Serum folate and fetal growth retardation: a matter of compliance?

Serum folate levels were measured at 30 weeks' gestational age in 289 pregnant women, each of whom had been provided with folate supplementation at enrollment in prenatal care. There was a significant association between low serum folate levels and fetal growth retardation. High folate levels were most likely explained by recent folic acid intake. Therefore, we were concerned that the decreased fetal growth associated with low folate levels may have been related to a combination of psychological and behavioral characteristics for which low serum folate levels were only a surrogate measure. A profile of maternal psychosocial status was created, which included measures of depression, anxiety, self-esteem, mastery, stress, and social support. Poorer psychological scores were significantly related to lower serum folate levels. However, in women with both good and poor psychosocial scores, high folate levels were significantly associated with increased birth weight, a relationship that persisted even after adjusting for maternal race, body mass index, smoking, history of a low birth weight infant, and infant gender. Our findings suggest that women with good psychosocial scores are more likely to take folate, but that the use of folate itself is related to a lower risk of fetal growth retardation and increased birth weight.