Objective: The aim of this study was to compare the effects of different glycemic load diets on biochemical data and body composition, in overweight and obese subjects, during a 6-month period. Research design and methods: This study was an experimental, randomized, parallel design. Anthropometric measurements and biochemical data were measured at baseline at 3 and at 6 months. All subjects completed 3-day dietary intake diaries at the baseline period and during the third and the sixth months. At the sixth month, LGL group had a mean intake of 1,360 ± 300 kcal/day and the high glycemic load group (HGL) had a mean intake of 1,544 ± 595 kcal/day. Results: LGL group obtained a weight reduction of 4.5% (p = 0.006) and the HGL group of 3.0% (p = 0.18). Significant reductions in waist circumference (5%, p = 0.001) of the LGL group were observed, 10% of body fat percentage (p = 0.001), 4.3 kg (13%) of body fat (p = 0.001), 14% of total cholesterol (p=0.007), 35% of high density lipoproteins (HDL) (p = 0.001), and 10% of HOMA (p = 0.009). In the HGL group, reductions of 4.5% of waist circumference (p = 0.02), 37% of HDL (p = 0.002), and an increase of 8 % of LDL (p = 0.04) were observed. Conclusions: These results suggest that long term LGL diets are more effective for reducing body mass index, body fat, waist circumference and HOMA and, therefore, may contribute in the prevention of diabetes.

Keywords
Glycemic load, Obesity, Overweight, Diabetes.