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Evidence for the role of low-fat dairy foods in decreasing body fat compared to calcium alone or a control group in overweight/obese early-postmenopausal women over a 6-months weight loss intervention

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The causes of overweight/obesity are numerous. Besides energy intake, various foods and nutrients have been implicated to impede or facilitate body weight/fat accumulation. Our objective was to investigate whether weight loss could be achieved easier with calcium (Ca) supplements or low-fat dairy products both as complements to the underlying hypocaloric diets. A special emphasis was placed on assessing body composition, fat distribution and changes in visceral fat. The study followed overweight/obese early-postmenopausal women over a 6 month-period, divided into 3 groups: Supplement (pills containing 630 mg Ca+400 IU of vitamin D/day); Dairy (low-fat dairy consumption, 4-5 servings/day); and Control (placebo pills). Each group included moderate energy restriction (~85% of energy needs). Anthropometry, including circumferences was measured by standard methods. Body composition of total body as well as android and gynoid regions, including fat and lean tissue was measured by lunar iDXA densitometer. A total of n=97 participants completed the 6 months follow-up and had complete data-sets. Overall, the participants lost 4.0% of body weight and 3.5% of body fat. The decrease in android and total body fat was the highest in the Dairy group, while the decrease in gynoid fat was significantly higher in Supplement and Dairy group compared to the Control group. The decrease of android and total body lean mass was significantly lower in Dairy group compared to two other groups, while the loss in gynoid lean mass was significantly higher in Dairy group. In conclusion, the hypocaloric diets with increased Ca intake either via low-fat dairy products or via Ca supplements was associated with greater body weight and fat loss supporting a healthier body composition, in comparison to the control group, with the best outcomes in a low-fat dairy group.

Biography

Jasminka Z Ilich is the Hazel Stiebeling Professor of Nutrition at the Florida State University. She has earned her PhD at the Ohio State University and the University of Zagreb, Croatia in Medicinal Sciences and her MS at the University of Utah in Foods and Nutrition. Her research includes clinical studies in older women with nutritional interventions incorporating behavioral modification and modes of physical activity for augmentation of bone and body composition. She has recently identified a triad incorporating bone loss, muscle loss and adipose tissue expansion and termed it "osteosarcopenic obesity syndrome". Recently, she started investigating the newly discovered hormone irisin, in connection with brown-fat, beige-fat activation. Her research also includes outreach to underserved communities for education and health promotion interventions to foster obesity prevention, improvement in cardiovascular risk factors and overall healthier lifestyle. On the molecular level, she investigates nutritional influences on mesenchymal stem cell differentiation into osteoblasts and adipocytes lineages and cross-talk with myocytes.

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