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Factors associated with stunting and catch-up growth among under-five children in Nairobi informal settlements

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POLICY BRIEF

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Unpacking the issues on child stunting in Nairobi slums: a time for action

WHY IS THIS STUDY IMPORTANT?

Growth trajectories are central to monitoring child health. They provide essential indicators of childhood development and can predict determinants of adult health outcomes.

In African countries, approximately 40% of under-five children are affected by growth impairment including stunting (36%) and overweight (7%). Child stunting is more pronounced in Sub-Saharan Africa, in particular Eastern and Southern Africa, where the prevalence reached 40% among under-five children according to UNICEF 2007-2011 data. In Kenya, the prevalence of stunting among under-five children decreased from 35% in 2008-09 to 26% in 2014. This figure however hides intra-urban disparities as child stunting was estimated at 46% in 2010 in two Nairobi slums, Korogocho and Viwandani, covering a total population of an estimated 70,000 residents.

HOW WAS THE STUDY DONE?

This study used longitudinal data from the Nairobi Urban Health and Demographic Surveillance System (NUHDSS) to identify factors associated with linear growth among under-five children in two informal settlements in Nairobi.

We looked at 1,917 children born in 2007 and 2008 and followed them up till they were five years old. All children were less than two years at the time of recruitment.

The main outcome variable was the height for age z-scores (HAZ), computed at each child visit based on the World Health Organization (WHO) 2006 standards.

We fitted a generalized linear model on the HAZ to analyse linear growth trajectories among under-five children.

Highlights

- Findings from this study point to the need to prioritize the urban poor population in child health programs in Nairobi. They also call for changes in current programs addressing child undernutrition in Nairobi informal settlements slums.
- The study identifies important child and maternal factors that are closely related to linear growth among under-five children in two Nairobi's informal settlements. It is worth focusing on those factors that can be changed, particularly: child weight at birth, immunization status, child feeding and mother's education and socio-economic status. These factors should be considered when designing interventions aiming at addressing child health inequities in these settings.
- The interventions must also take into account the enabling role of women's education (secondary or higher) in ensuring good child health outcomes, including normal linear growth. To improve child health, young women need to be in school.
- Targeting single mothers in child health and economic interventions in these areas would contribute to lowering the prevalence of stunting among under-five children.
- In a context of poor access to formal housing, uncertain daily access to food and to basic social needs, policy-makers and program implementers must prioritize economic reinforcement interventions such as cash transfers and access to decent employment and housing.

KEY FINDINGS

- There is a decline in linear growth from after birth up to about 24 months, followed by regular catch-up to about 5 years, as shown in Figure 1. This is something that is peculiar to developing countries.
- Children living in Korogocho had better linear growth in their first months of life than those in Viwandani; then from about 8 months, the linear growth became greater for children living in Viwandani.
- Linear growth patterns for girls remained above that for boys throughout the period 0 to 5 years.
- Children with low birth weight remained below those with normal birth weight and below those whose birth weight was missing.
- Few differences in linear growth patterns were observed between children who had more than one illness symptoms over the last two weeks preceding the survey round and those who did not.

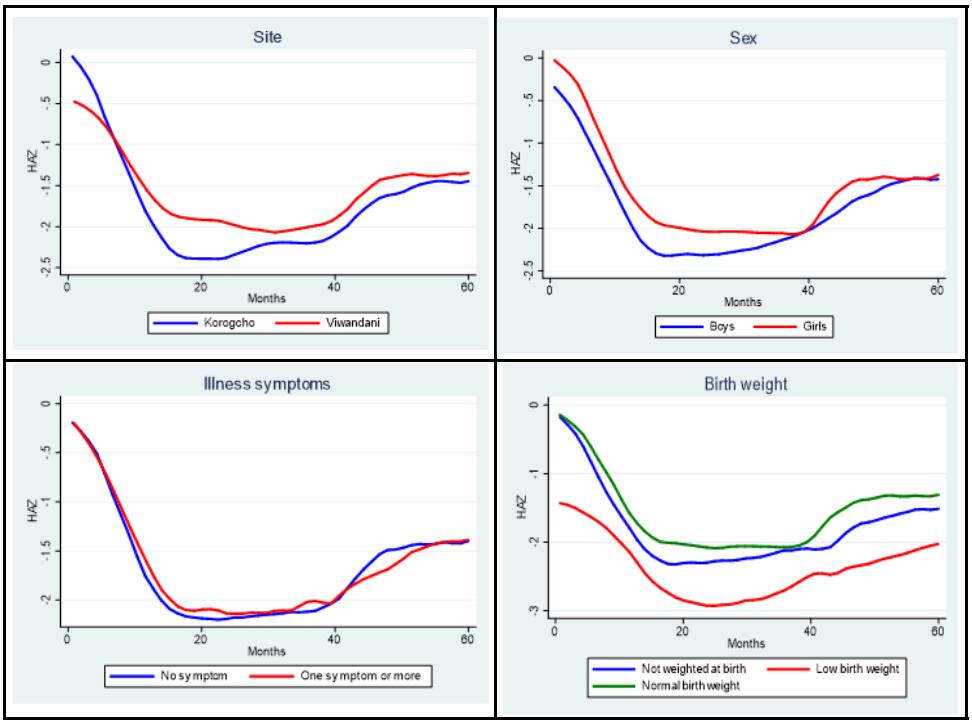
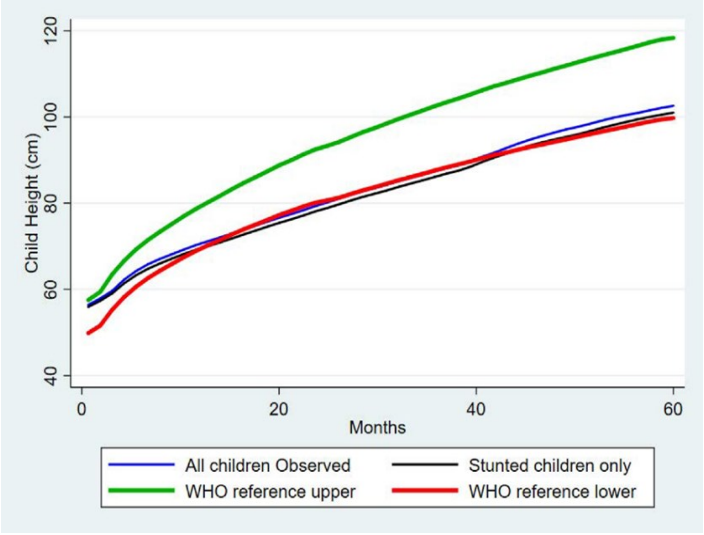


Figure 1. Variation in child HAZ for specific characteristics

- Interestingly, children in the study areas, both those who were stunted and those who were not, brushed the lower boundary of the WHO height references relative to their age, reflecting persistent failure in achieving expected height for age.



- More than half the children (58%) were stunted at some point before the age of five years, with a significantly greater proportion found in Korogocho compared to Viwandani. Children in Viwandani were more likely to grow faster than those in Korogocho.
- Children from least poor households were more likely to grow faster than those from the poorest households.
- Low birth weight was associated with slower linear growth while full immunization status predicted faster linear growth.
- Children who were exclusively breastfed in the first six months of life, presented better linear growth outcomes.
- Children of older mothers (25-34 years) were more likely to grow faster than those from younger mothers (age below 18). Children of currently married mothers were more likely to grow faster than those of formerly married mothers.



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