

It is well known that body mass index (BMI) and weight gain in pregnancy (WG) have a great influence in obstetric adverse outcomes. We wish to evaluate the effect of BMI on the birth weight and risk of cesarean delivery. Also with respect to these outcomes, we wish to investigate the effect of the weight gain in each class of BMI, trying to evaluate the adequacy of the IOM (Institute of Medicine) weight gain recommendations for the population under study. Linear and logistic regression methods were applied and some comparisons were made through parametric and non-parametric tests.

The study group consisted of 764 live birth singleton pregnancies, delivered at a Portuguese Hospital.

We observed a significant influence of BMI on birth weight and risk of cesarean delivery, independently of maternal weight gain. The influence of WG on birth weight and cesarean delivery was not statistically significant for the obese women. This may be explained by the fact that this subgroup of patients were already at increased risk. Moreover, for the underweight women the weight gain has revealed a great impact on the birth weight.

Regarding the IOM recommendations on weight gain we found a significant predictive ability towards prediction of cesarean delivery and birth weight, excluding the use of BMI and/or maternal weight gain information. This suggests that IOM weight gain recommendations seem to be appropriate to describe the risk of cesarean delivery and birth weight in the Portuguese population studied.