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Int J Obes (Lond). 2009 Oct;33(10):1174-82. doi: 10.1038/ijo.2009.155. Epub 2009 Sep 15.



Satiety and amino-acid profile in overweight women after a new treatment using a natural plant extract sublingual spray formulation.

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Abstract

OBJECTIVE: To test the effect on satiety of a formulation comprising plant extracts naturally containing 5-hydroxytryptophan, delivered as sublingual spray (5HTP-Nat Exts), administered five times a day for 2 months.

DESIGN: Two-month, randomized, double-blind, placebo-controlled trial.

SUBJECTS: A total of 27 healthy, adult overweight women were randomly assigned to the treatment (14) or the placebo group (13).

MEASUREMENTS: Visual analog scales were used to assess appetite sensations every day. Moreover, the study evaluated the bioavailability of 5-hydroxytryptophan following sublingual delivery over 8 weeks, by comparing 24-h urinary excretion of 5-hydroxy-3-indoleacetic acid (5-HIAA), determined at baseline and after 2 months. Other secondary end points of the study were to compare body composition, depressive symptoms, severity of binge eating and quality of life. Finally, the study tested whether a single administration of 5HTP-Nat Exts in fasting state has an effect on amino-acid profile and on appetite ratings and whether 5HTP-Nat Exts administered before a fixed test meal has any effect on satiety.

RESULTS: The group using the 5HTP-Nat Exts experienced a significantly greater increase in their sensation of satiety over an 8-week timeframe and in fasting state following administration of 5HTP-Nat Exts than the placebo group did (AUC=305.2 (52.8) vs 236.6 (59.4), mean difference -68.7 (95% confidence interval (CI) -116.2 to -21.2), P=0.007; mean difference in Haber score change 2.5 (95% CI 0.62-3.12, P=0.007)). A difference was observed between the groups for the mean change in 5-HIAA. All the amino acids evaluated after a single administration of 5HTP-Nat Exts were found to be similar. Differences were found for the mean change in body mass index, skinfold thicknesses and hip circumference. The other parameters were found to be similar.

CONCLUSION: All these findings suggest that 5HTP-Nat Exts may be safely used to treat the problem of appetite control in overweight women during a weight loss program.

PMID: 19752879 DOI: [10.1038/ijo.2009.155](https://doi.org/10.1038/ijo.2009.155)

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