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## Dose and source of calcium regulates postprandial glycemic and satiety responses in healthy young male subjects

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High dairy or calcium intake has been linked to reduced insulin resistance, however, the role of calcium amount and source is not explored. Therefore, the present study was conducted to examine the effects high and low levels of calcium carrying dairy products coming from natural as well supplement sources on glucose homeostasis as well appetite regulation. In a randomized, cross-over design, 20 healthy males (20-30Y) were provided two iso-caloric servings (250 ml) of either: 1) High calcium milk (HCM; Nesvita Ca-Plus; 500 mg Ca) or 2) Low calcium milk (LCM; Nestle Milkpak; 250 mg Ca) or 3) High calcium simulated milk beverage (HCS; 500 mg calcium carbonate) or 4) Low calcium simulated milk beverage (LCS; 250 mg Calcium carbonate). Following the treatments, subjects were served an ad libitum pizza meal at 120 min to assess the food intake. Following which blood glucose (BG), average subjective appetite (ASA), serum insulin and satiety related hormones (GLP-1, active ghrelin) were evaluated at different time intervals. The BG concentration was reduced ( $P < 0.0001$ ) following HCM compared with all others, without disproportionate increase in insulin. Higher calcium levels were observed to reduce BG levels compared with their lower counterpart ( $P = 0.0002$ ). However, post-treatment avg. subjective appetite ( $P = 0.0017$ ) and food intake ( $P = 0.0021$ ) were significantly reduced due to amount of calcium, but not source of calcium. HCM further significantly improved GLP-1 concentration ( $P < 0.0001$ ), without any effect on active ghrelin. Both amount and source of calcium regulate glycemic responses, while satiety responses were only regulated through amount of calcium but not its source.

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