Family Planning’s Benefits Include Improved Child Health and Nutrition: New Data from Bangladesh

CHILD survival is known to be influenced by three aspects of fertility behavior. These are the mother’s age at the time she gives birth, the number of births she has already had, and the length of time between births. Family planning can prevent deaths of infants and young children by reducing childbearing at very old or very young ages, reducing the number of births, and lengthening the intervals between births.

Birth spacing appears to have the greatest impact on child survival. A child who is born soon after another child, or whose birth is rapidly followed by another birth, is at greater risk of dying than are those whose births are farther apart. Lengthening the birth interval increases a child’s survival chances.

Although this benefit of family planning has long been known, the links between birth spacing and child survival—and the extent of the benefit—have not been clearly understood. Several explanations have been suggested.

One explanation is that lengthening the birth interval gives mothers more time to breastfeed and to recover from the physical strains of pregnancy, childbirth, and breastfeeding.

Another is that an infant faces less competition for such resources as food and medical care if the preceding birth interval is long (that is, the preceding child is older).

A third explanation is that when a new child arrives, the preceding child suffers a sudden reduction in maternal care. This is not so serious if the birth interval is long and the preceding child is at least 3 years old because older children function more independently than infants. But if the birth interval is short, the preceding child’s health may suffer, particularly if that child is still breastfeeding and is removed prematurely from the breast.

Finally, having many young children in a family increases the probability of their contracting childhood infectious diseases from one another. Young children are especially susceptible to such infections.

Two recent studies from a unique experimental environment in Bangladesh shed light on the connection between birth spacing and child survival and show that family planning’s beneficial effects extend beyond fertility reduction to enhanced child survival and health, including improved nutrition.
The Setting

In most places where fertility and mortality are high, accurate data to test these theories have been lacking. The Matlab field research station of the International Centre for Diarrhoeal Disease Research, Bangladesh, provides an ideal setting for gathering such data.

Matlab's combination of isolated geography, traditional socioeconomic setting, availability of family planning services, and sophisticated data collection system has created an unprecedented opportunity to analyze the role of family planning in reducing child mortality.

The Matlab field research station is located 45 kilometers south-east of Dhaka. Like much of the rest of Bangladesh, Matlab is rural, densely populated, and characterized by generally high fertility and mortality rates. Largely inaccessible by modern transportation and communication except by river transport, the area has been insulated from extensive change, with little economic or social improvement over the years.

In 1977 the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) launched an experimental, integrated maternal and child health and family planning program. The objective was to test whether the provision of intensive family planning services could lower fertility and improve child survival in the absence of extensive socioeconomic development. Since then, the Matlab Family Planning and Health Services Project (FPHSP) has been providing family planning and maternal and child health services to families in 70 villages and monitoring changes in contraceptive use, fertility, and other variables. The results are systematically compared with those obtained from a group of 79 neighboring villages that receive only the regular government services.

The project has achieved great success in increasing contraceptive use and lowering fertility and mortality (see Figure below). An important element in this success was an intensive effort to reach mothers and their children through regular home visits backed up by clinical services. Young married female workers visit households every two weeks to promote and deliver a range of contraceptive services and to record demographic events. The workers provide educational and motivational messages, but their particular emphasis is on service delivery. They also use field registers to record information on the eligible women they visit and their children under age 5.

The system of data collection in the Matlab FPHSP has resulted in a level of completeness and accuracy in the recording of vital events that is unprecedented in an area characterized by such low levels of socioeconomic development. A longitudinal record of each woman's monthly reproductive, contraceptive, and lactation status is available, together with other health-related information and background data. The computerized records form a valuable data base for the investigation of diverse health and family planning issues.

![Trends in fertility and infant mortality: Matlab treatment and comparison areas, 1981–89](image)

**Source:** Kantner and Noor (1991), Table 13.

**Note:** The total fertility rate is the number of live births a woman would have over her reproductive life span at current age-specific birth rates.
The Studies

TWO RECENT studies make use of data from MatLab's surveillance and recordkeeping systems to examine the relationship between family planning and child survival. In the first, Nikhil Roy, of the ICDDR,B, and Minja Kim Choe, of the East-West Center’s Program on Population, examine factors related to infant and child mortality to estimate the role of family planning in improving child survival. They analyzed data on 3,370 births that occurred in the study area during the 12-month period from January through December 1985 and estimated the effects of several factors on child survival during four age periods: the neonatal period (first 4 weeks after birth), the postnatal period (from week 5 after birth to the end of the first year), the second year of life, and the early childhood ages of 2–4 years.

Their findings, which reinforce those from previous studies by Michael A. Koenig, James F. Phillips, and others on the relationship between short birth intervals and child mortality, provide further support for family planning’s impact on child survival. According to Roy and Choe, that impact has two components.

Mortality under age 5 was highest among children with a birth order of 5 or higher who were conceived within 15 months of a previous birth and lowest among children whose birth order was 2–4 and who were conceived more than 15 months after a previous birth.

In developing countries like Bangladesh, family planning improves children’s survival not only by reducing the number of births per woman but also by lengthening intervals between births. Here, a mother in Mobarakdi village, Matlab district, helps her six-year-old son with his homework, while her infant child looks on.

Children whose mothers gave birth to another child within 24 months were three times more likely than other children to be malnourished, even at the age of 3 years.

Children whose mothers gave birth to another child within 24 months were found to be three time more likely than other children to be malnourished, even at the age of 3 years. When the subsequent birth interval is short, the authors note, the index child is taken off the breast prematurely and suffers nutritionally. Length of the previous birth interval, on the other hand, had no effect on nutrition as measured in the study. The authors conclude that “if mothers in Matlab are able to limit their family size, and they have clearly expressed their desire to do so, the evidence suggests unequivocally that the nutritional situation of children there would improve.” They go on to say that “the success of the family planning program in Bangladesh may contribute to the improvement of child health and nutrition.”
Policy Implications

CAN FAMILY planning improve child survival? The recent studies from Bangladesh show that it can. In the traditional rural Matlab population, it was found that family planning can enhance child survival in several ways: by reducing births of very high order and lengthening the time between births. Delaying a subsequent birth was shown to reduce the mortality risk even up to age 5. In addition, use of family planning seems to enhance child survival indirectly through improved maternal health and via health-care services for children provided by integrated family planning/maternal and child health programs. Children's nutritional status benefits from such programs, and improved nutrition in turn increases their chances of survival.

In developing countries, birth spacing is an important determinant of infant survival. These studies show that sustaining a longer interval between births is a simple way to prevent a major mortality risk for young children. Continued investments in family planning programs in the developing world can therefore reap important benefits for the welfare of children.