Chapter 15
Cognitive Disorders and Disorders Related to Aging

Sheila K. Grant, Ph.D.
Professor

Cognitive Disorders
Cognitive disorders - A class of psychological disorders characterized by impairment in cognitive abilities and daily functioning in which biological causation is either known or presumed.

Cognitive disorders are not psychologically based; they are caused by physical or medical conditions, including drug use or withdrawals, which affect the functioning of the brain.

In some cases the specific cause of the cognitive disorder can be pinpointed; in others, it cannot.

In The Man Who Mistook His Wife for a Hat, the neurologist Oliver Sacks (1985) recounts how Dr. P. failed to recognize the faces of his students at the music school.

When a student spoke, however, Dr. P. immediately recognized his or her voice.

Not only did the professor fail to discriminate faces visually, but sometimes he perceived faces where none existed.

Does this man’s singing help him coordinate his actions?

Cognitive Disorders
Agnosia - A disturbance of sensory perception, usually affecting visual perception.

People who suffer from cognitive disorders may become completely dependent on others to meet basic needs in feeding, toileting, and grooming.

In other cases, although some assistance in meeting the demands of daily living may be required, people are able to function at a level that permits them to live semi-independently.

Dementia
Dementia - Profound deterioration of mental functioning, characterized by impaired memory, thinking, judgment, and language use.

There are many causes of dementia, including brain diseases, such as Alzheimer’s disease (AD) and Pick’s disease, and infections or disorders that affect the functioning of the brain, such as meningitis, HIV infection, and encephalitis.

In some cases, the dementia can be halted or reversed, especially when it is caused by certain types of tumors, seizures, metabolic disturbances, and treatable infections, or when it results from depression or substance abuse.
Delirium

Delirium - A state of mental confusion, disorientation, and inability to focus attention.

The word delirium derives from the Latin roots de-, meaning "from," and lira, meaning "line" or "furrow."

It means straying from the line, or the norm, in perception, cognition, and behavior.

Dementia

Senile dementias - Forms of dementia that begin after age 65.

Presenile dementias - Forms of dementia that begin at or before age 65.

Although the risk of dementia is greater in later life, dementia is not a consequence of normal aging.

It is a sign of a degenerative brain disease, such as Alzheimer’s disease.

Delirium

People with chronic alcoholism who abruptly stop drinking may experience a form of delirium called delirium tremens or DTs.

During an acute episode of the DTs, the person may be terrorized by wild and frightening hallucinations, such as "bugs crawling down walls" or on the skin.

The DTs can last for a week or more and are best treated in a hospital, where the patient can be carefully monitored and the symptoms treated with mild tranquilizers and environmental support.
**Amnestic Disorders**

**Amnestic disorders** - Disturbances of memory associated with inability to learn new material or recall past events or personal information.

Amnestic disorders frequently follow a traumatic event, such as a blow to the head, an electric shock, or an operation.

A head injury may prevent people from remembering events that occurred shortly before the accident.

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**Retrograde amnesia** - Loss or impairment of ability to recall past events.

**Anterograde amnesia** - Loss or impairment of ability to form or store new memories.

**Hypoxia** - Decreased supply of oxygen to the brain or other organs.

**Infarction** - The development of an infarct, or area of dead or dying tissue, resulting from the blocking of blood vessels normally supplying the tissue.

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**Korsakoff's Syndrome**

**Korsakoff's syndrome** - A syndrome associated with chronic alcoholism that is characterized by memory loss and disorientation (also called alcohol-induced persisting amnestic disorder).

People with Korsakoff’s syndrome have major gaps in their memory of past experiences.

Their memory deficits are believed to result from the loss of brain tissue due to bleeding in the brain.

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**Psychological Disorders Related To Aging**

**Dementia**, or senility, is not the result of normal aging. It is a sign of degenerative brain disease.

Screening and testing on neurological and neuropsychological tests can help distinguish dementias from normal aging processes.

Generally speaking, the decline in intellectual functioning in dementia is more rapid and severe.
Anxiety Disorders and Aging

Although anxiety disorders may develop at any point in life, they tend to be less prevalent among older adults than their younger counterparts. Still, anxiety disorders are the most commonly occurring psychological disorder among older adults, even more common than depression. Approximately 1 in 10 adults over the age of 55 suffers from a diagnosable anxiety disorder.

Anxiety Disorders and Aging

Older women are more likely to be affected than older men, by a ratio of about two to one. The most frequently occurring anxiety disorders among older adults are generalized anxiety disorder (GAD) and phobic disorders. Panic disorder is rare. Most cases of agoraphobia affecting older adults tend to be of recent origin and may involve the loss of social support systems due to the death of a spouse or close friends.

Depression and Aging

Although risks of major depression decline with age, many older adults encounter significant periods of depression. For some older adults, recurring depression is a continuation of a lifelong pattern; in others, it first arises in later life. Between 8% and 20% of older adults experience some symptoms of depression with perhaps about 3% of them suffering from major depression.

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Sleep Problems and Aging

Insomnia in late adulthood is actually more prevalent than depression. Sleep problems reflect age related changes in sleep physiology, such as sleep apnea and tendencies to wake up earlier in the morning. However, sleep problems may be a feature of other psychological disorders, such as depression, dementia, and anxiety disorders, as well as medical illness. Psychosocial factors, such as loneliness and the related difficulty of sleeping alone after the loss of a spouse, may also be involved.

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Dementia of the Alzheimer’s Type

Alzheimer’s disease (AD) - A progressive brain disease characterized by gradual loss of memory and intellectual functioning, personality changes, and eventual loss of ability to care for oneself. The risks of AD increase dramatically with advancing age. An estimated 10% of Americans over the age of 65, and about half of those in the 75- to 84-year age range, are believed to suffer from AD.

Alzheimer’s Disease

Alzheimer’s Disease
Prevalence of Alzheimer's disease among older adults.

PET scans of brains from a healthy aged adult (left) and a patient with Alzheimer's disease (right).

Diagnosis
There is no definitive diagnostic test for AD. The diagnosis is generally based on a clinical evaluation and given only when other possible causes of dementia are eliminated. Other medical and psychological conditions may mimic AD, such as severe depression resulting in memory loss and impaired cognitive functioning.

Symptoms of Alzheimer's Disease
The early stages of the disease are marked by limited memory problems and subtle personality changes. In moderately severe AD, people require assistance in managing everyday tasks. At this stage, the Alzheimer's patient may be unable to select appropriate clothes or recall their addresses or names of family members.

Causal Factors
Plaques, steel-wool-like clumps, form in the brains of people with Alzheimer's disease, are composed of a material called beta amyloid, which consists of fibrous protein fragments. Whether or not the accumulation of plaque plays a role in explaining memory loss and other symptoms of AD remains unclear. Laboratory experiments on other animals suggest that memory deficits may actually precede the formation of significant deposits of plaque.
Presently available drugs for AD offer at best modest benefits in slowing cognitive decline and boosting cognitive functioning. None is a cure.

One widely used drug, donepezil (brand name Aricept), increases levels of the neurotransmitter acetylcholine (ACh). Hopes for the future lie in the development of an effective vaccine that might prevent this devastating disease.

In the meantime, investigators report that lifestyle changes, such as engaging in intellectually challenging tasks and following a regular exercise program, may delay or even prevent the development of dementia in later life.

**Vascular Dementia**

Cerebrovascular accident (CVA) - A stroke, or brain damage resulting from a rupture or blockage of a blood vessel supplying oxygen to the brain.

Vascular dementia - Dementia resulting from a number of strokes in the brain.

aphasia - Impaired ability to understand or express speech.

**Features of Vascular Dementia**

The symptoms of vascular dementia are similar to those of dementia of the Alzheimer's type, including impaired memory and language ability, agitation and emotional instability, and loss of ability to care for one's own basic needs.

However, AD is characterized by an insidious onset and a gradual decline of mental functioning, whereas vascular dementia typically occurs abruptly and follows a stepwise course of deterioration involving rapid declines in cognitive functioning that are believed to reflect the effects of additional strokes.

**Dementia Due to Pick's Disease**

Pick's disease - A form of dementia, similar to Alzheimer's disease, but distinguished by specific abnormalities (Pick's bodies) in nerve cells and absence of neurofibrillary tangles and plaques.

Symptoms include memory loss and social inappropriateness, such as a loss of modesty or the display of flagrant sexual behavior.

Diagnosis is confirmed only upon autopsy by the absence of the neurofibrillary tangles and plaques that are found in AD and by the presence of other abnormal structures—Pick's bodies—in nerve cells.

**Parkinson's Disease**

Parkinson's disease - A progressive disease of the basal ganglia characterized by muscle tremor and shakiness, rigidity, difficulty walking, poor control of fine motor movements, lack of facial muscle tone, and in some cases, cognitive impairment.

Parkinson's disease affects between half a million and one million people in the United States, including the former heavyweight champion Muhammad Ali and the actor Michael J. Fox.

The disease affects men and women about equally and most often strikes between the ages of 50 and 69. Dementia occurs in perhaps 20% to as many as 75% or more of Parkinson's patients over the course of the illness.
Dementia Due to Parkinson's Disease

Parkinson's disease is characterized by destruction or impairment of dopamine producing nerve cells in the substantia nigra ("black substance"), an area of the brain that helps regulate body movement.

Whatever the underlying cause, the symptoms of the disease—the uncontrollable tremors, shaking, rigid muscles, and difficulty walking—are tied to deficiencies in the amount of dopamine in the brain.

The drug L-dopa, which increases dopamine levels, brought hope to Parkinson's patients when it was introduced in the 1970s. L-dopa is converted in the brain into dopamine.

Dementia Due to Huntington's Disease

Huntington's disease - An inherited degenerative disease that is characterized by jerking and twisting movements, paranoia, and mental deterioration.

The most prominent physical symptoms of the disease are involuntary, jerky movements of the face (grimaces), neck, limbs, and trunk—in contrast to the poverty of movement that typifies Parkinson's disease.

These twitches are termed choreiform, which derives from the Greek choreia, meaning "dance."

Dementia Due to HIV Disease

The human immunodeficiency virus (HIV), which causes AIDS, can invade the central nervous system and cause a cognitive disorder—dementia due to HIV disease.

The most typical signs of dementia due to HIV disease include forgetfulness and impaired concentration and problem-solving ability.

Dementia is rare in persons with HIV who have not yet developed full-blown AIDS.

Dementia Due to Creutzfeldt-Jakob Disease

Creutzfeldt-Jakob disease is a rare and fatal brain disease.

It is characterized by the formation of small cavities in the brain that resemble the holes in a sponge.

Dementia is a common feature of the disease.

The disease typically affects people in the 40- to 60-year-old age range, although it may develop in adults at any age.

Dementia Due to Head Trauma

Progressive dementia due to head trauma is more likely to result from multiple head traumas (as in the case of boxers who receive multiple blows to the head during their careers) than from a single blow or head trauma.

Yet even a single head trauma can have psychological effects, and if severe enough, can lead to physical disability or death.

Specific changes in personality following traumatic injury to the brain vary with the site and extent of the injury, among other factors.

Neurosyphilis

General paresis - A form of dementia resulting from neurosyphilis.

General paresis is of historical significance to abnormal psychology.

The 19th-century discovery of the connection between this form of dementia and a concrete physical illness, syphilis, strengthened the medical model and held out the promise that organic causes would eventually be found for other abnormal behavior patterns.

Syphilis is a sexually transmitted disease caused by the bacterium Treponema pallidum.
QUESTIONS?