Introduction: Conjugated linoleic acids (CLAs) have shown beneficial effects in weight control therapy however this relation is not clear. Objective: The aim of the study was to examine the effects and safety of 3 g of a 1:1 mix of c9-t11 and t10-c12 on weight control and body composition in healthy overweight individuals. Methods: A prospective, placebo-controlled, randomised double-blind, parallel clinical trial lasting 24 weeks was carried out in 38 volunteers (29w, 9m) aged 30-55 years and BMI 27-<30 kg/m2 who consumed 200 ml/day of skimmed milk with 3g of CLAs or 3g olive oil (placebo). Anthropometric, biochemical and dual x-ray absorptiometry (DXA) tests were measured. Diet and physical activity were assessed. Results: Subjects maintained their habitual dietary and exercise patterns over the study. Only CLA group showed a significant decrease in weight (74.43 ± 10.45 vs 73.54 ± 11.66 kg, p = 0.029) and waist circumference (91.45 ± 10.33 vs 90.65 ± 9.84 cm, p = 0.012) between baseline and end of the study. BMI and waist height ratio decreased (28.44 ± 1.08 vs 27.81 ± 1.43 kg/m2, p = 0.030 and 0.57 ± 0.05 vs 0.56 ± 0.04 p = 0.013 respectively) in CLA group at the end. CLA group experienced a reduction in total fat mass after 24 weeks (38.62 ± 5.02 vs 36.65 ± 5.64%, p = 0.035). No decrease was observed in Control group. HOMA index had no changes. Conclusions: The consumption of skimmed milk enriched with 3g of a 1:1 mixture of c9-t11 and t10-c12 for 24 weeks led to a decrease in body weight and total fat mass in healthy, overweight subjects who maintained habitual diets and exercise patterns. No adverse effects were observed. Registered under ClinicalTrials.gov Identifier No. NCT01503047.

Keywords
Conjugated linoleic acids, Overweight, Weight lost, Dual X-Ray absorptiometry, Clinical trials.