Maternal hematocrit status and pregnancy outcome

Abstract

**Background & Objective:** The present study was designed to investigate the outcome of pregnancy and delivery in pregnant Iranian women with low and high hematocrit.

**Materials & Methods:** In a cohort control study, 609 pregnant women attending Yahyanejad Hospital for antenatal care and delivery from Dec 2001 to Dec 2003 were randomly selected. Women with hemoglobinopathies such as thalassemia were excluded from the study. Maternal characteristics including hematocrit values were recorded at the first antenatal care and 3 cc. blood was sent to the laboratory for CBC. The main outcome measures included birth weight, gestation at delivery, Apgar score, mode of delivery, the admitted NICU and perinatal death. X2, T-test, Anova and logistic regression models were also applied to analyze the data.

**Results:** Anemia (hematocrit<34%) in the first trimester was associated with a significantly increased risk of low birth weight (<2500g) and preterm delivery (<37 week’s gestation). High hematocrit values (>40%) did not increase the risk of low birth weight or preterm delivery. The risk of low Apgar score, operative deliveries and admitted NICU was significantly increased in women with high and low hematocrit adjusting for maternal age, parity, weight gain, inter pregnancy, father and mother education and other confounding factors.

**Conclusion:** Low and high maternal hematocrit in the first trimester can contribute to the adverse pregnancy outcomes, thus pregnant women with abnormal hematocrit are at high risk factor and necessary awareness should be given to them on how to prevent complication and adverse outcome by special clinical care.

**Key Words:** Hematocrit, Anemia, Low birth weight, Preterm, Delivery, Outcome of pregnancy