Do patients after bariatric surgery change their physical activity habits? A prospective one-year follow-up study

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**Aim:** The purpose of this study was to assess whether patients have changed their physical activity habits one year after the bariatric surgery.

**Introduction:** Vast majority of obese patients have developed their condition by overeating and insufficient physical activity. Severe obesity leads to problems with locomotor system and constraint movability, resulting in closure of the vicious circle of gaining weight. Bariatric surgery is an effective weight loss method, but it is still unclear whether this procedure influences modification of physical activity routine.

**Methods:** 54 patients (55.56% females, n = 30) who underwent bariatric surgery at 2nd Department of General Surgery JU MC in Cracow, Poland from November 2015 to June 2016 were enrolled to this prospective study. Mean age, BMI and absolute waist circumference of participants were respectively: 43.6 ± 12.2 y.o., 45.94 ± 6.35 kg/m² and 128.39 ± 13.45 cm (female), 146.9 ± 17.21 cm (male). One day before the procedure and one year later participants were asked to complete two standardized questionnaires: Paffenbarger Physical Activity Questionnaire and WHO Global Physical Activity Questionnaire, on the basis of which average physical activity in metabolic energy equivalents (MET-minutes) per week has been estimated.

**Results:** One year after surgery MET-minutes has increased over 14 times (Me:299.75, Q1–Q3:225.78–358.38 vs. Me:4339.85, Q1–Q3:1590.6–7827.1, p < 0.00001). Average time sitting or reclining has reduced from 480 to 300 min per day (p = 0.00118). Mean pace of walking has changed from <3.2 km/h to average 3.2–4.8 km/h (p = 0.00406). Participants were also asked to rate on visual analogue scale their level of exertion during normal activities. This parameter has decreased from mean 5 (equivalent of strong effort) to mean 2.5 (equivalent of weak effort) (p = 0.00004).

**Conclusion:** Before the procedure none of participants has achieved recommended by WHO weekly level of 600 MET-minutes and after surgery 81% of them have exceed it. This data have shown significant positive changes in physical activity in patients who underwent bariatric surgery.

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