



ABSTRACT

Dairy products : facts and fantasy

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Fracture risk is determined by bone mass, geometry, and microstructure, which result from peak bone mass attained at the end of pubertal growth and from the amount of bone lost subsequently. Nutritional intakes are an important environmental factor that influence both bone mass accumulation during childhood and adolescence and bone loss in later life. Dairy products are rich in nutrients that are essential for good bone health, including calcium, protein, vitamin D, potassium, phosphorus, and other micronutrients and macronutrients. Numerous observational studies and RCTs have shown a favorable effect of dairy products on bone health during growth. In post-menopausal women and elderly studies show a significant inverse association between dairy food intake and bone turnover markers and a positive association with bone mineral content and strength. The association between dairy products and risk of hip fracture is less well established, since available data are only observational. RCT show that both calcium and vitamin D are needed to decrease fracture risk. There is a high prevalence vitamin D insufficiency in the elderly and dietary calcium is low in many postmenopausal osteoporotic women. Recent European consensus recommend adequate vitamin D intake of 800 IU/day as well as calcium intake of 1000 mg/day, dietary sources of nutrients being the preferred option .

Despite the established benefits for bone health, some people avoid dairy in their diet due to beliefs that dairy may be detrimental to health, especially in those with weight or digestion concerns, or trying to avoid cardiovascular disease and cancer. Contrary to popular belief, meta-analyses of observational studies support the positive role of dairy for weight control, particularly during energy restriction. Lactose intolerant individuals may not need to eliminate dairy products from their diet: most of them can tolerate up to 12 g of lactose (240 ml of milk), and both yogurt and hard cheese are well tolerated. Dairy products do not increase the risk of cardiovascular disease or cancer when consumed at the recommended dose of 3 serving per day as a part of a balanced diet. Overall, the proven benefits of dairy foods on bone health greatly outweigh unproven harms.