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Seasonal growth patterns in rural Nepali children.

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Abstract

This paper reports on the prevalence of growth retardation, the impact of seasonality on height and weight gains, and significant relationships between growth velocity, nutritional status and morbidity, for a population living at subsistence level in rural Nepal. Monthly variation in growth pattern was examined for 71 boys and girls 0-49 months of age. At the height of the monsoon season, 71% of children were moderately stunted, but none was wasted (mean -2.61 SD height-for-age and -0.91 SD weight-for-height by reference to NCHS z-score values). Measures of stunting deteriorated from moderate to severe after 1 year of age. No differences by sex or ethnicity were detected. Environmental changes from the winter to the monsoon seasons were reflected in significant losses of weight and lower weight-for-height z-scores, especially for 0-35 month-olds, although height for 12-35-month-olds continued to be gained over this period. Growth velocity was significantly related to previous growth status (thinner and shorter children did not show catch-up in height or weight) and to morbidity reported over the period of observation. The prevalence of illnesses rose six-fold from the winter to the monsoon, and children with a high frequency of illnesses experienced a significant shortfall in weight and height increments. A poor diet and recurrent illnesses explain the slow and uneven growth of these children. Despite an increase in women's agricultural workloads in the monsoon season, childcare patterns per se do not seem to adversely affect small children. Small stature through later childhood and in adults is one consequence of the growth pattern seen at these young ages.

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