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Household food insecurity along an agro-ecological gradient influences children's nutritional status in South Africa

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The burden of food insecurity and malnutrition is a severe problem experienced by many poor households and children under L the age of five are at high risk. The objective of the study was to examine household food insecurity, dietary diversity and child nutritional status in relation to local context which influences access to and ability to grow food in South Africa and explore the links and associations between these and household socio-economic status. Using a 48-hour dietary recall method, we interviewed 554 women from randomly selected households along a rural-urban continuum in three towns situated along an agro-ecological gradient. The Household Dietary Diversity Scores (HDDS) and the Household Food Insecurity Access Scale (HFIAS) tools were used to measure household dietary diversity and food insecurity respectively. Anthropometric measurements with 216 children (2-5 years) from the sampled households were conducted using height-for-age (HAZ) and mid-upper arm circumference (MUAC) as indicators of stunting and wasting respectively. The key findings were that mean HDDS declined with decreasing agro-ecological potential from the wettest site (8.44±1.72) to the other two drier sites (7.83±1.59 and 7.76±1.63). The mean HFIAS followed the opposite trend. Stunted growth was the dominant form of malnutrition detected in 35% of children and 18% of children were wasted. Child wasting was greatest at the site with lowest agro-ecological potential. Children from households with low HDDS had large MUAC, which showed an inverse association among HDDS and obesity. Areas with agro-ecological potential had lower prevalence of food insecurity and wasting in children. Agro-ecological potential has significant influence on children's nutritional status, which is also related to household food security and socioeconomic status. Dependence on food purchasing and any limitations in households' income, access to land and food, can result in different forms of malnutrition in children. Responses to address malnutrition in South Africa need to be prioritized and move beyond relying on food security and nutritional specific interventions, but rather on nutrition specific and sensitive programs and approaches; and building an enabling environment. Land availability, agriculture (including climate-smart agriculture especially in drier areas) and wild foods usage should be promoted.

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