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## Influence of parental nutritional status on nutritional status of their offspring at 0–36 months. Results from EPACI Portugal 2012

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**Introduction:** It is known that maternal obesity is a strong predictor of overweight and obesity in children. Furthermore, literature clearly demonstrates that there is an association between parents and children obesity prevalence supported by the share of the genetic and obesogenic environment. However, there is a significant lack of knowledge, regarding the onset age of the clinical expression of obesity in children.

**Methods:** This study was based in epaci Portugal 2012 (*Estudo do Padrão Alimentar e de Crescimento na Infância)* (Childhood Feeding and Growth Patterns Study), a national representative study, with a mixed design (cross sectional between 12–36 months and retrospective cohort since birth), involving 2230 children, which took place between May 2012 and June 2013. A study protocol were applied which includes, weight (g) and length (cm) at birth, 4, 6, 9, 12, 18, 24 and 36 months, gathered from individual child health bulletin and at evaluation. Body Mass Index (bmi) Z-score was calculated and classified according to who reference values. Self-reported parents´anthropometric data were collected and respective bmi were calculated and classified according who cut-offs. Mother weight gain during pregnancy was also collected.Binary Logistic regression models were fitted to quantify the association between parental and children nutritional status.

**Results:** 60% of the fathers and 37.6% of the mothers were overweight (ow) from those 14.9% and 12.2% are obese (ob) respectively. Prevalence of "risk of ow" (risk-ow) (zsBMI>1) in children was 32.6%, with no significant differences between 2nd and 3rd year of life, increasing from 14.6% to 24.7% and 25.1% since birth to 12 and 24 months, respectively. 53.1% and 46.6% of mothers with pre-pregnancy ow and ob, increased weight above recommendation during pregnancy. Pre-pregnancy and current mother bmi are significantly associated with children risk-ow at all ages from birth until evaluation moment. Children of obese mothers were more prone to be on risk-ow at birth [1.72 (1.24; 2.40)], 6 months [1.53 (1.07; 2.18)] and 12 months [1.79 (1.32; 2.42)]. Gestational weight gain above recommendations increased the risk-ow at 12 months [1.30 (1.00; 1.67)]. Father's nutritional status was not significantly associated with infants' nutritional status.

**Conclusion:** A high prevalence of overweight/obesity was observed in Portuguese toddlers, since early age. Pre-pregnancy bmi and gestational weight gain in mothers were associated with bmi of their offspring. Urgent and earlier effective interventions are needed in order to stop the transgenerational transmission of obesity.

None Conflict of Interest

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