

Modification of the lipid profile of human placenta by moderate maternal undernutrition Modificación del perfil lipídico de la placenta humana por efecto de la desnutrición materna moderada.

Araya,

Soto,

Aguilera,

Bosco,

Monlina,

The lipid composition of human placenta phospholipids, coming from 9 undernourished women that gave birth to low weight newborns and 9 well nourished women, was analyzed using gas-liquid chromatography. Phospholipids of placentas coming from undernourished women, when compared to well nourished women, had significantly lower amounts of w-6 and w-3 fatty acids (40.1 +/- 1.5 vs 42.4 +/- 1.4 and 6.0 +/- 0.7 vs 7.1 +/- 1.3% respectively). The calculated mean melting point was higher in placentas coming from undernourished women. In these women, the low content of polyunsaturated fatty acids and its replacement by short chain fatty acids was not able to balance the high mean melting points. The relative deficiency of essential fatty acids, the low saturation index and the high mean melting point of undernourished women's placental phospholipids, may suggest a lower membrane fluidity and a subnormal essential fatty acid content of fetal organs, that are essential for normal growth and developo