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Increased skim milk consumption reduces uricemia, body fat, and body weight in excess body weight women pursuing energy restricted diet

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Objective: The purpose of this study was to assess the effect of increased calcium consumption on obesity prevention and control.

Methods: Thirty three women, low-calcium consumers (<800mg/day), aged 18-42 years, BMI 27.72±1.14 kg/m² and body fat 42.61±1.03% participated in this 45 consecutive days (6 weeks), parallel design study. Subjects were randomly allocated in one of the experimental groups: Low Calcium (control (LC)) or High Calcium (Calcium Citrate (CIT) or Skim Milk (SM)). Breakfast (LC: 0 mg of calcium/day, CIT and SM: ~700 mg/day) was consumed in the laboratory. Hypocaloric diets (-500 kcal/day; 800 mg of calcium/day (C) or 1500 mg of calcium/day (CIT and SM)) were prescribed. Fasting blood samples, body fat, anthropometric and biochemical parameters were assessed on days 1 and 45. Food intake was assessed in the first, third and last weeks.

Results: There was a significant reduction in serum uric acid concentration in SM and in ionized calcium in SM and CIT compared to C. Body fat (total, trunk and android) and waist circumference significantly reduced in the SM group. Weight loss was 119% and 100% higher in the SM group compared to LD and CIT groups respectively. Energy, macronutrients and fiber intakes did not differ from group.

Conclusions: Daily consumption of 4-5 portions of skim milk may be an effective strategy to prevent and control obesity in excess body weight women pursuing an energy restricted diet.

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Drying as an alternative to decrease harvest and postharvest losses of fruits in Brazil

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Brazil is one of the largest countries in the world. With its wide expanse of land, the country presents a variety of climate especially tropical and subtropical areas. As a result, Brazil was the third greatest producer of fruits in 2013 according to FAO data. However, harvest and postharvest losses of perishable food such as fruits and vegetables are large in Brazil with approximate losses of 30-40%. So, it has been increased the interest in preventing these losses by processing the fruits or parts of the fruits and incorporating the processed fruits in products resulting in added value for the final product. In this context, drying is one of the most used processes aiming food preservation. But, it is well known that as a result of physical, chemical and biochemical changes occurs quality degradation of the food submitted to drying. So our group has been studying the use of edible coatings as a pre-treatment to drying in order to prevent oxidative damages that occur during the process. We studied the effects of using polysaccharide and protein coatings to coat fruits before drying. The selected coatings present low water vapor barrier and good gas barrier properties such as oxygen barrier resulting inefficient oxygen barrier and preventing the oxidation of the vitamin C of the fruits during drying (compared with non-coated samples). In addition coatings did not affect the drying efficiency of the fruits presenting as a promising alternative to enhance the quality of dehydrated foods.

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