Abstract

Introduction: The main goal of the diabetes mellitus type 1 (DM type 1) therapy is the achievement of the best compensation of this disease. One of the tools to attain this compensation is the correctly carried out self-monitoring, from which can be the right dose of the Insulin derived. To estimate the correct dose of the Insulin is the essential knowledge of the actual dietary records, especially the amount of the carbohydrates. The thorough dietary record is in this case another tool how to significantly improve the compensation of DM type 1.

Objective: The main objective of this thesis was the description of the influence of the dietary record for the compensation of DM type 1. As the evaluating parameters were set the value of HbA1c before-and-after the observation and the glycemia variability during the observation. The observation had been provided during one month where in the beginning of the observation all patients took part in the educative stay.

Methods: The examined sample included in total 34 persons, but 2 of them were excluded for health reasons. The final examined sample was consist of 32 persons, out of them 18 females and 14 males, which suffer from DM type 1. The average age of these patients was 36,6 years ± 12,6, where the average lasting of DM type 1 was 14,9 years ± 9,9. In the beginning of the educative stay, the patients were instructed how to correctly record the dietary during the following month. For the same time got the patients available the continuous glucose monitoring (CGM). Mentioned patients were subsequently divided into two groups according to the correctness of their dietary records (13 correctly, 19 incorrectly). These two groups were then compared based on the change of HbA1c before-and-after the observation and based on the glycemia variability (the percentage of the time spent at the target range 3,9-10,0 mmol/l). For the statistic elaboration, the unpaired t-Test on the middle value was chosen. The thesis includes a case study of the one chosen patient.

Results: For the patients who had correctly recorded the dietary, the values of HbA1c significantly decreased (the absolute fall about 8,62 mmol/mol ± 6,48 vs. 2,68 mmol/mol ± 7,57; p=0,033). The variability of glycemia in the target range also reached for these patients better values, but the significance was not proved. (74,91 % ± 9,74 vs. 69,64 % ± 15,44; p=0,299).

Conclusion: The study has proved that a correctly recorded dietary has a beneficial effect on the compensation of DM type 1. The improvement is noticeable primarily in the HbA1c values.

Key words: Diabetes mellitus, diabetes mellitus type 1, continuous glucose monitoring, compensation, dietary records