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Study Type

Randomized Evaluation

Sample Size

2,400 parent-child pairs

STUDY SUMMARY

The Impact of Home-based Growth Charts and Nutritional Supplements on Child Stunting in Zambia



Stunting negatively affects the health, development, and future incomes of affected children as well as that of their countries. Stunting remains a major problem in Zambia. In 2018, 35 percent of children under age 5 were stunted nationwide, with much higher rates in some regions. Researchers are assessing the impact of two interventions—the distribution of a home-based growth chart poster and the provision of a daily dose of small quantity lipid-based nutrient supplement (SQ-LNS), which provides a range of macro- and micronutrients—on child growth outcomes. Findings will have policy-relevant implications for the ambitious targets to reduce stunting and child malnutrition outlined in the Seventh National Development Plan of the Zambian Government.

Policy Issue

Stunting — impaired physical growth that children experience due to poor nutrition, repeated infection, and other factors, — negatively affects the health, development, and future incomes of affected children as well as that of their countries. Children that experience stunting during early childhood generally do not do as well in school as their peers and eventually earn less income during their adult years. The economic costs of stunting result in countries losing between 3 to 16 percent of their potential GDP each year, with estimates for low-income settings even higher^[2].

Poverty is a strong determinant of stunting. Children growing up in poor households often lack appropriate nutrition, are frequently exposed to infections that inhibit the body's ability to process and absorb nutrients, as well as other environmental risks. Despite progress in the past decade, about 22 percent of all children under age five in LMICS (149 million children) were estimated to be stunted in 2020 and the impacts of the COVID-19 pandemic may threaten progress over the past decade. More than one-third of stunted children under five years old live in Africa. Although stunting is declining around the world, Africa remains the only region where the absolute number of stunted children has risen in the last 20 years.

Evaluation Context

Malnutrition in Zambia contributes to a significant number of deaths among children under the age of

RESEARCHERS

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COUNTRY

Zambia

PARTNER

Government of Zambia, Ministry of Health

PROGRAM AREA

Health

TOPICS

Maternal & Child Health, Nutrition

TIMELINE

Not available

Project Summary

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Policy Issue

Stunting — impaired physical growth that children experience due to poor nutrition, repeated infection, and other factors^[1] — negatively affects the health, development, and future incomes of affected children as well as that of their countries. Children that experience stunting during early childhood generally do not do as well in school as their peers and eventually earn less income during their adult years. The economic costs of stunting result in countries losing between 3 to 16 percent of their potential GDP each year, with estimates for low-income settings even higher^[2].

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Context of the Evaluation

Malnutrition in Zambia contributes to a significant number of deaths among children under the age of five. The first 1,000 days of life comprise a critical period of physical, cognitive, and psycho-social development. During this period, if children do not consume adequate nutrients, they can experience delayed development with lifelong detrimental effects. Stunting remains a major problem in Zambia. In 2018, 35 percent of children were stunted nationwide, with much higher rates in some regions.^[5]

The Zambian Government in the Seventh National Development Plan highlights ambitious targets for reducing child malnutrition, including reducing stunting, underweight, and wasting to 14 percent, 9 percent, and 4 percent, respectively by 2021.

Details of the Intervention

Working with the Zambian Ministry of Health, researchers will test the individual and combined effects of two interventions using a full factorial cluster-randomized trial design. 2,400 children between 6 and 11 months of age and their caregivers will be enrolled and randomly assigned to one of four study arms. The first intervention is the distribution of a home-based growth chart poster and the second intervention is the provision of a daily dose of small quantity lipid-based nutrient supplement (SQ-LNS) to children, which provides a range of macro- and micronutrients. In addition to monitoring the enrolled child, researchers will monitor the growth of other children under 24 months of age in the same household to understand the distribution of resources and assess for gender bias. The project will be conducted in three districts: Mansa district in Luapula province, Choma district in Southern province and Lusaka district in Lusaka Province, to account for regional diversity of diets and access to resources.

The project aims to answer two critical research questions:

1. What is the impact of growth charts on child height-for-age z-scores (HAZ) and stunting?
2. What is the impact of providing food supplements in combination with growth charts versus providing food supplements alone?

Researchers will evaluate impact by collecting household demographic data, child growth measurements, information on infant and young child feeding provided by caregivers, implementation monitoring related to the distribution of growth charts and food supplements, data on the costs of implementing the program, and tracking policy impacts.

Results and Policy Lessons

Research ongoing; results forthcoming.

Sources

[1] WHO, 2015: <https://www.who.int/news/item/19-11-2015-stunting-in-a-nutshell>

[2] <https://www.worldbank.org/en/topic/nutrition/overview#1>

[3] <https://www.worldbank.org/en/topic/nutrition/overview#1>

[4] WHO 2019: <https://www.who.int/nutgrowthdb/jme-2019-key-findings.pdf>

[5] 2018 Demographic and Health Survey

Günther Fink et al., “Home- and Community-Based Growth Monitoring to Reduce Early Life Growth Faltering: An Open-Label, Cluster-Randomized Controlled Trial,” *The American Journal of Clinical Nutrition* 106, no. 4 (October 1, 2017): 1070–77, <https://doi.org/10.3945/ajcn.117.157545>.