

SUMMARY

Problem: Aerobic endurance exercise is traditionally considered the best motoric activity in Type 2 diabetes mellitus patients. The most recommended form is continuous training at a defined level of intensity. Interval training is less used despite its proven effectiveness given by the possibility of applying a higher training load.

Hypothesis: Long-term individually prescribed physical exercise therapy in Type 2 DM patients treated with diet and oral antidiabetics is demonstrably and objectively beneficial for these patients concerning their health condition, as shown by the metabolic compensation and anthropometric and fitness parameters. Physical exercise therapy described here helps to improve the patients' health condition in short the term and maintain it in the long term.

Objective: Our aim is to prove the positive effect of a long-term individually adapted regular physical exercise therapy in type 2 DM patients.

Method: The research sample consisted of Type 2 diabetes mellitus patients (male and female) after termination of insulin therapy and its replacement by oral anti-diabetic drugs. A group of 31 patients treated with oral antidiabetics, diet and existing physical regimen is being compared with a group of 31 patients treated with diet, antidiabetics and defined physical exercise therapy. Before the research, 3 months after the beginning and at the end, after 12 months, all patients (with their personal anamneses known) were subject to anthropometric measurements, complex internal and biochemical examination and a fitness test on a bicycle ergometer. Comparison of individual samples in time was subject to statistical analysis in order to support or disprove the hypothesis.

Outcome and conclusions: The findings of individual comparisons reveal a set of indices in which, the difference between experimental and control groups is statistically significant. Long-term individually adapted physical exercise therapy in Type 2 DM patients treated with diet and oral antidiabetics is demonstrably and objectively beneficial to patients' health, as shown by the metabolic compensation, anthropometric measurements and performance at fitness tests.

Physical exercise therapy described here helps to improve the patients' health condition in the short term and maintain it in the long term.

Keywords: Type 2 diabetes mellitus, physical load, diabetes compensation, bicycle ergometer