

CHAPTER I: INTRODUCTION

Statement of the Problem

Osteoporosis is a progressive and potentially crippling disease that results from low bone mass making bones thin and prone to fracture. It is not just a disease of the elderly population; research shows that building optimal bone mass at a young age is a key factor in helping to prevent this disease later in life. Consuming adequate levels of calcium throughout life will help in reaching peak bone mass, thus building strong bones. The degree of calcium storage is reported to be the greatest during infancy and adolescence, the periods of greatest skeletal growth (Matkovic and Heaney, 1992). Factors important in the development of peak bone mass include recognition that environmental factors have a role in its attainment and that certain interventions cause increased bone gain during youth (Cooper and Eastell, 1990). Knowledge of these factors emphasizes the importance of calcium intake early in life. Maintenance of optimal bone health to prevent osteoporosis depends on an adequate supply of calcium and other essential nutrients, such as vitamin D and phosphorus (NIH, 1994).

The Recommended Dietary Allowances (RDA) for calcium for adolescents (ages 11-18) and college age females (19-24 years) is 1,200 mg/day (Food and Nutrition Board, 1989). The new Dietary Reference Intakes (DRI) for these age groups are 1,300 mg/day for ages 14-18, and 1,000 mg/day for ages 19-30. Dietary Reference Intakes for calcium were derived from a review of the scientific literature by the National Academy of Sciences (NAS) concerning calcium for each stage of the lifespan, roles of this nutrient in decreasing the risk of chronic diseases and other conditions, and the current data on intakes in the U.S. and Canada. These recommended intakes will replace the old RDA for calcium (Yates et al., 1998). The National Institutes of Health (NIH) Consensus Panel on Optimal Calcium Intake (1994) recommended 1,500 mg/day of calcium to maintain bone. Mean intakes among females in these age groups range from 796 to 833 mg/day according to the National Health and Nutrition Examination Survey (NHANES) III (Alaimo et al., 1994). In spite of health implications associated with calcium intake,

mean consumption levels are considerably less than the recommended amounts, especially among adolescent and college age females (Neumark-Sztainer et al., 1997). To attain optimal calcium intakes, a change in dietary habits to increase consumption of dairy products is needed. The U.S. Department of Agriculture (USDA) recommends 2-3 servings/day of dairy foods (NIH, 1994).

Dairy products are the primary source of calcium for Americans because of their high calcium content. At least 55% of dietary calcium comes from milk and milk products in the U.S. diet. Because calcium intakes are low, it follows that dairy food intake also is inadequate. One reason for this might be that females perceive dairy foods as "fattening". With the American society's obsession for thinness, young females may choose to avoid dairy altogether or significantly limit intake. A lack of knowledge about calcium-rich foods that are non-dairy-based also has been reported for college age females (Chapman et al., 1995). With increased consumer demand for "healthy" foods, low-fat dairy products have become available, and can be an effective way of meeting calcium needs without the excess fat or kilocalories.

Nutrition education should focus on food composition and information needed by consumers to make appropriate food choices that would foster positive attitudes towards improving calcium intakes (Weaver et al., 1997). Nutrition education concerning dietary calcium should strengthen the health belief for the near future rather than the distant future and emphasize calcium-rich dairy foods and non-dairy foods that are low fat to dispel the perception that dairy foods are high in fat and cholesterol. Factors which instill concern about calcium intake would be invaluable for future educational efforts (Chapman et al., 1995).

The challenge to improve dairy consumption among college females is not solely the responsibility of nutrition educators. The NIH (1994) recommended public health strategies to achieve optimal calcium intake. These strategies included a broad outreach and involved educators, health professionals, and the private and public sectors. Public

education is needed to get people involved on all levels, including public leaders, representatives of national groups, local leaders in the community, and health professionals. This involvement can be achieved by disseminating information on optimal calcium intake for the general population and high-risk groups (NIH, 1994). The private sector is also challenged to play an active role in promoting optimal calcium intake. The NIH (1994) recommended that manufacturers and producers of food products continue to develop and market a variety of calcium-rich foods to meet the needs and tastes of the diverse American population. Restaurants, grocery stores, and other food establishments need to get involved by increasing accessibility and visibility of calcium-rich products for consumers.

Purpose of the Study

Focus group interviews with different generations of educated, non-Hispanic white women in Virginia are being conducted to explore perceptions of dairy products. The qualitative data generated from these focus groups will be used to assist in the development of a questionnaire that will be used to survey a larger sample of this population of women (all generations) in Virginia. Based on results of the studies, recommendations will be made for nutrition education and for the development of dairy foods. The focus group interview was used in this particular study to explore the perceptions, opinions, thoughts, and feelings of college women relating to dairy foods. Results were compared to findings reported by Eddy (1997) for elderly women's views of dairy foods. The target population was single, non-Hispanic white college females, 18-24 years of age, currently enrolled in a state-funded Virginia college or university. Pertinent research questions were:

- 1) What are college women's attitudes towards different dairy foods?
- 2) What do college women perceive as barriers to consumption of dairy foods?
- 3) Who/what influences college women's dairy food choices?
- 4) What product improvements would college women like to see?