



Effect of Calcium on Weight Management and Lipid Profile

■ MADHVI DANIEL, RANU PRASAD AND SUSHMA

See end of the paper for authors' affiliation

Correspondence to :
DANIEL MADHVI
Department of Food and Nutrition, Ethelind School of Home Science, Sam Higginbottom Institute of Agriculture, Technology and Sciences, ALLAHABAD (U.P.) INDIA
Email: madhvidaniel@gmail.com

Key Words :

Calcium,
Lipid profile,
Body weight, Management

Paper History :

Received : 24.04.2012;
Revised : 25.06.2012;
Accepted : 01.07.2012

ABSTRACT : Present study was undertaken with the objective of investigating the role of calcium in modulating obesity and its effect on fecal fat excretion and lipid profile. When high calcium diet from different sources was administered, it was observed that dairy sources of calcium produced significant difference in total cholesterol (t=4) and HDL (t=3.1) levels. Although some decline was observed in lipid profile of group III (non-dairy source) and group V (supplemental calcium) but it was not significant as compared to the effect produced by dairy sources of calcium. Dairy sources of calcium produced markedly greater weight reduction (10.6 g) in obese rats followed by non-dairy sources of calcium (5.3 g) and supplemental calcium (3 g). Dairy sources of calcium induce weight loss to a greater extent than do non-dairy and supplemental sources of calcium.

How to cite this paper : Daniel, Madhvi, Prasad, Ranu and Sushma (2012). Effect of Calcium on Weight Management and Lipid Profile. *Internat. J. Med. Sci.*, 5(1 & 2) : 4-6.

Obesity is one of today's most blatantly visible yet most neglected public health problems. Paradoxically coexisting with undernutrition an escalating global epidemic of overweight and obesity- 'globosity' is taking over many parts of the world. The identification of factors that influence energy balance is an important issue in the research field of nutrition and becomes a growing necessity in the context of obesity epidemic throughout the world. Although much of effort has been devoted to studying the effects of macronutrients on weight control, the role of micronutrients has not been well studied. . The lack of micronutrients or small portions of vitamins and minerals in diet has been linked to an increased risk of obesity (Calton, 2010).

Calcium may be the newest weight-loss secret. Recent studies provide more evidence that calcium can fight body fat and helps to keep weight under control. Calcium and weight loss have been positively associated. It has been shown that the more dietary calcium intake may help to facilitate fat loss, prevent fat storage, help raise metabolism and reverse gradual weight

gain. Although energy balance is the most critical factor in weight regulation, recent studies suggest that calcium contribute to shifting the energy balance and thus, play a role in weight regulation (Teegarden, 2003).

The present study was undertaken with the objective of investigating the role of calcium in weight loss and its effect on lipid profile.

RESEARCH METHODOLOGY

Subject :

Male and female Albino rat (*Rattus rattus*) model of diet-induced obesity.

Experimental diet :

Rats were divided into 3 groups and three different experimental diets were administered for a period of 5 weeks

Each experimental diet was rich in calcium (~1000 mg) and calcium was provided by different sources *i.e.*, non-dairy, providing energy- 305.9 Kcal, protein- 15.3 per cent of total energy, fat- 3.8 per cent of total energy and carbohydrate- 80.9 per cent of total energy, dairy- three servings