



Research article

## Bromocriptine improves obesity by action on lipid profiles and leptin

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### Abstract

**Background:** Comparative research on the efficacy of a non-prescription drug to support weight loss programmes is currently lacking. This clinical trial compares the lipase inhibitor orlistat and the dopaminergic agonist bromocriptine.

**Methods:** Seventy-five women with obesity were randomized into three groups according to the treatment received: the obese control group (OC; n = 25), the orlistat group (OR, n = 25, 120 mg capsules, three times a day) and the bromocriptine group (OB, n= 25, 20 mg tablet, once a day). This prospective observational study was conducted with a normocaloric diet for eight weeks. The serum concentration of leptin and the lipid profile were measured, along with the body mass index (BMI) at baseline and after the study.

**Results:** Bromocriptine treatment (OB) caused a decrease in serum leptin concentration compared to that in the OC and OR groups (ANOVA, p < 0.01). Beneficial changes in anthropometric and BMI values were observed following orlistat and bromocriptine administration, with the greatest advantage observed in the OB group.

**Conclusions:** Beneficial effects were observed on weight loss and body composition in all examined groups, and the greatest improvement in serum leptin was associated with the bromocriptine treatment. We find these strategies promising for the treatment of obesity and its related complications in women.