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## Acta Medica Iranica

2009;47(4) : 18-24

### Original Article

#### Gestational Weight Gain and Fetal Birth Weight in Rural Regions of Rasht/Iran

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Received: April 23,2008

Accept : December 19,2008

Available online: February 16,2009

#### Abstract:

**Objective:** Proper nutrition during pregnancy is essential for optimal fetal growth. Investigation of the relation between pregnancy weight gain and birth weight in rural regions of Rasht, center of Guilan Province in Iran, was the purpose of this study.

**Methods:** In this cohort study, prenatal data of 918 women who attended local health centers with singleton term pregnancies were recorded. Maternal demographic characteristics, anthropometric measurements, total pregnancy weight gain and birth weight were recorded by health workers. The women were stratified based on their pre-pregnancy body mass index (BMI) into four groups: underweight women, women with normal weight, overweight women and obese women. The relation between weight gain and low birth weight (LBW, birth weight <2500 g) and macrosomia (birth weight >4000 g) was studied in these four groups. Data were analyzed using Chi-square test, independent t-test, Pearson correlation and logistic regression with 95% confidence intervals.

**Findings:** More than 50% of underweight women and women with normal weight and almost 30% of overweight and obese women gained weight less than what is mentioned in the Institute of Medicine (IOM) recommendations. The incidence rate of LBW was 7.1% and that of macrosomia was 5%. Mean weight gain of women with LBW was significantly less than mean weight gain of women who had an infant with a birth weight more than 2500 g ( $P=0.002$ ). Women who gained weight less than the recommended range had higher rate of LBW in their infants ( $P=0.01$ ) and the incidence of macrosomia in women with a weight gain above the recommended weight was higher than that in others ( $P=0.012$ ). Pregnancy weight gain less than what is mentioned in the IOM guideline was the only predictor for LBW ( $OR=2.79$ ,  $CI=1.16-6.73$ ,  $P=0.02$ ).

**Conclusion:** Pregnancy weight gains less than what is mentioned in the IOM recommendation was a significant predictor of LBW, regardless of pre-pregnancy BMI.

#### Keywords:

[Low birth weight](#) . [Macrosomia](#) . [Pregnancy](#) . [Body mass index](#)

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