

# ABSTRACT

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**Title of master thesis:** Evaluation of macronutrient intake in pregnant women

**Theoretical introduction and aim of the thesis:** This diploma thesis deals with the nutrition of pregnant women. Nutrition during pregnancy should fulfill the requirements of both, the pregnant woman and the fetus. It must be sufficient and secure the dosage of essential nutrients, vitamins and minerals. The aim of this thesis was to evaluate the intake of energy and particular macronutrients in a group of healthy pregnant women given to their recommended dietary intake (RDI) and to determine whether the intake of macronutrients varies in different stages of pregnancy.

**Methods:** Twelve pregnant women with physiological course of pregnancy in age 24-34 were examined in the laboratory of clinical physiology at the Faculty of Pharmacy of Charles University in Hradec Králové. These women were examined in three pregnancy periods (G1: 24±2; G2: 31±1; G3: 37±1 gestational week). This study was performed in the period from October 2018 to February 2020. The evaluated parameters included energy intake and intake of particular macronutrients (1 week in average), which were converted to body weight and lean tissue mass, then the relative intake of macronutrients to total income was calculated and the RDI was calculated individually. The data were processed by computer program NutriDan and Microsoft Office Excel 2019.

**Results:** The results showed that the relative intake of macronutrients was normal. The average intake of macronutrients in grams corresponded to the RDI in all periods. After converting to weight, only half of the women fulfilled the RDI values of proteins and lipids and even less in the case of carbohydrates. The RDI for monounsaturated fatty acids was not fulfilled in any of the periods. In contrast, the cholesterol intake exceeded the recommended values. The intake of all macronutrients in grams did not differ significantly between the individual periods, when converted to weight, the values of protein and carbohydrate intake were the highest in the G1 period (2nd trimester).

**Conclusion:** Our results confirm the importance of individual evaluation of macronutrient intake in pregnant women, since a large amount of women that we examined did not fulfill the RDI of some macronutrients.

**Keywords:** Energy intake, Macronutrients, Nutrition, Pregnancy, Recommended Dietary Intake