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Topic: Community health and nutrition programs

Title: Effect of home fortification of complementary foods with micronutrient powder on morbidity, iron deficiency and anemia among infants and young children in Northern Zambia

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Introduction

An effectiveness study was embedded to Zambia's pilot project to analyze the effect of Micronutrient Powder (MNP) on morbidity, iron deficiency and anemia in infants and young children.

Methods

Children aged 6-11 months were enrolled in intervention group (n=239) and control group (n=193), and followed up over 12 months. Both groups were considered for counselling of children's caretakers on Infant and Young Child Feeding (IYCF) and Early Childhood Development (ECD), malaria prevention and deworming, while the intervention group additionally received 30 sachets of MNP (15 micronutrients), every 2 months. Interview of caretaker on child's morbidity, as well as child's blood sample collection and analysis were performed at baseline and end-line. Iron deficiency and anemia were defined as Serum Transferrin Receptors >8.3 mg/L and Hemoglobin <110 g/dL, respectively.

Results

The two groups were comparable at baseline. The Control and Intervention groups did not differ significantly at end-line for morbidity in the two weeks prior to the interview: diarrhea (24.4% vs 24.3%); fever (40.4% vs 32.4%); treated for malaria (20% vs 13%). The end-line proportion of children with iron deficiency was 49.1% in the intervention group and 65.9% in the control group ($p=0.001$, chi square test). Groups did not differ for anemia at end-line (20.9% vs 22.3%).

Conclusion

Home fortification for 12 months was effective in reducing iron deficiency without affecting morbidity patterns. Delivering MNP through public health care system alongside counselling on IYCF and ECD, malaria prevention and deworming is a relevant policy recommendation for Zambia.