

Gestational weight gain rate and adverse perinatal outcomes: Results from a Chinese birth cohort study

Xueling Wei, Jinhua lu, Songying Shen, Jiaying Zhang, Jianrong He, Lifang Zhang, Minshan Lu, Niannian Chen, Mingyang Yuan, Huimin Xia and Xiu Qiu
Guangzhou Medical University, China

Objective: To explore relationships between gestational weight gain rate (GWGR) and adverse perinatal outcomes in a large population from a developing country.

Methods: Prospective data from 17181 pregnant women in the Born in Guangzhou Cohort Study, China was included. GWGR (kg/week) was calculated by dividing the total GWG (kg) by gestational weeks at which the maternal weight at delivery was measured. Stratified by pre-pregnancy BMI sub-groups (<18.5, 18.5-24.9, and ≥ 25 kg/m²), associations between GWGR and preterm birth, cesarean delivery and neonatal asphyxia (Apgar score at 1 minute ≤ 7) were examined using logistic regression.

Results: The proportions of underweight, normal weight, and overweight/obese prior to pregnancy were 23.8%, 70.0%, and 6.2%. The mean GWGRs of these three groups

were 379.79g/week, 367.71g/week, 301.78 g/week, respectively. Among underweight mothers, high weight gain rate ($>$ mean+1 SD) was associated with an increased risk of preterm birth (OR [95%CI], 1.59 [1.01-2.52]) and caesarean section (1.49[1.21-1.83]) compared to adequate GWGR (mean \pm 1SD). For mothers with normal weight, low weight gain rate ($<$ mean-1 SD) was related to higher risk of preterm birth and neonatal asphyxia (1.40[1.08-1.82] and 1.65 [1.00-2.70], respectively) and a lower risk of caesarean section (0.81[0.71-0.91]); high fast weight gain rate was associated with increased risk caesarean section (1.53[1.36-1.71]). For overweight/obese mothers, high weight gain rate was related to an increasing trend in preterm birth (1.46[0.71-3.04]). No other significant association was observed.

Conclusion: Both high and low weight gain rate was associated with adverse perinatal outcomes.

Biography

Xueling Wei has completed her PhD of Maternal, Children and Adolescents Health from the Chinese Center for Disease Control and Prevention, Beijing, China. She is the Director and a Principle Investigator in Born in Guangzhou Cohort Study. She has broad research interests in the epidemiology of maternal and child health, including gestational diabetes, preterm birth, fetal growth, child development. She has coauthored of over 30 publications including Lancet, Environmental Health Perspectives, European Journal of Epidemiology, GigaScience, Ebiomedicine etc.

wxl201507@qq.com

Notes: