Caesarean birth and adiposity parameters in 6-to 8 year-old urban Maya children from two cities of Yucatan, Mexico

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Birth mode is a factor with implications for immediate and future health in infants and children. Studies show higher values of BMI in children born by caesarean section (CS) in comparison with individuals vaginally delivered (VD), suggesting a possible association between CS and increased risk of obesity. However, few studies have reported on this aspect. We analyse the association between CS and fat mass index (FMI), waist-to-height ratio (WHr) and sum of tricipital, subscapular and suprailiac skinfolds (SumSkfs) in a sample of 256 urban Maya girls and boys from Yucatan, Mexico (ages 6 to 8 year-old). From 2011 to 2014, we measured height, weight, waist circumference and skinfolds in these children, and height and weight in their mothers as well. Body composition was estimated in both generations through bioelectrical impedance analysis. Multiple regression models for boys and girls were used to analyze the influence of CS on adiposity parameters adju sting for the effects of child's age, birth weight, breastfeeding duration, age of introduction of solid foods, and maternal fat mass (FM). CS was associated with higher values of FMI in girls only, but not with any other proxies of fatness. Standardized coefficients showed that maternal FM was the most important predictor of child fatness, followed by the influence of CS. Our results partially support the hypothesis that CS is associated with higher body fatness and that girls may be more sensitive to birth mode than boys.

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