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## OBESITY AS DETERMINANT OF HEALTH – INTERVENTION INDIVIDUAL REDUCTION PROGRAMME OF WEIGHT FOR PATIENTS WITH OVERWEIGHT AND OBESITY

Vlčková J<sup>1</sup>, Zavadilová V<sup>2</sup>, Jiráček Z<sup>3</sup>, Tomášková H<sup>4</sup>, Horáková D<sup>5</sup>

<sup>1</sup>Vítkovice Hospital, Department of Physiotherapy, Ostrava, Czech Republic

<sup>2</sup>Institute of Physiology and Pathophysiology, Medico-Social Faculty, University of Ostrava, Czech Republic

<sup>3</sup>Institute of Physiology and Pathophysiology, Medico-Social Faculty, University of Ostrava, Czech Republic

<sup>4</sup>Institute of Public Health Ostrava, Czech Republic

<sup>5</sup>Department of Preventive Medicine, Faculty of Medicine and Dentistry, Palacký University, Olomouc, Czech Republic

**Key words:** obesity, reduction programme of weight

**Introduction:** Obesity influences health status of the individual especially metabolic indicators, cardiovascular and loco-motor system. One aim of this study is evaluation of results of intervention weight reduction programme based on the evaluation of the change of basic anthropometric data, biochemical indicators and results of ergo-metric investigation.

**Methods:** Sample of 51 persons with different degree of overweight, including 7 men and 44 women, was for the first time investigated as a part of the project in period 2006-2007. In all monitored persons entry investigation was conducted at the Department of physiotherapy, Vítkovice Hospital, including information on case history (personal, family), basic clinical investigation, biochemical investigation, information on physical activity and food habits. Information on physical activity and food habits from case history were completed with information on determination of energetic intake on the base of 4 days record of food intake and determination of energetic output based on the monitoring of physical activity. As a part of anthropometric investigation the basic anthropometric data were collected including: height, weight, waistline and selected transverse and circumferential dimensions required for determination of weight composition of skeleton, muscles and fat tissue using method by Matiegka, BMI, % of fat determined by caliperation, determination of percentage of fat using bio-electric impedance, determination of abdominal fat using CT, investigation of composition of human body using a method of dual rtg absorptiometry (DXA). Investigation of both hormones adiponectin and insulin was also conducted. In all persons basic metabolism and fitness was investigated by bicycling stress exercise test up to maximum values. A part of the intervention programme was a modification of diet regimen, exercise under the

supervision of physiotherapist supplemented with verbal intervention and individual modification of physical regimen.

**Results:** Total sample includes 51 persons. But only 13 persons including 3 men and 10 women were repeatedly examined after 6 months (first control examination) at the end of May 2007. Statistically significant decrease of total weight (from 100.9 to 94.3 kg), percentage of body fat (from 34.2 to 31.0 %), BMI (from 36.4 to 34.1) and waistline (from 78 to 76.5 cm) was achieved after 6 months of monitoring by targeted intervention using modification of diet habits and physical regimen. Of the monitored biochemical parameters, the values of glycemia (from 5.41 to 5.11 mmol/l), total cholesterol (from 5.84 to 5.45 mmol/l), HDL (from 1.33 to 1.52 mmol/l), C-peptide (from 1,088 to 933 pmol/l) and triiodothyronine (1.83 to 1.54 pmol/l) were improved. Total fitness was not changed but significant increase of performance and maximal consumption of oxygen in conversion to kilograms of body weight (from 1.72 to 1.95 Wmax/kg) was achieved.

**Conclusion:** Results of the first control examination in 13 persons confirmed improvement in several biochemical indicators and also the fitness and health status of the persons. These results are preliminary. Each person is followed 1 year (two control examinations).