Maternal Nutrition and Pregnancy Outcome

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Maternal diet and nutritional status are considered to be among the most important environmental factors influencing the course and outcome of pregnancy. Numerous studies have shown that the human fetus is vulnerable to nutritional deprivation in pregnancy and that one of its manifestations is the delivery of a small-for-date infant. Low birthweight, on the other hand, may be associated with increased neonatal morbidity and mortality, poor postnatal growth, and increased susceptibility to infection. Of particular interest are data indicating that prenatal undernutrition and fetal physical growth retardation may be associated with disabilities of brain development, behavior, and learning in later life. The previously held concept that the fetus is an active and efficient parasite extracting all the essential nutrients at the expense of maternal stores has now been replaced by the realization that the developing fetus can be influenced by a number of environmental factors, nutrition included, and it has also been suggested that maternal needs take preference over fetal requirements (1).

Nearly all nutrients are required in greater amounts during pregnancy, but the magnitude of this increase is not well defined. The present recommended daily allowance (RDA) for pregnant women is often not met and may further be reduced because of cigarette smoking and alcohol and caffeine consumption. More information about the impact of essential nutrient deficiency on the outcome of pregnancy in humans is therefore needed. In this context three points deserve special attention:

1. The optimal micronutrient requirements to ensure an adequate nutritional status of the mother, the optimal micronutrient tissue stores of the fetus, and the optimal breast milk micronutrient content.
2. To what extent the deficiency of other essential nutrients, besides protein-energy deficiency, are associated with reduced birthweight—a major cause of impaired functional performance in infants.
3. The possible effect of inadequate micronutrient intake in pregnancy on the functional performance of the newborn in the absence of overt maternal malnutrition.

REFERENCE