

Abstract:

This bachelor's thesis presents an analysis of type 1 diabetes patients' hypoglycemia using continuous glucose monitoring. The thesis aims to evaluate the occurrence of hypoglycemia, the prevalence of impaired awareness of hypoglycemia and to investigate how patients treat hypoglycemia.

The theoretical part of the thesis presents a summary of the general knowledge of type 1 diabetes diagnosis, focusing on the hypoglycemic issues and diabetes compensation improvements using continuous glucose monitoring.

The practical part analyses hypoglycemia frequency and duration using continuous glucose monitoring. Occurrences of the impaired awareness of hypoglycemia, as well as the ways in which patients treat hypoglycemia, are evaluated according to a modified Clark Method.

The research shows that the actual occurrence of hypoglycemia is significantly higher than its occurrence as perceived by the patients. Continuous one-week blind glucose monitoring shows that hypoglycemia occurs in 85 % of patients at night and 95 % of patients during the day. In total, patients suffered hypoglycemia 7.2 % of the week, i.e. approx. 12 hours, of which 4 hours and 40 minutes occurred at night while 7 hours and 21 minutes they were experiencing hypoglycemia during the day. The impaired awareness of hypoglycemia prevalence was confirmed for 26 % of patients. Nightly hypoglycemia was usually treated by taking simple carbohydrates in the form of glucose tablets. Daily hypoglycemia was most often treated rather sub-optimally by eating cookies.

The research indicates that treatment of type 1 diabetes is frequently accompanied by hypoglycemia and it is necessary to provide proper and expertly led training that helps patients prevent hypoglycemia or treat it correctly.

Key words: Type 1 diabetes, hypoglycemia, Impaired Awareness of Hypoglycemia, Continuous Glucose Monitoring