Dementia

Description/Etiology
Dementia is typically a progressive disease of the brain that impairs many cognitive functions, including memory, thinking, comprehension, orientation, language, emotional control, and social behavior. Alzheimer’s disease (AD), characterized by the gradual breakdown of nerve cells in the brain, accounts for more than half of all incidences of dementia making it the most prevalent disease causing dementia. Other conditions characterized by dementia include multi-infarct dementia, which results from a series of small strokes; Lewy body dementia (DLB), which is identified by spherical protein deposits in nerve cells in the brain; and Parkinson’s disease. Dementia can result from severe deficiency of vitamin B12 or niacin (niacin deficiency is called pellagra), protein malnutrition, and certain metabolic disorders (e.g., diabetes mellitus, type 2 [DM2]; thyroid disease).

In addition to cognitive deterioration, persons with dementia experience variable changes in appetite, dietary patterns, and ability to prepare and consume food. Weight loss, or occasionally weight gain, is a significant sign of progressing dementia. Encouraging adequate nutritional intake in persons with dementia includes initiation of treatment strategies such as providing familiar foods that the person likes, small frequent meals, finger foods that enable self-feeding, utensils that are easily held (e.g., with large handles), and/or assistance with feeding. Foods should be fortified with whole milk or protein supplements and eating high-caloriesnacks should be encouraged if appropriate. Food should be served at a comfortable temperature (e.g., appropriately hot or cold) and the dining area should be quiet with adequate lighting. Patients should be provided with a consistent meal schedule and seating location so that mealtime occurs in familiar surroundings. Physical activity should be encouraged, if possible, to stimulate appetite and circulation.

Facts and Figures
In the United States, dementia affects approximately 6% of persons over 60 years of age and is the leading cause of dependence among older adults. As of 2010, 35.6 million people worldwide and 4.7 million Americans were estimated to have AD (Hebert et al., 2013). In 2015, the estimate of people living with dementia worldwide was 47 million and its prevalence is expected to increase significantly in coming decades (Baumgart et al., 2015). It is estimated that of all people with dementia, 58% live in countries with low to moderate incomes (Prince et al., 2013).

Risk Factors
Family history of AD and increasing age are major risk factors for dementia. Modifiable risk factors for the development of dementia include sedentary lifestyle, smoking, obesity, and poor management of hypertension and DM2. Risk factors for malnutrition in persons with dementia include poor economic status, poor social support, and difficulty with self-feeding.

Signs and Symptoms/Clinical Presentation
› Memory loss and disorientation; disoriented patients may exhibit pacing and wandering
› Dysphasia and other impairments in communication
› Inability to recognize persons or things that were once familiar
Inability to learn, comprehend, or reason
Weight changes
Mood swings, personality and behavioral changes (e.g., aggression, suspicion, agitation), and insomnia
Hallucinations and delusions
Loss of independence due to inability to perform basic activities of daily living (ADLs), including shopping for and preparing food

Nutritional Assessment

Patient Medical History
- Assess or ask the patient/family members for information on the following:
  - Medical conditions (e.g., DM2, hypertension, hypothyroidism)
  - Ask about onset and presence of signs and symptoms (e.g., fatigue, constipation, anxiety, depression, agitation) that can negatively affect dietary intake
  - Level and type of regular physical activity
  - Assess the level of in-home support and available assistance

Physical Findings of Particular Interest
- Patients may have ill-fitting dentures that cause discomfort and interfere with dietary intake
- Signs of malnutrition (e.g., dry hair and skin, broken fingernails, tooth decay) may be present, indicating possible inadequate nutrient consumption

Patient Dietary History
- Conduct a diet analysis by asking the patient/patient’s family to complete a diet history
  - Useful tools for evaluating the patient’s dietary strengths and weaknesses include a food frequency questionnaire and a 3-day diet recall (i.e., patient/patient’s family recall of all foods and beverages consumed in a 3-day period) that includes 1 weekend day
  - Ask about the use of nutrient supplements
- Ask about personal habits, including alcohol, caffeine, and soda consumption, smoking, eating at night, food hoarding, wandering, and frequenting of vending machines or fast food
- Assess feeding difficulties and the level of patient assistance required
- Assess for anxiety and depression, which can interfere with dietary intake

Anthropometric Data
- Calculate the patient’s BMI by dividing body weight (kilograms) by height (meters squared) or 703 multiplied by weight (pounds) and divided by height (inches squared)
  - Underweight: < 18.5; normal: 18.5–24.9; overweight: 25–29.9; obese: > 30
  - In patients over 65 years of age, evidence suggests that a slightly higher BMI (25–27) may help prevent bone deterioration and is associated with a lower risk of mortality
  - In some cases, body composition testing (e.g., dual-energy x-ray absorptiometry scan, skin calipers) may be necessary

Laboratory Tests and Diagnostic Tests of Particular Interest to the Dietitian
- CBC and other blood tests are typically ordered to assess general health status and for anemia and nutritional deficiencies
- Urinalysis identifies abnormalities in glucose, protein, and nitrite, if present

Treatment Goals

Educate to Promote a Stable Weight and Adequate Nutrition
- Monitor weight fluctuation and report abnormalities to the treating clinician
- Review laboratory test results and diet history to evaluate current nutritional status; if appropriate, provide feeding assistance
  - Conduct dietary assessment and provide patient/family education about shopping for food, meal planning, and eating a nutritious, balanced diet
- Assess patient’s level of anxiety and depression and provide emotional support
- Refer to social worker for information on community food programs and patient assistance (e.g., Meals on Wheels, in-home care, assisted living facilities)
- Educate the patient/family members about the importance of following the prescribed treatment plan for promoting good nutrition and resolving any underlying condition, if present, adhering to scheduled appointments for continued medical surveillance, and reporting patient status changes to the treating clinician
Food for Thought

› Playing soft, low-tempo music in the dining room can mask noises that could agitate a person with dementia and interfere with eating
› There is evidence that social interaction at meal time can improve dietary intake and result in enhanced nutritional status
› Researchers report a significant positive association between vitamin D deficiency and risk of all-cause dementia and AD. Compared with persons with normal vitamin D levels, participants of a prospective study who were deficient in vitamin D experienced a 53% greater risk of all-cause dementia and a 69% greater risk of AD (Littlejohns et al., 2014). Low vitamin D status was also significantly associated with the acceleration of cognitive function decline among ethnically diverse, including Black and Hispanic older adults (Miller et al., 2015). An international task force of experts met to discuss the recent accumulation of research in the study of vitamin D and cognition in older adults. The experts concluded that low vitamin D status and inefficient utilization of vitamin D increases the risk of cognitive decline and AD in older adults and recommended that vitamin D levels be measured in older adults (65 years of age and older) because of the high prevalence of low vitamin D status in this age group of people (Annweiler et al., 2015)
› Authors of a systematic review concluded that cognitive decline and the development of AD is significantly reduced in persons who adhere to the Mediterranean diet. Improvements in memory and other cognitive functions were also associated with adoption of the Mediterranean diet (Hardman et al, 2016)

Red Flags

› Patients with dementia may not be able to communicate about the presence of factors that affect their appetite and food intake, including poor dental health, difficulty swallowing, adverse effects of medications, loss or change in ability to taste, having constipation or diarrhea, and being depressed
› Depression is a serious factor that influences food intake in patients with dementia. Many patients experience depression when they lose the ability to feed themselves independently or when they are admitted to an assistive facility, resulting in inadequate dietary intake and weight loss. Recognizing and treating depression early can help to delay or avoid malnutrition

What Do I Need to Tell the Patient/Patient’s Family?

› Eat a balanced diet that includes a variety of fruits and vegetables, is high in fiber, and is low in saturated fats. (For more information on eating a balanced diet, see the United States Department of Agriculture’s food guidance system, Choose My Plate, at https://www.choosemyplate.gov/)
› Follow recommended strategies for improving nutrient intake
› Participate in daily physical activity. Exercise reduces stress hormones, increases the sense of well-being, improves sleep, and improves overall health
› Report changes in symptoms, medical status to the treating physician to prevent further decline in health

Discharge Planning

› Eat a calorie-appropriate diet that includes fish and other lean proteins, unsaturated fats (including omega-3), complex carbohydrates (e.g., whole unrefined grains), legumes, nuts and seeds, and a variety of fruits and vegetables in as much as is consistent with the patient’s care plan according the orders of the treating physician
› Strategies for encouraging adequate nutritional intake include the following:
  • Provide familiar foods that the person likes
  • Provide small frequent meals
  • Provide finger foods that enable self-feeding
  • Provide utensils that are easily held (e.g., with large handles), and/or assistance with feeding
  • Fortify foods with whole milk or protein supplements and encourage high-calorie snacks, if appropriate
  • Food should be served at a comfortable temperature (e.g., appropriately hot or cold)
  • The dining area should be quiet with adequate lighting
  • Follow a consistent meal schedule and seating location so that mealtime occurs in familiar surroundings
  • Encourage physical activity, if possible, to stimulate appetite and circulation
› Take dietary supplements as prescribed
References


