

HEALTHY FERTILITY STUDY

Program Brief, September 2011

October 1, 2007 – September 30, 2011

An integrated model of community-based maternal and newborn care and postpartum family planning

INTRODUCTION

From 2002 to 2006, the research group Project for Advancing the Health of Newborns and Mothers—or Projahnmo—conducted a cluster-randomized, community-based trial in Sylhet division. This trial developed and tested a community-based maternal and neonatal health (MNH) program, which was delivered through home visits by female community health workers (CHWs) and group meetings led by nongovernmental organization (NGO) workers called community mobilizers. This home care model led to a 34% reduction in neonatal mortality during the last six months of the 30-month intervention. From 2007 to 2009, the MNH program was provided as a service to study area residents during a cluster-randomized controlled trial of newborn umbilical cleansing with chlorhexidine as a strategy for prevention of neonatal sepsis and mortality. The study area was chosen because Sylhet division's neonatal, infant and under-five child mortality rates were the highest in Bangladesh, although these rates have since been reduced in the intervention areas.



Key Family Planning Indicators for Bangladesh and Sylhet Division [1]

	Bangladesh	Sylhet Division
Unmet Family Planning Need	17%	26%
Contraceptive Prevalence Rate	56%	31%
Total Fertility Rate	2.7	3.7
Birth Intervals:		
<24 months	15%	26%
<36 months	37%	57%

Although Projahnmo’s community-based MNH program led to a substantial reduction in neonatal mortality in the study area within Sylhet division, key family planning (FP) indicators in the division remain poor. In comparison with national rates, Sylhet division has higher indicators of total fertility (3.7 compared to 2.7); birth-to-birth intervals <24 months (26.1% compared to 15.1%); proportion of ever-married women using any contraceptive method (31.5% compared to 55.8%); and unmet need for contraception (26% compared

Figure 1: Map of Bangladesh Illustrating HFS Implementation in Sylhet Division



to 17.1%). The unmet need is particularly concerning, as pregnancies that occur in the first year postpartum are more likely to have adverse outcomes for the mother and baby. Formative research revealed that although there are many women who may have the intention or desire to delay pregnancy, an array of barriers influence contraceptive use, including socio-cultural restrictions surrounding women’s mobility, women’s limited decision-making power regarding contraceptive use, limited accessibility of health services and concerns about side effects, among others.

Historically, FP programs have focused more on changing attitudes toward ideal family size and reducing total fertility than on promoting healthy birth or pregnancy spacing. Consistent evidence from many settings, however, suggests that birth-to-pregnancy intervals of 24 months or less are associated with increased risk of poor perinatal and neonatal health outcomes, including increased risk of prematurity, low birth weight, neonatal

mortality and poor maternal outcomes [2–6]. This association suggests that improving met need for pregnancy spacing could contribute to the achievement of Millennium Development Goals for the reduction of maternal and child mortality, although intervention trial-based data are lacking.

Integration of FP with MNH services and contacts maximizes the benefits of services to mothers and families, while simultaneously reducing missed opportunities to provide needed FP services. CHWs may be able to conduct only a limited number of visits to the postpartum mother; as such, it is essential that no opportunities are missed to provide for the comprehensive needs of mother and baby. Moreover, MNH services provide a natural entry for FP services. Though policymakers have called for better integration of FP services with maternal, newborn and child health programs [9], challenges still exist in attainment of this goal [7].

The Healthy Fertility Study (HFS) is a partnership among the Ministry of Health and Family Welfare (MOHFW) of the Government of Bangladesh (GOB) the Maternal and Child Health Integrated Program (MCHIP), Johns Hopkins Bloomberg School of Public Health (JHBSPH), Shimantik and the Center for Data Processing and Analysis (CDPA). Funded by USAID Bangladesh, the HFS aims to design and test an integrated model of postpartum family planning (PPFP) within a community-based MNH care program to address the unmet need for contraception in the postpartum period in Sylhet division.

HFS Alignment with Global Health Initiative Core Principles

- **Women-centered approach:** HFS emphasizes the delivery of compassionate and respectful FP and MNH care to women, and cultivates female leaders
- **Strategic coordination and integration:** HFS integrates FP and MNH to maximize health contacts and increase impact of services
- **Country-ownership:** GOB (national, district and union) and communities (village and religious leaders, households) in Sylhet division are active partners in HFS
- **Research and innovation:** HFS is testing a community-based intervention that will contribute to global learning of effective FP programming in an integrated context

HFS OBJECTIVES

The objectives of the study are four-fold:

- To develop and test an integrated FP/MNH service delivery approach in the Bangladesh setting
- To assess the strengths and limitations of integrating FP with an ongoing community-based MNH care program
- To assess the impact of the intervention package on exposure to key intervention-related messages, knowledge of contraceptive methods and benefits of healthy fertility practices, and contraceptive prevalence and method mix at different points during the extended postpartum period
- To assess the impact of the intervention on pregnancy spacing outcomes



The results will be used to inform MNH programs, particularly in South Asia, on integrating FP/MNH services, addressing contraceptive unmet need in the first year postpartum and enabling contraceptive use through the second year postpartum.

STUDY DESIGN

HFS was designed in response to the need for improved integration of FP and MNH services. The study aims to address contraceptive unmet need in the first year postpartum and enable contraceptive use through the second year postpartum.

The chlorhexidine trial in Sylhet division provided an opportune framework for the integration of FP programming; thus, HFS was launched as a nested study. Currently, HFS is following 2,247 enrolled women in four intervention unions and 2,257 women in four control unions in Sylhet division longitudinally from pregnancy to three years after delivery at eight points in time (late pregnancy, three months, six months, 12 months, 18 months, 24 months, 30 months and 36 months postpartum). Four unions receive the intervention, an integrated FP/MNH package, and four control unions receive the MNH care promotion package.

Key Milestones to Date:

October 1, 2007 – September 30, 2011

- **Finalized** baseline report documenting key health indicators in the eight implementation unions of Sylhet division
- **Completed** data collection from the three, six, and 12 month postpartum surveys, analyzed data, and generated reports for dissemination
- **Conducted** a barrier analysis on the lactational amenorrhea method (LAM) and the transition to other modern methods
- **Shared** pertinent information on the design, preliminary results and lessons learned at various national and international venues

HFS Intervention Package

Household visits by CHWs

- Conduct pregnancy surveillance every two months
- In antenatal and postpartum periods, provide education about:
 - PFP, including benefits of birth-to-pregnancy intervals of at least 24 months, risks of closely spaced births, return to fertility, promotion of LAM and the transition to other modern methods, and exclusive breastfeeding
 - MNH care, including essential newborn care practices, maternal and newborn care-seeking promotion, and cord hygiene
- Dispense oral contraceptive pills and condoms, and refer women to GOB and NGO health facilities for other methods

Interpersonal communication, counseling and social mobilization by community mobilizers

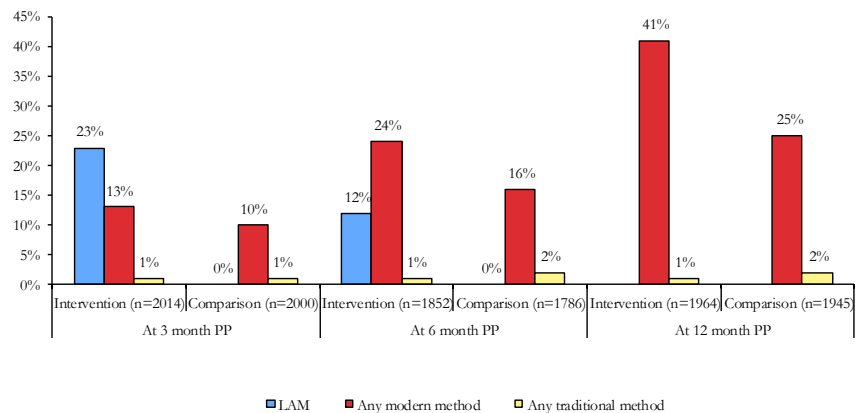
- Conduct meetings to discuss importance of healthy pregnancy spacing, exclusive breastfeeding, the return to fertility and health facility service use
- Target mothers-in-law, husbands and religious leaders

SELECT RESULTS

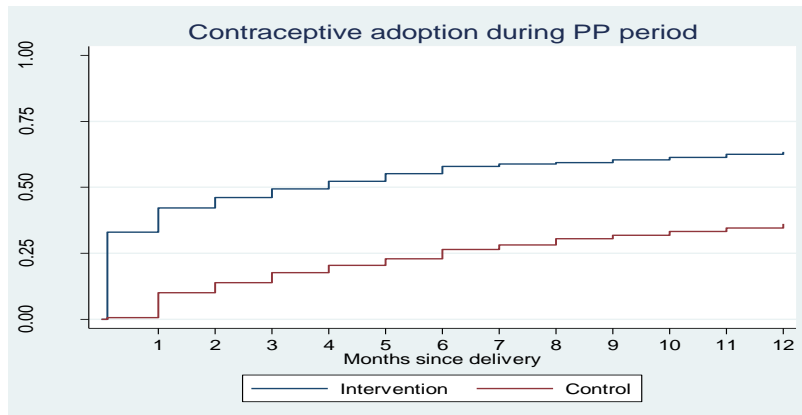
Through 12 Months Postpartum

In the comparison arm, any method use increased from slightly more than 10% at three months to 27% at 12 months. In the intervention arm, any method use increased from 37% at three and six months to 41% at 12 months (Figure 2). LAM was an important method of contraception at three and six months in the intervention arm. At 12 months, condoms and pills were the predominant methods, accounting for 20.3% and 9.7%, respectively, both of which are distributed by CHWs. In the comparison area, pills and injectables were the preferred method of contraception at 12 months, accounting for 10.6% and 9.1%, respectively.

Figure 2: Contraceptive use rate at three, six, and 12 months postpartum by study arm



In light of the differences in background characteristics across study arms, multivariate analyses were completed to control for baseline differentials in women's age, parity, religion, socioeconomic status, and variations in timing of postpartum visits. At three months, the odds of contraceptive use were 4.3 times higher in the intervention area, as compared to the control area ($p < 0.00$) and at 12 months, nearly three times greater. In addition to variations in study arm, contraceptive use was significantly different among religious groups and parity.

Figure 3

Intervention activities were significantly associated with a greater than 20% increase in the probability of adopting contraception in the 12 months following delivery (Figure 3). The probability of contraceptive use was ~10% higher after excluding LAM in intervention arm ($p < .001$).

Those who did not use contraceptives at 12 months were asked to provide reasons: “husband abroad” (43%) and postpartum amenorrhea (20.4%) were the chief reasons in the intervention area and postpartum amenorrhea (33%) and “other” (28%), including family member disapproval, (9.6%), lack of access (2%) and/or availability (1.4%) in the control area.

Because exclusive breastfeeding was included as one of the LAM criteria within the study intervention, we examined the influence of LAM on the duration of breastfeeding. While exclusive breastfeeding is promoted in both intervention and control arms, findings clearly suggest that among individuals in the intervention area, LAM users had a significantly higher duration of exclusive breastfeeding than their non-LAM use counterparts. The duration of breastfeeding practice among LAM and non-LAM users becomes more pronounced over time as duration of exclusive breastfeeding is 10% higher at 1 month and 25% higher at six months among LAM users. Findings suggest that among women practicing LAM in the intervention area, the duration of amenorrhea was significantly higher than that reported by women in both study arms not practicing LAM.

LAM and the Transition to Other Modern Methods: A Barrier Analysis

Research suggests that between 48% and 86% of LAM users transition to another modern FP method. However, less is known about the barriers to the transition and the factors that influence users’ decision-making processes for the transition. The purpose of the barrier analysis was to gain further insight and explore the facilitators of barriers to the transition from LAM to other modern FP methods. Key findings included:

- LAM transitioners were particularly motivated to transition by the desire to delay the next pregnancy, perception that their fertility had returned and fear of becoming pregnant. The desire to limit future pregnancies and to protect the health of the mother and child were other commonly mentioned motivations.
- Resumption of menses was an important cue affecting LAM users’ decisions about when to transition, particularly for non-transitioners, but also for transitioners.
- Key barriers to a timely transition included: waiting for menses, misconceptions about the timing of fertility return, concerns about side effects, financial concerns about purchasing methods and “treating side effects,” and perceived lack of social support from husbands and mothers-in-law.



CONCLUSIONS AND LESSONS LEARNED

- HFS demonstrates the feasibility of PPF integration within a community-based MNH program with the addition of two household visits and five messages.
- The model led to increased modern method use at 12 months postpartum: 41% in the intervention arm compared to 25% in the control arm.
- The promotion of LAM had a positive effect on optimal breastfeeding practices: duration of exclusive breastfeeding was 25% higher at 6 months among LAM users compared to non-LAM users.
- There are no notable negative effects on the delivery of MNH services.

ANNEX: TIMING AND DELIVERY OF BEHAVIOR CHANGE COMMUNICATION MESSAGES

Behavior Change Communication Messages	Visits Integrated with MNH Program			Additional Visits in Intervention Arm	
	During Pregnancy	Day 6 Postpartum	Day 29–35 Postpartum	Months 2–3 Postpartum	Months 4–5 Postpartum
Benefits of healthy pregnancy spacing, risks of shorter birth intervals	✓	✓	✓	✓	✓
Essential newborn care, including exclusive breastfeeding	✓	✓	✓		
LAM, promotion of six months of exclusive breastfeeding, appropriate complementary feeding	✓	✓	✓	✓	✓
Timing of return to fertility, signs indicating return to fertility		✓	✓	✓	✓
Transition from LAM to longer-term contraceptive methods			✓	✓	✓
Discussion of contraceptive methods, potential side effects, strategies to minimize side effects			✓	✓	✓
Referral to health facility for postpartum care and contraceptive methods, if needed			✓	✓	✓

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