

Abstract

Aim of the thesis: The research aimed to evaluate the importance of long-term regular physical activity in patients with diabetes.

Methods: In total, 53 patients with diagnosed diabetes from the Third Department of Internal Medicine of the General University Hospital in Prague were selected for the research. In order to achieve the aim of the study, a combination of data collection in the form of an anonymous questionnaire survey of own design and laboratory results from the medical records in the hospital's information system Medea was used. During the completion of the questionnaire, the patients were consulted in detail and they had the opportunity to ask their own questions and receive a short education on the subject. All data were recorded in tables and subsequently processed into graphs in the computer program Microsoft Office Excel. Statistical evaluation was performed using Tibco Statistica 14.0 software.

Results: Regular physical activity is associated with more favourable laboratory results. The most important parameter in assessing physical activity was a question about daily physical activity lasting at least 30 minutes. Patients who were physically active more than 30 minutes per day had significantly better HbA_{1c} (50 ± 9 vs. 60 ± 15 mmol/mol, $p<0.01$), total cholesterol (3.7 ± 0.8 vs. 4.3 ± 0.9 , $p<0.05$) and triacylglycerols (1.0 ± 0.5 vs. 2.0 ± 1.3 , $p<0.001$) compared to those who were less active. In contrast, the differences in HDL and LDL cholesterol were not statistically significant. There was a significant relationship between BMI and glycated hemoglobin (HbA_{1c}) ($r=0.3$, $p<0.05$). Patients encouraged to be physically active in their childhood were significantly more likely to be physically active in adulthood. Patients are generally well informed about the importance of physical activity and diet for optimal diabetic control, as well as the inappropriateness of including dia products.

Conclusion: Long-term regular physical activity in patients with diabetes has a major impact on diabetes control as well as on other metabolic analytes. In our study, the most important parameter for assessing physical activity was the average duration of activity per day. Although patients are generally well informed about the importance of physical activity and diet for diabetes control, in fact they still have large gaps in their compliance.

Keywords: diabetes control, diabetes mellitus, diet, metabolic syndrome, physical activity, sarcopenia