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Topic: Food and nutrition security

Title: Assessing co-morbidity and correlates of wasting and stunting among children in Somalia using cross-sectional household surveys: 2007 to 2010

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Introduction: Wasting and stunting may occur together at individual child level, however, their shared geographic distribution and correlates remains unexplored. We aimed to assess the spatial co-distribution of wasting, stunting and underweight and investigate their shared correlates among children aged 6–59 months in Somalia.

Methods: Cross-sectional nutritional assessments surveys were conducted using structured interviews among communities in Somalia bi-annually from 2007 to 2010. Using this data and environmental covariates, we implemented a multivariate spatial technique to estimate the co-distribution and divergence risks and correlates of wasting and stunting.

Results: Observed pairwise child level empirical correlations were 0.30, 0.70 and 0.73 between weight-for-height and height-for-age; height-for-age and weight-for-age, and weight-for-height and weight-for-age respectively. Access to foods with high protein content and vegetation cover, a proxy of rainfall or drought, were strong correlates of wasting and stunting. Age, gender, illness, access to carbohydrates and temperature were correlates of all three indicators. The spatial co-distribution was highest between stunting and underweight with relative risk values ranging between 0.15 and 6.20, followed by wasting and underweight (range: 0.18 - 5.18) and lowest between wasting and stunting (range: 0.26 – 4.32).

Conclusion: The determinants of wasting and stunting are largely shared, but their correlation is relatively variable in space. Significant hotspots of different forms of malnutrition occurred in the South Central regions of the country. Although nutrition response in Somalia has traditionally focused on wasting rather than stunting, integrated programming and interventions can effectively target both conditions to alleviate common risk factors.