

Growth trajectories and determinants of catch-up growth in preterm newborns: A Moroccan retrospective study

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Background: Preterm birth and intrauterine growth restriction (IUGR) significantly impact postnatal growth, increase morbidity, and heighten long-term developmental risks. Growth trajectories among preterm newborns still exhibit disparities, particularly in low- and middle-income countries.

This study aimed to analyze the growth trajectory of Moroccan preterm newborns in terms of weight (WAZ), height (HAZ), and head circumference (HCZ) and to investigate the clinical and nutritional determinants of catch-up growth from birth to six months.

Methods: This was a retrospective cohort study, with data collected from January to July 2023 at the National Reference Center for Neonatology and Nutrition in Rabat. A total of 686 preterm newborns were included. Anthropometric Z-scores (WAZ, HAZ, HCZ) were calculated at birth (0 days), 10 days, 1 month, 3 months, and 6 months using the growth curve developed by Fenton in 2013. Growth trajectories were assessed using repeated-measures analysis of variance (ANOVA), and binary logistic regression was used to identify predictors of weight catch-up.

Results: Significant differences ($p < 0.001$) were observed in WAZ, HAZ, and HCZ at all time points when comparing hypotrophic and non-hypotrophic groups ($p < 0.001$). Hypotrophic newborns started with considerably lower Z-scores and failed to fully catch up by six months. Gestational age (OR = 6.66, $p = 0.029$), parity (OR = 12.09, $p = 0.005$), and neonatal hospitalization (OR = 9.51, $p = 0.046$) were significant predictors of weight catch-up.

Conclusion: The findings highlight the need for targeted interventions to improve neonatal outcomes, particularly in middle-income countries. Further long-term studies are needed to examine the metabolic and neurodevelopmental consequences of early growth restriction.

Keywords: Preterm birth, Growth trajectories, Catch-up growth, Hypotrophy.

Biography

Latifa Mochhoury authored a retrospective case control study published in The Pan African Medical Journal on March 30, 2023, analyzing perinatal outcomes associated with pregnancies spaced fewer than 9 months apart, conducted at the provincial hospital in Settat, Morocco. The study included 630 women (443 with < 9 month interpregnancy interval, 187 controls) and found significant increases in prematurity, neonatal undernutrition, and anemia among the closely-spaced pregnancies group. Key risk factors included maternal age over 35, rural origin, low socioeconomic status, lack of postpartum contraceptive counseling, and breastfeeding interruptions prior to the next pregnancy.

Received: March 13, 2025; **Accepted:** March 14, 2025; **Published:** April 30, 2025