Does food fortification improve nutritional and functional status in nursing home residents?

Smoliner C., Norman K., Scheufele R., Hartig W., & Lochs H. (2008). Effects of food fortification on nutritional and functional status in frail elderly nursing home residents at risk of malnutrition. *Journal of Applied Nutritional Investigation* 24, 1139-1144.

Why consider food fortification in long term care?

Nutritional status is often compromised in older adults, especially in those living in long term care. Protein-energy malnutrition is prevalent in this age group, ranging from 30% to 60%. Poor nutrition can lead to many health problems, isolation, and greater dependency, which eventually lead to a lower quality of life. Residents often have difficulty in consuming an adequate diet and food fortification is one means by which nutritional status may be improved.

What was done?

A total of 65 nursing home residents were assessed with the Mini Nutritional Assessment (MNA) for malnutrition; 62 were at nutritional risk and 3 were malnourished. They were separated into a standard group (received diet according to German reference values) or the food-fortification (FF) group (protein and energy-enriched soups and sauces and additional snacks high in protein and energy). Nutritional intake was measured by daily food-intake protocols. Diets were provided for 12 weeks and the MNA used to determine change in nutritional status (> 23.5 point =well nourished, 17 -23.5 points = nutritional risk, < 17 points =malnourished). Functional status was determined by handgrip strength (Digimax electronic dynamometer) and respiratory muscle strength (Assess Peak Flow Meter). Lastly, the Barthel index was also used to assess the self-caring capacity of individuals.

What was found?

Dietary protein intake improved in the fortified group, but energy intake was not significantly different. MNA improved in both the standard group and the FF group after 12 weeks of treatment. Handgrip strength did not was maintained in the FF group but decreased in the standard group, but this difference was not significant. Peak flow also did not differ and in both groups, there was a decrease in The Barthel index.

Importance of this Research:

Nutritional and functional status are often decreased in residents. Understanding how we can potentially increase the health of older adults can enhance the quality of life in this population.

Applying what was found

Food fortification of energy did not appear to sufficiently increase intake; other reasons for low intakes need to be assessed and improved if possible. Treatment of undernutrition needs to be multifactorial.

Written by Janis Law, 2010