

Diet and Osteoporosis

Summary of Significant Trends:

Osteoporosis is a major threat to North Carolinians that affects every gender, race, and economic group, though thin, small-boned white women are at highest risk. One out of every two women and one in eight men over age 50 will have an osteoporosis-related fracture in their lifetime although osteoporosis can strike at any age.

In the U.S. today, 10 million individuals already have osteoporosis and 34 million more have low bone mass, placing them at risk for this disease. More than 2 million American men suffer from osteoporosis, and millions more are at risk. Each year, 80,000 men suffer a hip fracture and one-third of these men die within a year. Osteoporosis is responsible for more than 1.5 million fractures annually, including 300,000 hip fractures, and approximately 700,000 vertebral fractures, 250,000 wrist fractures, and more than 300,000 fractures at other sites. Estimated national direct expenditures (hospitals and nursing homes) for osteoporosis and related fractures are \$14 billion each year.

Since osteoporosis cannot be cured, prevention is the key to controlling this condition. A greater bone density prior to the onset of bone loss around midlife decreases the chance of fractures later in life. Population and prospective studies have shown a positive association between calcium intake and bone mass, likely decreasing the risk of osteoporosis.

Emerging Trends and Issues:

A comprehensive osteoporosis treatment program includes a focus on proper nutrition, exercise and safety issues to prevent falls that may result in fractures.

Along with a balanced diet increased intake of certain nutrients is indicated for strong bones. These include increased need for calcium and vitamin D. Consuming adequate calcium and vitamin D and practicing weight-bearing physical activity throughout life are important to building and maintaining strong, dense bones.

Various factors contribute to adults getting less than the desirable amount of nutrients:

- Perceptions of dairy foods being high in fat among women ages 22 to 85 may be a barrier for consuming these calcium-rich foods.
- Among adults, a breakfast that included ready-to-eat cereals was associated with higher calcium intakes.
- Women exposed to modeling of milk drinking by their mothers were more likely to drink more milk and less soda than those whose mothers did not drink milk.
- Lactose intolerance or adverse physical reactions to milk cause some to consume fewer dairy products.

Relevance of Trends to County Programs:

Nutrition education to improve consumption of calcium-rich products can be effective in preventing or delaying the downward spiral into osteoporosis and poor health. The Cooperative Extension Service (CES) is the primary source of nutrition information for all people. The CES has long been known for its outreach into the community with educational programming. Nutrition programs targeting diet and osteoporosis that are available through the CES include Partners in Wellness (PIW) and HELP (Helping Elderly Live Productively).

Sources of Supporting Data:

Centers for Disease Control and Prevention:
www.cdc.gov/nchs/agingact.htm

USDA Food and Nutrition Information Center:
www.nal.usda.gov/fnic

USDA Food and Nutrition Service:
www.fns.usda.gov/fns

Center for Nutrition Policy and Promotion:
www.cnpp.gov

Chapman KM, Chan MW. Focus groups: their role in developing calcium-related education materials. *J Hum Nutr Diet.* 1995;8:363-367

Osteoporosis prevention, diagnosis, and therapy. NIH consensus statement Online [serial online]. March 27-29, 2000; 17(1):1-36.

Available at: http://consensus.nih.gov/cons/097/097_statement.htm.

National Osteoporosis Foundation

National Institute of Arthritis and Musculoskeletal and Skin Diseases

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