Abstract

The high glycemic index diet was an independent predictor to explain changes in agouti-related protein in obese adolescents. Background & Aims: The role of diet glycemic index (GI) in the control of orexigenic and anorexigenic factors of the energy balance is still not clear. The present study aimed to assess whether the habitual diet, according to different GI foods, exerts influence on regulation of energy balance markers and the effects of interdisciplinary intervention in obese adolescents. Methods: A total of 55 obese adolescents, aged from 14 to 19 years, were submitted to one year of interdisciplinary therapy and were divided in two groups, according to the predominant dietary pattern of food intake: high-GI group (H-GI; n = 29) and moderate/low-GI group (M/L-GI; n = 26). Results: The concentration of orexigenic factor AgRP (p < 0.01), visceral fat (p=0.04) and visceral/subcutaneous ratio (p = 0.03) were higher in the group of H-GI when compared with M/L-GI group. Moreover, the habitual consumption of H-GI foods was an independent predictor to explain changes in AgRP concentrations. After one year of interdisciplinary therapy, the adolescents presented significant reductions in body weight, total body fat (%), visceral and subcutaneous fat and HOMA-IR, as well as a significant increase of fat free mass (%). Conclusions: Our results may suggest that habitual H-GI diet could upregulate orexigenic pathways, contributing to vicious cycle between undesirable diets, deregulates energy balance and predispose to obesity. One the other hand, one year of interdisciplinary therapy can significant improves metabolic profile and central obesity in adolescents.

Keywords

Key words, Obesity, Energy balance, Neuropeptides, Food consumption, Glycemic index.