Gac Sanit. 2026;40(S4):183

Gaceta Sanitaria

https://www.gacetasanitaria.org

130 - SOCIODEMOGRAPHIC FACTORS AND CHILDHOOD GROWTH: ASSOCIATIONS WITH ENVIRONMENTAL SANITATION PHASES

Y. Morejón-Terán, A.C. P. Campos, J.M. Parise-Vasco, L.D. A.F. Amorim, L. C. Rodrigues, M. Barreto, S.M. Alvim de Matos

Universidade Federal da Bahia; Pontificia Universidad Católica del Ecuador; Department of Infectious Disease Epidemiology.

Resumen

Background/Objectives: Early childhood growth trajectories can influence the risk of chronic diseases in adulthood. Improvements in environmental sanitation may affect child development in low-resource settings. Objective: to examine the associations among socioeconomic factors with nutrition indicators, and trajectories of anthropometric indicators across three epidemiological cohorts that reflect different phases of environmental sanitation implementation.

Methods: A longitudinal study was conducted in Salvador, Brazil, from 1997 to 2013. A total of 1429 children were recruited across three epidemiological cohorts, corresponding to the phases of a sanitation program: pre-intervention (n = 299), intervention (n = 1,007), and post-intervention (n = 123). Height-for-age (HAZ) and BMI-for-age (BAZ) z-scores were assessed at four time points. Multilevel linear models were used to adjust for socioeconomic factors.

Results: A total of 992 children (68.7%) completed follow-up. Post-intervention children showed improved HAZ trajectories, with sex-specific patterns that varied across cohorts. Birth weight is positively associated with HAZ across all cohorts (0.34-0.49 kg increase per z-score). Household overcrowding (> 2 persons/room) is consistently associated with lower HAZ (-0.34 to -0.63 z-score reduction). Children who were never exclusively breastfed in the post-intervention phase had a higher BAZ (0.76 z-score increase). Caesarean delivery is associated with higher BAZ in the pre-intervention

0213-9111 © 2026 SESPAS. Publicado por Elsevier España, S.L.U. Todos los derechos reservados

(0.23) and intervention (0.27) cohorts.

Conclusions/Recommendations: Children born in later time periods showed better growth trajectories, which may reflect the combined effects of sanitation improvements, economic development, and other societal changes in Brazil during this period. Further research using experimental or quasi-experimental designs is needed to isolate the specific contribution of sanitation to child growth.

Funding: This research is supported by The Wellcome Trust Latin American Centers of Excellence Pro-gramme (Grant No 074679/Z/04/Z) at the Institute of Collective Health as part of the SCAALA Programme. Additionally, the original cohort received financial support from the Wellcome Trust, UK (Grant Ref: 072405/Z/03/Z); the PRONEX-Centres of Excellence Programme, CNPq, Brazil (Contract num. 66.1086/1998-4); the Secretaria de Desenvolvimento Urbano, Bahia State Government, Brazil; and the Fundação de Amparo à Pesquisa do Estado da Bahia (FAPESB, Grant 1360/2006).

0213-9111 © 2026 SESPAS. Publicado por Elsevier España, S.L.U. Todos los derechos reservados