Social Gerontology
A Multidisciplinary Perspective

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Ninth Edition

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symptoms or somatic symptoms with no medical cause, primary care providers must probe further when older patients complain of diffuse pain, fast or irregular heart rate, fatigue, sleep disturbance, and restlessness. Once anxiety is diagnosed, older people can benefit from cognitive-behavioral therapy, relaxation training, psychosocial support, and in some cases, pharmacotherapy. More older than younger adults take benzodiazepines for anxiety, but there are increased risks of accidents and negative side effects associated with this drug. Cognitive-behavioral therapy—such as problem-solving skills, behavioral activation, and memory aids that challenge the elder's dysfunctional beliefs and maladaptive behaviors—is found to be more effective in reducing anxiety symptoms than supportive counseling and medication (Barrowclough et al., 2001; Gellis 2006; Gellis & McCracken, 2008).

Paranoid Disorders and Schizophrenia

Paranoia, defined as an irrational suspiciousness of other people, takes several forms. It may result from:

- social isolation
- a sense of powerlessness
- progressive sensory decline
- problems with the normal "checks and balances" of daily life

Still other changes in the aging individual, such as memory loss, may result in paranoid reactions. Some suspicious attitudes of older persons, however, represent accurate readings of their experiences. For example, an older person's children may in fact be trying to institutionalize him or her in order to take over an estate; a nurse's aide may really be stealing from an older patient; and neighborhood children may be making fun of the older adult. It is therefore important to distinguish actual threats to the individual from unfounded suspicions. To the extent that the individual has some control over his or her environment, the older person's perception of a threatening situation is reduced. The diagnosis of paranoid disorders in older people is similar to that in younger patients; the symptoms should have a duration of at least one week, with no signs of schizophrenia, no prominent hallucinations, and no association with signs of dementia (APA, 2000).

As with depression, counseling can be useful for paranoid older persons. In particular, cognitive behavioral approaches, in which an individual focuses on changing negative, self-defeating beliefs or misconceptions, may be useful in treating paranoid older adults who often attribute causality to external factors (e.g., the belief that someone took their pocketbook, that they themselves did not misplace it). Therapy with paranoid older persons may be effective in redirecting beliefs about causality to the individuals themselves.

Schizophrenia is considerably less prevalent than depression or dementia in old age. It is highest among adults age 18 to 54, declining to an estimated 1 percent in people age 65 and older. Alternatively, about 13.6 percent of adults with schizophrenia are age 65 or older (Cohen, 2003; Gellis & McCracken, 2008). Most older persons with this condition were first diagnosed in adolescence or middle age and continue to display behavior symptomatic of schizophrenia. However, the severity of symptoms appears to decrease and to change with age. Older schizophrenics are less likely to manifest thought disorders, loss of emotional expression, and problems with learning and abstraction; and more likely than younger schizophrenics to experience cognitive decline, depression, and social isolation. They also require lower doses of antipsychotic medications to manage their symptoms (Harvey, 2005).

Schizophrenics of any age, but especially older patients, need monitoring of their medication regimens and structured living arrangements. This is because pharmacotherapy with antipsychotic medications is the most effective treatment for older schizophrenic patients. However, many

are unable to manage their medications or choose to discontinue them because of adverse side effects. This often results in repeated hospitalizations and ER visits. Elders of color, especially those with limited English proficiency, have even more problems with medication adherence; as many as 60 percent do not adhere to their medication regimens (Gilmer et al., 2009). Many older schizophrenics have lost contact with family and lack a social support system. Although less is known about the effectiveness of psychosocial interventions, cognitive behavioral treatment, social skills training, combined skills training and health management interventions are found to reduce symptoms and depression and improve social functioning and independent living skills. Training in the use of public transportation and individual placement and support (IPS) are identified as effective in supporting paid and volunteer work among older veterans with schizophrenia. Overall, older adults with schizophrenia are able to learn to control symptoms, manage medications, and learn independent living skills (Gellis & McCracken, 2008; Patterson, et al., 2005; Van Citters, Pratt, Bartels, & Jeste, 2005).

Older Adults Who Are Chronically Mentally Ill

The plight of older persons who are chronically mentally ill has not been addressed widely by mental health providers and advocates. This population is defined as people who suffer mental or emotional disorders throughout life that impair their ADL performance, self-direction, interpersonal relations, social interactions, and learning. Many have been in and out of hospitals as their conditions have become exacerbated. They have survived major upheavals and social neglect in their lives under marginally functional conditions. About half have substance abuse problems (Drake et al., 2002). The social disruption and years of treatment with psychotropic drugs have taken their toll; many are physiologically old in their 50s and 60s. Their average life expectancy is 25 years less than their healthy peers. The cause of death is often cardiovascular and other systemic diseases that are not treated in a timely manner; and poor compliance with treatment regimens for these chronic conditions (O'Connell, 2005). Obtaining medical care for purely physical symptoms may be difficult because health care providers may attribute these to the patient's psychiatric disorder. Health professionals in this situation need to perform a thorough exam to exclude conditions caused by the mental disorder or by aging per se, and to treat any systemic diseases that are diagnosed.

Dementia

Normal aging does not result in significant declines in intelligence, memory, and learning ability. Mild impairments do not necessarily signal a major loss, but often represent a mild form of memory dysfunction known as **mild cognitive impairment (MCI).** Some people with MCI eventually develop dementia; the majority do not. Only in the case of the diseases known collectively as *the dementias* does cognitive function show marked deterioration. **Dementia** includes a variety of conditions that are caused by or associated with damage of brain tissue, resulting in impaired memory and at least one of the following abilities:

- producing coherent speech or understanding language
- recognizing or identifying objects
- executing and comprehending motor tasks
- thinking abstractly and performing executive functions (Alzheimer's Association, 2009)

In more advanced stages, behavior and personality are also impaired. Such changes in the brain result in progressive deterioration of an individual's ability to learn and recall items from the past. Previously, it was assumed that all these syndromes were associated with cerebral

DEMENTIA AS A WORLDWIDE EPIDEMIC

A 2009 report by Alzheimer's Disease International estimates a dementia prevalence rate of 35.6 million people worldwide, and projects the rate to nearly double every 20 years. Thus, 65.7 million elders with this condition are predicted by 2030, 115.4 million by 2050. They attribute much of this increase to improved recognition and diagnosis of dementia in low- and middle-income countries, as well as significant growth in their oldest old populations (200 percent between 1990 and 2020 vs. 68 percent in higher income countries). The prevalence of dementia is estimated to increase by 44 percent in Western Europe and 63 percent in North America between 2010 and 2030, compared with 114 percent in Southeast Asia and 125 percent in North Africa and the Middle East. This report raises concerns about the imperative for more gerontological health care providers with expertise in dementia in developing countries (Alzheimer's Disease International, 2009).

arteriosclerosis ("hardening of the arteries"). In fact, we now know that a number of these conditions occur independently of arteriosclerosis. Some features are unique to each type of dementia, but all dementias have the following characteristics:

- a change in an individual's ability to recall events in recent memory
- problems with comprehension, attention span, and judgment
- disorientation to time, place, and person

The individual with dementia may have problems in understanding abstract thought or symbolic language (e.g., be unable to interpret a proverb), particularly in the later stages of the disease. Although not part of normal aging, the likelihood of experiencing dementia does increase with advancing age. It is estimated that as many as 7 million Americans over age 85 have some type of dementia; almost 2 million have severe dementia, and up to 5 million are mildly to moderately impaired. Based on the 1999–2001 National Health Interview Survey (NHIS) and the 2004 National Nursing Home Survey (NNHS), 1 percent of the population age 65 to 84 and 9 percent of those age 85 and older are estimated to have memory loss that can be categorized as dementia. These national surveys suggest that 2.3 million elders have problems with ADLs due to dementia. Rates are even higher in nursing home populations; according to the NNHS, almost 30 percent of residents age 65 to 74 and 45 percent of those age 85 and older have dementia (NCHS, 2009). Because of problems in differentially diagnosis and variations in the criteria used by available tests and classification systems, prevalence rates are only estimates. Nevertheless, there is general agreement among epidemiological studies that the incidence of dementias increases with age, especially between ages 75 and 90. For example, it is estimated that:

- 12 percent of the 75-to-79 age group have some dementia
- 54 percent of 85- to 89-year-olds have signs of dementia
- 84 percent of people over age 90 have some symptoms (Kukull et al., 2002)

However, rates of dementia among "hardy" centenarians may actually be lower than among 85- to 90-year-olds because of genetic advantages experienced by those who live to age 100 and beyond. Recent data from the Health and Retirement Study identify a decline in the prevalence of dementia, from 12.2 percent of adults age 70 and older in 1993 to 8.7 percent in the 2002 survey (Langa et al., 2008). This large sample of more than 7,000 older adults representing diverse populations included more elders with a high school diploma and more with a college degree than the 1990 Health and Retirement Study. The researchers attribute these lower rates of dementia in the recent survey to the benefits of higher education levels. Higher education is associated with greater brain development and mental stimulation, better control of cardiovascular and cerebrovascular risk factors, and more access to health care.

ACTIVE AGING MAY WARD OFF DEMENTIA

Eighty-seven-year-old Mr. Lawton is a retired engineer who still skis in the winter and hikes in the summer with his dog. He continues to run a small business and maintains a healthy diet and average weight. The only medication he takes is baby aspirin to prevent a heart attack. He attributes his excellent cognitive skills and mental health to his work, volunteer activities, physically active lifestyle, and being responsible for a pet.

The major types of dementias are shown below. Note the distinction between *reversible* and *irreversible* dementias.

Reversible	Irreversible
Drugs	Alzheimer's
Alcohol	Vascular
Nutritional deficiencies	Lewy body
Normal pressure hydrocephalus	Huntington's
Brain tumors	Pick's disease
Hypothyroidism	Creutzfeldt-Jacob
Hyperthyroidism	Kuru
Neurosyphilis	Korsakoff
Depression (pseudodementia)	

The first category refers to cognitive decline that may be caused by drug toxicity, hormonal or nutritional disorders, and other diseases that may be reversible. Sources of potentially reversible dementias include tumors in and trauma to the brain, toxins, metabolic disorders such as hypothyroidism or hyperthyroidism, diabetes, hypocalcemia or hypercalcemia, infections, vascular lesions, and hydrocephalus. Severe depression may produce confusion and memory problems in some older people. Some medications may also cause dementia-like symptoms. This problem is aggravated if the individual is taking multiple medications or is on a dosage that is higher than can be metabolized by the older kidney or liver. An individual who appears to be suffering from such reactions should be referred promptly for medical screening.

Irreversible dementias are those that have no discernible environmental cause and cannot yet be cured. Although there is considerable research on the causes and treatments for these conditions, they must be labeled irreversible at the present time. Some of these are more common than others; some have identifiable causes, while others do not. Pick's disease is one of the rarest; in this type, the frontal and temporal lobes of the brain atrophy. Of all the dementias, it is most likely to occur in younger persons (age of onset is usually 40–50), and to result in significant personality changes. Creutzfeldt-Jacob and Kuru diseases have been traced to a slow-acting virus that can strike at any age. In the former type of dementia, decline in memory and coordination occurs quite rapidly, as seen in the epidemics of "mad cow disease" in the past 15 years that were attributed to consuming tainted beef in Great Britain, Europe, and the U.S. Kuru disease is quite rare. Huntington's disease is a genetically transmitted condition that usually appears in people in their 30s and 40s. It results in more neuromuscular changes than do the other dementias. Attention and judgment declines in the earlier stages, but memory remains intact until the later stages when dementia symptoms become more severe. Korsakoff syndrome is associated with long-term alcoholism and a deficiency of vitamin B_1. This form of dementia results in severe loss of memory.

Vascular dementia is the second most common form of irreversible dementias. In the past it was labeled "multi-infarct dementia." In this type, blood vessels leading to the brain become occluded, with the result that several areas of the brain show infarcts, or small strokes. The primary risk factor for vascular dementia is the same as for strokes—that is, hypertension. Because of this, vascular dementia may be prevented by controlling hypertension. Nevertheless, once it occurs,

this type of dementia is irreversible. Recent research suggests that the onset of vascular dementia may be predicted by abnormal walking patterns or gaits. In fact, elders with one of three types of abnormal gaits were 3.5 times more likely to develop vascular dementia (but no other type of dementia) in one study. Older people who walked with their legs swinging outward in a semicircle, took short steps with minimal lifting of their feet, or had an unsteady, swaying gait and no physical condition that would have caused this problem were eventually found to have vascular dementia. These movement patterns may reflect changes in the brain that trigger this condition (Verghese et al., 2002). *Lewy body dementia* is often confused with Alzheimer's disease because of similar patterns of decline, including impaired memory and judgment. In later stages, behavior also changes. However, it differs from Alzheimer's in its greater fluctuations in cognitive symptoms and alertness. Neuromuscular changes such as muscle rigidity and tremors occur in those with Lewy body dementias, but not in Alzheimer's. Brain changes include distinctive protein deposits inside nerve cells, known as Lewy bodies.

Delirium

Delirium is a reversible dementia that has a more rapid onset than other types of dementia. Signs of delirium are:

- abrupt changes in behavior
- fluctuations in behavior throughout the day
- worse symptoms at night and when first awake
- inability to focus attention on a task
- problems with short-term memory
- hallucinations
- speech that makes no sense or is irrational
- disturbance in sleep patterns

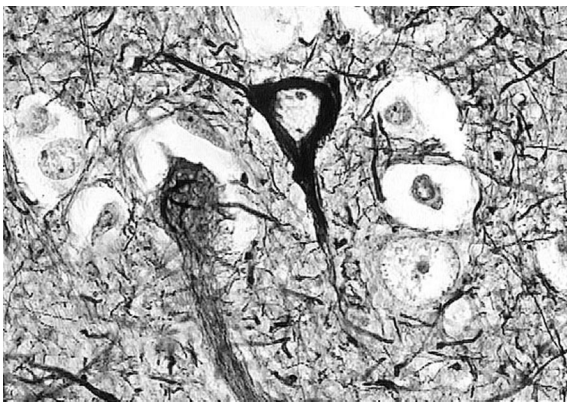
Delirium is usually caused by some external variables such as a reaction to an injury (especially head injury) or infection, malnutrition, reaction to alcohol or prescription medications, high fever, or even a fecal impaction or urinary problems. Up to 50 percent of older adults show symptoms of delirium after major surgery, possibly due to general anesthesia. A thorough medical assessment can help diagnose and reverse delirium and its symptoms by determining its causes. The condition generally resolves within 2 weeks, but those who take longer than 2 weeks and never return to predelirium functioning are elders who had more cognitive impairment, more comorbid conditions, and lower functional ability before the onset of delirium (Kiely et al., 2006; Speciale et al., 2007).

Alzheimer's Disease

Alzheimer's disease (AD) is the most common irreversible dementia in late life, accounting for 60 to 80 percent of all dementias. Prevalence rates are difficult to obtain, but it is estimated that about 5.3 million Americans, or 14 percent of all persons age 65 and over and 29 percent of those age 85 and older, have clinical symptoms of AD (Alzheimer's Association, 2009; Hebert et al., 2003). With the increased survival of older adults beyond age 85, it is estimated that as many as 11 to 16 million Americans will be diagnosed with AD by 2050. Although the prevalence rates may decline, as noted above from the Health and Retirement Study, the sheer increase in the population age 65 and over accounts for this increase in the U.S. and for most regions of the world. For example, in China and India, the *number* of elders with dementia is expected to double between 2005 and 2025, and to triple by 2050 (Alzheimer's Disease International, 2006). The dramatic rise in projected rates of AD underlies much of the research focus on the causes of and therapies for AD. This may also explain why the general public is more aware of Alzheimer's disease, its signs and symptoms, but knows very little about other irreversible dementias. Although most surveys have found awareness among the public about this specific form of dementia, there is limited information about progress in Alzheimer's disease research and current treatments (Anderson, Day, Beard, Reed & Wu, 2009).

Although a distinction was made in the past between pre-senile (i.e., before age 65) and senile dementia, there is now agreement that these are the same disease. Researchers do, however, make a distinction between the more common, late-onset form of AD and a rarer, early-onset form that appears in multiple generations of the same family, usually when the individual is in middle age (40s, even 30s). This is known as "familial AD." The rate of decline for those who are diagnosed with early-onset AD is faster and their lives often more severely affected than for the late-onset form, but it represents a very small proportion of all AD cases.

POTENTIAL CAUSES OF AND RISK FACTORS FOR ALZHEIMER'S DISEASE AND OTHER DEMENTIAS Several hypotheses are proposed to explain the causes of Alzheimer's disease. Case control studies that focused on the incidence or development of AD have not found support for environmental hypotheses, such as a previous head injury, thyroid disease, exposure to therapeutic radiation, anesthesia, or the accumulation of metals such as aluminum in the brain.



The dark patches in this brain section are neuritic plaques with a core of amyloid protein, characteristic of Alzheimer's disease. Dr. Cecil H. Fox/Photo Researchers, Inc.

Researchers have examined the impact of activity patterns during ages 20 to 60 among 193 older persons with AD and 358 healthy controls in their 60s and 70s. These activities included nonoccupational pastimes that could be classified as intellectual, physical, or passive. Elders with no signs of dementia had participated in more intellectual and physical recreational activities during their middle years than did those with AD. The greatest effect was for intellectual pastimes such as learning a new language, taking challenging courses, or learning a new activity; the more such activities an individual participated in, the lower the probability of AD. This was true regardless of educational level, gender, and current age. Although the findings must be interpreted with some caution, the dramatic differences observed suggest that participation in intellectual activities may have a protective effect against AD (Friedland et al., 2000).

Another research group tracked the physical activity levels of 1,740 older adults for 6 years who had no signs of dementia at the start of the

ALZHEIMER'S DISEASE VERSUS NORMAL CHANGES IN MEMORY

Many people in middle and old age become alarmed that they may have Alzheimer's disease at the first signs of forgetting. Here are some distinctions between *normal,* age-related changes in memory and AD:

Normal Aging

- Forgetting to set the alarm clock
- Forgetting someone's name and remembering it later
- Forgetting where you left your keys and finding them after searching
- Having to retrace steps to remember a task
- Forgetting where you parked your car

Possible AD

- Forgetting *how* to set the alarm clock
- Forgetting a name and never remembering it, even when told
- Forgetting places where you might find your keys
- Forgetting how you came to be at a particular location
- Forgetting that you drove and parked car