



INTERNATIONAL FOOD
POLICY RESEARCH INSTITUTE

sustainable options for ending hunger and poverty



World Food
Programme

Linking Research and Action

STRENGTHENING FOOD ASSISTANCE AND FOOD POLICY RESEARCH

Can Young Children's Nutritional Needs Be Met with a Combination of Fortified Blended Foods and Local Foods?

Fortified donated cereal blends can greatly contribute to improving the nutritional quality of complementary foods, but are not sufficient to completely close the iron and zinc gaps at current fortification levels in Haiti, even when combined with locally available foods.

Infants and young children in their first two years of life require special foods of adequate nutrient density, consistency, and texture. In resource-constrained populations, children are at particularly high risk of suffering from micronutrient deficiencies. Current child-feeding recommendations state that children 6–23 months of age should be fed animal-source foods (ASF) daily if they are not receiving multivitamin/mineral supplements or fortified foods (PAHO/WHO 2003).¹ Unfortunately, the families that cannot afford to regularly feed their children ASF tend to also have very limited access to these other products to make up the shortfall.

A number of maternal and child health and nutrition programmes tar-

geted to poor families in the developing world include a food aid component. Many of these programmes distribute wheat-soy blend (WSB) and corn-soy blend (CSB), which are fortified with several vitamins and minerals, including vitamin A, iron, and zinc. The purpose of this research was to assess the potential contribution of these fortified food aid commodities at improving the quality of the diet of infants and young children and helping them meet their daily nutrient requirements.

Methods

Participatory recipe trials were conducted with small groups of mothers and their children with the aim of developing special complementary foods for infants and small children, using a combination of locally available foods and ingredients, and the fortified food aid commodities. Recipes were based on original preparations usually given to small children in the area, and discussions were held on which locally available and affordable ingredients could be used to improve their nutritional quality. The improved recipes were prepared, tasted, and discussed to assess their acceptability, feasibility, and affordability.

Insights from IFPRI Research Results

The study showed that it is feasible to improve the nutritional quality of complementary foods in poor rural areas of Haiti, using locally available

ingredients combined with fortified food aid commodities. Significant improvements in the concentrations of protein, vitamin A, and zinc were obtained by including acceptable and affordable amounts of black beans, groundnuts, pumpkin, dried fish, milk, or eggs to the preparations. Even larger improvements were obtained when nonfortified wheat flour was replaced by fortified CSB in these improved recipes. None of the preparations, however, reached the recommended iron and zinc concentrations for infants 6–12 months, even with fortified CSB. It appears that without the addition of some amounts of red meat or organ meats, the recommended iron and zinc concentrations of complementary foods for young infants in poor rural areas of Haiti cannot be met.

The need to use ASF to improve the nutritional quality of complementary foods immediately raises concerns about their availability to poor rural families. This research suggests that while cultural factors do not seem to be a constraint in this population, economic barriers are fundamentally limiting. Families may have difficulties purchasing even the relatively small amounts of meat products required to feed their young infant on a regular basis. Moreover, Haitian mothers cannot conceive purchasing *special* nutrient-rich foods only for their young child. An additional constraint is feasibility: do young children have the physical capacity to consume and digest meat

¹ PAHO/WHO (Pan American Health Organization/World Health Organization) (2003) *Guiding principles for complementary feeding of the breastfed child*, Washington, DC.

products; are tools available to puree foods; or are there organoleptic constraints to feeding gruels and beef or liver at the same time to infants and young children?

The results confirm that fortified donated cereal blends can greatly contribute to improving the nutritional quality of complementary foods, but are not sufficient to completely close the iron and zinc gaps. It appears that without the addition of some meat products to the diet, the recommended iron and zinc intakes of infants and young children will not be met. Increasing the fortification levels of cereal blends could also be an option, but careful consideration of potential toxicity or of negative interactions between micronutrients has to be taken into account before implementing such measures. It is also important to recognize that donated cereal blends are not used only for complementary foods—on the contrary, they are widely shared among all family members—and therefore their fortification levels have to be safe for all age groups, including those who may consume relatively large amounts of the products. Combining approaches—such as using fortified donated foods, including some amounts of meat in the diet, and possibly using home fortification methods such as sprinkles, spreads, or dispersible tablets—will be necessary to ensure that the iron and zinc requirements of infants and young children are met.

Implications for Food Assistance Programming

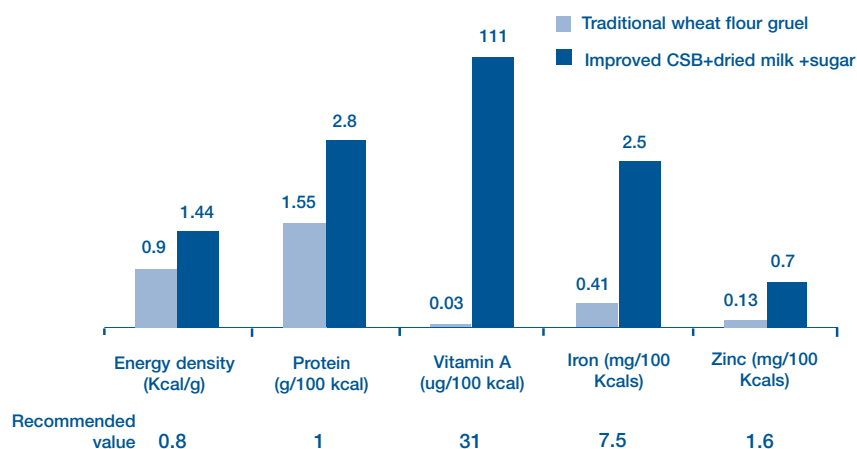
Recommendations for food aid programmes

1. Food aid programmes should conduct participatory, context-specific research to develop feasible, affordable, and culturally acceptable

recipes using the food aid commodities distributed, combined with other locally available and affordable foods and ingredients. The recipes should be developed based on existing cultural patterns and types of preparations used locally. The recipes should also be developed specifically for the age group target-

Poor complementary feeding practices continue to be a major bottleneck in reducing malnutrition in developing countries. It is thus imperative that existing resources, such as fortified food-aid commodities, be used more effectively to contribute to improving the overall quality—and not only the *quantity*—of

Haiti: Examples of increases in the nutritional quality of improved, compared to traditional, complementary foods



ed, i.e., infants and young children or pregnant/lactating women.

2. Food aid programmes should include intense promotional and educational efforts to ensure that the specially fortified food commodities such as CSB and WSB are used primarily for the targeted beneficiaries, who have higher nutrient requirements than other household members.

3. Programmes should develop links to other types of interventions to improve the micronutrient density of complementary foods, especially their iron and zinc concentrations. These include linking up with new initiatives such as the promotion of increased availability, access, and intake of ASF, or the use of home fortification with micronutrient sprinkles, spreads, or dispersible tablets.

complementary foods for infants and young children. To achieve this, food aid programmes should prioritize and strengthen their promotional and educational strategies to better educate programme recipients in the optimal use of fortified food commodities—especially for targeted beneficiaries, i.e., pregnant and lactating women and infants and young children who have high nutrient requirements. Food aid programmes should also strengthen their links with other initiatives to improve complementary feeding practices, including programmes for the control of micronutrient deficiencies and interventions to improve the availability and access of nutrient-rich foods.

Marie T. Ruel, Cornelia Loechl, Purnima Menon, and Gretel Pelto (2003) “Can Fortified Donated Food Commodities Significantly Improve the Quality of Complementary Foods?” International Food Policy Research Institute, Washington, D.C. Contact author at m.ruel@cgiar.org.

This IFPRI/WFP brief is based on preliminary research results. Copyright © 2004 International Food Policy Research Institute and World Food Programme. All rights reserved. Sections of this document may be reproduced without the express permission of, but with acknowledgment to, IFPRI and WFP.

INSTITUTIONAL CONTACTS:

Food Consumption & Nutrition Division, International Food Policy Research Institute (www.ifpri.org), 2033 K St., NW, Washington, DC 20006-1002 USA, Tel: +1-202-862-5600, Fax: +1-202-467-4439 Email: IFPRI-FCN@cgiar.org

World Food Programme (www.wfp.org), 68/70 via Cesare Giulio Viola, Parco dei Medici, I-00148 Rome, Italy, Tel: +39-06-65132628, Fax: +39-06-65132840 Email: Allan.Jury@wfp.org