Abstract

Fats present in maternal diet play a determining role in the development of normal pregnancy, the structuring of adequate uterine-placental flow, the formation of cell membranes, the fetal intrauterine growth, and the development of the central nervous system. The objective of this paper is to measure the relationship among the presence of fatty acids in maternal diet, the gestational age and the birth weight in newborns. A cross-sectional study of 156 pregnant women and 160 full term newborn infants was carried out in Havana City from February 2000 to January 2001. Food intake data were gathered from a semiquantitative frequency survey on food consumption in the last trimester of pregnancy. Birth weight of the newborn and the gestational age of the mother were recorded at the moment of delivery. Birth weight and the saturated/polyunsaturated fatty acid ratio in diet in all the infants (> 34 and ≥ 37 weeks of gestation) showed negative association regardless of birth weight, but the statistical significance disappeared when normoweighted infants were separately analyzed. Gestational age and the total volume of consumed fats in diet (> 34 weeks of gestation) showed negative correlation in all infants, but once again the significance of correlation vanished when normoweighted infants were separately evaluated. The correlation of gestational age with essential polyunsaturated fatty acids (> 34 weeks of gestation) was negative for both the total number of infants and the normoweighted ones. In the future, the profile of fatty acids should be directly studied in the newborns blood so as to minimize the estimation errors inherent to dietary information.

Keywords

pregnancy diet, fatty acids, gestational age, birth weight.