Across the globe, undernutrition takes a grave toll on women, infants, and children. More than 10 percent of adult women in Africa and Asia are underweight. At the same time, conditions such as stunting, underweight, and wasting contribute to nearly half of all childhood deaths. This means that more than 3 million children under age five die each year from nutrition-related causes. Even when children do survive, undernutrition can curb physical growth and intellectual development, ultimately reducing productivity in adulthood and preventing nations from achieving their full economic potential.

Good nutrition can provide a strong foundation for a range of development goals. Given its magnitude and complexity, tackling the challenge of undernutrition will require innovative approaches and making the most of all available interventions. With the aim of informing policy and programmatic decisions, this brief highlights the key evidence showing how one such intervention—family planning—can improve the nutritional status of women, infants, and children. This brief summarizes the findings of a full-length report, *Impacts of Family Planning on Nutrition*, available at [www.healthpolicyproject.com](http://www.healthpolicyproject.com).

**What Does the Evidence Tell Us?**

In developing countries, about 225 million women of reproductive age have unmet need for modern family planning, meaning they would like to postpone their next birth, or stop childbearing altogether, but are not using a modern method of family planning to avoid pregnancy. Figure 1 shows unmet need for any method of family planning in 10 selected countries (see Figure 1). The evidence shows that increasing the use of voluntary family planning not only helps women achieve their own reproductive health goals, but can also benefit maternal and child nutrition in profound ways. Some of the impacts of family planning on nutrition are direct, while others are indirect or mediated by other factors.
Lowering pregnancy risks improves nutrition

By helping women and couples have the number of children they want at the healthiest times in life, family planning can directly affect nutrition in myriad ways. Well-spaced births can improve nutrition for both mothers and their infants and also have far-reaching effects on key measures of childhood nutrition. Family planning can also help women avoid high-risk pregnancies—having babies too young or too old, or having too many—which can compromise their own health and lead to poor nutrition outcomes for their children.

Spacing pregnancies optimally

The latest international guidelines recommend waiting at least two years after having a child before trying to become pregnant again.\(^3\) When the time between the birth of one child and the conception of another is too short, mothers and their children can face poor nutrition. One common theory suggests that since women use nutritional reserves during pregnancy and breastfeeding, when children are too closely spaced, mothers are at risk of depleting those reserves. Although the evidence about this “maternal depletion” effect remains inconclusive, some studies show that women with closely spaced children may suffer from unhealthy weight loss and conditions such as anemia and micronutrient deficiency.\(^4\) Family planning can help avert such outcomes by enabling women to optimally space their pregnancies, thus permitting their bodies to recuperate and replenish essential vitamins and other nutrients.

The impact of adequate birth spacing on the survival and nutritional status of infants is well-established. One formative study pooling data from 52 national surveys shows that infants conceived within six months of a prior birth face a much higher chance of low birth weight than those conceived within a few years.\(^5\) Closely spaced pregnancies also increase the chance that infants will be born early (or preterm) and small for gestational age (SGA).\(^6\) In addition, close spacing and poor nutrition outcomes at birth are linked to poor nutritional status during childhood, including stunting—a condition in which children are too short for their age.\(^7\) Stunted children do not grow as well physically or intellectually, preventing them from thriving and living up to their full potential.

The 1,000-day period from pregnancy to a child’s second birthday represents an important window of opportunity to employ feeding practices that can prevent stunting and promote sound brain and body development—practices such as exclusive breastfeeding for at least the first six months of life and complementary feeding of diverse, nutritious, solid food starting at six months. When children are well-spaced, mothers are more likely to have the time, energy, and resources for good feeding practices for all of their children. If a woman becomes pregnant too soon after giving birth, she may prematurely remove the older infant from the breast or lack the nutrient reserves to satisfy the nutritional needs of both the nursing baby and the growing fetus.\(^8\)

Delaying adolescent pregnancies

In developing countries, 7.3 million births each year are to girls younger than 18; more than one-quarter are to girls younger than 15.\(^9\) High unmet need among adolescents is one key reason for the large number of adolescent births. A 2014 analysis from 16 countries found that in some places, as many as two-thirds of both married and unmarried girls have unmet need.\(^10\) The barriers to family planning that young women experience—stigma, confidentiality, and affordability—can be especially daunting.
Adolescents are particularly vulnerable to undernutrition because they are undergoing a critical period of growth and development when about half of adult body weight and 15 to 20 percent of adult height are attained. Pregnancy and breastfeeding during adolescence can exacerbate this vulnerability due to competition for nutrients between the mother and fetus. Findings from two independent studies (one in Mexico and one in Bangladesh) show that, as a way of adjusting for increased energy needs during pregnancy, adolescent girls can stop growing during pregnancy. Pregnancy at a very young age can also lead to other poor nutrition outcomes. A study in several middle-income Central and South American countries found that the risk of anemia was much higher among mothers 15 years and younger compared to those between ages 20 and 24.

Infants and children of adolescent mothers are also at risk for undernutrition. Multiple studies have clearly established that pregnancy during adolescence increases the risk of poor infant nutrition outcomes such as preterm birth, low birth weight, and SGA. Though not well-explored in low- and middle-income countries, young maternal age may also have an adverse effect on exclusive breastfeeding. One qualitative study in a peri-urban township in South Africa found that some of the reasons young mothers either did not breastfeed at all or stopped early echoed many that are well-documented in high-income countries. Such reasons include uneasiness to take on a mother’s role; constraints on freedom and lifestyle; perception that they are unattractive because their clothes are milk-stained or out of fashion; concerns about losing boyfriends; and peer pressure, among others.

Young motherhood can also affect childhood nutrition. One study of 55 countries found that the risk of poor nutritional outcomes—for example, stunting, underweight, and moderate to severe anemia—is significantly higher for children whose mothers gave birth before age 18 and, worst of all, for those whose mothers were between the ages of 12 and 14.

Lowering other risk factors

Evidence from several studies shows that births to mothers who are age 34 and older are directly associated with poor nutrition outcomes. One study in South Africa found that compared to mothers ages 20–34, mothers 34 years or older had a higher chance of preterm delivery and of delivering a low birth weight baby.

The number of children a woman has may also influence her children’s nutritional outcomes; however, the evidence on these linkages is inconclusive. One study using data from nine countries found that women between ages 18 and 34 with three or more children have a higher chance of delivering a preterm infant than women of the same age who only have one or two children. Another study in Ethiopia shows that children with two or more siblings are more likely to have vitamin A deficiency than only children or those who have only one sibling. The mechanisms of action driving the relationships between high fertility and nutrition are not well understood, and some studies suggest that the apparent links could be due to other factors, such as lower use of maternal and child health services among women with more children.

Meeting Women’s Fertility Desires Improves Nutrition

Family planning indirectly affects nutrition via its impact on maternal survival and women’s empowerment. Mothers are often the primary caretakers and purchasers and preparers of food for children; thus, their own survival is an important determinant of child survival and health and nutritional status. A 2012 *Lancet* study found that in 2008, contraceptive use averted more than 250,000 maternal deaths (a 44% reduction) and that by fulfilling unmet need for family planning, the rate of maternal deaths could be further reduced by 29 percent. Early pregnancy also has adverse social consequences such as disrupting schooling; family planning can help girls stay in school longer. Increases in education for women can lead to greater productivity, empowerment, and control of resources, allowing them to make better choices that ultimately benefit the health and nutrition of children and families.

Enhancing maternal health

Ninety-nine percent of maternal deaths occur in developing countries, where women face a one-in-150 lifetime probability of death due to maternal causes. In Africa, the figure is one in 40. Expanding the use of voluntary family planning can help women meet their fertility desires and also lead to declines in maternal deaths by reducing exposure to the risks of pregnancy, childbearing, and unsafely performed abortion.

When mothers die, breastfeeding for younger infants is compromised and the needs of older children can go unmet. A study in Bangladesh found that the cumulative probability of survival to age 10 for children whose mothers die before the child’s tenth birthday is 24 percent, in comparison with 89 percent of children whose mothers...
remain alive. Motherless infants were significantly more likely to experience undernutrition and to die from diarrheal diseases and nutritional deficiency than those whose mothers survived. Termination of breastfeeding may explain the high probability of infant death that accompanies maternal death. The fact that the risk of death remains high for motherless children through the first decade of life also shows the importance of the mother’s role as the primary source of nutrition.

**Empowering women**

Evidence shows that the ability to choose the number and spacing of children increases women's empowerment and autonomy through pathways such as labor force participation, formal education, and participation in household and healthcare decisions. Further, when women's status improves, so does their own nutritional status and the nutritional well-being of their young children.

Improvement in women's status through education may be the strongest indirect factor linking family planning and nutritional outcomes. For example, in three countries in sub-Saharan Africa, high levels of education have an inverse relationship with stunting. In Malawi and Zimbabwe, women with at least 10 years or more of schooling had a significantly lower chance of having a stunted child than women with no education. Among educated Tanzanian women, the chances were reduced even more. Conversely, in the Nairobi slums, children of mothers with no more than primary schooling had significantly higher chances of being stunted, compared to children of mothers with at least secondary education.

A number of pathways may explain the strong relationship between maternal education and child nutrition. Better-educated mothers are more likely to maintain their own nutritional status, which can have the cyclical effect of reducing the risk of poor birth outcomes such as SGA and low birth weight. The greater earning power that comes with education also means that mothers will not only have the knowledge but also the financial resources needed to feed themselves and their families the right

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**BOX 1. DEFINITIONS**

**Family planning:** The use of contraceptive methods to attain the desired number of children and to plan and space the timing of births.

**Unmet need:** Women have unmet need when they want to postpone their next birth for two years or more, or not have any more children, but they are not using any modern method of contraception.

**Unintended pregnancy:** A pregnancy that is mistimed, unplanned, or unwanted.

**Undernutrition:** The outcome of insufficient food intake and repeated infectious diseases, which includes being underweight, stunted, wasted, and deficient in vitamins and minerals (micronutrient deficiency). When individuals are undernourished, they can no longer maintain natural bodily capacities, such as growth, resisting infections and recovering from disease, learning and physical work, and pregnancy and lactation in women.

**Stunting:** A condition often associated with long-term factors such as chronic undernutrition and frequent illness in which children’s height-for-age is more than two standard deviations below the World Health Organization’s (WHO) Child Growth Standards median. Stunting is a key indicator of childhood undernutrition.

**Underweight:** A condition in which children’s weight-for-age is more than two standard deviations below the median of WHO’s standards and which increases the risk of illness and death. Underweight can reflect acute or chronic malnutrition.

**Low birth weight:** Weight less than 2,500 grams at birth. Low birth weight is closely associated with fetal and neonatal mortality and morbidity, inhibited growth and cognitive development, and chronic diseases later in life.

**Preterm birth:** A live birth that takes place before 37 weeks of pregnancy. Preterm birth is the leading cause of newborn deaths (deaths among babies in the first 28 days of life) and the second leading cause of death (after pneumonia) in children under age five.

**Small for gestational age (SGA):** Birth weight below the tenth percentile for gestational age and gender. Infants with this condition are at greater risk for death and poor nutritional outcomes, such as stunting during childhood and metabolic diseases later in life.

**Exclusive breastfeeding:** WHO recommended feeding practice that involves feeding only breast milk to infants for the first six months of life. The only exceptions are oral rehydration solution to treat diarrhea and drops or syrups of vitamins, minerals, or medicines.

**Complementary feeding:** Combining breastfeeding with solid foods from the family diet in amounts, frequency, variety, and consistency to cover a child’s needs. The WHO recommends this practice from the ages of six to at least 24 months of life—a critical period of growth.
quantity, quality, and diversity of foods. Education and earning power can also improve other measures of women’s status, such as mobility and access to markets; exposure to nutritional information and resources; and financial autonomy and decision-making power in the household.27

Increasing levels of education have also been found to reduce women’s risk of domestic violence, which a growing body of evidence shows can significantly affect nutrition. In India, increased levels of domestic violence were found to increase the chances of anemia and underweight among women as well as the chances of poor nutrition outcomes (wasting, stunting, and underweight) among their children. Possible mechanisms for this association are a partner’s withholding of food as a form of abuse, an abused woman’s diminished authority over the household diet, and constraints imposed by psychological stress.28

Conclusion

There is a wealth of empirical evidence showing that family planning can play a significant role in solving the global problem of undernutrition. Importantly, the evidence can help shift the lens through which stakeholders conventionally view both family planning and nutrition. For the reproductive health community, it offers a broader view of the benefits that can be achieved by addressing unmet need. And for the nutrition community, it draws attention to the often overlooked potential of family planning to strengthen current approaches and more effectively achieve nutrition goals. Ultimately, policymakers need to ensure that family planning services remain high on national and local agendas and that multisectoral development policies and programs harness the synergies between family planning and nutrition to achieve the best outcomes.

References


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