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# Managing geriatric psychiatric emergencies: delirium and dementia

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Persons older than age 65 currently comprise at least 12% of the general population. Approximately one third of elderly patients visit primary care providers [1]. Only a small percentage of older adults seek care complaining of emotional distress. Older adults are more likely to seek health care for physical complaints rather than psychiatric problems, subsequently challenging nurses in vast clinical settings to distinguish medical conditions from underlying psychiatric conditions and initiating appropriate interventions. Because nurses are often on the frontline of health care and are able to establish rapport with their patients, they are in fortuitous positions to intervene when older adults present with medical and psychiatric conditions to reduce their potential negative outcomes.

Of particular importance to nurses is identifying symptoms that assist in distinguishing symptoms of delirium and dementia and providing appropriate interventions. Patients with delirium or dementia often are brought in by family members or friends who are concerned about their acute or progressive confusion, cognitive impairment, and subsequent deteriorating level of functioning and dependency on others. Although delirium and dementias are medical conditions, these clients often are brought into primary care and mental health treatment centers because of their behavioral problems and risk of violence toward self and others. Efforts to discern underlying causes, treatment approaches, and dispositions challenge nurses in various settings to understand the patient's mental status changes and cognitive deficits.

## Prevalence and cost of cognitive disorders

Delirium and other cognitive disorders are common, costly, and morbid, particularly among older adults. Delirium is a medical emergency that

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requires immediate evaluation and management to reduce its potential negative sequelae. Nurses are in pivotal, frontline positions that enable them to recognize high-risk older adults and initiate interventions that promote healthy outcomes for the patient presenting with delirium and various dementias.

## Delirium

Delirium is a prevalent complication of acute medical conditions, particularly in older adults. At least 10% of older patients may present in clinical settings a delirious state [2]. It also accounts for about 10% to 30% and more of older adults on general medical units, depending on the health care setting, such as extended care facilities, and diagnostic criteria applied [3–5]. Contributing factors include systemic disorders, such as infection, metabolic disturbances, and adverse drug reactions. About 30% of patients in intensive care units and coronary care units and 50% of patients post–hip fracture surgery experience delirium [6]. Postsurgical delirium often arises from the demands of surgery on physiologic functioning: sleep disturbances, medications, fluid and electrolyte imbalance, and infection [7]. Curyto and colleagues [3] purported that the 3-year mortality in hospitalized older adults (n = 102) was 75% for those with delirium versus 51% for controls (risk ratio, 2.24). These data suggest that delirium increases the risk of cognitive and functional decline and mortality after hospitalization compared with nondelirious states. These findings are consistent with those of other researchers, who state that the course of delirium is not easily resolved and symptoms may persist longer than hospitalization or treatment in various clinical settings [2].

Delirium poses a serious human and financial burden because of the risk of morbidity, lengthened hospitalization, more nursing observation, and resultant decline in quality of life and functional status and mortality [3,8,9]. Although delirium can occur at any age, older adults, especially those with preexisting dementia and other neurologic conditions, are at a greater risk. A key to early identification and management of delirium involves prevention. By understanding delirium, identifying predisposing risk factors, and ultimately managing delirium, nurses can reduce the potentially deleterious consequences.

### *Definition and clinical features*

Delirium is an acute, potentially reversible state of confusion, characterized by a disturbance in consciousness, attention, and cognition that has a rapid onset and fluctuating course [10]. Historically, delirium was thought to have a transitory course. More recent data indicate, however, a persistence of symptoms in most patients [3,8,11,12]. Persistent cognitive deficits also have been linked to a comorbid dementing condition that was

exposed by the delirious state. Delirium is often unrecognized and misdiagnosed in older adults [12]. Findings from follow-up visits indicate that delirium has a persistent course and that failure to respond to treatment during hospitalization increases this risk [3,12].

Typically, clients with delirium exhibit disorientation and mood, attention, sensory-perceptual, behavioral, and psychomotor disturbances [1,10]. Usually, these symptoms are worse during the evening, resulting in a sundowning syndrome manifested by marked confusion and behavioral disturbances that may lead to serious injury. Data from caregivers or significant others often reveal symptoms that emerge over hours or days (rapid onset) and a waxing and waning course. A caregiver may describe the patient as being "like himself" one minute and the next "he acted like a wild man."

The Confusion Assessment Method developed by Inouye and colleagues [9] offers general criteria that assist in the diagnosis of delirium. This instrument has been useful for research on delirium [9,13,14]; it has the following five features:

- Rapid or acute onset (change in mental status)
- Fluctuating course
- Attention deficits
- Disorganized thought processes
- Alterations in consciousness

This instrument focuses on clinical features of the syndrome rather than causative factors and reduces problems inherent in the *Diagnostic and Statistical Manual of Mental Disorders, 4th edition, Text Revision* (DSM IV-TR [10]) criteria. In addition, questions that address the five areas in the Confusion Assessment Method often reveal relevant data, such as:

- When did you notice changes in the patient's behavior?
- Do the symptoms change during the course of the day or night?
- Have you noticed if the patient has difficulty focusing or maintaining attention?
- Does the patient have rambling, irrelevant, or incoherent speech or lack logic to his or her flow of ideas?
- Have you noticed any changes in the patient's level of consciousness (eg, drowsy, easily startled, and difficult to wake up)?

Although many patients with delirium are hyperactive or restless, others may present with lethargic, mixed or normal motor functioning or behaviors. Data from an empirical study of delirium subtypes indicate that most older adults present with a mixture of hyperactive and hypoactive (lethargy) symptoms, sleep-wake cycle disturbances (eg, short, fragmented), sensory-perceptual impairment (eg, hallucinations [visual, auditory, tactile], illusions, delusions), incoordination, urinary incontinence, shakiness or tremors, and emotional lability (eg, rage, anger, fear, apathy) [2,4].

Typically, older patients with delirium have premorbid histories of personality changes, impaired judgment, restlessness, anxiety, fear, irritability, and incoherence preceding changes in their level of consciousness, which are often unrecognized by family members and health care providers [10]. It is also important to know the patient's baseline mental status. These patients tend to be poor historians, making it necessary to obtain data from other sources. Family members or caregivers offer important information about the patient's baseline level of functioning and can assist in making a diagnosis of delirium. Because of the potential deleterious course of delirium, which previously was thought to be transient, nurses in various clinical settings, including primary care, extended care facilities, and postoperative and medical-surgical units, must identify older patients as high-risk patients and work with an interdisciplinary team to reduce the incidence of delirium and ultimately improve overall health outcomes.

### *Causative factors*

As previously mentioned, delirium is likely to arise from an underlying acute medical condition, such as metabolic disturbances, fluid and electrolyte imbalance, renal failure, neurologic disorders such as stroke, and adverse drug reactions. Scientists state that these medical conditions affect the ascending reticular activating system that is manifested as attention and concentration and sleep-wake cycle deficits and changes in sensorium [15]. The ascending reticular activating system is involved in modulating the level of consciousness. The precise severity and course of delirium are complex but often are influenced by the patient's present medical and mental status, underlying general medical conditions, or drug toxicity that insult cerebral metabolism and biochemical processes, particularly in the dopamine and $\gamma$-aminobutyric acid pathways [5]. Others hypothesize that impairment of central cholinergic transmission supports the manifestation of symptoms associated with anticholinergic toxicity [15,16]. The use of various medications with anticholinergic properties contributes to delirium in older adults. Examples of these agents are typical antipsychotics (haloperidol [Haldol]), anticholinergic agents (benztropine [Cogentin]) narcotics (meperidine [Demerol]), antihistamines (diphenhydramine [Benadryl]), long-acting benzodiazepines (diazepam [Valium]), ranitidine (Zantac), and selective serotonin reuptake inhibitors (fluoxetine [Prozac]) [17,18].

Numerous medical conditions can cause delirium, including infections, intoxication and withdrawal syndromes, and hypoxic conditions. Polypharmacy, various medications, and toxins also can produce delirium. Hospitalized residents from extended care facilities are especially vulnerable to conditions that increase the risk of delirium, including advanced age, preexisting neurologic conditions, sensory deficits, polypharmacy, and poor functional status [4,12].

Inouye and Charpentier [11] developed a predictive model for delirium based on precipitating factors during hospitalization and other risk factors. They identified five independent precipitating factors for delirium as follows:

- The use of physical restraints
- Impaired nutritional status
- Polypharmacy or more than three medications added
- The use of a bladder catheter

These data also indicate that each precipitating factor occurred more than 24 hours before the onset of delirium. Nurses can use this predictive model to enhance the identification of high-risk older adults in diverse clinical settings and reduce the potentially deleterious courses of this acute medical condition.

*Acute management*

The presence of delirium is a solemn diagnostic sign in older adults because at least 15% to 30% of these patients die [3,19]. The optimal goal of delirium is prevention, early identification, and appropriate management of this acute confusional state. Because of the complexity of delirium, nurses, other health care providers, and family members must play active roles in assessing the patient's symptoms and identifying the primary condition causing delirium. This process begins with establishing rapport with the patient and significant others. If the patient is exhibiting signs of violence and marked agitation, safety must be a priority. Safety measures must include determining the level of dangerousness to self and others, gathering data about past violence, and using measures that reduce agitation and confusion. Approaching the patient cautiously but respectfully and introducing oneself, orienting the patient, and anticipating the patient's anxiety enable the nurse to assess the patient's behavior further.

*Assessment and diagnosis*

A comprehensive physical and psychosocial assessment is a vital part of the differential diagnosis that involves an interdisciplinary approach. Perhaps the most challenging aspect of assessing patients with delirium is not the diagnosis, but the identification and correction of the underlying medical condition [16].

The data-gathering process involves making a differential diagnosis of medical and psychiatric conditions, such as depression, psychotic disorders, and dementia. Information concerning substance abuse and medication review, including recent additions, changes in dose and discontinuation, and prescribed and over-the-counter drugs, is crucial to making a differential diagnosis. Because medications and polypharmacy have been linked to delirium, this must be ruled out during this process. The Mini Mental State Examination (MMSE) developed by Folstein and colleagues [20] is a widely used screening tool that measures the degree of cognitive deficits and helps

quantify the severity of symptoms. The MMSE can produce high false-positive rates in older adults who have less than an eighth-grade education and who are not fluent in English. The MMSE is a screening tool and is not sensitive to subtle cognitive impairment seen in early dementia. The physical examination needs to focus on ruling out infection, cardiovascular abnormalities, urinary retention, and fecal impaction. Laboratory studies, including a chemistry profile, complete blood count with differential, thyroid function, vitamin $B_{12}$, urinalysis, toxicology screens, electrocardiogram, chest film, blood urea nitrogen, and oxygen saturation, are useful in making a differential diagnosis.

*Interventions*

Major treatment goals involve reducing complications inherent with hospitalization, correcting the underlying medical condition, mitigating causative factors, ensuring safety, and supporting patient and family integrity. Successful treatment planning of delirium requires an interdisciplinary approach.

The management of delirium also includes supporting physiologic, psychosocial, and environmental function and integrity. Supporting physiologic integrity involves correcting underlying medical conditions, such as fluid and electrolyte imbalance, with appropriate measures and monitoring mental and physical status. Physiologic support also may include pharmacologic interventions that reduce delusions and hallucinations and agitation and irritability. Pharmacologic management often involves using low doses of a high-potency typical (eg, haloperidol, 0.5 mg intramuscularly or oral liquid) or atypical neuroleptic (eg, olanzapine [Zyprexa] or risperidone [Risperidol]). Major advantages of high-potency typical neuroleptics are their low risk of anticholinergic and hypotensive effects. These agents should be avoided in older adults with parkinsonism, however. Initially, intramuscular dosing with typical neuroleptics is used [19]. When employing these agents, it necessary to monitor regularly for efficacy and adverse reactions, including hypotension and anticholinergic psychosis. Because of the high risk of extrapyramidal side effects, such as acute dystonia, akathisia (motor restlessness), and tremors, typical neuroleptics may be used as a second-line medication when oral medications can be used. Care must be taken to distinguish adverse drug effects from worsening delirium. Atypical neuroleptics, such as quetiapine (Seroquel) and olanzapine, are becoming more popular because of their safer side-effect profile and their propensity to improve cognitive functioning compared with typical agents [21,22]. Benzodiazepines should be avoided in older adults because of side effects that further impair cognitive function and produce drowsiness and disinhibition. Care must be taken to avoid sedation, and restraints must be avoided when possible, to maintain safety and to reduce complications. All of these side effects increase the risk of injuries resulting from falls and aggressive behaviors.

Psychosocial support involves introducing oneself, providing orientation, explaining procedures, monitoring mental status change, and making sure that the patient is never left alone. Throughout the assessment and treatment process, family members are an integral part of the treatment team. Nurses must provide health education and reassurance to family members that delirium is normally reversible and often improves over time. It is also important to point out that some patients' symptoms persist for weeks to months. Families also must be instructed to improve the patient's mental and physical health by avoiding polypharmacy, providing adequate hydration and nutrition, and reporting worsening symptoms. Environmental support involves securing safety; reducing stimuli, such as loud noises and too many people in the room; maintaining a well-lit room to ensure sensory and perceptual integrity and ensuring that self-care needs are met [23].

*Evaluation*

A return to a previous level of physical and mental functioning is a criterion for measuring the outcome of treatment approaches. Positive outcomes generally reflect an accurate diagnosis and correction of the underlying medical condition.

Overall, delirium is a common medical condition characterized by attention and sensorium disturbances developing over a short period. This potentially fatal disorder parallels underlying physiologic consequences of a general medical condition and most commonly is found in older adults. Patients presenting with acute confusional states or alterations in sensorium or cognitive function must be assessed quickly to rule out delirium and to initiate appropriate interventions to correct the underlying medical condition. Exceptional nursing care seems to be crucial to successful prevention and treatment of delirium. Nurses are on the frontline of health care and are in prime positions to assess these patients and collaborate with other health care providers to reduce the potentially negative outcome of delirium and return the patient to a previous or higher level of mental and physical functioning.

## Dementia

Dementia, similar to delirium, is a clinical syndrome characterized by acquired losses of cognitive and emotional abilities that interfere with the patient's level of functioning and quality of life. The current prevalence of severe dementia in the United States is approximately 1.3 million patients, of whom 50% to 60% have Alzheimer's type. A preponderance of evidence indicates that the incidence of dementia, both senile and vascular types, increases with age [10]. Dementia increases the risk of psychotic behaviors, such as hallucinations, especially visual and tactile forms; delusions and

illusions; and behavioral disturbances, during the course of illness [21,22]. For the purposes of this article, Alzheimer's disease (AD), an irreversible dementia, is the prototype of dementia, and the focus is on interventions to manage psychosis and behavioral disturbances. Studies show that 90% of clients with dementia eventually develop marked behavioral disturbances, including agitation, aggression, and delusions, at some point during the course of their illness [21,24].

### *Definition and clinical features*

Progressive dementias, such as AD, in contrast to delirium, which has a rapid or acute onset, has an insidious onset and progressive course beginning with short-term memory loss that eventually results in substantial global deterioration of mental and physical function. Clinical features of dementia reflect degenerative processes in global regions of the brain that produce multiple cognitive deficits, including memory impairment and one of the following neurologic symptoms:

- Aphasia (speech difficulties, inability to articulate and generate speech)
- Apraxia (difficulty in carrying out motor activities, such as button shirt or blouse)
- Agnosia (difficulty recognizing loved ones or familiar people)
- Anomia (difficulty recognizing common objects, such as watch or pen)
- Pervasive disturbance in higher (executive) brain functioning [10]

Memory deficits are gradual and often represent a prominent early symptom of dementia. Typically the patient has difficulty learning new information and is forgetful (cannot remember where keys are). Other patients have difficulty recognizing loved ones and common objects, such as a pen or watch, and have problems getting lost in familiar neighborhoods. Their judgment is impaired, and their ability to calculate or engage in abstract reasoning progressively declines [10].

### *Causative factors*

The exact cause of neurodegenerative changes of AD is obscure, but genetics, familial vulnerability, and advanced age have been identified as contributing factors. Most postmortem studies reveal alterations in neuroanatomic structures and neurobiochemical processes. AD, similar to other progressive dementias, has a degenerative course that involves destruction of cholinergic fibers from the nucleus basalis of Meynert innervating the cortex and the hippocampus, amygdala, and the entire neocortex [15]. Neurons are destroyed and replaced by senile plaques and neurofibrillary tangles, and subsequent loss of synapses occurs. The hippocampus, which is housed in the medial temporal lobe, and the amygdala are vital to the formation and storage of immediate and recent memories and their

relevance. The neocortex region of the brain involves higher brain or executive function, specifically neuroanatomic processes related to language and intelligence. Initially the parietal and temporal lobes are affected and later the frontal lobes. Personality changes, such as depression or distrust, are associated with frontal lobe destruction. This progressive destruction accounts for early symptoms of AD and subsequent global cognitive decline.

Destruction of diverse brain regions results in an inability to store, retrieve, and learn new information, ultimately affecting the ability to recognize common objects (anomia) and loved ones (agnosia). Destruction to the cortex primarily involves the parietal and temporal lobes, leading to impaired higher brain function, such as impaired judgment, speech difficulties, aggression, angry outbursts, impaired visuospatial abilities (ability to perceive time and manipulate objects in space), impaired impulse control, and disinhibition. Visuospatial disturbances often interfere with the ability to drive or draw geometric figures on the MMSE. Deterioration of these brain regions is associated with behavioral and psychiatric disturbances in the patient with AD. Neuroanatomic studies, such as magnetic resonance spectroscopy, and assessment tools used to measure cognitive decline, such as the MMSE, reveal degenerative processes and global cognitive deficits in patients with AD. Because of the degenerative and progressive course of AD, behavioral and psychiatric disturbances are likely to contribute to the family or caregivers seeking evaluation and treatment in vast clinical settings.

### *Acute management of behavioral and psychiatric symptoms*

Presently, there is no cure for AD. Cholinesterase inhibitors, such as donepezil (Aricept) [25], have been used to slow the progression of disease in moderate-to-severe AD with limited success. Acute management begins with establishing rapport with the patient, family members, and caregivers; using data to determine an accurate diagnosis; and initiating appropriate interventions.

#### *Assessment and diagnosis*

Approaching the patient and family members in a concerned, unhurried, and empathetic manner is key to establishing rapport and facilitating the data-gathering process. In addition, using active listening skills, offering reassurance, and attending to unmet needs offer comfort and safety.

The MMSE offers relevant data about cognitive function. Recent and remote memory difficulties are hallmark symptoms of AD and often indicate an inability to learn new information or retrieve stored information. In addition to the questions mentioned when assessing the patient with delirium, nurses need to ask caregivers concerning the duration of symptoms, if the patient has been getting lost, current driving patterns,

traffic accidents, and ability to maintain self-care. Similarly to assessing the patient with delirium, a patient presenting with memory and other cognitive deficits requires a comprehensive physical and psychosocial assessment. Memory deficits often signal alterations in mental functioning and are an initial indication of dementia. When it is determined that the patient has dementia, interventions to reduce psychosis and aggression and other behavioral disturbances must be initiated to promote comfort and safety in staff, the patient, and caregivers.

*Interventions*

Patients with AD exhibit an array of symptoms, including psychosis, agitation, and verbal aggression. Major treatment goals must include abating delusions, hallucinations, and suspiciousness and concurrent behavioral disturbances. Significant behavioral disturbances are screaming, agitation, restlessness, cursing, combativeness, and violence. Treating AD requires an interdisciplinary and holistic approach that focuses on safety and maintenance of the patient's global psychosocial, nutritional, physical, and functional needs and integrity. The treatment approach also must integrate the needs of caregivers by reducing their distress through reassurance, health education, and appropriate community referrals. These patient-centered approaches must combine psychosocial, environmental, health education, and pharmacologic interventions that ultimately facilitate a sense of dignity, promote safety, and promote comfort.

Behavioral manifestations, such as agitation or restlessness, may result from physical distress associated with hunger, constipation, pain, and concurrent psychiatric disorders [26] and must be assessed before administering pharmacologic interventions. Ideally the treatment approach should involve identifying underlying causative factors and initiating psychosocial and environmental interventions. Pharmacologic interventions are usually necessary to manage behavioral and psychotic disturbances associated with AD.

Psychosocial interventions need to be considered the first-line treatment for agitation and other behavioral disturbances. Environmental interventions involve using calendars, pictures, and clocks as environmental cues and soothing approaches using music and pet therapy and other measures to reduce frustration and agitation and to enhance comfort and relaxation. Environmental interventions also include assessing the family members' ability to care for the patient and their level of distress.

Managing psychotic and behavioral disturbances must be governed by the severity of symptoms and level of patient distress or dangerousness. When the situation is deemed dangerous because of combativeness, hallucinations or paranoia, pharmacologic and other interventions must be considered to ensure safety. Target treatment symptoms include hallucinations, delusions, agitation, verbal abuse, and physical aggression—the most distressing characteristics of AD. Unresolved or inadequate

management of psychotic and behavioral disturbances is likely to cause undue disability, increased caregiver burden, and premature nursing home placement [27]. Additional safety measures have been referenced previously.

Pharmacologic interventions include atypical antipsychotic medications; olanzapine and quetiapine are preferred because of their safer side-effect profile compared with typical agents. Historically, typical or conventional antipsychotic agents were the standard treatment for dementia-related psychotic and behavioral disturbances. Nowadays, atypical agents are gaining popularity because of their safer side-effect profile. In a double-blind, placebo-controlled study [28] (n = 85) comparing citalopram (Celexa, 10 to 20 mg/d) a selective serotonin reuptake inhibitor; perphenazine (Trilafon, 0.05 to 0.1 mg/kg/d), a typical neuroleptic; and placebo to control acute psychotic and behavioral disturbances in patients with dementia, the former was found to be more efficacious than placebo in the short-term management of these symptoms in nondepressed clients. These data offer promising results and additional pharmacologic considerations for the management of behavioral and psychotic symptoms.

Health education is an integral part of caring for patients with AD because the patient's dependency needs and disruptive behaviors increase the risk of elder abuse and caregiver burden. Health education needs to center on the course of AD, including mild to severe symptoms and available treatment options and related behavioral management and respite care. If the early symptoms exist, the patient and family members must deal with legal issues and future symptoms and options and identify emergent situations and when to seek medical attention. Family members are often in denial because of the stigma attached to AD and other behavioral problems and need reassurance. They also must deal with personal issues that threaten the patient's dignity and potential caregiver's burden. Social and community referrals also must be provided to assist caregivers in dealing with their own stressors inherent in caring the patient with AD [26].

*Evaluation*

Evaluating treatment outcomes in the management of behavioral and psychotic disturbances in patients with AD is based on the patient's response to treatment and safe resolution of acute symptoms. Nurses must assess the patient response to treatment continuously and reassure family members about their loved one's condition.

## Summary

As the population ages, nurses in various clinical settings must identify high-risk groups that are vulnerable to delirium and dementia. They also must be able to provide psychosocial and pharmacologic interventions that promote comfort and safety for patients and their families experiencing

these distressful medical conditions. Efforts to facilitate healthy resolution and restore the patient and caregivers to an optimal level of functioning must be priorities.

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