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Study Status
In Progress

Sample Size
2,291 caregiver-child pairs

Research Implemented by IPA
Yes

Policy Brief

The Impact of Growth Charts and Small-Quantity Lipid Based Nutrient Supplements (S-Q LNS) on Child Growth in Zambia

Key Findings
The distribution of small-quantity lipid-based nutrient supplements (S-Q LNS) to children in Zambia led to notable improvements in the health and development of children under five years old.

- The odds of a child being stunted decreased by 37 percent.
- The odds of a child having anemia went down by 28 percent. Children that suffer from anemia are at risk of impaired growth, brain and motor skills development, which leads to reduced productivity and income adulthood.
- Child development scores, as measured by the Global Scales for Early Development (GSED), increased to 0.30 standard deviations/relative positive advances across cognitive, motor, language, and socio-emotional domains.

Growth charts demonstrate some positive impact on child growth, but they did not improve child growth and were less effective than SQ LNS alone in improving health and development outcomes.

Combining growth charts and SQ LNS reduced the odds of stunting and being overweight, but did not have the same impact as using SQ LNS alone on child growth and development outcomes.

Recommendations
SQ LNS significantly improved child growth, nutrition, and development outcomes. This study indicates that SQ LNS interventions should be used in place of growth charts to improve child growth and nutrition outcomes. Further research is needed to confirm these findings.

Despite some positive impact, IPA does not recommend the use of growth charts to improve child growth and nutrition outcomes, and further research is needed.

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

Researchers, in partnership with the Zambian Ministry of Health and IPA, evaluated the impact of growth charts and Small Quantity Lipid-Based Nutrient Supplements (SQ-LNS) on child growth. SQ-LNS significantly improved growth and development, while growth charts offered some benefits but were less effective. Combining both resulted in a reduction in anemia and being underweight, but it did not have the same impact as using SQ-LNS alone.
Stunting, or being too short for one’s age, is a warning signal that a child is at risk of failing to reach their full physical and developmental potential. In Zambia, stunting impacts 35 percent of children under five, which is higher than Africa’s 31 percent average.\(^1\) Growth charts may help visualize the link between stunting and children’s well-being and enable caregivers to improve health outcomes at home. SQ-LNS—ready-to-eat food supplements—can address nutritional gaps in children’s diets that contribute to stunted growth, with evidence from other low- and middle-income countries showing transformative impacts on children’s growth and development.\(^2\)

Researchers partnered with IPA and the Zambian Health Ministry to evaluate the impacts of growth chart posters and SQ-LNS on child growth, nutrition, and development outcomes. A total of 2,291 caregivers and their infant children across Choma, Mansa, and Lusaka districts were randomly divided into the following groups:

1. **Growth charts for home use**
2. **Monthly supply of SQ-LNS**
3. **Growth charts and the monthly supply of SQ-LNS**
4. **Comparison group.**

The distribution of SQ-LNS led to notable improvements in the growth, health and development of children under five years old. SQ-LNS reduced stunting by 37 percent and anemia by 26 percent, and enhanced cognitive, motor, language, and social-emotional skills as indicated by a 0.28 standard deviation increase in the Global Scales for Early Development (GSED) scores. While growth charts showed some health improvements, they were not as effective as SQ-LNS in promoting growth and development. The combined use of growth charts and SQ-LNS decreased anemia and underweight but did not match the benefits of SQ-LNS alone on child growth and development outcomes.

**Sources**


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Implementing Partner

Ministry of Health
Zambia Ministry of Health

Research Partners

University of Basel

Boston University

Swiss Tropical and Public Health Institute