A Nutritional Study Involving Groups of Pregnant Women in Umbria, Italy: Preliminary Results

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We report some preliminary results of a longitudinal study on the nutritional status of pregnant and lactating women and newborns. The study is being conducted in three different areas in Umbria (Central Italy). It includes the evaluation of the anthropometric and nutritional status (for some vitamins and minerals) of mothers and newborns. Mothers were also questioned about food habits, pharmacotherapeutic history, cravings and aversions for food and food odors, and physical activity.

Blood samples were collected at different stages during pregnancy, at delivery, and after delivery. All analyses in newborns were made on cord blood.

We present some data of this study concerning the status of thiamine, riboflavin, vitamin B₆, vitamin B₁₂, folate, zinc, and iron in 13 mothers (during pregnancy and at delivery) and in their respective newborns. Using current cutoff values, we found marginal and deficient riboflavin and folate during pregnancy and at delivery, but in no instance in cord blood. For all the above-mentioned nutrients, except vitamin B₁₂, the cord blood values were higher than those of the mothers or about the same.

Although the trend of these nutrients during pregnancy is generally toward falling levels compared with those during earlier stages, it appears from these preliminary results that for some of them (folate and vitamin B₁₂), the lowest values are between the 24th and 27th week. During the last period of pregnancy (from the 36th to the 40th week), they again increase and finally decrease at delivery. Zinc, iron, ferritin, riboflavin, and vitamin B₆ decrease progressively as pregnancy proceeds and (except for riboflavin) increase at delivery.