

Research Brief

Risk factors of obesity among infants and young children below 2 years of age: A case control study

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Received September 23, 2025; Accepted December 10, 2025; Ahead of print April 21, 2026; Published April 27, 2026

Background and objectives: Obesity is a chronic disease with its onset as early as infancy. This study was conducted to determine risk factors of obesity in infants and young children below 2 years of age.

Methods: For this case-control study, obese children aged 1 month to 2 years were enrolled as cases. Controls were age, sex and calendar matched non-obese children from the same setting (1:1). Sociodemographic characteristics, clinical features and potential risk factors (parental obesity, maternal weight gain during pregnancy, low birth weight, cessation of exclusive breastfeeding before 6 months of age, introduction of semisolid feeds before 6 months of age, formula feeding at enrolment, bottle feeding at enrolment, junk food consumption, and lifestyle diseases in family) were noted. Obesity was defined as weight-for-length or BMI-for-age more than 3 standard deviations above median as per World Health Organization 2006 growth charts.

Results: Univariate analysis on 52 pairs (22 male pairs) showed maternal pre-conceptional BMI > 25 kg/m², maternal BMI > 25 kg/m², paternal BMI > 23 kg/m², bottle feeding and/or formula feeding at enrolment, cessation of exclusive breastfeeding before 6 months, junk food consumption, and lifestyle diseases in family as risk factors. With multivariable logistic regression, maternal BMI > 25 kg/m² at enrolment [Adjusted odds ratio (aOR) 11.25, 95% confidence interval (CI) 3.66-34.49, $P < 0.001$], formula feeding (aOR 6.13, 95% CI 1.33-28.17, $P = 0.020$) and lifestyle diseases in family (aOR 6.88, 95% CI 1.83-25.88, $P = 0.004$) were identified as significant risk factors.

Interpretations and conclusions: Risk factors of obesity in children below 2 years of age were included maternal pre-conceptional BMI > 25 kg/m², maternal BMI > 25 kg/m² at enrolment, formula feeding at enrolment, and lifestyle diseases in family.

Keywords Formula feeding; Infantile obesity; Maternal obesity; Parental obesity