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Impact of a Sprinkles Micronutrient Powder Programme on Linear Growth Velocity in Infants and Young Children in Maradi, Niger: A 2013 Cohort Study

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Abstract

Stunting is a critical public health issue in Niger, with high prevalence in regions like Maradi. Micronutrient deficiencies contribute to impaired linear growth in infants and young children. This study evaluated the impact of a community-based Sprinkles micronutrient powder distribution programme on linear growth velocity among children aged 6–18 months in Maradi, Niger. A prospective cohort study was conducted. Children were enrolled at six months of age and followed for 12 months. The intervention group received monthly Sprinkles supplies and behaviour change communication, while the comparison group received standard health education only. Anthropometric measurements were taken monthly. Linear growth velocity was the primary outcome. Data were analysed using linear mixed-effects models. Mean linear growth velocity was significantly higher in the intervention group (0.92 cm/month) than in the comparison group (0.85 cm/month). The adjusted mean difference was 0.07 cm/month. Adherence to the Sprinkles protocol was 78% in the intervention cohort. The Sprinkles programme was associated with a modest but statistically significant improvement in linear growth velocity in this high-burden setting. This suggests such interventions can help reduce growth faltering. Integrating micronutrient powder programmes into existing community health platforms should be considered. Further research is needed to identify strategies for enhancing adherence and to assess long-term impacts on stunting prevalence. Micronutrient powders, Sprinkles, linear growth, stunting, infant and young child feeding, Niger, cohort study This research provides evidence on the effectiveness of a community-based micronutrient powder intervention for improving linear growth velocity in a high-prevalence setting, informing public health nutrition policy and programming.

Keywords: *stunting, micronutrient powder, linear growth velocity, Sahel, cohort study, infant nutrition, nutritional intervention*

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