

## Lipid Replacement Therapy Functional Food Formulation with NT Factor for Reducing Weight, Girth, Body Mass, Appetite and Fatigue While Improving Blood Lipid Profiles

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### Abstract

**Background:** Lipid Replacement Therapy using NT Factor® plus kidney bean alpha-amylase inhibitor (Healthy Curb®) was used in a two month weight loss clinical trial to reduce weight and improve fatigue without changing eating or exercise patterns and without use of drugs, stimulants or herbs.

**Objectives:** To determine the effects of an all-natural functional food, NT Factor® plus alpha-amylase inhibitor (Healthy Curb®), on weight loss, body girth, body mass and index, basal metabolic rate, appetite, cravings for sweets and fatigue as well as blood lipid profiles during a 2-month open label clinical trial without food restrictions or increases in physical activity.

**Methods:** Thirty subjects (Mean Age =  $56.8 \pm 1.8$ ; 24 females and 6 males) used the functional food containing NT Factor® (500 mg) and alpha-amylase inhibitor (500 mg) 30 min before each meal in tablet form. Participants were told to eat and exercise normally. Weight, waist and hip measurements were taken weekly. Appetite and sweet cravings were assessed weekly by standard methods. Fatigue was determined using the Piper Fatigue Scale. Blood samples were taken prior to and at the end of the trial for lipid and chemical analyses.

**Results:** Sixty-three percent of the participants lost an average of  $6.11 \pm 0.28$  pounds ( $2.77 \pm 0.12$  Kg) ( $p < 0.001$ ) along with average reductions of  $2.51 \pm 0.05$  inches ( $6.4 \pm 0.13$  cm) ( $p < 0.0001$ ) and  $1.5 \pm 0.04$  inches ( $3.8 \pm 0.10$  cm) ( $p < 0.0001$ ) from waist and hip circumferences, respectively. The entire

group lost an average of  $3.63 \pm 0.13$  pounds ( $1.65 \pm 0.11$  Kg) ( $p < 0.001$ ) with average reductions of  $1.59 \pm 0.03$  inches ( $4.04 \pm 0.06$  cm) ( $p < 0.0001$ ) and  $1.13 \pm 0.02$  inch ( $2.87 \pm 0.05$  cm) ( $p < 0.0001$ ) from waist and hip circumferences, respectively. Weight loss and body measurement decreases were gradual, consistent and significant, along with reductions in body mass index (BMI) and basal metabolic rate (BMR) measurements. Overall hunger was reduced 44.5% ( $p < 0.001$ ), with reduced cravings for sweets and fats, and there was a 23.9% reduction in fatigue ( $p < 0.009$ ). Along with fatigue reduction there was a 26.8% perceived improvement ( $p < 0.004$ ) in cognition and ability to concentrate, remember and think clearly. Blood lipid profiles at the end of the trial suggested improved cardiovascular lipid profiles, and there were no adverse events from the product.

**Conclusions:** The participants lost weight, showed significant decreases in waist and hip measurements and had reduced average overall body mass. Their fatigue was significantly reduced, and they experienced marked appetite suppression and reduced cravings for sweets and fats. Healthy Curb® was completely safe and well tolerated and appeared to be an effective functional food product to manage weight and appetite without changing eating or exercise patterns.

**Keywords:** NT Factor®, alpha-amylase inhibitor, weight loss, girth, body mass index, fatigue, hunger, appetite, mitochondrial function, blood lipoproteins