

PATTERN OF LINEAR GROWTH FAILURE: WHEN DID THE LINEAR GROWTH START TO DECELERATE?

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ABSTRACT

Background: Understanding the pattern of linear growth is critical for stunting prevention. This study aimed to analyze the pattern of linear growth faltering in the first two years based on birthweight and length and to determine the onset of linear growth deceleration.

Subjects and Methods: This was a cohort study conducted in 5 villages in Bogor, West Java. A sample of 408 children under two years of age were selected for this study, excluding premature twin. The dependent variables included birthweight, birth length, and timing of deceleration. A child was categorized as Small for Gestational Age (SGA) if the birthweight or length was below the 10th percentile for gestational age according to the Fenton chart. Linear growth deceleration was defined as incremental length below the 25th percentile of the WHO standard for 3 consecutive months. Birthweight and length were measured within 24 hours after delivery. Child height was measured monthly using a length board. The data were analyzed by survival analysis.

Results: For both SGA and normal children, median linear growth velocity and mean Length-for-Age Z-scores (LAZs) during the first two years were below the WHO standard. Mean LAZs declined from 0 until 18 months, then levelled off by the end of the first 2 years. Substantial losses of LAZs in SGA and normal children occurred between 0-6 months. Half of the children started growth deceleration before the age of 9 months.

Conclusion: Infancy period is critical for child linear growth. It is suggested that linear growth be monitored regularly during infancy, especially before the age of 9 months.

Keywords: linear growth failure, growth velocity, stunting, infant.

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