

ASN Publications

The following reviews are published in the January 2017 issue of *Advances in Nutrition*.

Is Chronic Disease an Unavoidable Consequence of Aging?

Scientific review published in Advances in Nutrition finds increasing prevalence of chronic disease is not a normal function of aging

By the year 2050, the global population of adults aged 60 and over is projected to more than double from roughly 841 million to 2 billion, becoming 21% of the world's population. Moreover, the elderly population is living longer: the number of individuals aged 80 and over is expected to triple in just over thirty years.

Age is a major risk factor for a variety of noncommunicable chronic diseases such as cardiovascular disease, type 2 diabetes, dementia, and cancer. All of these diseases have high associated costs of diagnosis, treatment, and care. Therefore, the aging of the population not only raises serious public health concerns, but also concerns about the financial burden placed on individuals and national health care systems.

Published in the January 2017 issue of *Advances in Nutrition*, "[Nutritional Considerations for Healthy Aging and Reduction in Age-Related Chronic Disease](#)" explores the role nutrition can play in promoting healthy aging and in improving prognoses in age-related diseases. The authors of this scientific review also examined today's health care systems, looking for ways that they could better meet the nutrition needs of aging populations around the world.

The authors point to a growing body of evidence that the increasing prevalence of many chronic diseases is not a normal function of aging, but rather a consequence of unhealthy behaviors. The World Health Organization, for example, estimates that the elimination of the major risk factors for chronic disease, including smoking, lack of exercise, and poor diet, would reduce the risk of cardiovascular disease, stroke, and type 2 diabetes by 80%.

While the link between healthy eating and healthy aging is clear, older adults face challenges in getting adequate nutrition. For example, many experience changes in taste and smell, loss of appetite, dental and chewing problems, as well as limitations in access to high-quality fresh food. This is of particular concern because older adults require higher levels of some essential nutrients, despite lower overall energy needs, due to inefficiencies in nutrient absorption and utilization. In particular, several studies have identified key nutrients that most older adults do not get enough of in their diets, including protein, omega-3 fatty acids, dietary fiber, carotenoids, calcium, magnesium, potassium, and vitamins B-6, B-12, D, and E.

In contrast to an increased requirement for many nutrients, older adults need less of certain other nutrients such as iron. Children and young adults often don't get enough iron. Iron, however, accumulates in the body with age, and a high intake of iron among older adults has been associated with a greater risk of heart disease. Although researchers are learning more and more about the general nutritional needs of older adults, individual needs vary. As a result, the authors believe "an integrated health system infrastructure is crucial to ensure quality nutrition care for the aging population." Specifically, the authors call for the incorporation of a "nutrition physical" or screening into the yearly physical examination of older adults, which can set the stage for developing nutrition interventions for healthy aging.

Diet and Osteoporosis

Scientific review published in Advances in Nutrition finds strong evidence that certain dietary patterns can improve bone health and reduce the risk of osteoporosis

Bone is a living tissue that is constantly broken down and replaced. Osteoporosis occurs when the creation of new bone tissue no longer keeps pace with the removal of older bone tissue. When this happens, bones become weak and brittle, making them highly susceptible to fracture from even mild stresses such as bending over or coughing. Osteoporosis is a major public health concern affecting elderly populations, particularly post-menopausal Caucasian and Asian women.

Your risk of developing osteoporosis is affected by heritable factors beyond your control as well as non-heritable factors that you can control, most importantly nutrition and physical activity.

Recently, the authors of "[Current Evidence on the Association of Dietary Patterns and](#)

Events

March 31. [Scientific Sessions & Annual Meeting at EB special meeting rate housing deadline](#)
The ASN headquarters hotel is the Hilton Chicago.

February 23. [Scientific Sessions & Annual Meeting](#) at EB early registration rate deadline

Apr. 22 - 26. [ASN Scientific Sessions & Annual Meeting at Experimental Biology](#). Chicago, IL

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[Bone Health: A Scoping Review](#)" reviewed the most recent clinical studies to determine what impact, if any, dietary patterns had on bone health and the risk of developing osteoporosis. For this review, published in the January 2017 issue of *Advances in Nutrition*, the authors analyzed the results of 49 large-scale clinical studies conducted in more than 20 countries around the world.

Although many clinical studies have been conducted that have established links between the intake of individual nutrients and individual foods on bone health and osteoporosis, the authors focused on studies of overall dietary patterns, believing that these studies provide more useful information for guiding public health policy and consumer choices. According to the authors, "describing and quantifying diet through dietary patterns enables the study of the entire diet, rather than individual foods or nutrients; hence, assessing dietary patterns is the preferred approach to explain the association between overall diet and bone health.

Upon reviewing the current evidence, the authors found that dietary patterns stressing the intake of fruits, vegetables, whole grains, poultry, fish, nuts, legumes, and low-fat dairy products showed a beneficial impact on bone health. In addition, dietary patterns associated with good bone health also limited the intake of soft drinks, fried foods, meat, processed foods, sweets, and refined grains. These healthy dietary patterns, which include the Mediterranean diet, Healthy Eating Index, and Alternative Healthy Eating Index, led to a decreased risk of osteoporosis as well as bone fracture among the elderly.

The authors believe that their findings warrant further studies and clinical trials using standardized approaches and measurement techniques in order to more accurately evaluate the impact of dietary patterns on bone health and the risk of osteoporosis. In conclusion, the authors believe "early integration of the bone-benefiting dietary pattern into health promotion initiatives would improve bone mineral accrual and maintenance during early years and reduce the risk of osteoporosis and subsequent fractures later in life."

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