

Associations of gestational weight gain with maternal anemia during pregnancy and postpartum in Chinese nulliparous women: A prospective cohort analysis

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Abstract

Background & Aim: Inappropriate Gestational Weight Gain (GWG) may reduce the iron content and increase the risk of maternal anemia during pregnancy or postpartum. However, this notion has not been comprehensively studied. The study aims to prospectively examine the associations of GWG with maternal anemia during pregnancy and postpartum.

Method: A prospective cohort analysis was performed using data from a trial of prenatal supplementation in China during 2006-2009. GWG was maternal weight right before delivery minus that at enrollment and GWG rate is then calculated as GWG divided by gestational weeks between the two measurements. GWG rate was categorized into quintiles (highest, higher, middle (reference), lower and lowest) according to stratified maternal BMI group. Maternal anemia during early (<20 gestational weeks)

or mid-pregnancy (24-28 gestational weeks) were defined as Hb <110 g/L and postpartum anemia (4-8 weeks after delivery) as Hb <120 g/L.

Result: Among the 14110 included women, 750 (5.2%) were anemic during early pregnancy, 842 (6.0%) during mid-pregnancy and 3760 (26.7%) postpartum. Adjusted ORs (95% CI) for anemia during early pregnancy in the five ascending GWG rate categories were 1.02, 0.92, 1.00, 0.96 and 1.31 (1.05-1.64); 1.05, 0.99, 1.00, 1.34 and 1.91 (1.53-2.37) for anemia during midpregnancy and 1.26 (1.12-1.42), 1.22, 1.00, 1.11 and 1.31 (1.16-1.48) for postpartum anemia. Similar results persisted in maternal BMI-stratified analyses, corroborating the reliability of the findings.

Conclusion: Excessive GWG increased the risk of anemia occurring both during pregnancy and postpartum, while inadequate

GWG increased postpartum anemia risk.

Biograph :

Shaohua Yin completed his master degree in 2017 and is currently pursuing his PhD in Peking University. He has received a postgraduate

national scholarship and several academic scholarships. He currently focuses on maternal and child health, and participates in several large-scale projects related to perinatal epidemiology. He has published 2 papers in international journals.