

Impact of Maternal Nutrition on Newborn Anthropometry and Hemoglobin

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Abstract : Objectives: To study the effect of physical maternal nutritional markers (viz. weight, height, gestational weight gain, BMI) and third-trimester haemoglobin concentration on anthropometry and cord blood haemoglobin of their newborn. Methods: Study area: Post-natal ward of a tertiary care hospital in an urban area. Study population: All post-partum women and their newborns. Sample size: 100. Maternal and neonatal data and anthropometric measurements were recorded in semi-structured case proforma. Data analysis: The data obtained was analysed using SPSS 20 software. The comparison between the groups was done using One-Way Analysis of Variance for two groups. For more than two groups comparisons further posthoc analysis was done using Tukey test. Pearson correlation coefficient was used for correlating the variables. A P value less than 0.05 was considered significant. Results: 1. Out of the 100 studied mothers, 52% were anaemic. 2. Cord blood haemoglobin values decreased significantly with the order of birth. 3. Cord blood haemoglobin of normal-weight newborns is significantly higher as compared to that of LBW newborns. 4. Cord blood haemoglobin has strong statistical significance with maternal anaemia. 5. Pre-pregnancy weight and gestational weight gain significantly influence the neonates anthropometry. Conclusions: 1. Birth order has a prominent inverse effect on the cord blood haemoglobin. 2. Majority of the expectant mothers are anaemic and give birth to LBW babies with reduced anthropometric markers. 3. Pre-pregnancy weight, height and gestational weight gain has a very significant impact on the neonatal anthropometry. 4. Thus, maternal nutrition during gestation and during the crucial periods of growth in the pre-child bearing age group has a very significant impact on foetal development.

Keywords : maternal nutrition, anthropometry, cord blood hemoglobin, newborn

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