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CLINICAL COMMENTS

The Use of Problem-Solving Therapy and Restraint-Free Environment for the Management of Depression and Agitation in Long-Term Care

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We demonstrate the use of behavioral techniques with older adults in long-term care settings, using two case examples. Ms. N is an 81-year-old woman with mild cognitive impairment who attended 12 sessions of problem-solving therapy for ongoing depression. Her Montgomery Asberg Depression Rating Scale score of 30 (moderate levels of depression) decreased to 6 (not depressed) following treatment. Mr. K is a 77-year-old male with moderate to severe Alzheimer's disease who was referred for treatment of behavioral problems. Following 10 weeks of restraint free environment, his Cohen Mansfield Agitation Inventory score declined from 60 (moderate behavioral problems) to 38 (minimal problem behaviors), indicating a significant reduction in agitation. Through these two cases, we provide a description of

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behavioral interventions for the treatment of depression and behavioral problems in long-term care settings.

KEYWORDS *long-term care, agitation, depression, behavioral interventions, dissemination, problem solving therapy, restraint free environment*

INTRODUCTION

Almost half of all women who reached 65 years of age after 1990 will enter a long-term care setting (LTC) at some point (Murtaugh, et al., 1990). Over 50% of these LTC residents present with dementia (Krauss and Altman, 1998), and as many as 19% have mild cognitive impairment (Unverzagt et al., 2001), a condition which is characterized by a milder yet noticeable deterioration in cognitive functioning.

Depression is a common co-occurrence in persons with mild cognitive impairment (Lyketsos et al., 2002). A small number of studies support the efficacy of antidepressant medications for individuals with cognitive impairment and depression (Swartz, Barak, Mirecki, Simona, & Weizman, 2000). Antidepressant medications are an effective first line treatment for late life depression, although there is only preliminary evidence of their effectiveness with cognitively impaired, depressed older adults (Swartz et al., 2000). However, there also is preliminary evidence for the effectiveness and acceptance of nonpharmacological interventions, such as problem solving for depression in milder forms of cognitive impairment (Alexopoulos, Raue, & Areán, 2003). Given that 33% of pharmacological trial participants discontinued treatment due to side-effects (Taragano, Lyketsos, Mangone, Allegri, & Comesaña-Díaz, 1997), nonpharmacological interventions are a particularly attractive option. Unfortunately, there is a plethora of research demonstrating that LTC staff often fails to recognize depression and, as a result, fails to refer depressed residents for appropriate depression treatment (Bagley et al., 2000; Boyle et al., 2004; Burrows, Satlin, Salzman, Nobel, & Lipsitz, 1995). Even when depression treatment is initiated, it often is inadequate for the specific needs of LTC residents who tend to present with complex medical conditions and neuropsychiatric symptoms (Brown, Lapane, & Luisi, 2002).

Depression and other neuropsychiatric symptoms (e.g., agitation, aggression, delusions, and hallucinations) also are common manifestations in residents with dementia. Research has shown that as many as 75% of patients with dementia present with at least one neuropsychiatric symptom, with apathy, depression, and agitation being the most common accompanying symptoms (Lyketsos et al., 2002). These symptoms have been associated with many negative consequences, including staff caregivers'

burnout and turnover, dementia caregivers' morbidity, increased health care costs, and increased institutionalization of patients with dementia (Modrego & Ferrandez, 2004; O'Connor & Vallerand, 1998). A recent review concluded that pharmacological therapies for the management of neuropsychiatric symptoms of dementia are not particularly effective (Sink, Holden, & Yaffe, 2005). Furthermore, the FDA recently issued a 'black box' warning against the use of atypical antipsychotics in the management of neuropsychiatric symptoms (FDA Public Health Advisory, 2005). In contrast, there is preliminary evidence for the effectiveness of nonpharmacological interventions in the management of neuropsychiatric symptoms in LTC dementia residents (Camp, Cohen-Mansfield, Capezuti, 2002; Ayalon, Gum, Feliciani, Arean, 2006). Thus, current guidelines emphasize that medication should be viewed as a last resort, encouraging the use of nonpharmacological interventions as first-line strategies for managing neuropsychiatric symptoms in this population (National Long-term Care Ombudsman Resource Center, 2001).

Nonpharmacological interventions in LTC fall into four broad categories: (a) *unmet needs interventions*, which assume that the disruptive behaviors communicate an underlying need, such as the need for socialization (e.g., dementia patient engages in repetitive vocalizations for auditory socialization), pain reduction, and stimulation; (b) *learning/behavioral interventions*, which view environmental reinforcements and punishments as responsible for the initiation and maintenance of disruptive behaviors (e.g., dementia patient learns that he can get attention by screaming). These interventions often involve the training of formal and informal caregivers; (c) *environmental vulnerability/reduced stress-threshold interventions* that assume a mismatch between the person's environment and their abilities to cope with the situation, and thus, patients with dementia overreact to their environments (e.g., dementia patient becomes agitated by too much noise); and (d) *social engagement interventions*, which are geared primarily toward persons with depression and assume that by increasing participation in social activities one can overcome depression (Cohen Mansfield, 2001; Teri, McKenzie, LaFazia, 2005).

The Senior Behavioral Health Service (SBHS) Project is a demonstration project funded by the Substance Abuse and Mental Health Services Administration (SAMHSA) for the purpose of dissemination of evidence-based practices for the treatment of depression and agitation in LTC facilities. The project was developed based on the chronic disease management model that advocates: (a) provider training in the recognition and management of the disorder, (b) consumer and family education, (c) improved coordination of care, and (d) better access to specialty services. A care manager is the most central component of this model. This person coordinates assessment and treatment and provides ongoing treatment monitoring (Wagner, 2000).

Using a collaborative care model, the project implements two non-pharmacological evidence-based practices. First, we use problem-solving

therapy (PST), which is a learning/behavioral intervention based on the assumption that depression is mediated by problem solving difficulties (Nezu, Nezu, & Perri, 1988). Thus, better problem-solving ability is expected to result in lower levels of depression. PST employs a teaching modality to improve the problem-solving skills of the depressed individual. Because of its emphasis on behavioral activation, and increased communication and socialization, PST has been suggested as a potentially effective treatment for depressed older adults with mild cognitive impairment; preliminary research supports this hypothesis (Alexopolous et al., 2003). Second, a 'restraint free environment' (RFE) is utilized for the management of agitation. Following a learning/behavioral rationale (Kazdin, 1982), this intervention views agitation as a learned response in people with dementia. The purpose of the behavior informs the treatment, which is based on environmental changes (Fisher, Harsin, & Hadden, 2000).

The first step of the SBHS project is to provide training to caregiving staff and administrators in: (a) fundamental aspects of depression and dementia in LTC, (b) introduction to behavioral/learning approaches to behavior change, and (c) implementation of PST and RFE principles. Training occurs weekly over a period of 4 to 6 weeks. Training is then followed by individualized consultation and direct care provided by clinical social workers that serve as care managers.

In this paper, we provide a detailed discussion of two case examples that demonstrate the rationale for and use of these evidence-based practices in LTC settings.

METHODS

The Senior Behavioral Health Services Project (SBHS)

The SBHS project is coordinated by an interdisciplinary team of clinical geropsychologists, social workers, and a geriatric psychiatrist. To increase collaboration between the long-term care facility (where the project takes place) and the university (the bearer of the knowledge of evidence based practices), care managers (social workers) are drawn from both settings and are housed in both settings. The care managers facilitate a collaborative care approach by involving primary care providers, family members, professional caregivers and other health care providers in the care of the resident. The care managers have two major roles: (a) to provide direct depression and agitation management services to residents, and (b) to provide training, consultation, and coordination of care between staff members. Referrals to the SBHS project are made through facility staff, family caregivers, and the residents themselves, when possible.

All residents who are referred to the program undergo a brief functional assessment. The assessment includes: (a) the Mini Mental Status Exam (MMSE), a commonly used brief screening instrument for the assessment of cognitive impairment (Folstein, Folstein, & McHugh, 1975); (b) the Montgomery

Asberg Depression Rating Scale (MADRS), a commonly used depression screen, completed by caregiver's report and clinical interview and observation (Montgomery & Asberg, 1979). This measure has the advantage of relying on informant reports and, thus, can be used with noncommunicative individuals; and (c) the Katz-ADL Scale to assesses the ability to perform basic every day tasks necessary for survival, such as eating or moving (i.e., activities of daily living; ADL). This measure is completed based on a caregiver's report (Katz, Ford, Moskowitz, Jackson, & Jaffe, 1963). In the current study, we elected to use the MADRS with higher-functioning individuals as well in order to enhance the consistency of measures within the overall evaluation of the SBHS program.

In SBHS, several other measures are collected on an as needed basis, when a resident is referred for behavioral management: (a) the Cohen Mansfield Agitation Inventory (CMAI) relies on informant reports to assess frequency and intensity of agitated behavior in older adults (range, 36 to 252 points; higher scores indicate greater agitation) (Cohen-Mansfield, Marx, & Rosenthal, 1989); (b) the Motivation Assessment Scale (MAS) asks questions about the likelihood of a problematic behavior occurring under various circumstances to identify potential reasons (antecedents and consequences) for the behavior (Durrand & Crimius, 1992); (c) the Reinforcer Assessment for Individuals with Severe Disabilities (RAIS-D) is a structured interview completed by a caregiver to identify potentially reinforcing activities and objects for a person with severe disabilities (Fisher et al., 1996); and (d) the Pleasant Event Schedule (PES), a list of potentially pleasant activities that the individual rates for frequency of engaging in the activity and degree of enjoyment (Teri & Lewinsohn, 1982).

Problem Solving Therapy for Depression in Residential Settings: The Case of Ms. N

IDENTIFYING INFORMATION

Ms. N is an 81-year-old, widowed, Caucasian woman, with a recent above-the-knee amputation of the left leg, due to an unresolved infection. Ms. N moved from her home to an independent living residential hotel for the elderly three years ago due to mobility and basic ADL impairments, secondary to her amputation. She self-referred for treatment, responding to a flyer offering treatment for depressed older-adults. At baseline intake assessment, she had moderate depression on a clinician rated depression scale (MADRS = 30 of 60 points) and met DSM-IV criteria for Major Depressive Episode, based on clinical interview with the care manager. She acknowledged having some deterioration in cognitive functioning and demonstrated mild cognitive impairment on the MMSE (26 of 30 points), but it was determined that she had sufficient capacity to participate in PST.

RELEVANT HISTORY

Ms. N reported that she had suffered from depressive symptoms throughout her adulthood. Her psychosocial history indicated that she might have had a longstanding Dysthymic Disorder with intermittent periods of Major Depressive Episodes. She initially characterized these episodes as mild to moderate in severity and denied extreme or prolonged difficulties with occupational or relational functioning, though towards the end of treatment Ms. N reported that she had had at least two psychiatric hospitalizations in her early twenties. At the time of referral, Ms. N was not receiving any treatment for depressive symptoms. However, she was on extensive medications for chronic pain related to both temporomandibular joint (TMJ; jaw) pain and her recent amputation.

INTERVENTION

Following the evaluation, Ms. N met with a clinician trained in PST who initiated a 12-week course of weekly PST. The PST course is designed to teach the patient to systematically use problem solving skills to identify, evaluate and eventually solve his or her everyday problems. This is done through the use of five easy-to-implement problem-solving steps: (a) *problem orientation*—in which the patient learns to identify existing problems in a variety of domains including finances, health, social support, etc.; (b) *problem definition*—in which the patient learns to use concrete and measurable terms to define the problem, what would constitute an acceptable change, and obstacles for problem resolution; (c) *brainstorming*—at this stage, the patient learns creative ways for thinking about the problem without using premature judgment; (d) *decision making*—this step involves using a systematic approach for evaluation of the proposed solutions and developing a detailed plan for implementing the selected solution; (e) *solution implementation and verification*—in which the patient follows a detailed plan in an attempt to resolve the problem following the solution decided on in stage four. Following the implementation stage, the patient evaluates the effectiveness of the attempt to resolve his or her problems. If the problem is not resolved, the patient repeats the detailed problem-solving cycle. All steps are reviewed on a weekly basis. Sessions are accompanied by detailed patient information handouts as well as homework assignments.

In the first step of therapy, Ms. N was encouraged to write down a list of concrete problems. She identified several problems that were classified into one of two categories: interpersonal relationships and health problems. The first category included problems that were socially relevant, such as feeling isolated from others, perceptions that others did not want to interact with her, being embarrassed that her living space was not acceptable for

entertaining others, and feeling that she burdened others (specifically family members). The second category included problems relevant to her health status and chronic pain. These included concerns about physical dependence on pain medication, conveying and obtaining information from her medical providers, caring for the wound from her recent amputation, and increased difficulty with instrumental activities of daily living.

During the course of therapy, Ms. N addressed several of her problems in both domains. One example of a successful use of the PST model can be seen in Ms. N's progress from globally defining her problems as having "social difficulties" to using more concrete and observable terms to defining her problems as "feeling awkward and uncomfortable during mealtimes in the common dining area when approaching others to join." After the brainstorming stage, in which she generated a list of possible alternatives, Ms. N chose a very simple solution of arriving to the mealtimes early, so that she was among the first to sit, and others could join her. Ms. N reported that her social interactions during mealtimes became quite rewarding and that she felt less anticipatory anxiety about approaching others. She also made fewer attributions about how others are negatively evaluating her.

OUTCOME DATA

Data over 12 sessions of PST treatment show a steady decrease in MADRS score (Figure 1). A spike in the MADRS score was reflected from session 8 to 9 of treatment, which corresponded to a 3-week break in treatment due to clinician and client vacations. The qualitative classification of depression level, which was "moderate" at baseline, hovered between "mild" to "not

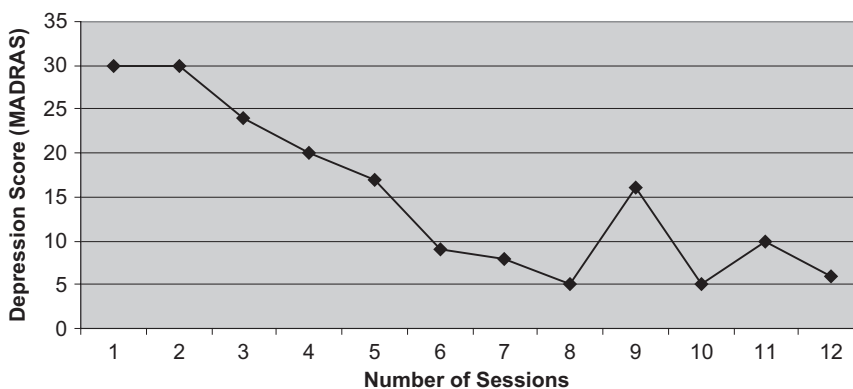


FIGURE 1 Ms. N's Reduction in Depressive Symptoms based on the Montgomery Depression Rating Scale following a 12-week course of Problem Solving Therapy.

Note: MADRAS Depression Score of 35 and higher indicates severe depression, a MADRAS score ≤ 11 remission.

depressed” at the end of treatment. Although Ms. N still reported some depressive symptoms, including difficulty sleeping and fluctuations in mood related to pain, she reported that her mood had improved and that she was enjoying social activities.

Creating a Restraint-Free Environment in a Residential Care Setting: The Case of Mr. K

IDENTIFYING INFORMATION

Mr. K is a 77-year-old Caucasian man with probable senile dementia of the Alzheimer's type (SDAT). Reportedly, his cognitive deterioration began six years prior to referral for treatment of wandering, jiggling doorknobs (to the point of needing replacement), and taking personal property of other residents. He was in the severe stages of the disease when he was referred by staff and his family caregiver (his ex-wife). At baseline evaluation, Mr. K had an MMSE score of 0 of 30 points (he was nonverbal), a CMAI score of 61, and a Katz IADL score of 6 of 6 points (complete dependence).

RELEVANT HISTORY

Because Mr. K was nonverbal, history was gathered from his medical record and family reports. Mr. K had a very successful professional career for which he won several awards. Mr. K and his wife divorced in the early 1980s, but remained in close supportive contact. Mr. K was hospitalized in a psychiatric unit for “agitated behavior and aggression” in 2000, after which he was diagnosed with Alzheimer's disease and moved to a board-and-care home. His ex-wife has remained his conservator and durable power of attorney.

INTERVENTION

Although Mr. K's behavior is the focus of the RFE treatment, the intervention itself was made at three levels: with the patient himself; with his family (in this case, his family caregiver); and with the staff that provide his day-to-day care at the facility. This multipronged approach incorporated training, assessment, and multidisciplinary collaboration, and is an important aspect of the treatment.

In accordance with the RFE model, the first step in designing an environmental intervention was a comprehensive behavioral analysis. The care manager, in collaboration with staff, used direct observation and the MAS and determined that Mr. K's behaviors tended to occur during episodes of quiet time when he was not engaged in any interaction for a prolonged period. The second step involved an identification of positive stimuli that

are reinforcing for the resident. Using the PES with the caregiving staff, the RAIS-D with Mr. K's ex-wife, and a formal preference assessment procedure with the resident, the clinician determined objects and activities that were most reinforcing for Mr. K. Such objects and activities were ranked by strength of preference, and included classical music, objects that were fuzzy and otherwise pleasant to touch, and colorful clothing. It is important to note that the interview with the patient's ex-wife/surrogate decision-maker had a dual purpose. It was a method of assessing the patient's preferences, but it also served as an assessment of her concerns related to Mr. K's care needs. It became evident that she held concerns about when it would be appropriate to move Mr. K to a higher level of care. As a result, case management, including provision of educational materials, information on skilled nursing, and feedback from the assessment to both staff and Mr. K's ex-wife regarding Mr. K's current care needs were provided. Staff were instructed to present preferred objects, turn on music, and initiate interaction with Mr. K that included touch during particularly quiet periods of the day or when he appeared to be "under" stimulated, optimally before he became restless or began wandering.

An additional aspect of the intervention, which was unanticipated, was the extent to which the patient's family caregiver (ex-wife), ostensibly as part of the collaborative care model, utilized the clinician in both a case-management and a supportive capacity. The clinician determined, through collateral contact with the family caregiver, that she felt anxious and worried about Mr. K's progressively steep decline and had worried for some time that he needed to move to a higher level of care. The clinician helped the family caregiver to initiate inquiries into skilled nursing facilities, provided information, and facilitated discussion between the family caregiver, the professional caregivers, and the facility administrator. This "unanticipated" intervention occurred in concert with the RFE intervention that addressed Mr. K's specific behaviors. Ultimately, Mr. K's family caregiver decided to move him from a small board-and-care facility to a skilled nursing facility. Although the SBHS program was not available in the new facility, the clinician wrote a consultation report describing the recent treatment, and made a final visit to assess the patient, provide any necessary follow-up consultation to the new caregivers, and to address any outstanding concerns with Mr. K's ex-wife.

OUTCOME DATA

Mr. K showed a steady decrease in agitation over a brief 10-week intervention (Figure 2). Mr. K's baseline score represents the presence of both target behaviors at moderate frequency and severity. The follow up scores indicate a decrease in both frequency and severity of the target behaviors to the

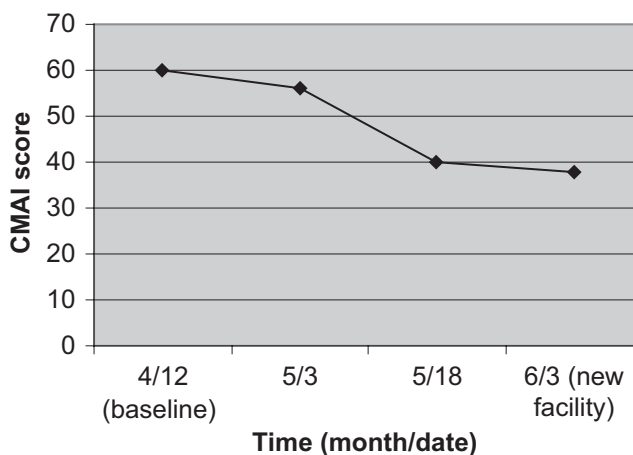


FIGURE 2 Mr. K's agitation level based on the Cohen Mansfield Agitation Inventory over a 10-week course of Restrain-Free Environment Intervention.

Note: CMAI scores range between 36 to 252, with higher scores representing greater behavioral problems.

extent that they are only slightly above the measurement floor of 36. Consistent with the principles of the RFE model, these behaviors were not entirely extinguished. The loss of behavioral repertoire is insidious in progressive dementing illnesses. Thus, the goal of the treatment was to decrease Mr. K's need for these behaviors, but not to eliminate them.

Other indirect outcomes of this intervention included a decrease in family-caregiver related stress and anxiety as reported by Mr. K's ex-wife who is his surrogate decision-maker. She reported that her interaction with the SBHS clinician helped her to feel informed and to make a difficult and much-anticipated decision about her ex-husband's care. The simultaneous use of a collaborative care model (Wagner, 2000) throughout treatment helped to facilitate smooth into a higher level of care transition for both the patient and his family caregiver and promoted clear communication between professional staffs, as well as between staff and the patient's surrogate decision-maker.

Finally, the staff involved in Mr. K's care reported consistent success in using the RFE techniques that were customized for this resident. In addition to reporting a noticeable difference in the intensity of the target behaviors (as reflected by the CMAI), staff also reported that they felt more effective in working with Mr. K. They felt that the interactions they initiated based on the preference assessment techniques were pleasant to engage in with the patient, and noticeably brightened his affect. Staff reported that these interactions were more rewarding and less difficult than efforts to redirect Mr. K from wandering and restlessness once the behavior had occurred.

DISCUSSION

Following current guidelines that emphasize medication as a last resort and that encourage the use of nonpharmacological interventions as first-line strategies for managing neuropsychiatric symptoms (National Long-term Care Ombudsman Resource Center, 2001), the present paper describes the application of behavioral interventions for the treatment of depression and agitation in LTC settings. Given that one in every two American women will reside in a LTC setting during her lifetime and that depression and agitation are the most common conditions in patients with cognitive impairment and dementia, there is an increasing need to identify and implement effective interventions to improve the quality of life of LTC residents, their family members, and formal caregivers. Our findings provide preliminary information about the effectiveness and dissemination of PST and RFE with older adults in long-term care. Both interventions were implemented quite easily within the LTC environment. Conducting these interventions directly at LTC settings rather than at mental health clinics has several advantages. First, this allows for direct observation and evaluation of problem behaviors and situations in the natural environment in which they usually occur. Second, input from staff members involved in patient care is more easily gathered. Last, because the intervention is implemented in residents' natural environment, its effects are expected to generalize and to be maintained more efficiently.

A collaborative care model is particularly important in the case of LTC residents, because so many different entities are involved in the care of the resident. Thus, a care manager who integrates the care and provides information and support services to all individuals involved is most essential. Although the integration of mental health in LTC facilities has not been studied extensively, our experience has shown that in the absence of such collaboration, the implementation of the model cannot take place. The nature of the LTC environment requires the presence of several factors for a successful implementation of the interventions. First, given the team approach to the care of the individual in LTC settings, care managers play a major role in this model and must possess excellent clinical skills and a thorough knowledge of geriatric mental health in addition to being good team players that are willing to collaborate in the care with staff caregiving, family members, family physicians, and administrators. Second, facilities may vary in their preparedness to implement this type of model. Openness to obtaining new information and changing existing practices varies across facilities. One way to overcome facilities' barriers to change is the inclusion of a facility clinician in the care managers' team. This allows for easier transfer of information and implementation of knowledge. It also is important to socialize facility administrators into the model in order to obtain institutional commitment. Third, the identification of cases through referrals poses a particular problem because not all problems carry similar significance to

potential referral sources. Our experience has shown that the majority of staff referrals identified problem behaviors as the target for intervention, while residents' self-referrals identified depression as a problem. Given the role of staff as the primary gatekeeper for further evaluation and treatment initiation, it is important to educate staff members about signs and symptoms of both agitation and depression as well as about potential treatments for these conditions. Last, consistent with our observations, research has demonstrated the importance of an individualized approach for the management of these conditions (Cohen-Mansfield & Mintzer, 2005). Thus, a one-size-fits-all approach is not feasible and clinicians need to be creative and thoughtful when working with this patient population. The collaborative care model emphasizes an individualized approach, and both PST and RFE involve a personalized assessment and approach to the resident's problems and symptoms. Overcoming these challenges can lead to meaningful improvements in quality of life for residents, family, and staff caregivers.

In this paper, we provide an in-depth description of the application of PST for depression and RFE for neuropsychiatric symptoms of dementia in two LTC residents. In both cases, the interventions resulted in improvements in symptoms and behavior. These are only two cases, however, with no control conditions. It is possible that the improvement in depression was due to other factors, such as spontaneous remission. We are now in the process of conducting a systematic program evaluation with all LTC residents and staff involved in the SBHS program. This evaluation, as well as future controlled research on these interventions in LTC settings, are greatly needed to strengthen the evidence for these interventions in LTC settings, particularly with culturally diverse groups of older adults. The study also is limited by the fact that Ms. N was relatively intact cognitively and, thus, further research applying PST with more cognitively impaired individuals is much needed. Nevertheless, this paper provides initial evidence for the effectiveness and acceptability of nonpharmacological interventions in the management of depression and agitation in LTC.

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