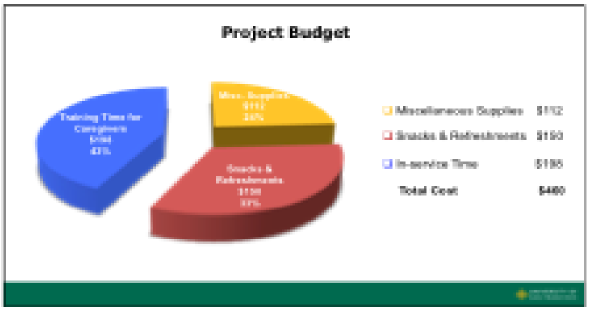
Pre-training "Unfreezing" & FFAT	Training "Moving" N = 15	Post-training "Refreezing" N = 15
Curriculum Development - Focus group - Interviews and surveys (Caregivers and IPC team) - Project team was formed - Project team meetings: (a) roles and responsibilities (b) overview of curriculum and project tools - Q & A w/ caregivers	2-hour Workshop 1. 45-minute PowerPoint presentation, demonstration, and role play of case scenarios utilizing the ABC approach 2. Simulation of case scenarios utilizing the competency checklist and behavior document flow sheet 3. Debriefing of participants	Post-Training Follow-up - Project team monitored, supervised, and evaluated the caregivers during the 6-week post-training period to reinforce practice w/ RSD support - ABC table reference binder available at the station - Post-training interviews and surveys

Note: FFAT Force Field Analysis Theory



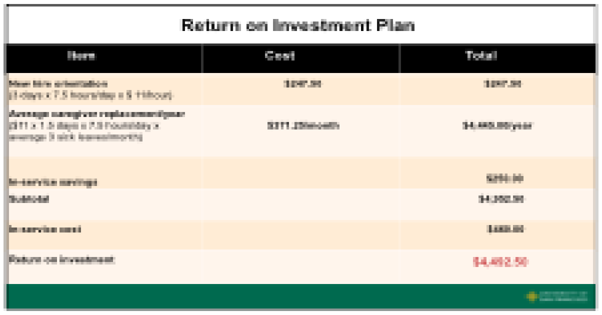
Project Milestone

Task	May	June	July	Aug	Sept	Oct	Nov-Dec
Information gathering	■	■					
Project Committee Approval	■	■					
Curriculum Development			■	■			
Development of educational tools			■	■			
Team formation & meetings				■	■	■	
Training workshop						■	
Post-training follow-up						■	■
Data gathering post-training evaluation & reporting of results							■
Manuscript write up							■



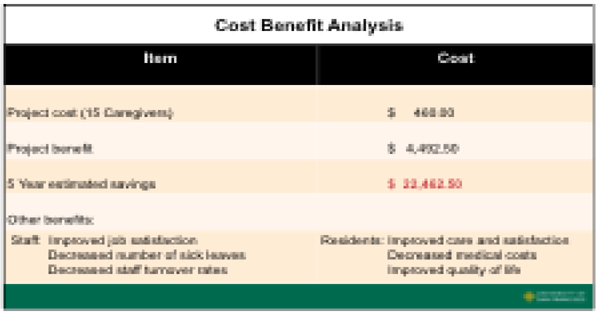
Project Budget

Miscellaneous Supplies	$112
Snacks & Refreshments	$150
In-service Time	$198
Total Cost	$460



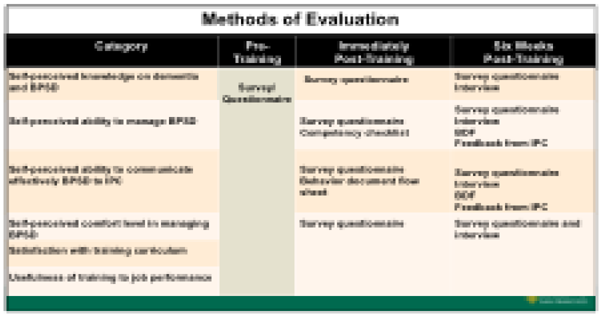
Return on Investment Plan

Item	Cost	Total
New hire orientation (3 days x 7.5 hours/day x $ 11/hour)	$247.50	$247.50
Average caregiver replacement/year ($11 x 1.5 days x 7.5 hours/day x average 3 sick leaves/month)	$371.25/month	$4,455.00/year
In-service savings		$250.00
Subtotal		$4,952.50
In-service cost		$460.00
Return on investment		$4,492.50



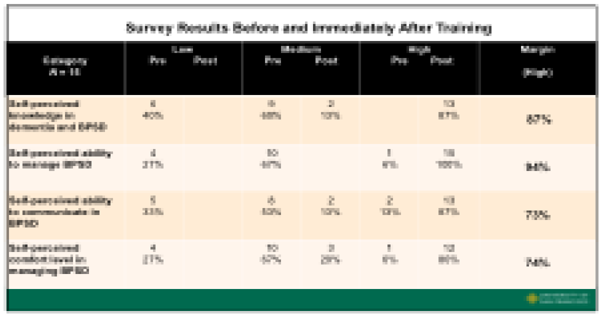
Cost Benefit Analysis

Item	Cost
Project cost (15 Caregivers)	$ 460.00
Project benefit	$ 4,492.50
5 Year estimated savings	$ 22,462.50
Other benefits:	
Staff: Improved job satisfaction Decreased number of sick leaves Decreased staff turnover rates	Residents: Improved care and satisfaction Decreased medical costs Improved quality of life



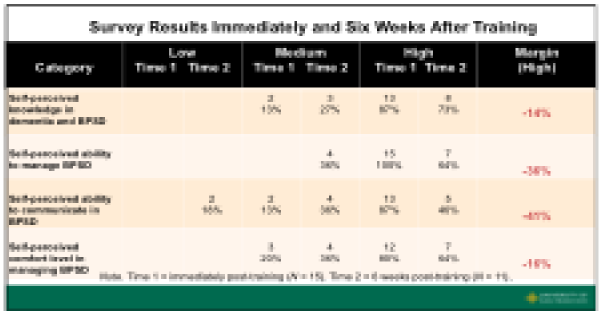
Methods of Evaluation

Category	Pre-Training	Immediately Post-Training	Six Weeks Post-Training
Self-perceived knowledge on dementia and BPSD	Survey/ Questionnaire	Survey questionnaire	Survey questionnaire Interview
Self-perceived ability to manage BPSD		Survey questionnaire Competency checklist	Survey questionnaire Interview BDF Feedback from IPC
Self-perceived ability to communicate effectively BPSD to IPC		Survey questionnaire Behavior document flow sheet	Survey questionnaire Interview BDF Feedback from IPC
Self-perceived comfort level in managing BPSD		Survey questionnaire	Survey questionnaire and interview
Satisfaction with training curriculum			
Usefulness of training to job performance			



Survey Results Before and Immediately After Training

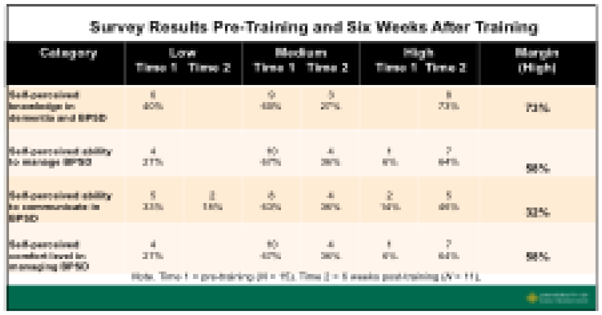
Category N = 15	Low		Medium		High		Margin
	Pre	Post	Pre	Post	Pre	Post	(High)
Self-perceived knowledge in dementia and BPSD	6 40%		9 60%	2 13%		13 87%	87%
Self-perceived ability to manage BPSD	4 27%		10 67%		1 6%	15 100%	94%
Self-perceived ability to communicate in BPSD	5 33%		8 53%	2 13%	2 13%	13 87%	73%
Self-perceived comfort level in managing BPSD	4 27%		10 67%	3 20%	1 6%	12 80%	74%



Survey Results Immediately and Six Weeks After Training

Category	Low		Medium		High		Margin
	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2	(High)
Self-perceived knowledge in dementia and BPSD			2 13%	3 27%	13 87%	8 73%	-14%
Self-perceived ability to manage BPSD				4 36%	15 100%	7 64%	-36%
Self-perceived ability to communicate in BPSD		2 18%	2 13%	4 36%	13 87%	5 46%	-41%
Self-perceived comfort level in managing BPSD			3 20%	4 36%	12 80%	7 64%	-16%

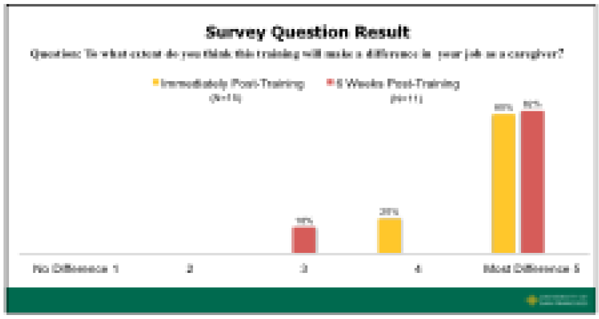
Note. Time 1 = immediately post-training (*N* = 15). Time 2 = 6 weeks post-training (*N* = 11).



Survey Results Pre-Training and Six Weeks After Training

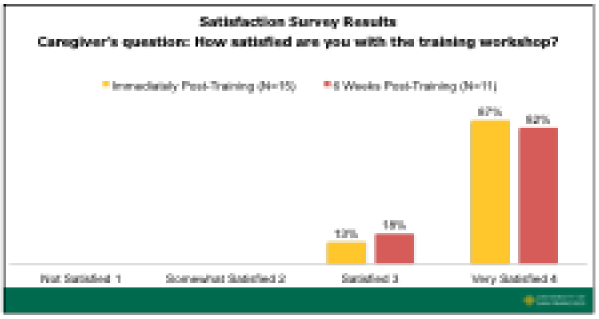
Category	Low		Medium		High		Margin
	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2	(High)
Self-perceived knowledge in dementia and BPSD	6 40%		9 60%	3 27%		8 73%	73%
Self-perceived ability to manage BPSD	4 27%		10 67%	4 36%	1 6%	7 64%	58%
Self-perceived ability to communicate in BPSD	5 33%	2 18%	8 53%	4 36%	2 14%	5 46%	32%
Self-perceived comfort level in managing BPSD	4 27%		10 67%	4 36%	1 6%	7 64%	58%

Note. Time 1 = pre-training (*N* = 15). Time 2 = 6 weeks post-training (*N* = 11).



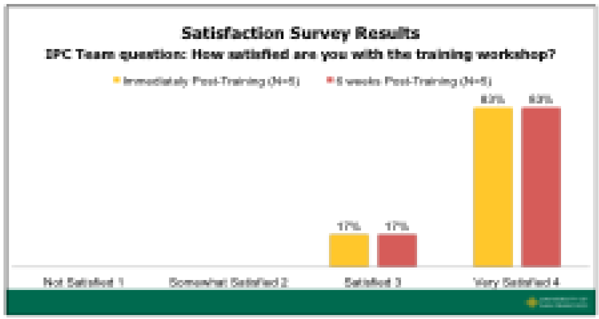
Survey Question Result

Question: To what extent do you think this training will make a difference in your job as a caregiver?



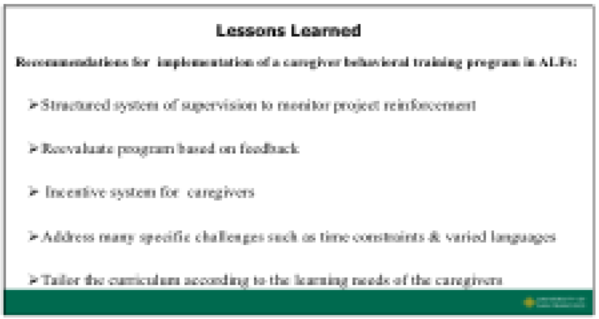
Satisfaction Survey Results

Caregiver's question: How satisfied are you with the training workshop?



Satisfaction Survey Results

IPC Team question: How satisfied are you with the training workshop?



Lessons Learned

Recommendations for implementation of a caregiver behavioral training program in ALFs:

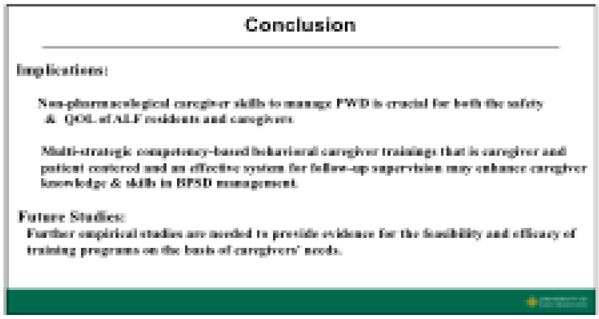
➢ Structured system of supervision to monitor project reinforcement

➢ Reevaluate program based on feedback

➢ Incentive system for caregivers

➢ Address many specific challenges such as time constraints & varied languages

➢ Tailor the curriculum according to the learning needs of the caregivers



Conclusion

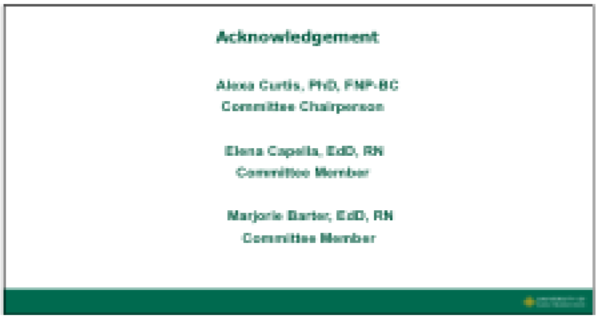
Implications:

Non-pharmacological caregiver skills to manage PWD is crucial for both the safety & QOL of ALF residents and caregivers.

Multi-strategic competency-based behavioral caregiver trainings that is caregiver and patient centered and an effective system for follow-up supervision may enhance caregiver knowledge & skills in BPSD management.

Future Studies:

Further empirical studies are needed to provide evidence for the feasibility and efficacy of training programs on the basis of caregivers' needs.



Acknowledgement

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References

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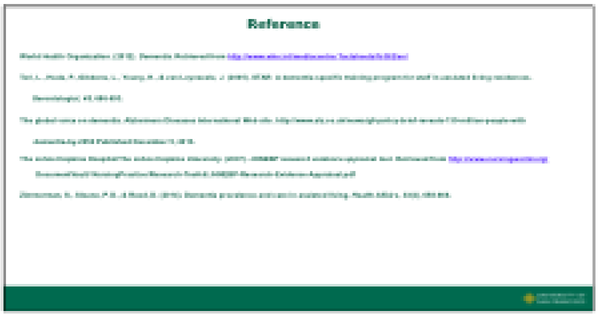

Reference