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RESEARCH ARTICLE

Household food insecurity and early childhood development: Longitudinal evidence from Ghana

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Abstract

The burden of food insecurity is large in Sub-Saharan Africa, yet the evidence-base on the relation between household food insecurity and early child development is extremely limited. Furthermore, available research mostly relies on cross-sectional data, limiting the quality of existing evidence. We use longitudinal data on preschool-aged children and their households in Ghana to investigate how being in a food insecure household was associated with early child development outcomes across three years. Household food insecurity was measured over three years using the Household Hunger Score. Households were first classified as "never food insecure" if they were food insecure at any round. We also assessed persistence of household food insecurity by classifying households into three categories: (i) never food insecure; (ii) transitory food insecurity, if the household was food insecure only in one wave; and (iii) persistent food insecurity, if the household was food insecure in two or all waves. Child development was assessed across literacy, numeracy, social-emotional, short-term memory, and self-regulation domains. Controlling for baseline values of each respective outcome and child and household characteristics, children from never food insecure households had lower literacy, numeracy and short-term memory. When we distinguished between transitory and persistent food insecurity, transitory spells of food insecurity predicted decreased numeracy ($\beta = -0.176, 95\% \text{ CI: } -0.317, -0.035$), short-term memory ($\beta = -0.237, 95\% \text{ CI: } -0.382, -0.092$), and self-regulation ($\beta = -0.154, 95\% \text{ CI: } -0.325, 0.017$) compared with children from never food insecure households. By contrast, children residing in persistently food insecure households had lower literacy scores ($\beta = -0.243, 95\% \text{ CI: } -0.436, 0.009$). No gender differences were detected. Results were broadly robust to the inclusion of additional controls. This novel evidence from a Sub-Saharan African country highlights the need for multi-sectoral approaches including social protection and nutrition to support early child development.

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Household Food Insecurity and Early Childhood Development: Longitudinal Evidence from Ghana

The burden of food insecurity is large in Sub-Saharan Africa, yet the evidence-base on the relation between household food insecurity and early child development is extremely limited. Furthermore, available research mostly relies on cross-sectional data, limiting the quality of existing evidence. We use longitudinal data on preschool-aged children and their households in Ghana to investigate how being in a food insecure household was associated with early

child development outcomes across three years. Household food insecurity was measured over three years using the Household Hunger Score. Households were first classified as “ever food insecure” if they were food insecure at any round. We also assessed persistence of household food insecurity by classifying households into three categories: (i) never food insecure; (ii) transitory food insecurity, if the household was food insecure only in one wave; and (iii) persistent food insecurity, if the household was food insecure in two or all waves. Child development was assessed across literacy, numeracy, social-emotional, short-term memory, and self-regulation domains. Controlling for baseline values of each respective outcome and child and household characteristics, children from ever food insecure households had lower literacy, numeracy and short-term memory. When we distinguished between transitory and persistent food insecurity, transitory spells of food insecurity predicted decreased numeracy ($\beta = -0.176$, 95% CI: -0.317; -0.035), short-term memory ($\beta = -0.237$, 95% CI: -0.382; -0.092), and self-regulation ($\beta = -0.154$, 95% CI: -0.326; 0.017) compared with children from never food insecure households. By contrast, children residing in persistently food insecure households had lower literacy scores ($\beta = -0.243$, 95% CI: -0.496; 0.009). No gender differences were detected. Results were broadly robust to the inclusion of additional controls. This novel evidence from a Sub-Saharan African country highlights the need for multi-sectoral approaches including social protection and nutrition to support early child development

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