

Dietary habits and maternal weight gain in pregnancy

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Weight gain during pregnancy is one of the main factors related to birth outcome, with birthweight being highly correlated to maternal weight gain. Adequate weight gain is important for optimal perinatal outcome, but high weight gain in pregnancy has been related to complications during pregnancy and delivery and macrosomia, and low weight gain to retarded fetal growth and preterm birth. Icelandic women tend to be tall and give birth to infants at the upper end of the scale for birth size worldwide. Identification of the dietary factors along with other factors influencing gestational weight gain and birth outcome is of utmost importance for practitioners to guide their clients through an optimal pregnancy and prevent even further increase in the obesity epidemic. The relationship of changes in food consumption during pregnancy and consequent weight gain has not been studied. With this in mind the aim of our present study was to investigate the association of maternal dietary intake in early and late pregnancy and anthropometric factors with excessive or suboptimal gestational weight gain as well as pregnancy outcomes.

In this observational study with free-living conditions, the dietary intake of 495 healthy pregnant Icelandic women was estimated with a semi-quantitative food frequency questionnaire covering food intake together with lifestyle factors for the previous three months. Questionnaires were filled out at between 11 and 15 weeks and between 34 and 37 weeks gestation. Dietary factors related to at least optimal and excessive weight gain during pregnancy were represented with logistic regression controlling for potential confounding. Comparison of birth outcome between three weight gain groups (suboptimal, optimal or excessive weight gain) was made with ANOVA and Bonferroni post hoc tests.

Of the women, 26% gained suboptimal and 34% excessive weight during pregnancy. Women with at least optimal, compared with women with suboptimal, weight gain were more likely to increase their energy intake (OR= 3.32, CI=1.81-6.09, P<0.001) and drink more milk in late pregnancy (OR=3.10, CI=1.57-6.13, P=0.001). The same dietary factors were related to excessive, compared with optimal weight gain. Furthermore, eating more sweets early in pregnancy increased the risk of gaining excessive weight (OR=2.52, CI=1.10-5.77, P=0.029). Women with a BMI of 25.0-29.9 before pregnancy were most likely to gain excessive weight (OR=7.37, CI 4.13-13.14, P<0.001). Women gaining suboptimal weight gave birth to lighter children (P<0.001) and had shorter gestation (P=0.008) than women gaining optimal or excessive weight.

Women that are overweight before pregnancy should get special attention regarding lifestyle modifications affecting consequent weight gain during pregnancy. They are most likely to gain excessive weight and therefore most likely to suffer pregnancy and delivery complications and struggle with increasing overweight and obesity after giving birth.