

Live Well, Live Long: Steps to Better Health Health Promotion and Disease Prevention for Older Adults

Strategies for Cognitive Vitality

Chapter 1. Defining the Problem

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Introduction: What is Cognition?

Cognition includes the function of memory, but encompasses much more. Cognition, simply stated, is the process of knowing. Knowing entails a complex combination of:

- Acquiring knowledge
- Maintaining attention
- Developing intuition
- Using language
- Perceiving the world around us
- Executing skilled motor behaviors
- Making decisions
- Setting goals
- Planning
- Judgment

The term cognitive aging describes changes in memory and other functions that form the process of knowing. Aging can reduce the production of chemicals and hormones that these functions require to process information. The most apparent changes are forgetfulness and the slowing of the ability to learn. These aspects of cognition—memory and learning—often define who we are, and become more cherished as we age.

Our memories color how we function in the world, determine our responses to situations, and mark our ability to care for ourselves. For many people, their loss is a greater fear than death.

What Does Cognitive Health Mean to Us?

Cognitive health affects us as individuals and as communities.

For the Individual

Memories document our lives, and for many people, they provide self-identity. Cognitive health contributes to enjoying life, maintaining relationships, exploring creativity, taking pleasure in contributing to the well-being of our community, family and friends, and caring for ourselves.

Various cultures respond differently to the loss of cognitive functions. Some react with fear and shame while others accept the changes.

In some ethnic communities, no distinction exists between normal age-associated memory loss and dementia. Both are karmic—destined as a result of past actions by the individual, the family or the clan. Loss of any cognitive abilities brings shame, highlighting some past ill-doing that the family must now face. The impaired family members may be hidden or their lapses covered up to avoid embarrassment.

In other cultures, cognitive decline is considered a natural part of aging and is accepted as part of a person's essence. The elder's behavior is not viewed as unusual, which may inhibit families from seeking care and possible treatment for dementia.

For the Community

Maintaining cognitive health adds value to a community. Older adults have the option to contribute to family care, civic life, spiritual growth and the economic well-being of neighborhoods. Self-care maintained through healthy cognition eases the duties of caregiving, freeing time and expenses for other community functions.

However personally or culturally perceived, loss of cognitive abilities affects caregivers and the community-at-large in many ways.

- **Cognitive health encourages a person's ability for self-care**
Loss of memory can interfere with meal preparation. Forgetting to turn off appliances such as stoves becomes a safety concern for family members and community fire protection organizations. Inability to plan the steps in preparing a meal can result in malnutrition and hospitalization. Cognitive decline can restrict judgment related to financial obligations to public utilities, banks and healthcare organizations. Cognitive health, on the other hand, reduces the need for this custodial care by maintaining activities required for daily living and functions demanded in maintaining a home and financial obligations.

- **Cognitive health contributes to the fulfillment of health needs**
Forgetting to take medications, overdosing, or taking the wrong medication may increase the symptoms of memory loss and can result in severe reactions, requiring emergency community services. Maintaining cognitive health contributes to overall physical care and well-being.
- **Cognitive health contributes to workforce productivity**
Over a quarter of working women quit their jobs to care for an older relative. The financial burden of caregiving affects families through loss of income and potential retirement contributions to Social Security and pensions. According to the 1999 *MetLife Juggling Act Study*, lifetime lost wealth averages \$659,139 per caregiver. Within organizations, the caregiving commitments of their employees take a toll on productivity, as experienced and skilled workers are lost through turnover or early retirement and absenteeism. The 1997 *MetLife Study of Employer Costs for Working Caregivers* estimated that U.S. businesses lose \$11.4 billion to \$29 billion per year to caregiving.

With Alzheimer's disease as one of the principal causes of disability among older adults and the resultant need for care, extending cognitive health and function for as long as possible contributes to keeping a vital workforce.

- **Maintaining cognitive vitality for as many years as possible contributes to the containment of healthcare costs**
Alzheimer's disease causes the greatest demand for long-term care services and facilities. Care needs extended over many years deplete personal finances and eventually tap federal, state, public and private health insurance programs to pay for service. In its 2001 study, the Alzheimer's Association projected a 54 percent increase in Medicare costs by the year 2010 for people with Alzheimer's disease. Expenditures for Alzheimer's presently make up 14.4 percent of total Medicare spending.

Problem Statement: How Widespread Is Cognitive Decline?

- The process of aging does include a normal degree of forgetfulness, due in part to reduced hormone production, changes in neurons (specialized brain cells) and decreased speed in the brain's processing of information. However, researchers see promising indications that they soon may discover ways to avoid cognitive aging and maintain cognitive vitality
- Of all people over the age of 85, 40 to 50 percent suffer from Alzheimer's, a non-treatable disease. Severe dementia affects 1.8 million Americans. Mild to moderate cognitive impairment, which falls somewhere between

age-associated memory loss and early dementia, is experienced by 1 to 5 million

- Most cognitive complaints registered by older adults are not caused by dementia. These cognitive problems, usually preventable or treatable, include symptoms of depression, poor health habits or minor strokes.
 - Complaints of forgetfulness are often one symptom of depression. Clinical depression affects 1 to 5 percent of older adults with 80 percent of those seeking treatments responding successfully.
 - Poor health habits represent 20 percent of memory complaints, which include poor diet, lack of physical activity and misuse of medications and alcohol.

Reversible Conditions of Cognitive Complaints

While 95 percent of dementias are not reversible, the National Institute on Aging specifies over 100 conditions that mimic serious cognitive impairment and are reversible. They include:

- **Emotional distress**
Life changes, stress and the resulting depression can cause lack of concentration, resulting in forgetfulness.
- **Physical illness**
Metabolic disturbances, such as renal or liver failure or electrolyte imbalances, can impair mental processes. Endocrine abnormalities such as hypothyroidism or adrenal abnormalities can trigger poor mental performance. Infections can also affect brain function.
- **Medications**
Reactions to medicines or combinations of medications can result in cognitive impairment.
- **Nutrition deficiencies**
Low levels of folate, niacin, riboflavin and thiamine present symptoms that can mimic Alzheimer's.
- **Social and cultural restraints**
Self-image and cultural considerations have a profound effect on an older person's perceived ability to remember. Memory lapses can stem simply from failure to pay attention, or lack of interest.

- **Alcohol use**
Alcohol can significantly contribute to nutritional deficiencies. Alcohol use can alter the structure of neurons, thereby contributing to cognitive impairment.

Preventable Cognitive Impairment

Small strokes, also called transient ischemic attacks (TIAs), may give rise to vascular dementia and cause cognitive impairment that can be prevented, but not reversed. Unhealthy habits can lead to vascular dementia. Ten to 20 percent of these dementia cases result from:

- Chronic high blood pressure
- Coronary heart disease
- Diabetes

These conditions can often be prevented by exercising regularly, maintaining a healthy weight, choosing low-sugar, low-salt, low-fat foods, and quitting smoking.

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