

BIRTH SPACING: A CALL TO ACTION



Liz Gilbert, Courtesy of the David and Lucile Packard Foundation

Birth
Intervals of
Three Years
or Longer
For
Infant and
Child Health



USAID

Birth Spacing: A Call to Action

At least Three Years between Births Improves Infant, Child and Maternal Health

Overview

New research on **birth intervals** (the time from one child's birth date until the next child's birth date) has revealed important new findings on maternal and child health:

- **Neonatal, Infant and Child Mortality:** Three-year intervals, or longer, are associated with lower levels of infant and child deaths than any shorter interval (Fig.1 & 2).
- **Infant/Child/Maternal Nutritional Status:** Three year intervals, or longer, are associated with the lowest risk of stunting and underweight in infants and children (Fig. 3). Longer intervals between births allow women needed time to replenish nutritional stores (p. 4).
- **Maternal Health:** Very short birth intervals -- 14 months -- are associated with increased risk of maternal death and complications of pregnancy (p. 5). Lifetime fertility is reduced when women space births at desired intervals.
- **Perinatal Mortality:** Three year intervals are associated with the lowest risk of perinatal death (still births, and deaths in the first week of life). Risks may increase when intervals are longer than three years. USAID is sponsoring research to address this question.

These findings underscore the critical importance of strengthening birth spacing programming.

What is birth spacing programming?

Although rarely addressed directly, birth spacing for its health impact is at the heart of family planning. Programming for improved birth spacing includes, at a minimum, three components:

- **Counseling and Information** - actively informing women, men, and communities of the health and other benefits for mother, infant and sibling associated with three year birth intervals, or longer; the risks of rapid child bearing; and ways to access family planning methods, breastfeeding support, abstinence counseling, or a combination;
- **Monitoring** - gathering data on knowledge of and trends related to optimal birth intervals; and
- **Method Availability** - ensuring the availability of spacing methods and effective outreach, especially to young, low-parity women, newlyweds, engaged couples and married adolescents.

Figure 1: Three Year Birth Intervals, or Longer, are Associated with Lowest Mortality Levels

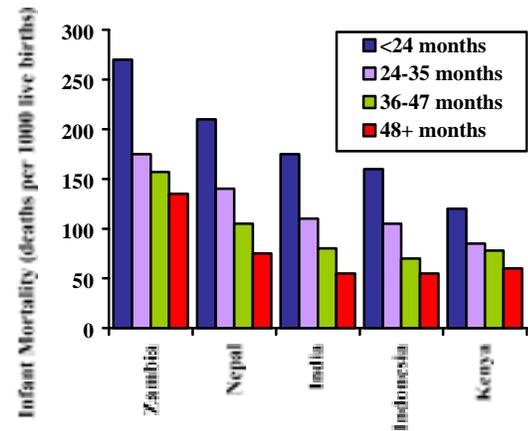


Figure 2: Under Five Mortality

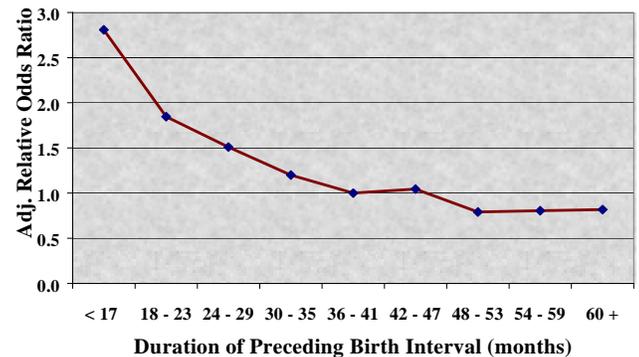
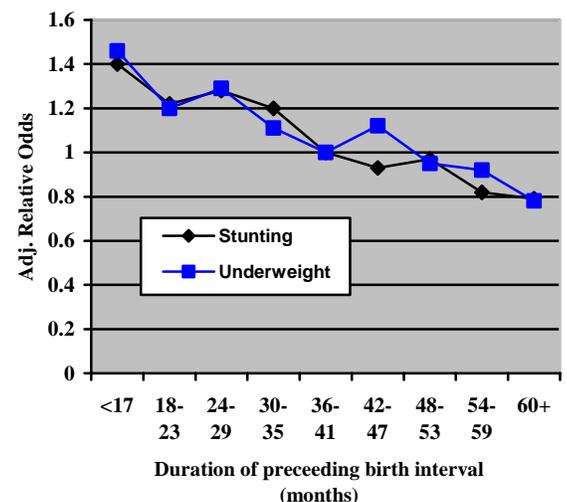


Figure 3: Three Year Intervals, or Longer, are Associated with Lowest Risk of Stunting and Underweight



Family planning, child survival, and other programs that serve women and their families have an important role in the inter-personal communication necessary for families to achieve intended birth intervals.

The simplified message is: the best maternal, infant and child health outcomes are achieved with three year intervals between births.

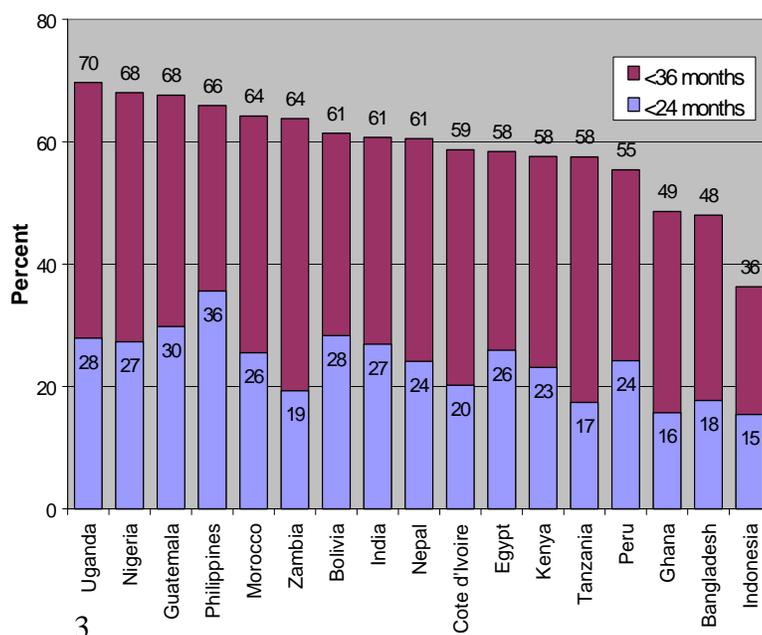
Considerations for Action:

Service Programs	Actions
Family Planning/Reproductive Health Service Delivery	Include counseling on birth spacing benefits, risks and service choices in all contacts; Monitor continuation rates of methods used for intervals; Initiate postpartum counseling/LAM
IMCI/IMCH	Incorporate spacing messages in all EPI and well-baby visits; Increase community attention to breastfeeding and spacing
Maternal/Neonatal Health	Develop and implement spacing messages for antenatal and postpartum counseling
HIV/AIDS/Infectious Disease	Include messages on spacing for maternal health and recovery as well as spacing and dual protection messages in STI/HIV prevention programs
Post Abortion Care	Include pregnancy spacing messages and methods
Support Programs	
Communication and Behavior Change	Initiate community mobilization, including outreach and inclusion of male partners and community leaders, in support of informed choice and healthy spacing norms
Research	Undertake operations/applied research on effective counseling approaches, including antenatal/postpartum programs; Evaluate impact of birth spacing counseling on knowledge, use and continuation
Training	Prepare curricula, protocols and job aids for birth spacing counseling and services; Train all health and family planning personnel in effective practices
Policy/Advocacy	Sensitize policy-makers to ensure that health and fertility benefits of three-year birth intervals are included in MCH/FP policy initiatives

Potential for Public Health Impact

- In most countries, more than 50% of all second or higher order births occur less than 36 months after the previous birth (Fig. 4).
- But DHS data confirm that, in many countries, women desire longer intervals than they are currently achieving.⁵
- In the countries where women prefer shorter intervals, they tend to be unaware of the risks.

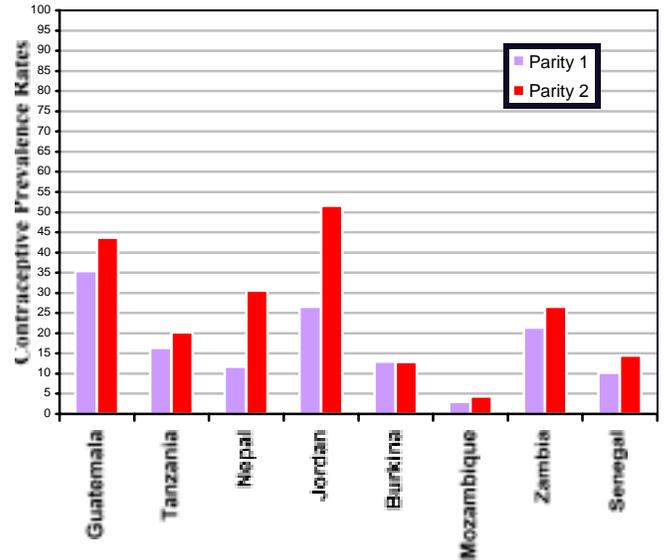
Figure 4: Percent of Birth Intervals that are Short: Select Developing Countries



If more families choose to space births three years or longer, the potential for public health impact is substantial:

- **In many countries, 30-60 % of low parity women do not use family planning (Fig. 5).**
- **Lengthened birth intervals are associated with reductions in neonatal and perinatal deaths. Neonatal deaths constitute 40-60% of infant deaths in many developing countries.**
- **Many births remain too closely spaced (Fig. 4).**

Figure 5: Use of Family Planning by Low-Parity Women: Select Developing Countries



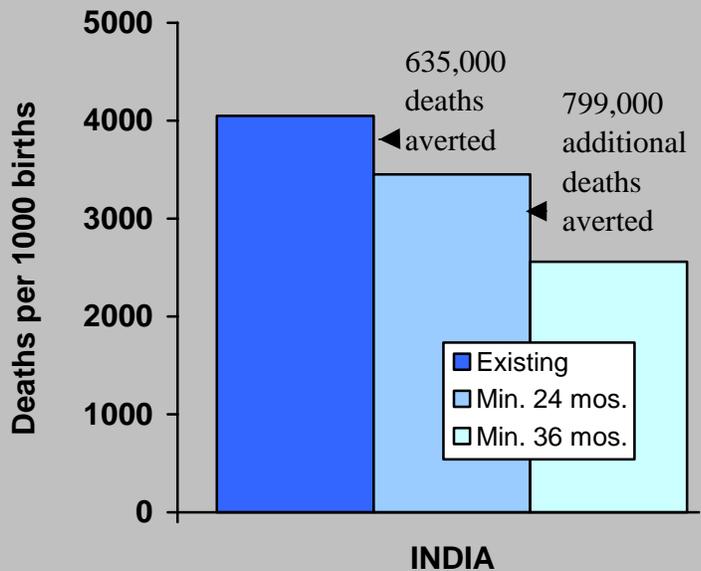
Relatively low use of family planning methods by parity one and two women merits immediate attention.

The Case of India

In India, if families chose to delay birth for at least 36 months after the preceding birth, it is estimated that:

-
- **35%,**
- **five years of age would fall by 1,434,000 annually (Fig. 6).**

Figure 6: Annual Number of Under Five Deaths with Existing Birth Intervals and Minimum Intervals of 24 and 36 months, India



Research Findings for Evidence-Based Programming

➤ **Neonatal/Infant/Child:** The risk of neonatal/infant/child mortality is significantly greater when birth intervals are shorter than 36 months. This finding is a key conclusion of multivariate analyses that controlled for sixteen socio-economic and health variables. Birth intervals of three or more years are associated with reductions in neonatal, infant, child and under-five mortality (Fig. 1, Fig. 7). These longer intervals are also associated with improved childhood weight for age.¹

➤ **Maternal Mortality and Complications of Pregnancy:** The Perinatal Information System Data Base of the Latin American Center for Perinatology and Human Development, which included a very large number of women, found very short and very long birth intervals associated with increased risk of adverse maternal outcomes. Women conceiving 6 months after a previous birth, or with an estimated birth interval of 14 months, had a 2.5 increased risk of maternal death and 70 percent increased risk of third trimester bleeding and premature rupture of membranes (compared to women with 2.5 – 3 years between births).²

➤ **Perinatal Mortality:** Three year intervals pose the lowest risk of perinatal death. In Peru, Egypt, Indonesia and Bangladesh the perinatal mortality rate at less than 24 month intervals was 36, 44, 47, and 70, respectively. At 36 month intervals, the perinatal mortality rates for these same countries was 19, 18, 16, and 44.¹

➤ **Maternal/Child Nutrition Status:** INCAP data from Guatemala indicate that 6 months of neither breastfeeding nor pregnancy is best for maternal and child nutrition and health.³ This behavior, along with optimal breastfeeding of 24 months or more, would achieve a healthy interval of 39-51 months (Fig. 8). Other studies show that better maternal nutrition is associated with decreased occurrence of low birth weight.⁴

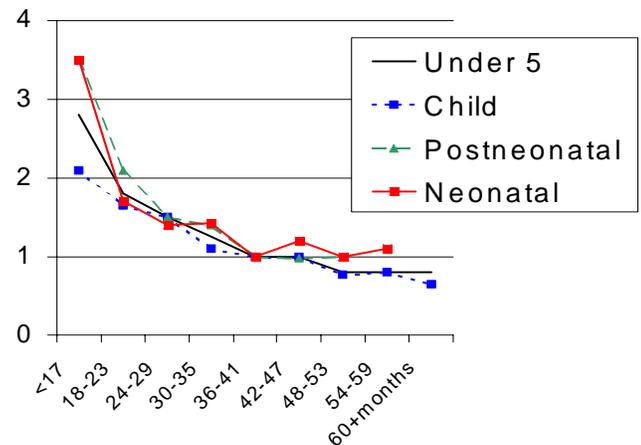
Fig 8: Behaviors that Support Healthy Birth Intervals

Time ----->39 - 51 months			
6 months exclusive breastfeeding	18-30 months breastfeeding with Complementary Foods	6 months without BF or Pregnancy	9 Months Pregnancy

➤ **Breastfeeding and Birth Intervals:** DHS pooled data from 17 countries indicate that the protective effect of breastfeeding is separate from and additive to, the protective effect of three-year birth intervals. Therefore, programs supporting both interventions would have greater impact on reducing the risk of infant death.¹

➤ **Women's Spacing Preferences:** DHS data confirm that in many countries women desire considerably longer birth intervals than they achieve, reflecting a large unmet need for birth spacing. However, this desire is not necessarily reflected in family planning use. DHS data also indicate that many women are unaware of the risks and state a preference for shorter birth intervals.⁵

Fig. 7: Birth Spacing Saves Children's Lives: Relative Risks of Mortality by Age Group and Birth Interval (Index : 36-41 months)



¹ N= 104,316; Rutstein, Shea, Effects of Birth Interval on Mortality and Health: Multivariate Cross-Country Analysis, MACRO International, PowerPoint presentation at USAID, July 2000.

² N=456,889; Agustin, Conde-Agudelo and Jose M. Belizan, "Maternal Morbidity and Mortality Associated with Interpregnancy Interval: Cross Sectional Study." *British Medical Journal*, 2000, 321:1255-1259 (18 November).

<http://www.bmj.com/cgi/content/full/321/7271/1255>

³ Merchant, K., Martorell, R. and Haas, J., "Nutritional Adjustments in Response to Reproductive Stresses within Guatemalan Women." *Journal of Tropical Pediatrics*, 1991 October, Vol. 37, Suppl. 1: 11-14.

⁴ de Onis M, Villar J, Gulmezoglu M. Nutritional interventions to prevent intrauterine growth retardation: evidence from randomized controlled trials. *Eur J Clin Nutr*, 1998 Jan; 52 Suppl 1:S83-93. *Eur J Clin Nutr*. 2000 Oct;54(10):803

⁵ Westhoff, CF and H. Rafalimanana, "Potential effects on fertility and child health and survival of birth-spacing preferences in sub-Saharan Africa." *Studies in Family Planning*, 2000 June, 31(2): 99-110.

What questions should program planners ask?

Magnitude of the Problem	What percent of births are < 24 months? <36 months?
Knowledge	What percent of women -- especially young, low-parity women -- and their families, know that spacing births at three year intervals reduces the risk of mortality and morbidity? What intervals do women want?
Counseling/Program Linkages	Do counseling and education programs for family planning, post-abortion care, STI, HIV, immunization, safe motherhood, postpartum, antenatal care, MCH, nutrition, child survival and outreach (male, youth and married adolescents) currently inform everyone of the health advantages of three year intervals and risk of rapid child bearing?
Education and Training Programs	What messages on birth spacing are included in medical and public health curricula, and other education, mass media and training programs?
Use by Low-parity Women	What percent of low-parity women use/do not use family planning?
Continuation Rates	What are contraceptive use/discontinuation rates for low-parity women?
Method Mix	Is method mix conducive to achieving desired spacing (i.e., good availability of pills, condoms, injectables, IUDs, LAM, etc.)?
Estimates of Potential Impact	Have host country analyses been undertaken to estimate infant/child mortality reductions (estimated annual percentage mortality reductions and numbers of deaths averted) if birth intervals were lengthened?
Policymakers' Awareness	Are policymakers and program planners aware of the magnitude of potential reductions in infant/child/maternal deaths in their country if more births were spaced at three-year intervals?
Monitoring and Evaluation	To what extent do planners monitor key outcome, knowledge or behavioral indicators?

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