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Dementia-Specific Assisted Living: Clinical Factors and Psychotropic Medication Use

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Abstract

BACKGROUND—Assisted living (AL) is an increasingly popular long-term care alternative for older adults with dementia, making this setting an important focus for both clinical practice and research among psychiatric nurses.

OBJECTIVES—This article describes results from a pilot study focusing on residents' cognitive and emotional status as well as psychotropic drug use. Findings are compared to reports from larger studies in the literature.

STUDY DESIGN—A descriptive, correlational design was used to collect data from 17 residents in two dementia-specific AL facilities.

RESULTS—Thirty-one psychiatric diagnoses were identified for 17 participants. Anxiety and depression symptoms were endorsed by more than 50% of participants, and 88% were prescribed psychotropic medications.

CONCLUSIONS—AL residents may experience problems with cognition and emotional symptoms such as anxiety and depression, creating important roles for psychiatric nurses in staff education, promotion of nonpharmacologic interventions, and monitoring of psychotropic medication use in this growing population.

Keywords

assisted living; dementia; behavioral symptoms; psychotropic medication

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During the past decade, assisted living (AL) has become an increasingly popular alternative for older adults who are unable or unwilling to live independently but wish to avoid nursing home care. The popular notion that AL is housing with supportive services and health care (Assisted Living Federation of America, 2007) but not a level of care within the long-term care continuum (Hyde, 2004) is questionable when the frequency and severity of dementia

and other psychiatric disturbances among AL residents is considered. Recent reports indicate that as many as 68% of AL residents have dementia, another 10% have cognitive impairments that are not classifiable as dementia, and 25% have other active psychiatric disturbances such as anxiety and depressive disorders (Rosenblatt et al., 2004). Behavioral and psychological symptoms that occur in 90% of older adults with dementia at some point during the course of their illness (Haupt, Kurz, & Janner, 2000) are reported to occur in more than half of AL residents (Boustani et al., 2005). In tandem, estimates suggest that between 35% and 53% of AL residents take one or more antipsychotic, antidepressant, anxiolytic, and sedative or hypnotic medications (Boustani et al., 2005; Gruber-Baldini, Boustani, Sloane, & Zimmerman, 2004; Lakey, Gray, Sales, Sullivan, & Hedrick, 2006).

In many important respects, the care needs of persons with dementia in AL are nearly equivalent to those of persons living in nursing homes, as documented in a series of papers comparing these two long-term care alternatives (Schulz, 2005). Although nursing home care is widely viewed as being over-regulated, lack of regulatory oversight in AL has resulted in wide variations in the type and severity of impairments that are accommodated, in staff preparation and training, and in the range of supportive and personal-care services provided. Of specific relevance here, there are currently no regulations related to the use of psychotropic medications in AL, such as documenting indications for their use, periodic reviews regarding continued need, or efforts to reduce and discontinue unneeded medications (National Center for Assisted Living [NCAL], 2007). These activities, like many other services, are voluntarily provided by some AL residences but are not uniformly conducted. As a result, older adults in AL may be vulnerable to the same psychotropic prescribing practices that were observed in nursing home care before implementation of nursing home reform legislation.

The purpose of this article is to describe the level of cognitive impairment, frequency of anxiety and depression symptoms, and use of psychotropic medication among older adults living in dementia-specific AL settings. Findings from this pilot study are compared and contrasted to reports in the literature that describe older adults with dementia in AL but in which the participants' residence is not identified as dementia-specific care units (e.g., older adults with dementia living in "regular" AL along with non-cognitively impaired persons). Implications for psychiatric mental health nurses who may interface with AL staff and residents are reviewed.

DEMENTIA IN ASSISTED LIVING

Information reported here was collected during a pilot project conducted in two dementia-specific AL residences in a Midwestern state. Dementia-specific facilities were identified and sampled because the study focused on the unique needs and characteristics of older adults with dementia who reside in AL and possible strategies to promote quality of care. In our state, regulations require AL facilities serving five or more persons with Global Deterioration Scale (GDS) scores (Reisberg, Ferris, de Leon, & Crook, 1982) of 4 or greater to be certified as providing dementia-specific care (Iowa Administrative Code [IAC], 2004). Dementia-specific care is operationalized as providing a minimum of 6 hours of dementia-related training to direct-care staff at the time of hire followed by 6 hours annually and providing a minimum of 2 hours of dementia-related training to all personnel. Additionally, dementia-specific care requires that one or more staff members monitor residents as indicated in their service plan and that staff be awake and available to check on residents 24 hours a day (IAC, 2004).

Design

The study used a descriptive, correlational design. Additional information about the study procedures and outcomes are described elsewhere in the literature (Smith, Buckwalter, Kang, Schultz, & Ellingrod, in press a, in press b). Facilities and participants within facilities were volunteers. Under our institutional review board (IRB) rules, residence in a dementia-specific setting implied sufficient impairment to warrant securing informed consent from each resident's proxy decision maker. As a result, families were asked to provide informed-consent forms on behalf of their family member. Each resident was asked for his or her assent to ensure understanding of the interview and willingness to participate.

All data were collected by two experienced, geropsychiatric advanced-practice nurses. Regular team meetings (every 1 to 2 weeks) were held to ensure consistency in the application of forms developed for data collection purposes, comparison and discussion of scales and their scoring, and review and resolution of any problems or issues that emerged related to the data collection, entry, or analysis.

Sample and Settings

A total of 17 participants were recruited from two dementia-specific AL residences. All participants were volunteers, and as noted above, the decision to participate in the study was made by the identified family decision maker. To ensure confidentiality, facility administrators mailed standardized informational letters about the research to designated family members of older adults living in the residences. Enclosed in the letter was an interest form indicating willingness to be contacted by the research team regarding possible participation in the study, accompanied by a postage-paid envelope addressed to the research team. Family members who responded positively to this inquiry were contacted, study purposes and methods were reviewed, and consent forms were signed by willing parties.

One facility (ALF-A) was part of a larger continuing-care community that also provided apartment living and nursing home care. Dementia-specific services were provided to 24 residents. Nursing care in ALF-A was provided by the director of nursing (DON), a licensed practical nurse, who was available daytime hours during the week (i.e., 9 a.m. to 5 p.m., Monday through Friday). Of the families of the 23 older adults living in ALF-A at the time of recruitment, 3 families indicated they were not interested in the study, 13 indicated willingness to be contacted and signed informed consents, and 7 did not respond (e.g., did not return to the interest form).

The other facility (ALF-B) was specifically built to provide AL services, including services for people with dementia (e.g., dementia-specific) and for people without cognitive impairments (e.g., "regular" AL). Nursing care in ALF-B was provided by two registered nurses who served as the DON and assistant DON for two dementia-specific units (30 residents in each), one of which was included in the study. As in ALF-A, the nurses were available only during daytime, weekday hours. Of the families of the 29 residents living in the participating ALF-B dementia unit, 12 families indicated that they were not interested in the study, 4 indicated willingness to be contacted and signed informed consents, and 13 did not respond to the inquiry. The difference in response between ALF-A (57% positive) and ALF-B (14% positive) was attributed to recent turnover in administrative staff in ALF-B and is discussed elsewhere in the literature (Smith et al., in press a).

In both facilities, daily services were provided by universal workers (UWs) who provided personal care, assistance with housekeeping, meal preparation, and services. These UWs were certified to dispense medications, and some were certified as nursing assistants. Because the vast majority of family members had little day-to-day contact with their loved ones (e.g., many lived in other communities), UWs were interviewed when proxy reports

were required. In this study, 10 UWs provided proxy reports for anxiety and depression scales that required input from a person who knows the resident well. Every effort was made to recruit the UW who was most familiar with the participating resident, often following suggestions made by DONs. The duration and quality of the UW's relationship with the identified resident (e.g., length of employment, regularity of contact with the resident) was assessed before the interview to ensure that the UW was sufficiently well acquainted with the resident and his or her habits to gauge mood and behaviors.

Instruments

Data were collected from older adult participants using scales that have established psychometric properties and are widely used in geriatric psychiatric clinical practice and research. Four scales were administered and scored using established cut-points. In addition, symptom clusters were examined following methods described by Teri and others for examination of anxiety in dementia (Ferretti, McCurry, Logsdon, Gibbons, & Teri, 2001; Ownby, Harwood, Barker, & Duara, 2000; Teri et al., 1999).

The Mini-Mental State Exam (MMSE) was used to determine level of cognitive impairment. The MMSE addresses 11 areas of cognition and is scored from 0 to 30; lower scores indicate greater cognitive impairment (Folstein, Folstein, & McHugh, 1975). A cutoff score of ≤ 23 is generally accepted as indicating clinically significant cognitive impairment (Anthony, LeResche, Niaz, von Kroff, & Folstein, 1982). The MMSE is also used to estimate the severity of impairment, including mild (scores of 17 to 23), moderate (scores of 11 to 16), and severe (scores of 0 to 10) dementia (Sloane, Zimmerman, & Ory, 2001).

The Hamilton Anxiety Rating Scale (HARS) includes 14 items related to apprehensive expectation, fear, motor tension, cognitive impairment, depression, and anxiety-related physical symptoms that are scored from 0 to 4, for a total score of 0 to 56 points. The HARS is rated on the basis of clinician interview and observation (Hamilton, 1959). Scores of 0 to 5 are considered "no anxiety," whereas those between 6 and 14 are considered "mild anxiety" and scores of 15 or greater are considered "major anxiety" (Fankhauser & German, 1987). An alternative descriptive strategy is to examine the frequency of individual symptoms and symptom clusters (Ferretti et al., 2001).

Rating Anxiety in Dementia (RAID) scores were also evaluated during the pilot study. The RAID was specifically developed to measure anxiety in dementia and includes 20 items that address worry, apprehension and vigilance, motor tension, physical symptoms, phobia, and panic attack. Items are rated from 0 (absent) to 3 (severe) for a total of 0 to 60 points. The RAID is scored using a combination of clinician interview and observation, the report of a person who knows the participant well, and information from the chart. The cutoff for clinically significant anxiety in dementia is >11 points (Shankar, Walker, Frost, & Orrell, 1999). As with the HARS, individual symptoms and symptom clusters were examined.

The Cornell Scale for Depression in Dementia (CSDD) was used to assess depression. The CSDD includes 19 items that address mood, behavioral symptoms, physical signs, cyclic function, and ideational disturbance. Items are scored from 0 (absent) to 2 (severe), for a total score of 0 to 38. Like the RAID, the CSDD is clinician-scored using a combination of interview and observation, proxy report of a person who knows the participant well, and information in the chart. The CSDD has established validity for detecting clinically significant depression among older adults with and without dementia, using a cutoff of ≥ 8 points (Alexopoulos, Abrams, Young, & Shamoian, 1988a, 1988b; Steffens, 2005).

Chart Review

Resident charts, medication administration records, and narrative notes maintained by UWs were reviewed for information related to personal history and current care. Personal and demographic information, including age, marital status, reason for admission, medical and psychiatric diagnoses, and number and type of medications taken, was recorded on the basis of information maintained in AL residence records. Narrative notes were reviewed for references to behaviors included on the RAID and CSDD scales.

Data Analyses

Data were analyzed using SPSS software. Frequency distributions and measures of central tendency and dispersion were used to characterize demographic and clinical variables. Associations between variables were examined using Pearson correlation coefficients. Descriptive information and notes (e.g., reason for admission, medications, psychiatric and medical diagnoses, information from narrative notes, facility observations) were summarized using Microsoft Access (Microsoft Office, 2007) and systematically reviewed.

RESULTS

Demographic Information

A total of 17 participants were recruited to participate in the study. The majority were women (77%) who were an average of 83 years old, widowed, and living alone and who had resided in the care setting for an average of approximately 2 years. Refer to Table 1 for additional information about the sample.

A total of 86 medical diagnoses were identified using past medical histories placed in residents' charts and diagnoses listed on medication administration records provided by the pharmacy service. Medical diagnoses included many common health problems of late life, including hypertension, coronary artery disease, osteoporosis, sensory impairments, and degenerative joint disease, among others.

A total of 107 scheduled medications and 30 as-needed (prn) medications were prescribed for physical health conditions. The most common medication categories included vitamins and supplements (e.g., multivitamins, vitamins E and C, folic acid, calcium, iron), analgesics (e.g., acetaminophen, aspirin, ibuprofen), constipation aids (e.g., milk of magnesia, fiber laxatives, docusate, senna), and hypertension-related medications (e.g., atenolol, lisinopril, metoprolol, hydrochlorothiazide).

Psychiatric Diagnoses and Medications

A total of 31 different psychiatric diagnoses were identified in the review of medical records. The most common diagnosis was dementia (82%), followed by depression (50%), anxiety (18%), delusions or paranoia (18%), and anxious depression (6%). Other diagnoses included amnesic disorder and mild cognitive impairment—which were later changed to a diagnosis of dementia—and delusions and paranoia recorded for a single participant, all collapsed as a single category. Refer to Table 2 to review the number and type of dementia and psychiatric diagnoses that were recorded in charts. Comorbid conditions often involved dementia and combinations of depression, anxiety, and paranoia.

Thirty-one psychiatric medications (26 scheduled, 5 prn) were prescribed for 15 participants, including antidepressants, antipsychotics, anxiolytics, and mood stabilizers. See Table 3 to review the number and type of medications used, including daily dose ranges. In addition, a total of 11 cognitive-enhancing drugs were prescribed to 9 participants.

Cognition, Anxiety, and Depression

As shown in Table 4, mental status scores (MMSE) ranged from 0 to 24, with an average of 13.8 ($SD = 6.7$). Using MMSE scores to classify severity of dementia, 24% of the participants were severely impaired (scores of 0 to 10), 47% were moderately impaired (scores of 11 to 16), 29% were mildly impaired (scores of 17 to 23), and 1 person (6%) was above the cut-point for having dementia.

Scores on the HARS ranged from 0 to 11, with an average score of 4.4 points ($SD = 3.9$), resulting in six participants (35%) with mild anxiety (scores of 6 to 14) and the rest with “no” anxiety. Scores on the RAID were similarly low, ranging from 0 to 19, with an average score of 5.1 points ($SD = 4.2$). The majority of participants ($n = 15$) fell below the cut-point for clinically significant anxiety (>11) on the RAID. Similarly, most participants ($n = 15$) had scores of less than 8 points on the CSDD, indicating absence of clinically significant depression.

Examination of symptom clusters provided an alternative view of anxiety frequency among the AL sample. Using an approach used by Ferretti and colleagues (2001) for examination of HARS items among older adults with dementia, 48% of the sample experienced apprehension, worry, and irritability (i.e., Item 1, anxious mood). Of interest, only half (53%) acknowledged having poor concentration and memory impairment, although nearly all (94%) had mild to severe cognitive impairment based on MMSE scores. Refer to Table 5 to review the most commonly endorsed items on the HARS, RAID, and CSDD.

Inspection of symptom clusters on the RAID and CSDD resulted in similar findings. On the RAID, 65% of participants experienced worry about their cognitive performance, and 40% experienced irritability or restlessness. On the CSDD, nearly 60% of participants were gauged as having both anxiety (i.e., anxious expressions, rumination, and worry) and sadness, and nearly 40% were rated as being easily annoyed and short-tempered.

Associations Between Variables

Associations between demographic and clinical variables and use of psychotropic medications were examined using Pearson correlation coefficients and Fisher's Exact Test. Demographic variables included age and length of stay in the facility. Clinical variables included scores on cognitive, anxiety, and depression scales. Psychotropic medication use included individual drug categories (antidepressants, antipsychotics, anxiolytic medications), total number of psychotropic medications used, and total number of cognitive-enhancing drugs.

Age was negatively associated with depression ($r = -.567, p = .002$) and with anxiety using the HARS ($r = -.578, p = .015$). That is, lower scores on the scales were associated with older age, and higher scores were associated with younger age. Length of stay was not significantly associated with either clinical variables or psychotropic medication use.

Anxiety measures were associated with each other and with depression. Scores on the HARS were significantly associated with RAID scores ($r = .785, p = .0001$), and scores from both scales were significantly associated with those on the CSDD (HARS and CSDD $r = .763, p = .0001$; RAID and CSDD $r = .844, p = .0001$). There were no significant associations between anxiety, depression, or cognition and psychotropic medication use, and there were no associations between psychotropic-medication categories. An unexpected finding was that anxiolytic medication use was significantly associated with use of cognitive-enhancing medication ($r = .924, p < .0001$).

DISCUSSION

The findings from this pilot study support and expand on reports in the literature that suggest dementia in AL settings is increasingly “the elephant in the room,” more common than hypertension but less often recognized and appropriately treated (Rosenblatt & Lyketsos, 2007). Because our study findings are limited by small sample size and a single-state setting, we compare and contrast findings from this pilot study, which was conducted in dementia-specific AL settings, to earlier reports in the literature. Implications for psychiatric–mental health nurse researchers, clinicians, and consultants are reviewed.

Cognitive Level and Psychotropic Medication Use

An important first observation is that not all participants living in these dementia-specific AL residences had formal diagnoses of dementia on file in their facility records. Although nearly all (94%) were classified as having mild or more severe dementia using MMSE scores, dementia diagnoses were found in the chart for only 86%. This discrepancy is attributed to state regulations, described earlier, that require placement in dementia-specific care based on global ratings of cognitive function (i.e., GDS score of ≥ 4) made by AL staff but that do not require a dementia diagnosis to be made by a qualified health care provider.

The level of cognitive impairment and use of psychotropic medications in this sample of dementia-specific AL-care residents is also interesting when compared to other reports in the literature. The Collaborative Studies of Long-Term Care (CS-LTC), a four-state AL project that was initiated in 1997, reported that 43.5% of 1,231 participants had dementia based on MMSE scores (0 to 30), including 24.7% with mild dementia (scores of 17 to 23), 12.4% with moderate dementia (scores of 11 to 16), and 6.4% with severe dementia (scores of 0 to 10; Sloane et al., 2001). Compared to other residents, those with moderate to severe dementia were markedly more impaired in activities of daily living and were more likely to exhibit behavioral symptoms such as constant requests for attention, resisting care, physical aggression, wandering or pacing, and physical restlessness. Psychotropic medications were frequently prescribed; as many as 35% of participants took antipsychotics and 27% took anxiolytic, sedative, or hypnotic medications (Sloane et al., 2001).

Subsequent reports related to dementia in AL suggest greater acuity among residents over time. For example, a report published by the CS-LTC study group noted that the majority of participants with dementia were severely cognitively impaired (Boustani et al., 2005). Using MMSE scores to group residents, 14% had mild dementia (scores of 18 to 23), 26% had moderate dementia (scores of 11 to 17), 24% had severe dementia (scores of 3 to 10), and 37% had very severe impairment (scores of 0 to 2; Boustani et al., 2005), rates that were considerably different than the 2001 report (Sloane et al., 2001). More than half (56%) exhibited behavioral symptoms related to dementia, and many were prescribed psychotropic medications including antipsychotics (36%), antidepressants (36%), and hypnotics (22%; Boustani et al., 2005).

Of interest, our sample of older adults from dementia-specific AL settings was largely composed of residents with mild (29%) and moderate (47%) dementia, with fewer who were severely (18%) or very severely (6%) impaired. However, psychotropic medication use was considerably higher, as 88% of our sample took one or more psychotropic drugs, compared to earlier reports suggesting rates from 35% to 53% (Boustani et al., 2005; Gruber-Baldini et al., 2004; Sloane et al., 2001). Although differences in state-to-state regulations clearly influence the composition of the resident population in AL, including who is deemed as needing dementia-specific care, the high use of psychotropic medication in this sample—35% higher than the highest report found in the literature—is a concern.

Psychotropic medications may be effectively used to treat behavioral and psychological symptoms that accompany dementia. However, they are also used as a substitute for behavioral interventions that focus on relieving unmet needs, distraction from boredom, and engagement in meaningful activities. The risks associated with psychotropic medications for treatment of behavioral symptoms in dementia are considerable, including a long list of potential side effects, drug–drug interactions, and recently, “black box” warnings from the Food and Drug Administration (FDA) relating to cerebrovascular events and death (FDA, 2005; Schneider, Dagerman, & Insel, 2005; Sink, Holden, & Yaffe, 2006). Negative outcomes in older adults often include incontinence, somnolence, urinary tract infections, falls, orthostatic hypotension, and hyponatremia, among others (Movig, Leufkens, Lenderink, & Egberts, 2002; Schneider, Dagerman, & Insel, 2006; Voyer et al., 2002). In short, the risks and benefits of medication intervention must be weighed carefully in all care settings but particularly in AL settings where nursing oversight may be minimal (e.g., daytime hours on weekdays in this study) and there are no standard requirements related to use and monitoring.

Anxiety and Depression

Other important observations relate to the frequency of anxiety and depression among the study sample. Although anxiety and depression symptoms were lower than is often considered “clinically significant” using cut-points on scales, examination of clusters of symptoms suggests that a substantial number of study participants experienced one or more distressing symptoms of anxiety and/or depression. Worry about cognitive performance, anxious mood, depressed mood, and irritability or restlessness was commonly endorsed on each of the three scales.

A similar pattern of anxious symptoms is observed among community-dwelling older adults who are evaluated in specialty memory clinics. Several studies have reported anxiety as a function of one to four primary symptoms, noting that from 48% to 70% of people with dementia experience anxiety (Ferretti et al., 2001; Mega, Cummings, Fiorello, & Gornbein, 1996; Ownby et al., 2000; Teri et al., 1999). Similar frequencies were observed in our sample, as some type of anxiety or worry exceeded 50% on each of the three rating scales. Of importance, these symptoms persisted despite taking psychotropic medications (including antidepressants that are commonly used to treat both anxiety and depression) and anxiolytic drugs. Because these “residual” symptoms do not present safety threats, such as wandering or agitated behaviors, they may be perceived by staff as “tolerable” and possibly unimportant.

Associations Between Variables

The lack of association between cognitive impairment and either depression or anxiety was not consistent with earlier or subsequent findings in the literature and merits further study and replication. Other reports suggest that cognitive impairment is highly associated with both depression and anxiety (Ferretti et al., 2001; Teri et al., 1999). At the same time, the frequency of psychotropic medication use among our pilot-study participants was high (88%), suggesting that medication use may have obscured this relationship.

The positive association between anxiety and depression is consistent with other reports in the literature. Studies describing anxiety in dementia consistently report a significant association between anxiety and depression, with comorbid depression and anxiety occurring in 53% to 93% of participants with dementia (Ballard, Bannister, Solis, Oyeboode, & Wilcock, 1996; Orrell & Bebbington, 1996; Teri et al., 1999). In the general population of older adults, comorbid anxiety and depression are associated with greater severity of illness, poorer treatment outcomes, and greater disability than either disorder on its own (Lecrubier,

2001; Lenze et al., 2001; Steffens & McQuoid, 2005). Although levels of anxiety and depression were subthreshold in this sample, attention to the comorbid anxious and depressed symptoms among AL residents in future research and clinical practice is suggested.

The notable correlation ($r = .924, p < .0001$) between use of anxiolytic and cognitive-enhancing medications was not well understood or reflected in reports in the literature. The finding may be the result of chance because of multiple comparisons. An alternative explanation may be that participants who were sufficiently anxious to require antianxiety medications were simultaneously prescribed cognitive-enhancing medications with the aim of reducing behavioral symptoms (Callahan et al., 2005).

Study Limitations

All findings reported for our study must be considered in light of several important limitations. By design, the pilot project collected data on a small number of volunteer residents living in a two dementia-specific facilities located in a single Midwestern state. Another consideration is that the IRB-determined recruitment process, which placed participating AL facilities in the position of securing family members' permission for residents to be contacted by researchers, may have influenced the number and type of participants, as suggested by the high number of "no responses." At the same time, the demographic characteristics of our sample (age, sex, marital status, reason for admission) are consistent with residents in AL settings throughout our state and across the nation (Wulf, 2006). Other issues, which apply to all AL research, include the fact that state-by-state variations in AL regulations influence the characteristics of residents and services, and in turn, study outcomes. Similarly, the rapidity with which AL regulations are being revised suggests that study outcomes may describe a point in time versus a continuing phenomenon. Despite these limitations, this study provides important directions for psychiatric nursing research and practice, as described next.

Implications for Research and Practice

Given the popularity of AL as a long-term care alternative, psychiatric-mental health nurses in nearly all types of practice may encounter older adults living in this setting. Whether making discharge plans from inpatient units or responding to consultation requests for psychiatric evaluation and treatment, both generalist and advanced-practice psychiatric nurses have many opportunities to promote high-quality care in AL settings.

As state regulations continue to be revised, updated, and refined to more accurately reflect the needs of cognitively impaired older adults, several important factors may need to be considered when caring for older adults who reside in both dementia-specific and regular AL settings. As observed in this study, the requirement of dementia-specific training is not necessarily a deterrent to using antipsychotic and other psychotropic medications to "manage" behavioral symptoms. Despite antidepressant and anxiolytic medication use, residual symptoms of anxiety and depression may persist, as indicated by the frequencies of anxiety and depression symptom clusters. This emotional distress, although not as overtly disruptive as behaviors such as wandering or agitation, likely causes discomfort to the older person and warrants additional interventions to promote optimal function and well-being.

Awareness of what AL does and does not provide—in terms of nursing oversight, staff training, medication monitoring, documentation procedures, and care-planning processes—is important to psychiatric nursing treatment and research-planning processes. Psychiatric-mental health nurses often play pivotal roles in prescribing and monitoring psychotropic medications, in educating staff caregivers about medication use and side-effect risks, and in

ensuring that dose reductions are regularly reviewed and undertaken to ensure that medications are discontinued as soon as possible. Given that half of AL residents with dementia in the CS-LTC studies and more than three fourths of participants in this study take one or more psychotropic medication, these educational and monitoring roles may be particularly salient to AL staff and residents.

Psychiatric-mental health nurses may exert a considerable influence on the outcomes of care for persons with dementia in AL settings by stimulating caregivers to look thoughtfully at the “problem” behavior and helping them to describe it in detail so that it can be best understood. Although education about dementia care is essential, additional assistance may be needed to help staff members successfully apply those care principles to “real life” problems and to identify, implement, and evaluate behavioral and psychological interventions. Of equal importance, psychiatric nurses may provide needed assistance to identify behavioral symptoms that are “good candidates” for medication interventions as well as identifiable goals for medication treatment and methods to monitor the effectiveness and associated risks of selected medication interventions. Finally, additional nursing research is needed to further identify and describe unmet care needs among those with dementia-related psychiatric disturbances, and to develop and test nursing interventions that promote optimal care and comfort among residents of AL.

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TABLE 1

Demographic and Health-Related Information

Variable	n (%)	Range	M (SD)
Age	17 (100)	62 to 91 years	83.2 (8.9) years
Gender			
Female	13 (76.5)		
Male	4 (23.5)		
Living arrangement			
Lives alone in apartment	15 (88)		
Lives with spouse	2 (12)		
Marital status			
Widowed	13 (76)		
Married	2 (12)		
Divorced	1 (6)		
Never married	1 (6)		
Reason for admission			
Confusion/cognitive impairment	11 (65)		
Physician referral	2 (12)		
Unclear reasons	2 (12)		
Behavioral symptoms	1 (6)		
Primary contact person			
Adult child	14 (82)		
Other family	2 (12)		
Friends	1 (6)		
Length of residence in AL	17 (100)	9 months to 4 years	1.8 (1.0) years
Medical diagnoses	17 (100)	1 to 10	5.1 (3.5)
Medications			
Scheduled	17 (100)	2 to 11	6.3 (3.0)
As needed (prn)	17 (100)	0 to 6	1.8 (2.2)

Note. AL = assisted living.

TABLE 2**Psychiatric Diagnoses**

Diagnosis	n (%)
Dementia	14 (82)
Dementia not otherwise specified	[6]
Alzheimer's disease	[4]
Lewy body dementia	[2]
Vascular dementia	[1]
Frontotemporal dementia	[1]
Depression	7 (50)
Anxiety	3 (18)
Paranoia/delusions	3 (18)
Anxious depression	1 (6)

Note. % represents percentage of 17 participants who had this diagnosis. Information in brackets provides detail about types of dementia and is subsumed in the number of participants with dementia. Of 31 psychiatric diagnoses recorded in charts, 28 are presented here. Three diagnoses not listed here include mild cognitive impairment and amnesic disorder, which were later changed to a diagnosis of dementia and a diagnosis of paranoia and delusions for the same participant, collapsed as a single category here.

TABLE 3**Psychotropic and Cognitive-Enhancing Medications**

Drug Category	Total (%)	Medication	#	Daily Dose Range
Antidepressants	9 (52.9)	Prozac (fluoxetine)	2	20 mg
		Celexa (citalopram)	1	40 mg
		Remeron (mirtazapine)	1	15 mg
		Zoloft (sertraline)	2	50 mg to 100 mg
		Paxil (paroxetine)	1	40 mg
		Effexor XR (venlafaxine)	1	75 mg
		Lexapro (escitalopram)	1	10 mg
Antipsychotics	11 (64.7)	Risperdal (risperidone)	2	0.5 mg
		Seroquel (quetiapine)	7	25 mg to 200 mg
		Haldol (haloperidol)	1	0.5 mg every 2 hours prn
		Seroquel (quetiapine)	1	50 mg twice daily prn
Anxiolytics	9 (52.9)	Ativan (lorazepam)	3	0.5 mg to 1.0 mg
		Xanax (alprazolam)	2	0.50 mg to 0.375 mg
		Buspar (buspirone)	1	30 mg
		Ativan (lorazepam)	3	0.5 mg every 4 to 6 hours prn
Mood stabilizer	1 (5.9)	Neurontin (gabapentin)	1	1,800 mg
Cognitive enhancer	11 (64.7)	Namenda (memantine)	2	20 mg
		Razadyne (galantamine)	3	8 mg to 16 mg
		Aricept (donepezil)	6	10 mg

Note. % represents percentage of 17 participants taking the category of psychotropic medication. prn = as needed.

TABLE 4

Cognition, Depression, and Anxiety Scores (*N* = 17)

Scale	Scale Range	M (SD)	Median	Mode	Range
MMSE	0 to 30	13.8 (6.7)	15.0	0	0 to 24
HARS	0 to 56	4.4 (3.9)	5.0	0	0 to 11
RAID	0 to 60	5.1 (4.2)	6.0	0	0 to 11
CSDD	0 to 38	4.0 (3.6)	3.0	2	0 to 13

Note. Scale range is the total score possible. MMSE = Mini-Mental State Exam; HARS = Hamilton Anxiety Rating Scale; RAID = Rating Anxiety in Dementia; CSDD = Cornell Scale for Depression in Dementia.

TABLE 5**Three Most Frequently Endorsed Items by Scale**

Scale	%
Hamilton Anxiety Rating Scale	
Intellectual: poor concentration, memory impairment, decision-making difficulties	53
Anxious mood: apprehensive, worried, irritable, insecure	48
Depressed mood: decreased activities, anhedonia, insomnia	36
Rating Anxiety in Dementia	
Worry about cognitive performance: failing memory, getting lost when going out, not able to follow conversations	65
Restlessness: fidgeting, cannot sit still, pacing, wringing hands, picking clothes	41
Irritability: more easily annoyed than usual, short temper and angry outbursts	40
Cornell Scale for Depression in Dementia	
Anxiety: anxious expression, ruminations, worrying	59
Sadness: sad expression, sad voice, tearfulness	59
Irritability: easily annoyed, short-tempered	39

Note. % represents percentage of 17 participants endorsing the item.