

This thesis is directed at finding the relationship between the BMI, obesity, the amount of visceral fatty tissue and insulin resistance. All these factors can significantly contribute to the development of metabolic complications that can substantially decrease the quality and even possibly jeopardize the life of the patient.

The first section of the thesis is dedicated to defining the concepts, epidemiology, ethiopathogenesis, diagnostic tools and therapy of obesity. Further sections discuss the contingency of obesity, higher amounts of visceral fatty tissue, insulin resistance and the metabolic syndrome, as well as the possible measures to prevent metabolic complications of obesity. The last section examines methods of calculating insulin sensitivity or even resistance; further, methods of evaluating the amount of visceral fatty tissue and the description of a clinical study inspecting the relationship between the BMI and insulin resistance.

The study observed 60 women between the ages of 21-66 years, where their BMI, the amount of fatty tissue and their insulin resistance using the HOMA method were measured. A slight, however, non-linear, relationship between insulin resistance and the increasing BMI was discovered. However, large individual differences were discovered that possibly correspond to the varying metabolic activity of the given subjects.