Impact of maternal nutrition in pregnancy and birth weight

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Statement of the Problem: Birth weight (BW) is the single most predictive factor of mortality in the first few months of life, and a baby’s birth weight is an important indicator of his health. The World Health Organization (WHO) defined low birth weight (LBW) as that below 2,500gm. It is a major public health problem in most African countries, and in most developing countries, being associated with a high incidence of neonatal mortality in these regions. In India 85% of neonatal mortality is associated with LBW, 87% in Guatemala and 56% in North Acrot. It is estimated worldwide that 25 million LBW infants were born in 1990, making up to 18% of all live births, 90% of which occurs in developing countries. LBW babies are at the greatest risk in early childhood.

Methodology: This was a cross-sectional and descriptive study of pregnant mothers who delivered in four randomly selected health facilities in urban Abeokuta, Nigeria. The study examined the influence of maternal nutritional status on newborn birth weight and particularly low birth weight (LBW). 512 pregnant mothers booked for antenatal care and were attending antenatal clinics were recruited for the study as they became available. Complete physical examination, clinical profile along with weight, biochemical and hematological measurements were carried out. Data were analyzed using descriptive statistics and chi-square test.

Findings: The mean weight gain of the pregnant mothers in this study was 7.78±1.01 kg. Weight gain in pregnancy, maternal hemoglobin, mean corpuscular hemoglobin concentration, serum cholesterol and serum albumin were all found to be significant for LBW (p<0.001).

Conclusion: Maternal nutritional status impacted significantly on newborn birth weight as poorly nourished mothers were observed to produce a higher percentage of LBW babies when compared to those who were better nourished.

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