

Effects of SMS Text Messaging on Chemerin and Omentin Levels in Clinically Healthy Overweight and Obese Individuals: Results from RCT

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Objectives

A link of serum chemerin and omentin with anthropometric indices of obesity and its related conditions, e.g., metabolic syndrome, diabetes and cardiovascular diseases, has been described. However, association between changes of chemerin or omentin and changes of anthropometric indices of obesity in clinically healthy overweight individuals is still ambiguous. Objective of this study is to examine association between chemerin and omentin levels with changes of anthropometric indices in clinically healthy overweight and obese individuals within a year.

Methods

We used data from our randomised controlled study with 123 overweight and obese clinically healthy individuals (63 in the intervention group and 60 in the control group) with a BMI above 25 m²/kg in the age group of 30 to 45. Intervention group received SMS messages once in two weeks. Anthropometric parameters (weight, waist circumference (WC), body mass index (BMI)), and cytokines (omentin and chemerin) were assessed at baseline and after one year. Between group differences were examined using the independent t test and multiple linear regression was employed to estimate the relationship between the outcome variables and the relevant predictor variables while controlling for demographic factors.

Results

Between-group results obtained over the course of a year showed statistically significant between-group differences in weight (-3.4 (95% CI -5.5, -1.3), BMI (-1.14 (95% CI -1.9, -0.41), WC (-4.6 (95% CI -6.8, -2.3), hip circumference (-4.0 (95% CI -5.9, -2.0), as well as chemerin (-6.8 (95% CI -11.4, -2.2) favouring the intervention group. Omentin changes were not significant. Multiple linear regression revealed significant relationship in chemerin changes when both SMS (B= -5.175; 95% CI -9.9, -0.4; p = 0.032) and weight (B = 0.457; 95% CI 0.1, 0.8; p = 0.022) are included in the model while controlling for age and gender.

Conclusions

Results imply that both SMS messaging and slight weight loss in clinically healthy overweight and obese subjects facilitates slight decrease in chemerin level, while has no effect on omentin levels.