

SPORT THERAPY APPLICATION AND EFFECTIVENESS SURVEY AMONG PATIENTS WITH TYPE II DIABETES

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Introduction: Our goal was to assess the efficacy of a three-month combined exercise program with type II diabetic patients as a function of body composition, fitness, blood glucose and blood pressure. Also our goal was to investigate the quality of life, physical activity and disease-specific knowledge (DSK) for people with diabetes.

Materials and methods: 87 patients were inrolled into our prospective research with non-random sample selection. We measured body composition (BCM Omron-BF511), blood glucose (Dcont Trend), blood pressure (M. E. BU-90E), fitness (5 tests). Quality of life (Diabetes-39), physical activity (CHAMPS) and DSK were measured with questionnaire.

Statistic calculations: paired t-test, regression analysis, correlation analysis (SPSS 22.0).

Results: There is a strong relationship between years since diabetes diagnosed and the number of complications ($p < 0.001$). There were significant relationship between quality of life - DSK ($p = 0.003$), quality of life - the number of complications ($p < 0.001$) and quality of life – physical activity ($p = 0.004$). There was notable correlation between DSK of physically active and inactive patients ($p < 0.001$).

Among the patients, who took part of sport therapy (21 person) the values of body weight ($p < 0.001$), BMI ($p < 0.001$), body fat ($p < 0.001$), visceral fat ($P < 0.001$), skeletal muscle, ($P < 0.001$) right - ($p < 0.001$) and left elbow bend test ($p < 0.001$), 6-minute walk test ($p < 0.001$), stand up-sit down test ($p = 0.001$), systolic - ($p < 0.001$) diastolic blood pressure - ($p = 0.047$) and blood sugar level before the exercises ($p < 0.001$) significantly changed after the sport therapy compared to the values before the sport therapy.

The post-exercise blood glucose was significantly lower at the beginning - ($p < 0.001$) at the half ($p < 0.001$) and at the end ($p < 0.001$) of the sport therapy compared to the level measured before the exercises.

Conclusions: A sport therapy with clinical goals, which consists of a combined exercise, effective with type II diabetes patients.

Keywords: diabetes, sport therapy, combined exercise, quality of life, physical activity