Integration of Postpartum Family Planning Program into Community-based Maternal and Newborn Health Program in Bangladesh: Evidence of Impact on Contraceptive Use and Optimal Birth Spacing

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PPFP program: Key challenges

- International Postpartum FP Program started in 1966 by Population Council
  - Hospital based program in 21 countries
  - 138 hospitals participated
  - Vast majority of women deliver at home – could not reach critical mass
  - Ended in 1974 and PPFP fell into a period of neglect
  - Remains a major challenge to reach women who deliver at home

Projahnmo-1: 2001-2006

- Developed, implemented and evaluated **a basic Package of community-based MNH interventions**
- Facility delivery rate = 9% in the study area
- **Two antenatal home visits** to promote
  - *ANC, TT, IFA supplementation*
  - *Facility delivery/skilled attendance at delivery*
  - *Recognition of maternal danger signs, and care seeking and*
  - *Essential Newborn Care (ENC), newborn danger sign, care seeking*
- **Three postnatal home visits** on day 1, 3 and 7
  - *To reinforce ENC, newborn danger sign, care seeking*
  - *To assess, identify, and manage sick newborns*

- The community-based package of MNH interventions reduced NMR by 34% (Baqui et al., Lancet, 2008) – contributed to the design of Bangladesh national neonatal health strategy in 2009

Healthy Fertility Study: Objectives

- **Demonstrate feasibility and effectiveness of integrating PPFP in to a community-based MNH program**
  - Integration may have mutually synergistic effect and more cost-effective but that has not been clearly documented
- **Improve birth spacing behavior (timing and spacing) through multiple interventions**
- **Provide evidence that PPFP can improve women's and children's health**

Conceptualizing FP-MNH service integration

Pregnancy → Delivery → Postpartum

Sub-district Health Complex & Family Welfare Clinic: Training and commodity assurance for newborn health

- Counseling on optimum pregnancy spacing and postpartum family planning including LAM
- Provision of contraceptives and supplies

Community-based inputs: CHW Service delivery & support systems

Pregnancy Surveillance	Pregnancy visit-1: 12-16 wks	Pregnancy visit-2: 30-34 wks	Delivery notification	Home visit: Day 1	Home visit: Day 6	Home visit: Day 29-35	Home visit: Month 2/3	Home visit: Month 4/5

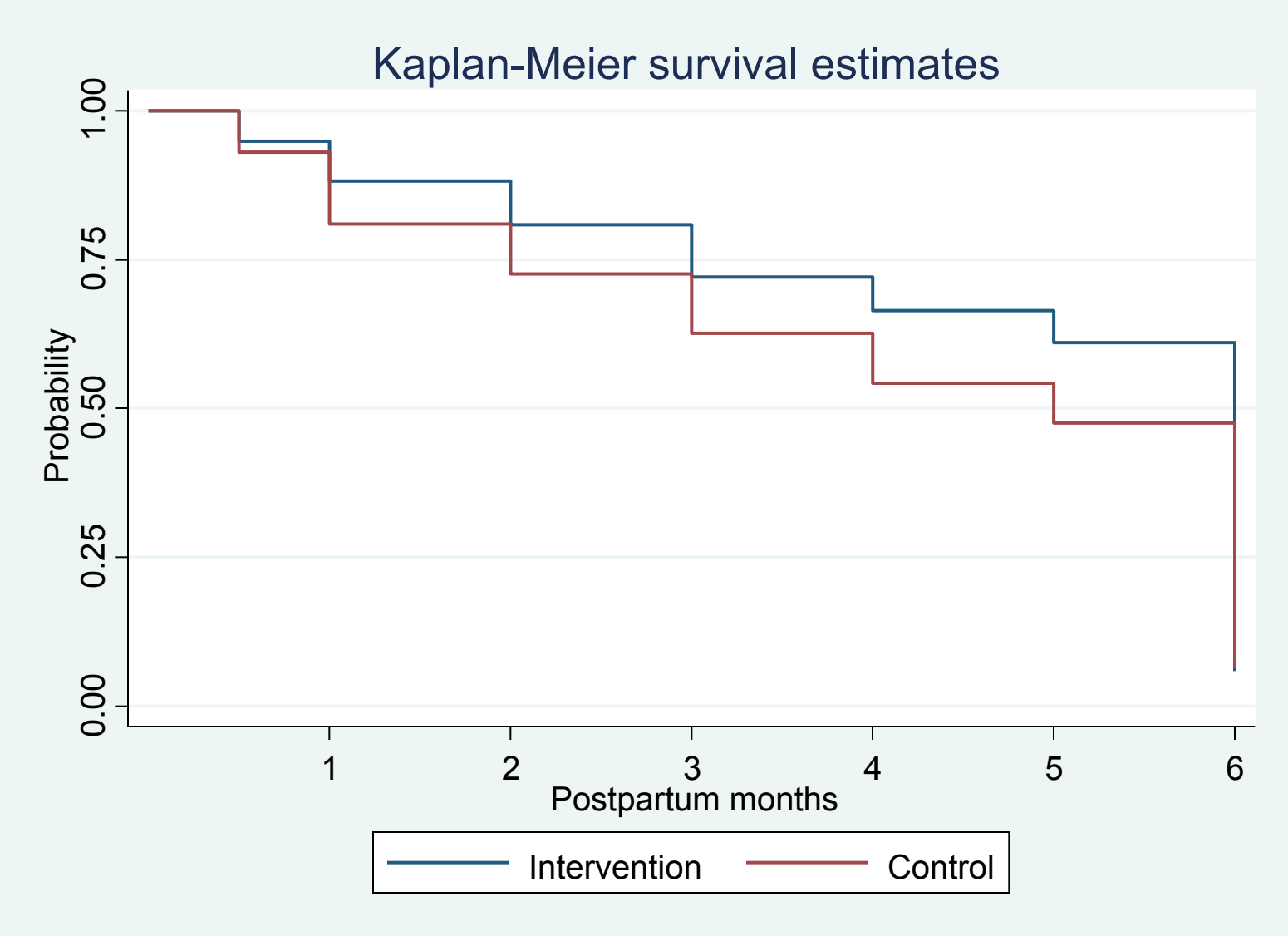
Family planning messages; optimum pregnancy spacing and family planning methods including LAM

- Distribution of FP commodities
- Community Mobilizers conducted group meetings with women of reproductive age and key community stakeholders, including religious leaders

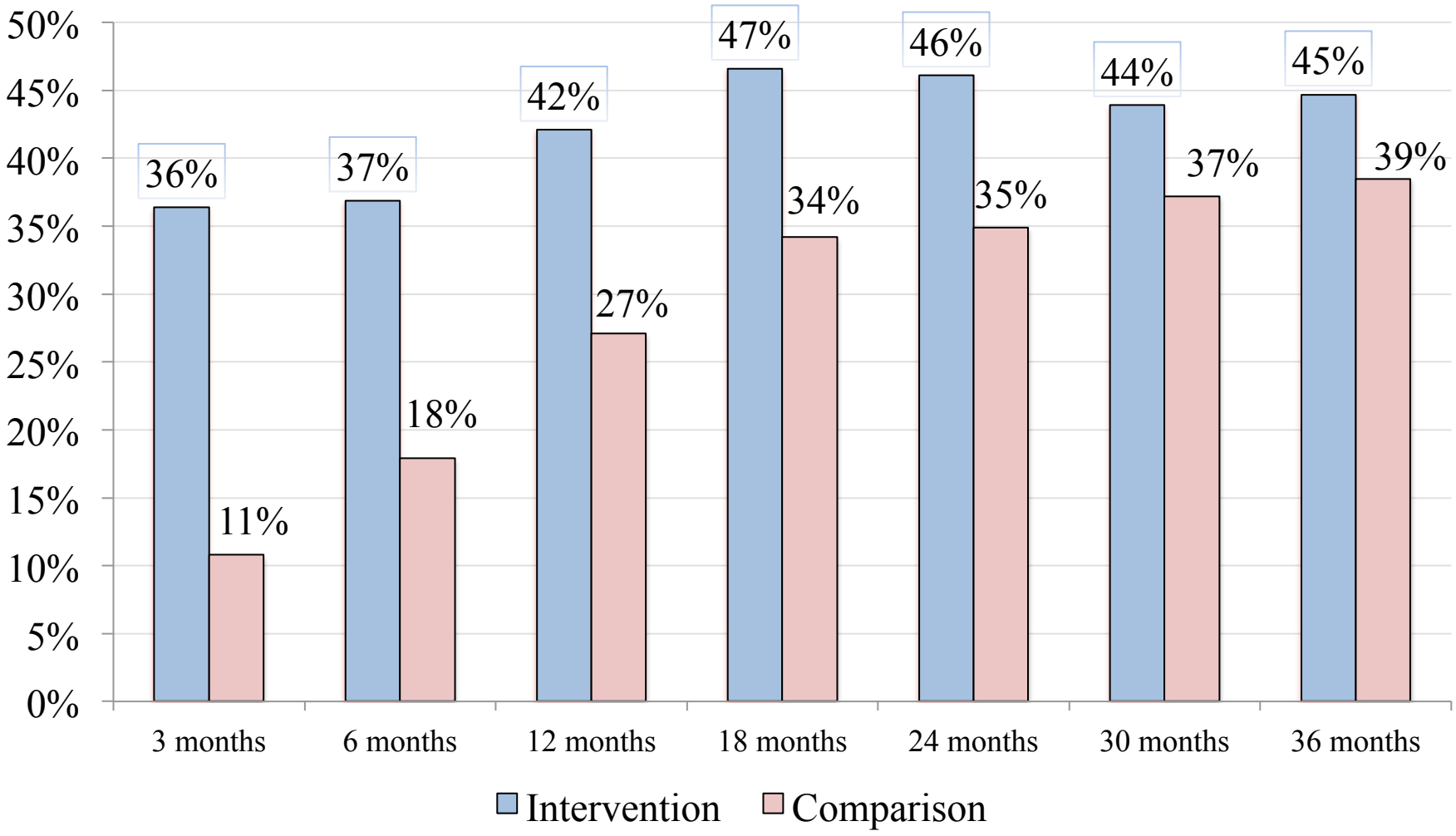
Feasibility: Does FP-MNH integration result in any negative *effects on newborn care practices?*

	Intervention	Comparison	p-value
Timing of wrapping the baby after delivery	**N=1,725**	**N=1,657**	
<10 minutes	**50%**	**44%**	0.00
>=10 minutes	46%	54%	
Don't remember	4%	2%	
mean ± SD median (min, max)	9.8 ± 17.8	11.4 ± 17.4	
Initiation of breastfeeding	**N=1,725**	**N=1,657**	
Within 30 min	**57%**	**47%**	0.00
After 30 min	41%	52%	
Don't remember	2%	1%	

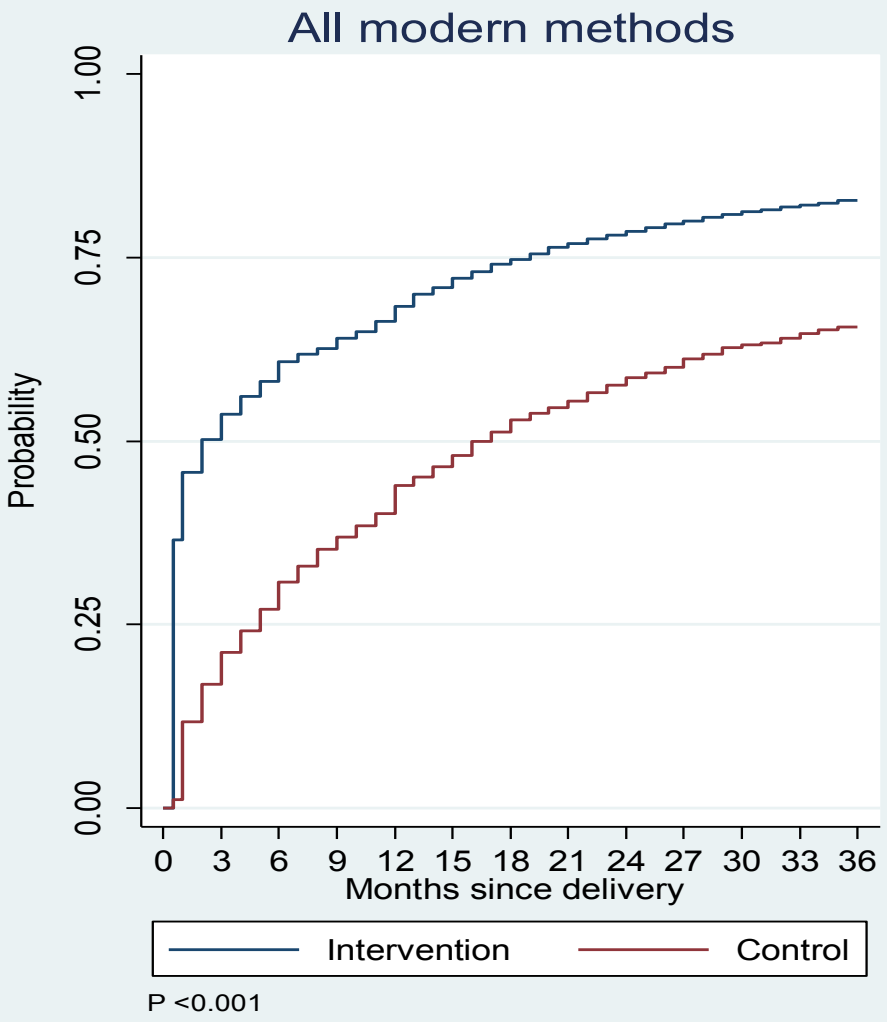
Promotion of LAM significantly increased duration of exclusive breastfeeding



Contraceptive Prevalence Rate was higher in the intervention arm at each visit round



Contraceptive cumulative adoption probability was higher in the intervention arm [with and without LAM]



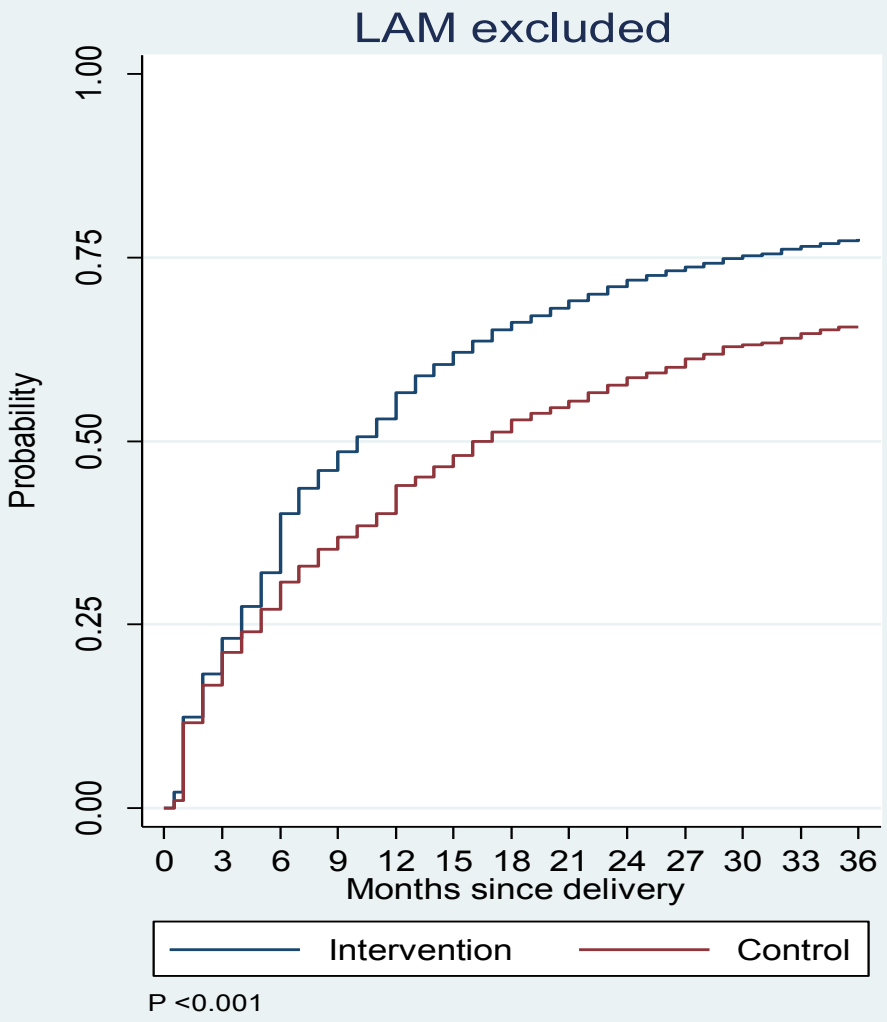
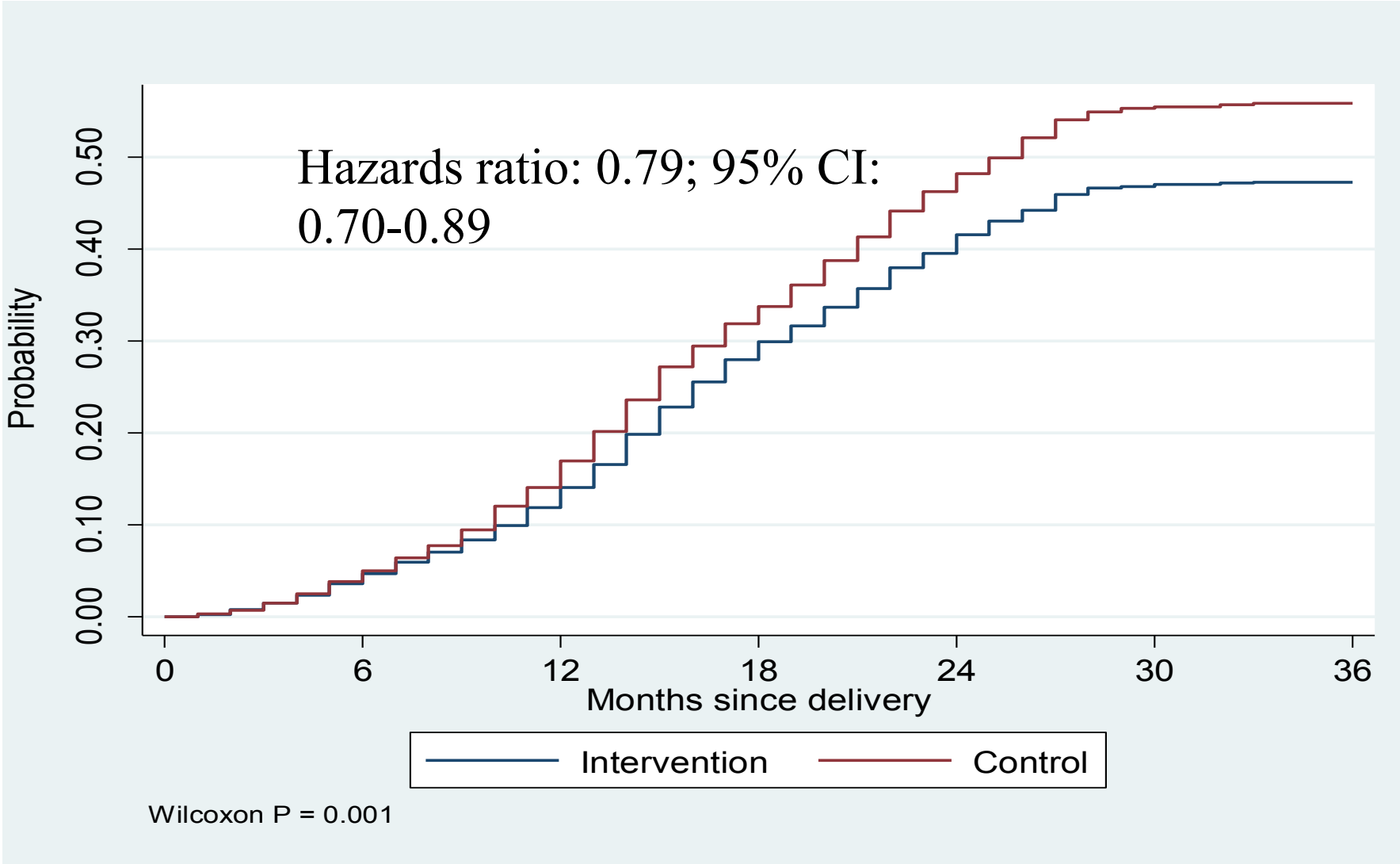


TABLE 3 Adjusted hazard ratios of contraceptive adoption and discontinuation risks between the intervention and control arms from the stratified analysis, by intervention change periods

	First period (CHWs provided counseling only and CMs conducted community meetings)	Second period (after CHWs allowed to provide oral contraceptives/ condoms)	Third period (after CHWs allowed to administer second and subsequent doses of injectables)	Total
All-method adoption				
With LAM	2.51***	2.60***	2.86***	2.57***
Without LAM	1.39***	1.56***	1.60***	1.51***
Method-specific adoption				
Oral contraceptives	1.21	1.43***	1.37**	1.33***
Condoms	2.52***	4.73***	3.53***	3.39***
Injectables	1.13	0.85	0.93	0.96
Method-specific continuation				
Oral contraceptives	0.94	0.74**	0.80	0.81**
Injectables	0.94	0.89	1.19	0.97

**Significant at $p < 0.01$; ***$p < 0.001$.
CHW = Community health worker. CM = Community mobilizer.

Birth to pregnancy interval was longer in the intervention arm after the delivery of the index child



Impact on birth outcomes: Fewer preterm births

- Among subsequent births, preterm births were lower in the intervention arm (16.5% vs 21.2%)

- Adjusted odds of preterm birth outcomes were 27% lower in the intervention area, compared to the control area
  - (OR: 0.73 [95% CI: 0.530-0.998], p=0.049).

Anemia among mothers

Study arm	No anemia	Mild	Moderate	Severe	N	P-value
Intervention	61.8	15.9	21.8	0.5	652	0.002
Comparison	46.2	20.3	32.4	1.1	704	
Total	53.7	18.22	27.3	0.8	1356	

		95% Confidence Interval		
	Relative risk	Lower	Upper	P-value
Mild anemia	0.56	0.37	0.85	.008
Moderate/severe anemia	0.53	0.33	0.84	.007

Adjusted for age, education, socioeconomic status/asset, parity, n of subsequent births

Anemia among children

Study arm	No anemia	Mild	Moderate	Severe	N	P-value
Intervention	52.8	21.3	25.7	0.3	720	0.004
Comparison	40.8	20.5	38.3	0.5	834	
Total	46.3	20.9	32.4	0.4	1554	

		95% Confidence Interval		
	Relative risk	Lower	Upper	P-value
Mild anemia	0.77	0.51	1.15	0.199
Moderate/severe anemia	0.53	0.35	0.81	0.004

Adjusted for age, education, socioeconomic status/asset, parity, n of subsequent births

Nutritional status among children under 5 years of age:

Stunting and underweight were lower in the intervention children

	Intervention %	Control %	P-value
Stunting (Height –for-age <-2SD)	47.8	53.8	0.003
Underweight (weight-for-age <-2SD)	35.4	40.0	0.015
Wasting (weight-for height <-2SD)	10.8	11.2	0.805
N	1985	1866	3851

Lessons Learned

- **Integration** of PPFP within a community-based MNH program is **feasible**.

- Integration of PPFP services within a larger MNH platform was **not associated with any negative impact on MNH services**; rather there was a synergy

Lessons Learned (Cont.)

- The HFS model led to **>20% increased cumulative probability of modern method adoption** through 36 months postpartum period, **preventing pregnancies that have the highest risk** for the women and newborn health.

- The HFS intervention associated with a **21% reduction in odds of shorter birth inter**vals (95% CI: 11.7% - 30.4%) and **27% lower risk of preterm birth**

- Beyond fertility regulation, a post-partum family planning program **improves women and children's health**

The Effect of Integrating Family Planning with a Maternal and Newborn Health Program on Postpartum Contraceptive Use and Optimal Birth Spacing in Rural Bangladesh

Saifuddin Ahmed, Salahuddin Ahmed, Catharine McKaig, Nazma Begum, Jaime Mungia, Maureen Norton, and Abdullah H. Baqui

Meeting postpartum contraceptive need remains a major challenge in developing countries, where the majority of women deliver at home. Using a quasi-experimental trial design, we examine the effect of integrating family planning (FP) with a community-based maternal and newborn health (MNH) program on improving postpartum contraceptive use and reducing short birth intervals <24 months. In this two-arm trial, community health workers (CHWs) provided integrated FP counseling and services during home visits along with their outreach MNH activities in the intervention arm, but provided only MNH services in the control arm. The contraceptive prevalence rate (CPR) in the intervention arm was 15 percent higher than in the control arm at 12 months, and the difference in CPRs remained statistically significant throughout the 24 months of observation. The short birth interval of less than 24 months was significantly lower in the intervention arm. The study demonstrates that it is feasible and effective to integrate FP services into a community-based MNH care program for improving postpartum contraceptive use and lengthening birth intervals. (Studies in Family Planning 2015; 46[3]: 297–312)

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