



# PROGRAM BRIEF

## Maternal nutrition & maternal and child health



**OVERVIEW** Maternal nutrition refers to the nutritional needs of women during the antenatal and postnatal period (i.e., when they are pregnant and breastfeeding) and to the time period before conception.

Undernourished pregnant women have higher reproductive risks, including death during or following childbirth. Many women suffer from a combination of chronic energy deficiency, poor weight gain in pregnancy, anemia, and other micronutrient deficiencies, as well as infections such as HIV and malaria. These along with inadequate obstetric care contribute to high rates of maternal mortality and poor birth outcomes. Undernutrition in pregnant women is directly linked to intrauterine growth retardation (IUGR), which results in low birth weight, pre-maturity, and low nutrient stores in infants. Maternal undernutrition also diminishes a woman's productivity, causing repercussions for herself, her family, her community, and the broader society.

The micronutrients that are most important for maternal and child health outcomes include **iron, vitamin B12, folic acid, vitamin D and selenium.**<sup>1 2 3</sup>

**10–19%** of women of reproductive age are seriously undernourished.<sup>4</sup>

**Anemia** increases the risk for maternal mortality and morbidity and also diminishes women's productivity.

### HEALTH CONSEQUENCES OF MATERNAL MICRONUTRIENT DEFICIENCY

Deficiencies in micronutrients affect many women of reproductive age and are associated with adverse health effects. Anemia (a condition of deteriorating iron reserves in the body caused by low dietary intake of iron, poor absorption of dietary iron, or blood loss (for example, from hookworm, repeated childbirth or heavy menstruation) is a major marker of maternal malnutrition. Maternal anemia, even moderate cases, increases the risk of dying during delivery. It is estimated that 20% of maternal deaths are due to maternal iron-deficiency anemia and stunting in women, thus adding 115,000 deaths to the total maternal deaths from obstetric complications annually.<sup>4</sup> Additionally, during pregnancy, iodine deficiency disorders (which result from a lack of sufficient iodine in the diet) can result in serious and irreversible effects on child brain development and mental capacity, in the form of cretinism, and can lead to miscarriage, stillbirths, and early neonatal deaths. In the developing world, the social and health problems that come along with such deficiencies are often compounded by high fertility rates, repeated pregnancies and short intervals between pregnancies.

### NUTRITION, SUPPLEMENTATION, AND FORTIFICATION

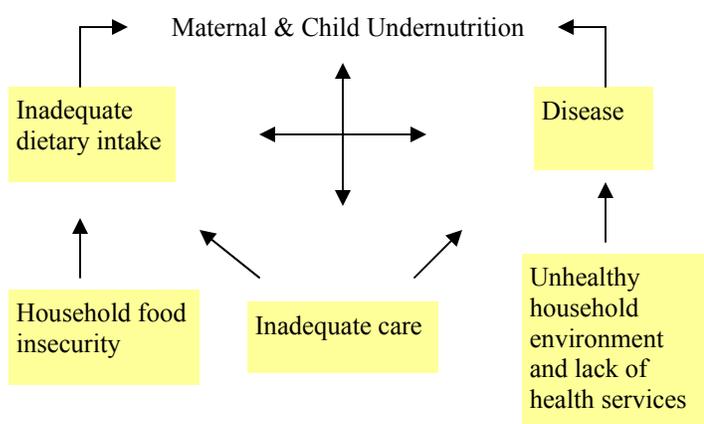
The approaches available for increasing micronutrient intake include dietary modification, supplementation, and food fortification. Dietary modification involves changing the type and kind of food consumed, while supplementation involves the addition of certain essential micronutrients and vitamins usually in pill form. Food fortification is the public health policy of adding micronutrients (essential trace elements and vitamins) to foodstuffs to ensure that minimum dietary requirements are met.

Maternal undernutrition affects the health of both mothers and children and, as a result, has broad impacts on economic and social development.



## CARE's APPROACH

In order to reduce maternal mortality and improve optimal maternal and child nutrition, CARE uses multiple interventions supported and promoted by different strategies, rather than by one intervention alone. CARE's effective programs are based on a deep understanding of specific populations. Knowing the context in which maternal behaviors and practices exist is essential to knowing what can be promoted and supported to improve practices/behaviors for women.



Source: UNICEF conceptual framework, modified by Robert E Black MD, et al., Maternal and Child Undernutrition Study Group *The Lancet* - 19 January 2008 (Vol. 371, Issue 9608, Pages 243-260).

## A few of CARE's strategies

**Strengthening the capacity of community health workers (CHWs)** to conduct education and counseling activities with mothers using behavior change communication to promote the use of family planning, micronutrient supplementation, and recognition and treatment of depression

Collaborating with organizations and institutions at both the local and national levels to **advocate** for policies and strategies to promote availability and consumption of a diversity of nutrient-rich foods

**Engaging men** and boys to improve communication between partners on issues of sexuality and health, including family planning and nutritional practices to give women more negotiating power at the household level

Creation of **mother-to-mother support groups** in rural areas empower women to make optimal health choices and build their self-confidence through activities that encourage them to identify and solve their own problems.

## References:

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3. Kupka R, Mugusi F, Aboud S, et al. Randomized, double-blind, placebo-controlled trial of selenium supplements among HIV-infected pregnant women in Tanzania: effects on maternal and child outcomes. *Am J Clin Nutr* 2008;87:1802.
4. Black RE, Allen LH, Bhutta ZA, et al.; Maternal and Child Under nutrition Study Group. Maternal and child under nutrition: global and regional exposures and health consequences. *Lancet* 2008;371:243-60.

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