

COMMON DENOMINATORS OF DECLINING NUTRITIONAL STATUS

CHAPTER 3

COMMON GERIATRIC SYNDROMES

Comprehensive geriatric assessment integrates clinical examination for chronic diseases and evaluates functional independence in daily activities. The goal is to identify optimal interventions to improve functional status and enhance quality of life. Functional status is related to nutritional status in two ways. It is a major quality of life factor for older adults and a determinant of meeting nutrient requirements.

Geriatric syndromes span multiple physiological systems. These conditions can lead to age-related decline in general health and functional dependency (Inouye, 2007, 2003; Fried, 2009). The common denominators of geriatric syndromes identified by longitudinal studies are associated with reduced function, quality of life, an increased risk of institutionalization and mortality. Geriatric syndromes are not independent of one another and often overlap one another (i.e. sarcopenia is associated with frailty and malnutrition).

The root cause of declining health in adults may be initiated by an acute illness, onset of a chronic disease, injury or change in social circumstances that precipitates a change in nutrient intake or nutrient utilization. The common geriatric syndromes may serve as precursors of impending declining nutritional status or concurrent with measurable signs of undernutrition. While the geriatric syndromes may not be directly tied to inadequate dietary intake, these conditions may be exacerbated by suboptimal nutrient intake and involuntary weight changes.

AHRQ published a technical report entitled *Common Syndromes in Older Adults Related to Primary and Secondary Prevention* (Kane, 2011) that identified these syndromes in older adults.

Table 3.1 Common Modifiable Geriatric Syndromes

Common Geriatric Syndromes
Multiple Morbidities
Cognitive Impairment
Frailty
Disability
Sarcopenia
Malnutrition
Homeostenosis
Chronic Inflammation

Health & Nutrition Preventions vs. Interventions

Primary, secondary and tertiary nutrition preventions play a pivotal role in the medical management of many of these syndromes. Within each category of preventions are specific interventions. Health prevention that occurs prior to the presence of a disease diagnosis is primary. Primary nutrition preventions focus on lifestyle modification, healthy eating, patterns of physical activity and disease prevention. Secondary prevention is implemented once a diagnosis is made. Nutrition related secondary prevention involves risk reduction and slowing the progression of chronic diseases managed in part with MNT. The goal of secondary prevention is to maintain functionality and quality of life (Simons-Morton,

1998). Tertiary prevention consists of slowing the disease progression and reducing the attendant suffering after a diagnosis is established. This type of prevention includes rehabilitation of disabling conditions. Examples of nutrition related tertiary preventions include chewing and appetite issues, modified diets and strategies to compensate for functional disabilities that restrict chewing, swallowing and self-feeding.

Preventions vs. Cures

The focus of Western medicine is to cure diseases, rather than to focus on health and lifestyle choices to prevent age-related changes that lead to functional loss. It is often unclear whether some physiologic changes are due to a disease or progression of loss of cellular function due to aging that leads to the common geriatric syndromes. Each of the common geriatric syndromes will be discussed briefly in Chapter 3 and in more depth in subsequent chapters.

Common Geriatric Syndromes: Multiple Morbidities

The majority adults will be diagnosed with one or more chronic diseases or conditions by age 65. The AHRQ report noted that the concept of multiple morbidities is addressed in a variety of research studies and defined using different criterion. It may refer to a minimum number of chronic diseases or conditions, a high co-morbidity score, taking multiple medications or self-perceived poor health. The prevalence of multiple morbidities increases with age. More than 20 percent of older adults suffer from multiple chronic conditions, yet the prevalence is not equally distributed by gender or ethnicity. Women have a higher prevalence than men of having three or more comorbidities. The prevalence of more than three chronic diseases is higher in women of African ethnicity compared to Caucasian females. The Women's Health and Aging Studies I and II demonstrated an increased odds of frailty in women with more than three chronic diseases or more than eight inflammatory conditions (Szanton, 2009). Specific nutrition-related comorbidities identified by the AHRQ report (Kane, 2011) include cognitive impairment, frailty, sarcopenia, cachexia, malnutrition, and chronic inflammation as it relates to changes in organ function and nutrition status. These diagnoses all have a MNT component in primary prevention.

Moreover, older women take more medications than men. Gangulia (2002), found that polypharmacy was significantly associated with mortality and with evidence of a dose response. However, the PAQUID study did not find a significant association between polypharmacy and mortality in either older men or women (Helmer, 1999). Polypharmacy is often associated with suboptimal nutrient intake due to changes in taste perception and other side effects of medications leading to anorexia. In addition, some medications promote excessive loss of nutrients or impair nutrient utilization.

Cognitive Impairment

The definition of 'cognitive impairment' is illusive in the medical literature. Criterion presently in the literature include self-reported memory complaints (Stephen, 2007) or memory impairment diagnosed with validated tools (Petersen, 2001, Lopez, 2003). The most common definition of cognitive impairment requires a subjective complaint of memory impairment with objective memory impairment, normal general cognitive function, and intact cognitive ADLs and IADLs (Petersen, 2001).

The prevalence of cognitive impairment with and without dementia increases with age. The AHRQ report estimates the prevalence of cognitive impairment to be around 30 percent for all types of dementia including Alzheimer's disease. While Alzheimer's disease receives the bulk of the news media coverage, it is estimated to be around 8 percent of older adults. The prevalence of mild cognitive impairment may exceed 50 percent of community dwelling adults (Kane, 2011).

The etiology of cognitive impairment may have its roots in a vitamin B12 deficiency, malnutrition or a consequence of long term use of medications. Nutrition-related cognitive impairment may be prevented with early primary prevention.