Disruptive Behaviors in Nursing Home Residents with Dementia: Management Approaches

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ABSTRACT
• Objective: To review the types, consequences, and management of disruptive behaviors in nursing home (NH) residents with dementia.
• Methods: Review of the literature.
• Results: Pain and cognitive impairment are significant risk factors for disruptive behaviors such as wandering, aggression, and agitation, which are common in NH residents with dementia. These behaviors can have negative outcomes on patient health, including injury, hospitalization, and reduced quality of life, and may also contribute to staff stress and burnout. The 3 main management strategies reported in the literature—physical restraints and pharmacological and nonpharmacological interventions—can reduce disruptive behaviors. Physical restraints are associated with many adverse side effects, and nonpharmacological interventions are generally recommended prior to initiating pharmacological approaches. Recent intervention studies report that systematic pain management can reduce disruptive behaviors.
• Conclusions: Although no intervention exists that is universally effective, typically nonpharmacological interventions are preferred to pharmacological ones, which can have adverse effects in patients.

In the United States there are 16,000 nursing homes (NHs), with 1.7 million beds and 1.4 million residents [1]. Most NH residents are over 65 years of age; 70% are female, 85% are Caucasian, and 50% are widowed. The most common residence before NH admission is an acute care hospital [2]. Nearly 14% of older adults aged 85 years or over in the United States live in a NH [3].

More than half of NH residents are affected by dementia, a syndrome of several progressive disorders that erases memory and alters a person’s usual way of interacting with the world [4,5]. NH residents with dementia experience more decline in ability to perform daily activities than cognitively intact residents and are dependent on NH staff for assistance with these activities [6,7]. Consequently, annual health care costs for NH residents with dementia are much higher that those for residents who are cognitively intact ($71,917 vs. $14,452). One reason for these increased costs is residents with dementia are more likely to exhibit disruptive behaviors [8,9]. These behaviors, also known as “problematic behaviors,” “disturbing behaviors,” or “challenging behaviors,” refer to inappropriate, repetitive, or dangerous behaviors that are disruptive to living and working in the NH environment [10,11]. Disruptive behaviors that accompany the cognitive and functional decline seen with dementia syndromes are common, distressing, and troublesome to NH staff and other residents [12,13]. In this review, we will discuss the types, risk factors, and consequences of disruptive behaviors as well as approaches for prevention and management.

CASE STUDY
Initial Presentation
An 88-year-old female nursing home resident has been exhibiting disruptive behavior associated with her daily shower.

History
She has lived in the nursing home for 3 years. Her husband passed away about 10 years ago. She has advanced dementia and barely communicates verbally. She requires help with most activities of daily living and spends a good part of each day rolling herself through the facility in her wheelchair. She has severe arthritis in left knee for which she receives corti-
sone injections every 3 months and is given acetaminophen 325 mg orally every 4 to 6 hours when required. About 2 months after her most recent injection, she was frequently upset during and after shower time. Yesterday, she grimaced and moaned during her shower, and after her shower she began pushing staff away, cursing at other residents, and throwing objects at staff.

- **What are the most common disruptive behaviors exhibited in residents with dementia?**

Wandering, aggressive, and agitated behaviors are the 3 most common types of disruptive behaviors, and they occur in approximately 40% or more of residents with dementia [14,15]. Other disruptive behaviors include repetitive vocalization, sexual disinhibition, delusions, and hallucinations, but these occur in only 9% to 20% of the NH resident population [16–18].

**Wandering**

The most common type of locomotive disruptive behavior, wandering, is defined as “a syndrome of dementia-related, locomotive behavior of a frequent, repetitive, temporally disordered and/or spatially disoriented nature that is manifested in lapping, random, and/or pacing patterns, some of which are associated with eloping, elopement attempts, or getting lost unless accompanied” [19]. Many researchers consider wandering behavior to be either a purposeful expression of adaptive responses or a coping strategy to deal with the effects of dementia [19,20]. Using data from 5,776 Medicare patients enrolled in the Medicare Alzheimer’s Disease Demonstration and Evaluation study, Sink and colleagues [21] found that wandering was exhibited in 67% of patients. These findings were corroborated by the Alzheimer’s Association [22], which reported that approximately 60% of individuals with dementia exhibited wandering behaviors.

**Aggression**

The most common type of non-locomotive, disruptive behavior—aggression—is defined as an overt act involving the delivery of noxious stimuli to (but not necessarily aimed at) another organism, object, or self that is clearly not accidental and includes physically or verbally abusive behaviors and threatening behaviors [23]. In NH patients with dementia, aggression is often an adaptive, violent, or functional reaction that manifests as verbal or physical abuse toward staff or caregivers. Although verbal abuse can include cursing, threats, and disruptive vocalizations that are difficult to tolerate, physical abuse can result in physical damage from a patient who is willing to hit, grab, kick, bite, push, scratch, or throw objects at a caregiver. Indeed, studies have revealed that far from being a rare event, aggression is a frequent occurrence: Rodaty and colleagues [24] reported that aggression occurred in 82% of 647 residents in 11 NHs, and Schreiner [25] reported that approximately 50% of 391 elderly NH residents with dementia manifested aggressive behavior during the 2-week study period.

**Agitation**

Another common type of disruptive behavior, agitation, is defined as an unpleasant state of excitement of an excessive, inappropriate, repetitive, nonspecific, and observable nature experienced by NH residents with dementia [26]. Patients who are agitated often exhibit 1 or more of the following symptoms: irritability, restlessness, frustration, excessive anger, constant demands for attention and reassurance, repeated physical movements or questions, and inappropriate/excessive motor or vocal activities. Agitation is common and occurs in an estimated 48% to 83% of NH residents. For example, Suh [27] found that 83% of 257 elderly NH residents with dementia manifested agitated behaviors at least once a week, and this finding was corroborated by Ballad and colleagues [28], who reported that 55% of 136 elderly NH residents with dementia demonstrated agitated behaviors.

- **What risk factors are related to disruptive behaviors?**

There are several conceptual models that can be used for describing the factors related to disruptive behaviors [29–34]. Although these models slightly differ in their descriptions and explanations of disruptive behaviors, they uniformly consider pain, cognitive and functional impairments, and sociodemographic characteristics to be patient risk factors, which are described in more detail below.

**Pain**

Research has consistently found a positive association between pain and disruptive behaviors in NH residents. For
example, using data from Minimum Data Set in the 56,577 NH residents in Florida, Ahn and Horgas [35] reported a positive association between pain and non-locomotive disruptive behaviors (odds ratio [OR], 1.04–1.17). This finding was corroborated by Norton and colleagues [9], who reported that weekly resident pain intensity was significantly associated with the frequency of disruptive behaviors ($\beta = 0.183$, $P = 0.04$). Morgan and colleagues [36] found that the worst pain intensity ratings increased the risk of aggression in 171 persons with dementia. Voyer and colleagues [42] reported that severely cognitively impaired residents manifested more agitation than the moderately impaired group. Voyer and colleagues [42] reported that severely cognitively impaired residents were twice as likely to wander compared to NH residents who required no assistance (OR = 2.36, 95% CI 1.78–3.14); this study included 15,092 residents with moderate or severe cognitive impairment who lived among 134 NH facilities. Similarly, Cohen-Mansfield and Libin [46] reported that ADL impairment was positively correlated with verbal agitation ($r = 0.234$, $P = 0.001$) in 175 elderly who lived among 11 NHs. Finally, Menon and colleagues [47] reported that physically aggressive behaviors increased in proportion to limitations in physical functioning in 1101 residents with dementia who lived among 59 NHs.

In contrast, Zeisel and colleagues [48] reported that a resident having problems performing ADLs were more likely to have a lower aggression score on the Cohen-Mansfield scale using data from 427 residents. In a study involving 169 residents from 10 NHs, Norton and colleagues [9] reported that residents who were more impaired in ADL performance showed higher levels of disruptive behaviors. Sconfeld and colleagues [40] reported that severely cognitively impaired NH residents were twice as likely to wander compared with NH residents with moderate cognitive impairments (OR, 2.33, 95% CI = 1.95–2.78); this study included 15,092 residents with moderate or severe cognitive impairment who lived among the 134 NH facilities operated by the Department of Veterans Affairs. In a study using 78 residents from 5 NHs, Burgio and colleagues [41] reported that severely cognitively impaired residents manifested more agitation than the moderately impaired group. Voyer and colleagues [42] reported that residents with mild to moderate and severe cognitive impairment were more likely to display aggressive behaviors than cognitively intact cohorts (OR = 2.87 and 3.77, respectively); in this study, they used data collected from 2332 older adults living in long-term care facilities. In a study using data from 123 residents from 5 NHs, Vance and colleagues [43] reported that severe cognitive impairment was associated with heightened agitation in residents. Matsuoka and colleagues [44] reported that low cognition ability, as measured by a low score on the Mini-Mental State Exam, was related to aggression; this study included 730 patients from 180 units that have specialized psychiatric beds for acute or long-term care of persons with dementia. These findings were corroborated by Song and colleagues [45], who reported that cognitive impairment, as measured by a lower Mini-Mental State Exam score, was significantly correlated with the 5 subscales of wandering, such as spatial disorientation, attention shift, negative outcomes, persistent walking, and specific patterns; this study included 160 persons with dementia who resided among 14 long-term care facilities.

**Functional Impairment**

Several studies reported that dependence on others, usually resulting from an impairment of the activities of daily living (ADLs), is positively associated with disruptive behaviors, but other studies reported the opposite relationship. Schonfeld and colleagues [40] reported that NH residents who were dependent on others for ADL were 2 times more likely to wander compared to NH residents who required no assistance (OR = 2.36, 95% CI 1.78–3.14); this study included 15,092 residents with moderate or severe cognitive impairment who lived among 134 VA NH facilities. Similarly, Cohen-Mansfield and Libin [46] reported that ADL impairment was positively correlated with verbal agitation ($r = 0.234$, $P = 0.001$) in 175 elderly who lived among 11 NHs. Finally, Menon and colleagues [47] reported that physically aggressive behaviors increased in proportion to limitations in physical functioning in 1101 residents with dementia who lived among 59 NHs.

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**Sociodemographic Factors**

Findings regarding the relationship between sociodemographic factors (eg, age and gender) and disruptive
behaviors have been inconsistent. For example, while 3 published studies [40,48,50] reported that older age was positively related to disruptive behaviors, another 3 studies [24,51,52] reported the opposite, and 1 study [53] reported that older age was entirely unrelated to disruptive behaviors. Similarly, many studies have reported that males exhibit more disruptive behaviors than females, but other studies have reported that disruptive behaviors are more common in females. In a study that used data from 2332 older adults in long-term care facilities, Voyer and colleagues [42] found that males are about 2 times more likely to display aggressive behaviors (OR = 2.13). These findings were supported by Matsuoka and colleagues [44], who reported that the male gender was significantly related to aggression; this study included 730 patients from 180 long-term care units. Using data from 427 residents in 15 Alzheimer’s special care units, Zeisel and colleagues [48] reported that male residents are more likely to show aggression than female residents. In contrast, some studies reported that the female gender is positively associated with more disruptive behaviors [43,46,54].

In summary, the literature reveals an inconsistent relationship between individual factors and disruptive behaviors, with the exception of the severity of cognitive impairment and pain, which is positively associated with disruptive behaviors. The inconsistency of the other individual factors seems to be associated with time after NH admission [55].

**What are consequences of disruptive behaviors?**

Disruptive behaviors are problematic to both residents and nursing staff because they are associated with injuries, hospitalization, or decreased health-related quality of life among NH residents with dementia [15,56,57]. They also contribute to staff stress and burnout [9,58].

**Injury**

Wandering residents can elope from the NH and get lost, enter physically unsafe areas, suffer injury, experience excessive heat or cold, drown, or be struck by a car [56]. Aud [15] reported that 62 elopement incidents in 50 NHs in Missouri between January 1999 and June 2001 were recorded at the Missouri Department of Health and Senior Services, and 30% of NH residents with dementia who eloped had fallen and were injured. Kunik and colleagues [66] found that aggressive NH residents with dementia showed an increased use of psychotropic medications (0.2 persons/year to 0.41 persons/year, P < 0.04), and a 10-fold increase in injuries (0.02 persons/year to 0.21 persons/year, P < 0.001).

**Hospitalization and Death**

Matsuoka and colleagues [44] found that wandering behaviors were strongly related to hospitalization; this study included 730 inpatients from 180 units with specialized, psychiatric beds for acute or long-term care of dementia. In addition, Suh and colleagues [59] reported that wandering individuals with dementia were about 2 times more likely to die than those who did not wander (RR = 1.89, 95% CI 1.18–3.02).

**Quality of Life**

Disruptive behaviors have been frequently associated with decreased health-related quality of life. Indeed, in a study including 119 residents at 3 NHs in Maryland, Cordner and colleagues [60] found that residents with dementia who had disruptive behaviors had lower quality of life. Wetzel and colleagues [61] also reported that agitation was a strong predictor of poor quality of life among 288 individuals with dementia who reside in 14 special care units in 9 NHs.

**Staff Stress**

Disruptive behaviors have significant clinical consequences, such as increased demands on staff resources, which can result in staff stress or burnout due to the intense staff supervision needed to prevent falls or elopement [49]. In fact, studies have shown that physical aggression, including pushing, spitting, grabbing, kicking, and hitting, are associated with staff burnout and turnover [58]. Similarly, Norton and colleagues [9] reported that certified nursing assistant burden was significantly associated with disruptive behaviors of NH residents with dementia.

**What are management approaches to disruptive behaviors?**

There are 3 major approaches to managing disruptive behaviors: physical restraint, pharmacological intervention, and nonpharmacological intervention. Physical restraints
should be used only as a last resort to ensure patient safety, and nonpharmacological interventions should be used before pharmacological interventions. Indeed, if medication is necessary, it should be used only in moderation and for a limited time due to the potential for side effects [18,62–65].

**Physical Restraint**

Physical restraints, defined as any device that inhibits mobility and is not easily removed, are still employed in many NHs despite federal regulations limiting their use [66,67]. Indeed, using data from the 2004 National Nursing Home Survey, Huabin and colleagues [68] reported that NH residents with dementia were more likely to be physically restrained than those without dementia (9.99% vs. 3.91%, P < 0.001). Bartels and colleagues [69] also reported that agitated NH residents with dementia had a high prevalence of physical restraints (29%) compared with uncomplicated NH residents with dementia (19%) in 2487 physically frail older residents from 109 long-term care facilities. Kirkevold and colleagues [70] stated that physical restraints were used on 67% of NH residents, and NH residents with dementia were more likely to be physically restrained than cognitively intact NH residents.

Indeed, studies have shown that physical restraints can lead to functional disabilities or psychological harm [71]. Restrained people often suffer from urinary incontinence and constipation, increased dependence in ADLs, and impaired muscle strength and balance. Other harms associated with restraint use are bruises, contractures, cardiac stress, lower extremity edema, and injuries such as fractures and falls [72]. For example, using data from the 2004 National Nursing Home Survey, Huabin and colleagues [68] reported that the use of trunk restraints was associated with a higher risk for falls (adjusted odds ratio = 1.66, P < 0.001) and fractures (adjusted odds ratio = 2.77, P < 0.01). Psychological harm, such as increased confusion and agitation, have also been associated with physical restraints [73]. Voyer and colleagues [71] reported that residents with physical restraints were 43% more likely to manifest agitated behaviors using data from 2332 older adults in long-term care facilities.

In addition to the possibility of harm, physical restraints have raised concerns about loss of patient dignity and autonomy, which is a key element of person-centered care [74]. Personal dignity cannot be abandoned through illness or disease. This value gives rise to the ethical norm that caregivers must prioritize respect for the dignity of persons with dementia. The use of physical restraints poses a significant risk to personal dignity [72].

**Pharmacological Intervention**

Pharmacological interventions using psychoactive medications are currently used for more than half of the NH residents with dementia to manage disruptive behaviors [75,76]. Tija and colleagues [77] reported that 53% residents took at least 1 psychotropic medication daily among 323 residents with advanced dementia from 22 NHs in the Boston area. Ahn and Horgas [35] reported that approximately 70% of residents took psychotropic medications among 56,577 residents aged 65 years and older in Florida NHs in 2009.

The most common pharmacological interventions are cholinesterase inhibitors, antipsychotics, antidepressants, and mood stabilizers, but there is no standard of care for persons with dementia [18,78]. The cholinesterase inhibitors, such as donepezil, rivastigmine, and galantamine, are used to prevent disruptive behaviors. Rodda and colleagues [79] found that cholinesterase inhibitors have limited efficacy, but they can be an appropriate pharmacological intervention to manage disruptive behaviors in the absence of alternative safe and effective pharmacological options.

Antipsychotics are somewhat effective in managing disruptive behaviors, but they should be used cautiously with a close monitoring because they can develop extrapyramidal signs, sedation, increased incidence of strokes, and higher mortality rates [80,81]. Atypical antipsychotic medications (eg, clozapine, risperidone, olanzapine, quetiapine) produce fewer side effects compared to typical antipsychotics (eg, chlorpromazine, trifluoperazine, thioridazine, thiothixene, haloperidol, loxapine, and perphenazine) but are still associated with increased morbidity and mortality. A recent study by Sink and colleagues [18] found that atypical antipsychotics, especially risperidone and olanzapine, were better than other medications in managing disruptive behaviors but that they posed an increased risk of cerebrovascular events. Ballard and colleagues [82] also reported that atypical antipsychotics, particularly risperidone and olanzapine, may reduce wandering behaviors, but they have significant cardiovascular and motor side effects.

Antidepressants, such as trazodone, fluoxetine, sertraline, paroxetine, fluvoxamine, citalopram, are often used to manage disruptive behaviors [83]. However, these antidepressants can result in sedation, orthostatic hypoten-
tion. These nonpharmacological interventions have been
tions, environmental modifications, and caregiver educa
therapy, art therapy, snoezelen, activity-based interven
tia, such as reminiscence therapy, pet therapy, music
ment can reduce disruptive behaviors in NH residents with
diagnosis, and gastrointestinal side effects that include
diarrhea, and weight loss [84]. Finkel and colleagues [85]
reported that sertraline is effective in reducing disruptive
to moderate to severe dementia, but diarrhea was common
in patients who took sertra-
line. Pollock and colleagues [86] reported that patients
from citalopram manifested greater improvement in
agitated or aggressive behaviors than those receiving
placebo among 85 hospitalized persons with dementia,
but 52% of patients receiving citalopram dropped out
of the study mainly due to lack of efficacy and adverse

Mood stabilizers, such as sodium valproate, divalproex
sodium, and carbamazepine, are often used to manage
disruptive behaviors. These medications are also classi-
ced as anxiolytics or anticonvulsants. These medications
can cause sedation, nausea or vomiting, diarrhea, and
unsteady gait [84]. Porsteinsson and colleagues [87]
showed that divalproex treatment had efficacy in reduc-
ing agitation and, but had more frequent gastrointestinal
disturbances than placebo (39% adverse effects with
divalproex versus 11% with placebo, \( P = 0.03 \)) among 56
NH residents with dementia who have agitation. Olin
and colleagues [88] reported that carbamazepine was ef-
cfect in reducing aggressive behaviors in 21 persons with
dementia who had not responded to antipsychotics, but
adverse events (mostly diarrhea and vomiting) occurred
in 44% of patients taking carbamazepine.

Recently, there is growing evidence pain management
can reduce disruptive behaviors in NH residents with
dementia [89]. Husebo and colleagues [90] reported
that systematic approach to the treatment of pain reduced
agitation in 352 NH residents with dementia using clus-
ter randomized controlled trial. Elliot and Horgas [91]
reported that scheduled dosing of acetaminophen reduced
observable pain behaviors in persons with dementia.
Manfredi and colleagues [92] demonstrated that low
dose, long-acting opioid treatment reduced the frequency
of agitation in 13 NH residents with dementia who were
more than 85 years old.

### Nonpharmacological Intervention

There are several nonpharmacological interventions for
managing disruptive behaviors in NH residents with de-
mentia, such as reminiscence therapy, pet therapy, music
therapy, art therapy, snoezelen, activity-based interven-
tions, environmental modifications, and caregiver educa-
tion. These nonpharmacological interventions have been
shown to reduce disruptive behaviors and are reported
to be cost-effective [18,89,93–96]. However, these in-
terventions are often not implemented due to a variety
of factors; staff barriers such as lack of time and resident
barriers such as unwillingness to participate have been
identified [97,98].

Reminiscence therapy using memory aids, such as
pictures or diaries, is used as a nonpharmacological in-
tervention based on the assumption that remote memory
can be intact and used as a form of communication with
NH residents with dementia [99]. Baillon and colleagues
[100] reported that reminiscence therapy improved agi-
tation among 20 patients with dementia and significant
agitated behaviors. Akanuma and colleagues [101] found
that group reminiscence therapy showed behavioral im-
provement among 24 patients with vascular dementia.
Pet therapy or animal-assist therapy is used as an effec-
tive approach to manage or reduce disruptive behav-
iors by providing sensory stimulation and comfort to
persons with dementia. Moretti and colleagues [102]
reported that pet therapy can effectively reduce depres-
sive behaviors and improve cognitive functions in 21 NH
residents with dementia. As pet therapy may not always
be feasible to implement in a medical facility, Libin and
Cohen-Mansfield [103] studied the interaction of 9 NH
residents with dementia in a robotic cat and a plush toy
cat; reduced agitated behaviors were seen with both. The
benefits of robot therapy were corroborated by Shibata
[104], who found that a harp seal robot helps calm, reas-
sure, and divert the attention of agitated patients with
dementia. In addition to behavioral improvement seen,
physiological assessment using urinary hormone mea-
surement showed diminished stress reactions in patients
who interacted with the robot seal.

Music has been shown to reduce disruptive behaviors
in persons with dementia [105]. Ridder and colleagues
[106] reported that music therapy decreased agitated
behaviors and the use of psychotropic medications in 42
NH residents with dementia using randomized studies.
Hick-Moore [107] also reported that reduction in agitated
behaviors were achieved through participation in 4 weeks
of music therapy for special care unit residents. Sherratt
and colleagues [108] and Svansdottir and Snaedal [109]
also found the efficacy of music therapy. Kong and col-
leagues [110] reported that sensory interventions (ar-
motherapy, thermal bath, and calming music and hand
massage) had moderate efficacy in reducing agitation of
elders with dementia using systematic review.

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<th>Nonpharmacological Intervention</th>
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There is some evidence that art therapy, such as drawing pictures or feeling material cut into several shapes, is beneficial to reduce disruptive behaviors in persons with dementia. Mimica and Kalinic [111] reported that drawing the pictures reduced disruptive behaviors in a person with dementia using a case report. Peisah [112] reported that individualized art therapy using felt material cut into shapes and coloring with stencils and pre-drawn line drawings reduced disruptive behaviors in a NH residents with dementia.

Snoezelen, a therapy that uses multisensory stimulation with lights, sounds, scents, and music, has been shown to have relaxing effects and to reduce disruptive behaviors. Kim and colleagues [113] reported that sensory stimulation is effective in reducing disruptive behaviors using meta-analysis of 9 studies. Staal and colleagues [114] reported in a randomized controlled trial that multisensory behavioral therapy reduced agitation and apathy and improved activities of daily living in 24 patients with dementia on a geriatric psychiatric unit.

Activity-based intervention can be effective in reducing disruptive behaviors. Kolanowski and colleagues reported that activity-based interventions are effective to reduce disruptive behaviors in 128 cognitively impaired residents in 9 NHs using randomized double-blind clinical trials. Van der Ploeg and colleagues [115] reported that personalized activities improved agitation and affect in 44 residents in 9 residential facilities. Gitlin and colleagues [116] found that a tailored activity program to patient preferences reduced disruptive behaviors using randomized clinical trials.

Environmental modification, such as the use of landmarks to guide residents or visual barriers on entry into an unsafe area, can prevent disruptive behaviors [117]. Baskaya and colleagues [118] noted that landmarks, such as a large plant or a distinctive piece of furniture, are widely used in NH facilities to visually guide residents at decision points of a building and to differentiate hallways. The presence of landmarks using signs reduces confusion or agitation levels when NH residents with dementia move around. Kincaid and Peacock [119] reported that disguising an exit door with a wall mural reduced wandering behaviors in 12 NH residents with dementia.

Staff education on how to interact with persons with dementia reduces disruptive behaviors in persons with dementia. Huh and colleagues [120] reported that caregiver training in the recognition and management of behavioral symptoms of dementia reduced agitation in NH residents with dementia. Jones and colleagues [63] suggested that dementia friendly system of care supported by education can reduce agitation and aggression of older adults with dementia.

Case Follow-up

After yesterday’s episode, the staff convened and developed a plan to prevent patient injury as well as injury to other residents and staff. Staff reasoned that the patient’s arthritis pain could be contributing to her disruptive behavior. They consulted with the patient’s daughter regarding the patient’s history. They learned that the patient was a musician and a lover of Mozart. The next day, staff gave 325 mg of acetaminophen 30 minutes before she took a shower and played Mozart afterwards. The patient stayed calm both during and after her shower.

CONCLUSION

Disruptive behaviors, such as wandering, aggression, and agitation, is common among nursing home residents with dementia. Among several risk factors, the level of pain and cognitive impairment are significantly associated with these behaviors. Although no intervention exists that is universally effective, typically nonpharmacological interventions are preferred to pharmacological ones, which can have adverse effects in patients.

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