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## Food-based Approaches for Improving Diets and Raising Levels of Nutrition



### **ENHANCING THE PERFORMANCE OF FOOD-BASED STRATEGIES TO IMPROVE MICRONUTRIENT STATUS AND ASSOCIATED HEALTH OUTCOMES IN YOUNG CHILDREN FROM POOR RESOURCE HOUSEHOLDS IN LOW-INCOME COUNTRIES: CHALLENGES AND SOLUTIONS**

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#### **Abstract**

Sustainable food-based micronutrient interventions are needed in poor resource settings, where the prevalence of co-existing micronutrient deficiencies and infection is high, especially during childhood. Food-based interventions include fortification, dietary diversification and modification (DDM), and biofortification. This review focuses on DDM strategies that aim to improve the availability, access and utilization of foods with a high content and bioavailability of micronutrients throughout the year. The strategies include increasing the production and consumption of micronutrient-dense foods through agriculture, small animal production or aquaculture, and in the future biofortification; incorporating enhancers of micronutrient absorption; and reducing absorption inhibitors. Such strategies must be designed using formative research to ensure they are culturally acceptable, economically feasible, and sustainable. DDM has the potential to prevent co-existing micronutrient deficiencies simultaneously for the entire household and across generations without risk of antagonistic interactions. To maximize the impact of DDM, especially among children in poor resource settings, DDM should be integrated with public health interventions designed to reduce risk of infections. Evidence of the impact of such integrated programmes needs to be strengthened by enhancing the design and monitoring and evaluation components. This can be achieved by applying a programme theory framework to identify pathways through which the programme is expected to exert its impact, and to select the appropriate process, output and outcome indicators. To ensure sustainable impact on micronutrient status, growth and development, the DDM and public health strategies need to be combined with those that address the underlying causes of malnutrition such as poverty alleviation, food security and income generation.

**Key words:** micronutrients; dietary diversification and modification; poor resource settings; public health; programme evaluation; programme theory framework

