

Paired Mean Differences in TC, HDLC and TC/HDLC Levels in Healthy Overweight People Receiving and Not Receiving an SMS Communication within a Year

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Introduction. Primary care still needs an effective way to communicate and motivate overweight and obese individuals to bring lifestyle behavioural changes prior to an apparent disease, and use of short message system (SMS) for such communication could be a time and lifesaving tool.

Aim. The aim of the study is to find out whether there are any weight, total cholesterol (TC), high density lipoprotein cholesterol (HDLC) and TC/HDLC ratio changes within a year after communicating and not communicating via SMS twice a month with healthy overweight people

Methods. A prospective observational study in Riga, Latvia included 119 clinically healthy individuals having body mass index ≥ 25 m²/kg and below 40 m²/kg in age group 30–45 that visited primary care physician. Individuals were tested and consulted on their dyslipidaemia test results and were advised to start lifestyle changes to improve lipid levels, as well as to decrease weight by at least 5% within one year. 87 participants were randomly selected to receive SMS twice a month from family physician. Using a paired t-test, we estimated paired mean differences in weight, TC, HDLC and TC/HDLC ratio all included individuals and separately in both groups: those receiving SMS (n = 87) and not receiving SMS (n = 32).

Results. A statistically significant paired mean difference was observed only regarding TC/HDLC ratio reduction in the entire group – people receiving and not receiving SMS (0.15, 95% CI 0.05, 0.25; p = 0.004). Splitting the data in two groups, receiving or not receiving SMS, we found statistically significant paired mean difference in TC/HDLC levels only in the group that received SMS (0.12, 95% CI 0.01, 0.23; p = 0.033). No other statistically significant paired mean differences in TC and HDLC levels, as well as in weight were observed.

Conclusions. The study allowed for the conclusion that there is statistically significant decrease in TC/HDLC ratio levels after one year in clinically healthy overweight and obese individuals residing in Riga, Latvia, receiving SMS communication twice a month, even without significant paired mean differences in TC, HDLC and in weight.