

Abstract

Even though patients with the diabetes mellitus type 1 disease were considered slim individuals, the occurrence of overweight and obesity is a more common issue which is not given enough attention. Thus, the topic of obesity, diabetes mellitus, the unhealthy obese individuals with the diabetes mellitus disease is becoming more current.

The goal of the bachelor thesis is to collect basic data, evaluate compensation of diabetes mellitus and to compare BMI of tracked patients with the mellitus type 1 diagnosis, who visited the diabetic department in the span of one month: 1. – 30. November 2019 versus general population. The data were collected from doctors' documents of the patients. One of the monitored parameters was the presence of overweight and obesity with the patients.

The theoretical part of the thesis provides basic information about the diabetes mellitus following information about obesity. The final chapter connects these two diseases. The practical part of the thesis consists of a provision of the basic information of the group of patients, a comparison of BMI between the followed sample and general population, a comparison of HbA_{1c} (glycated hemoglobin) between patients with CGM/FGM (a sensor for continual monitoring of glycemia) and those without it, a comparison of medial BMI (body mass index) between patients with CGM/FGM and without it, an evaluation of differences in HbA_{1c} values in patients with a median BMI and those inclining towards overweight and obesity; furthermore, with patients with a longstanding diabetes mellitus, with the duration being longer than 10 years, and individuals with the length being shorter than 10 years. The thesis has presented five hypotheses to the aforementioned topics.

Comparison of BMI development was limited by small number of respondents, particularly in patients over 50 years old. Both groups of patients with DM1 up to fifty years old had higher average BMI than general population. In old age their BMI was lower on average than general population.

The difference in HbA_{1c} between patients who have CGM/FGM and those who do not was visible in the graphs but statistically there was no proven significance. The significant difference between in values of BMI between patients using CGM/FGM and those who do not use the sensor was not proven. The influence of BMI on the values of HbA_{1c} was proven within the monitored sample of men with diabetes mellitus type 1. However, the values were more favorable to men who were overweight or had obesity on the other hand, no such statistical proof was found within the women sample. A significant difference in the values of HbA_{1c} among patients who had the diagnosis for over 10 years and those who had for 9 years and less was not found.

The limits for this thesis was represented in the small number of respondents and the short time of monitoring. Furthermore, the thesis does not include the high value of HbA_{1c} within a patient.

Key words: diabetes mellitus type 1, obesity, body mass index, continuous glucose monitoring, glycated hemoglobin