Improving Malnutrition through Behavioral Change: Lessons from Madagascar

Behavioral changes in nutrition, feeding, and hygiene practices are more effective when bundled with maternal education and community infrastructure

Nearly one-third of children in the developing world are either underweight or stunted. Child nutrition has direct, short-term impacts on health outcomes and important long-term cognitive functions, school performance, and productivity consequences later in life. Research has shown that economic growth alone (by reducing poverty over the long run) is not sufficient to achieve desired reductions in malnutrition rates.

Evidence now available from programs focused on child care and behavior changes in child care practices

A recent impact evaluation study of a community-based nutrition program in Madagascar shows that malnutrition can be improved over the short- and long-term when mothers participate in community health programs that promote behavioral change in nutrition, feeding, and hygiene practices. The study highlights important complementarities between maternal education, knowledge, and community infrastructure to achieve improvements in children’s nutritional status.

Understanding direct nutrition interventions and how they work best under different conditions has great policy relevance for improving immediate health outcomes and stemming the intergenerational transmission of poverty. Direct nutrition interventions are generally based on a heuristic model of the production of nutrition based on three pillars: nutrients (through food or supplementation), health and sanitation services (to protect from diseases), and the role of child care.

The program in Madagascar (SEECALINE) targets children from birth to three years of age and pregnant/lactating women. The preventive approach involves a monthly growth-monitoring and promotion activity facilitated by a local nutrition worker. Adoption of improved hygiene, child care, and nutrition practices is promoted through a community-based approach of communication with locally adapted messages.

To identify the causal effect of the program, the study design addresses the non-random selection of communities into the program. The selection process takes into account the targeting of the program to the most malnourished districts of the country, as well as the potential differences in unobserved characteristics (such as motivation) arising from the decision of the communities to participate in the program. The evaluation design builds on two nationally representative surveys administered before and after the program over seven years, which are longitudinal at the community level and done in close collaboration with the Madagascar National Statistical Institute.

The program targeted the most malnourished and vulnerable districts of the country

Communities participating in the program bridged the weight gap with respect to non-participating communities in terms of short-term nutritional outcomes and had protective effect of the program on longer-term nutritional outcomes, reversing the trend toward stunting. This result is particularly important because program communities had a higher incidence of shocks and experienced higher food insecurity.

The overall share of observed improvements in nutrition nationwide (reduced malnutrition rates) between 1997/98 and 2004 attributable to the program (using the estimates above) ranges between $\frac{1}{4}$ and $\frac{1}{3}$. The observed program effects were obtained through significant improvements in feeding practices (exclusive breastfeeding, timing of weaning, and proactive and responsive feeding) and hygiene practices (appropriate disposal of garbage and toilet use, and improved methods of water purification).

The results reveal important socioeconomic gradients

Characteristics of the household as well as conditions of the living environment affect the uptake of improvements in practices and nutritional outcomes. More educated mothers and households living in better-off areas gained more from the program. Nutritional gains are larger for households in relatively less poor and remote areas with relatively better infrastructure (access to electricity, sec-
ondary schools, and hospitals). Worse-off households are more likely to have gained from adopting beneficial child care practices, but have greater difficulty translating new practices into improved nutritional outcomes.

Knowledge alone is not a sufficient to improve nutritional outcomes

The results highlight important policy trade-offs between targeting areas with higher needs—where the initial stock of malnutrition is higher—and targeting areas with the highest expected impact. Direct nutrition intervention bundled with complementary interventions in other sectors (health, infrastructure, and water and sanitation) is the best way to maximize effectiveness for households in the neediest areas.

Emanuela Galasso, Economist
Egalasso@worldbank.org

Notes