

to a report by international economists in 2008, every \$1 spent on fortification results in \$9 in benefits to the national economy.³

In 2011 the Egyptian government began fully funding a wheat flour fortification program started through the Global Alliance for Improved Nutrition Program. The program needs to expand so that fortified flour and bread are available nationwide. In addition, other foods need to be fortified to maximize their nutritional content. Specific recommendations follow:

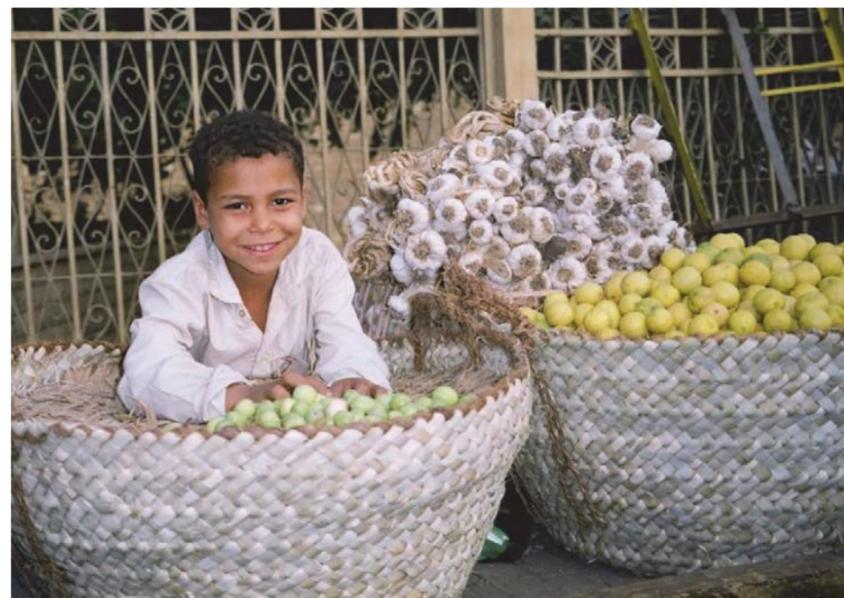
- Expand programs for fortifying wheat flour with iron and folic acid.
- Expand programs for fortifying subsidized oil in the governmental supply package with vitamins A and D.
- Fortify rice flour with zinc and vitamin B.

Support Egypt's declaration to be free from iodine deficiency. Egypt adopted a national program for universal iodization of salt according to quality standards in 1996. As a result, more than 90% of Egyptian homes now have iodized salt, which protects most of the population from iodine deficiency. Still, there is room for improvement, especially in rural areas and among the poorest households. Sustainable support to continue the national program for universal iodization of salt is essential. Advertising and consumer education is also needed to ensure that families buy iodized salt rather than the less expensive non-iodized salt available at many markets.

Many families may be too poor to buy their own salt. To reach these groups, the government should include iodized salt in the monthly subsidized package of food. This will prevent iodine deficiency in rural and remote areas.



Improving Child Nutrition in Egypt



³ "Why food Fortification," <http://projecthealthychildren.org/why-food-fortification/> (Accessed June 2016).

This policy brief was prepared during a workshop to disseminate and utilize data of the 2014 Egypt Demographic and Health Survey (EDHS) and organized by the Ministry of Health and Population with El-Zanaty & Associates. The contributors are experts in health and population research and policies. The 2014 Egypt Demographic and Health Survey (EDHS) was conducted on behalf of the Ministry of Health and Population by El-Zanaty and Associates. The 2014 EDHS is part of The DHS Program, which is funded by the United States Agency for International Development (USAID). USAID/Egypt was the main contributor of funding for the survey. Support for the survey also was provided by The United Nations Children's Fund (UNICEF) and The United Nations Population Fund (UNFPA).

Additional information about the 2014 EDHS may be obtained from the Ministry of Health and Population, Magles El Shaab Street, Cairo, Egypt; Telephone: 20-2-27948555; Fax: 20-2-27924156



Introduction

Proper nutrition promotes good health and prevents disease, especially among vulnerable groups such as children and pregnant women. Poor nutrition among children can lead to lifelong consequences, both for the individual and also for the country. Children with severe malnutrition during the critical period of age 6 to 18 months may suffer irreversible impairment of physical and mental development. This can lead to poor performance in school and eventually poor work performance as adults. Childhood malnutrition also increases the risk of chronic diseases such as heart disease and diabetes and, paradoxically, adult obesity. Stunted mothers give birth to very small babies, who face more short- and long-term health complications than normal-weight infants. For the nation as a whole, malnutrition reduces productivity, increases health costs, and undermines individual and community economic growth.

The government of Egypt has recognized the vital role that good nutrition plays in national development. It has adopted several policies and strategies to improve nutrition among vulnerable groups and the poor. In addition to these policies and strategies, the government of Egypt implements nutrition programs that provide micronutrient supplementation and food subsidies. For example, mothers and children are given vitamin and mineral supplements as a component of the maternal and child health program.

In government primary health care facilities, pregnant women receive free folic acid in the first 3 months of pregnancy and iron tablets during the second and third trimesters. New mothers receive vitamin A capsules within the first 10 days after delivery and also iron tablets for 3-6 months postpartum. Children receive vitamin A at 9 months and 18 months along with routine immunizations. In contrast, mothers who receive maternal care in the private sector must pay for folic acid, iron, and vitamin A supplements from private pharmacies. Since 1952, the government has provided poor families with

The World Bank estimates that stunting can reduce a country's gross domestic product by up to 3%.¹

¹ World Bank 2006 Repositioning Nutrition as Central to Development: A strategy for Large-sale Action. Washington, DC: World bank

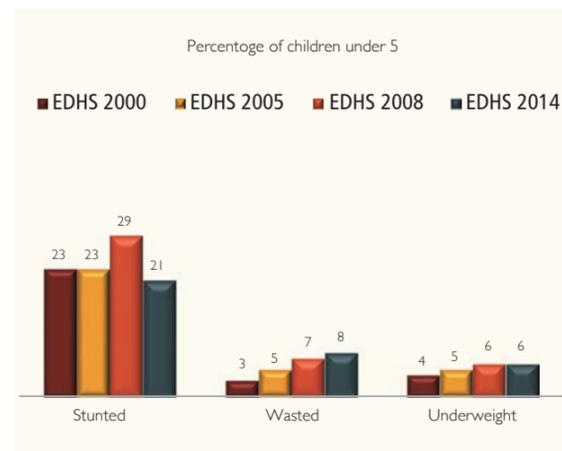
subsidized staple foods of bread, rice, oil, sugar, and tea every month. National laws require manufacturers to fortify table salt with iodine. At school, children receive iron-fortified biscuits.

The Egypt Demographic and Health Survey 2014 (EDHS 2014) collected national and governorate-level information about childhood nutrition. The survey findings can help assess the impact over time of governmental policies and strategies on childhood nutrition.

Key Findings

Childhood malnutrition is a persistent problem in Egypt. Nationwide, about one in five children under age 5 (21%) is stunted or too short for his or her age. Stunting, a sign of chronic malnutrition, varies widely throughout Egypt. The percentage of children who are stunted ranges from a low of 15% in the three surveyed Frontier governorates to a high of 30% in the urban areas of Upper Egypt. Stunting affects children from all income

Figure 1. Trends in Nutritional Status of Children



levels, not just the poor. Among the poorest households, 24% of children under age 5 are stunted, very similar to the rate among the richest households—23%. The rate of stunting has remained above 20% over the past 15 years (Figure 1). Moreover, other measures of poor nutrition have increased.

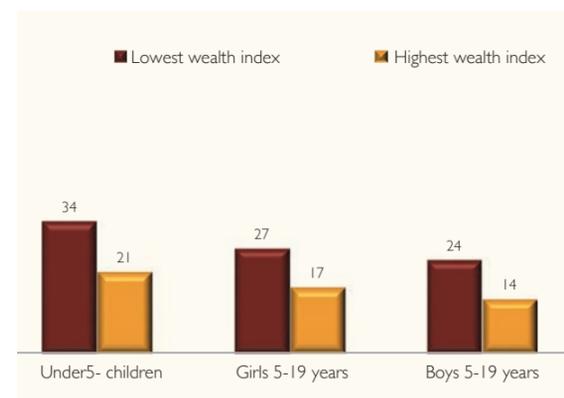
These measures are underweight or too thin for age and wasting or too thin for height. Wasting is a sign of acute malnutrition.

Poor feeding practices are a major cause of childhood malnutrition. According to the 2014 EDHS, only a minority of Egyptian children are fed in accordance with the national and international health recommendations. While virtually all Egyptian newborns are breastfed, only 40% are exclusively breastfed, as recommended, in the first 6 months of life. Exclusive breastfeeding declines with age from 71% of infants in the first month of life to only 13% at age 4-5 months. Beginning at 6 months, infants need to start receiving a variety of different solid foods along with breastmilk. The 2014 EDHS shows that many children are not being properly fed. At 6-8 months, almost one-third of breastfeeding infants are not receiving complementary solid foods as recommended.

Less than one in four children age 6-23 months is fed the amount and diversity of foods recommended by infant and young child feeding practices. Finally, despite government programs, only one in five children under age 2 received vitamin A in the 6 months before the survey, and less than 10% received iron supplementation. Vitamin A and iron supplements reduce risk of infection, protect eyesight, and ensure healthy mental and physical development.

On the plus side, most Egyptian children receive iodine supplementation through salt intake. More than 90% of households tested in the EDHS 2014 had iodized salt. Some areas lag behind, however. Only 80% of households in the lowest income bracket and only 87% of rural households had iodized salt. Anemia, another sign of malnutrition, reduces children's ability to fight

Figure 2. Prevalence of Anemia among Different Age Groups by Wealth Index



off infections and contributes to premature death. In Egypt, anemia affects children of all ages. One in four children under age 5 is anemic as well as 21% of never-married girls and 18% of never-married boys age 5 to 19. Anemia prevalence varies by residence, ranging from a low of 21% of children living in the Urban Governorates to a high of 45% of children living in the 3 surveyed Frontier Governorates. Unlike stunting, anemia varies markedly by household wealth. Children from the poorest households are much more at risk than those living in the wealthiest households, 34% and 21% respectively (Figure 2).

Policy Recommendations

Malnutrition is a national crisis in Egypt. The highest levels of government must make malnutrition a national priority to safeguard the wellbeing of the population and promote economic growth. Malnutrition is a complex problem; improving children's nutrition will require varied interventions in multiple areas. Families need to change infants' and children's diets; communities and health care providers must promote good nutrition practices; and the government must enact and enforce legislation to fortify and market food with micronutrients, provide nutritional support for children and women, and ensure that working mothers get the time and space needed for breastfeeding. While the National Institute of Nutrition and the Ministry of Health and Population have developed national policies to improve child nutrition, these have not been widely enforced. The problem of malnutrition persists and requires immediate attention. The following recommendations are the first steps to addressing and improving childhood nutrition in Egypt.

Promote exclusive breastfeeding. Exclusive breastfeeding for the first 6 months of life gives infants the best possible start. Breastfed babies are less likely to contract infections, and mounting evidence suggests that exclusive breastfeeding may reduce adult obesity, a severe and growing problem in Egypt.² Yet, only a minority of Egyptian infants are still exclusively breastfed by age 5 months. The government, the health care system, and nongovernmental organizations must work together to encourage women and their extended families to support

exclusive breastfeeding. Planning must begin at once to develop a national strategy to promote exclusive breastfeeding through multiple media and interpersonal channels. Working with the health care system is essential, and the government must spearhead programs to scale up baby-friendly hospital initiatives throughout Egypt to help women breastfeed after delivery.

Help working mothers continue breastfeeding.

About one in six ever-married women worked outside the home in the 12 months before the 2014 EDHS survey. Following the example of other countries, the government of Egypt should expand maternity leave for working mothers from 4 to 6 months to allow new mothers to exclusively breastfeed their children. Until this policy is enacted and enforced, Egypt should follow the example of many countries where employers provide new mothers with adequate time and a private place to pump and store breast milk.

Improve young children's diets. After 6 months, infants need to start complementary feeding and eat a diverse diet with vegetables, fruit, grains, and animal protein. Only a minority of Egyptian children under age 2 meet international standards for meal frequency and diversity. Animal protein is particularly important for preventing anemia, yet the 2014 EDHS found that less than a third of children under age 2 had eaten any meat, fish, or poultry in the 24 hours before the survey. Comprehensive programs must be started immediately to educate families and health care providers about proper diets for children. Nutrition counseling must become a routine part of antenatal and postnatal care as well as routine child care check-ups

Fortify Egyptian food with micronutrients.

Food fortification is the practice of adding vitamins and other micronutrients to staple foods to improve their nutritional content. Practiced worldwide since the 1920s, food fortification is a simple, safe, and inexpensive way to improve nutrition. Fortification makes healthier food available without requiring major behavior and dietary changes at the family level.

Food fortification is also recognized as one of the most cost-effective ways to improve global health. According

² "Exclusive breastfeeding to reduce the risk of childhood Overweight and obesity". http://www.who.int/elena/titles/bbc/breastfeeding_childhood_obesity/en/ (Accessed June 2016).