



Assessment of a Postpartum Family Planning (PPFP) Intervention in Selected Areas of Bangladesh

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Contents

Contents.....	4
Abbreviations	6
Executive Summary	8
Background.....	8
Study Purpose, Objectives, and Participants	8
Study Methods.....	9
Major Findings of the Research	10
Recommendations	11
Background.....	12
Adverse Effects of Closely-Spaced Births and the Role of Postpartum Family Planning (PPFP).....	12
WHO Recommendations on PPFP.....	12
Role of Counseling in PPFP Initiation.....	12
FP in Bangladesh	13
PPFP in Bangladesh	13
Government Orders (GOs) on PPFP Service Delivery	14
National Technical Committee (NTC) on PPFP.....	15
Knowledge Gap.....	15
MaMoni Maternal and Newborn Care Strengthening Project (MaMoni MNCSP)	15
Objectives.....	16
Assessment of MaMoni PPFP Activities: Who and When	16
Intended Use of Knowledge Gained.....	16
Methods and Limitations.....	17
Study Design	17
Study Sites	17
Study Population.....	18
Sample Size.....	18
Enrollment	18
Data Collection Method.....	18
Analyses Strategies.....	20

Results	21
Characteristics of Respondents	21
Objective One: Effect of Strengthened and Systematic PFP Counseling during ANC Visits and Facility Delivery on the Acceptance of FP Methods.....	22
Objective Two: Women’s Perspectives on Receiving PFP Counseling during ANC and Delivery and Their Decision-Making Process to Adopt FP Methods.....	33
Objective Three: PFP Service Delivery—Providers’ Perspectives	34
Discussion	37
Key Findings—Women.....	37
Key Findings—Providers.....	37
PFP Counseling and Contraceptive Use: Theory of Change	37
Why is the practice of PFP counseling during ANC so low?.....	38
Conclusion	40
Recommendations.....	41
Limitations	42
References.....	43
Appendix A1. Operational Definitions.....	45
Appendix A2. Enrollment Facilities of the Interviewed Women.....	45
Appendix A3. Supplementary Tables	45
Appendix A4. Supplementary Figures	53
Appendix A5. Questionnaires	55

Abbreviations

ANC	antenatal care
BCC	Behavior Change Communication
BDHS	Bangladesh Demographic and Health Survey
BHFS	Bangladesh Health Facility Survey
CCSDP	Clinical Contraception Service Delivery Program
D4I	Data for Impact
DGFP	Directorate General of Family Planning
DGHS	Directorate General of Health Services
DH	district hospital
DHS	Demographic and Health Survey
EGH	EnGenderHealth Bangladesh
e-LMIS	Electronic Logistics Management Information System
EPI	Expanded Program on Immunization
FP	family planning
FWV	Family Welfare Visitor
GO	government order
GoB	Government of Bangladesh
HPNSP	Health Population Nutrition Sector Program
icddr,b	International Centre for Diarrhoeal Disease Research, Bangladesh
IDI	in-depth interview
IRB	Institutional Review Board
IUD	intrauterine device
KII	key informant interview
LAM	lactation amenorrhea method
LARC	long-acting reversible contraception
MaMoni MNCSP	MaMoni Maternal and Newborn Care Strengthening Project
MCHIP	Maternal and Child Health Integrated Program
MCWC	Mother & Child Welfare Centre
MNCH	maternal, newborn, and child health
MO	Medical Officer
MOHFW	Ministry of Health and Family Welfare
MO-MCH	Medical Officer – Maternal Child Health
NIPORT	National Institute of Population Research and Training
NGO	nongovernmental organization
NTC	National Technical Committee
OGSB	Obstetrical and Gynecological Society of Bangladesh

PM	permanent method
PNC	postnatal care
PPFP	postpartum family planning
PPIUD	postpartum intrauterine device
RDMA	Research for Decision Makers Activity
SCMP	Supply Chain Management Portal
TFR	total fertility rate
UHC	Upazila Health Complex
UHFPO	Upazila Health and Family Planning Officer
UHFWC	Union Health and Family Welfare Center
USAID	United States Agency for International Development
WHO	World Health Organization

Executive Summary

Background

Closely spaced pregnancies are associated with a higher risk of poor maternal and child health outcomes (Cleland, et al., 2006). According to the Bangladesh Demographic and Health Survey (BDHS) 2017–18, 11% of non-first births occur within 24 months after the previous birth. The total wanted fertility rate in Bangladesh is 1.7 births per woman, while the observed total fertility rate (TFR) is 2.3 births per woman. This implies that, on average, Bangladeshi women have 0.6 children more than they want. In addition, 10% of married women have an unmet need for family planning (FP) (BDHS, 2022). Appropriate and timely use of postpartum family planning (PPFP) helps women prevent unintended and closely spaced pregnancies through the first 12 months following childbirth. PPFP focuses on providing FP counseling and services to women and couples in the first 12 months after birth. The World Health Organization (WHO) has identified different points of contact with maternal, newborn, and child health (MNCH) interventions during the 12-month period after childbirth, which provide opportunities to integrate PPFP activities. An effective way of increasing PPFP uptake is to create demand for PPFP through counseling during antenatal care (ANC) and offering FP methods during facility delivery or soon afterward (Cleland et al., 2015; Tafere et al., 2018). The recent increase in ANC coverage and facility delivery in Bangladesh provides an excellent opportunity to counsel women about PPFP during ANC visits and offer FP methods during facility delivery.

About two-thirds of facility deliveries take place in private-sector facilities and one-third in public health facilities (mainly in the Directorate General of Health Services (DGHS) facilities). Around 9 in 10 women receive ANC from facilities. The high volumes of ANC and childbirth in public and private-sector facilities in recent years created an opportunity to provide FP services (counseling and method PPFP) at health facilities by doctors and medically trained providers. The DGHS and Directorate General of Family Planning (DGFP) have jointly enacted two government orders (GOs) giving directives on providing PPFP services in those facilities to institutionalize the importance of this opportunity. It is expected that, following the implementation of the GOs, immediate PPFP acceptance at facilities will increase over time.

However, to what extent women may accept PPFP if they are counseled at ANC visits and offered PPFP during facility delivery is not well studied in Bangladesh. Therefore, it is important to measure the effect of strengthened and systematic PPFP counseling during facility-based ANC visits, delivery care, and postnatal care (PNC) visits and offering FP methods during facility delivery and PNC visits on the uptake of FP methods within the postpartum period.

Study Purpose, Objectives, and Participants

The objectives of this study are threefold:

1. To measure the effect of strengthened and systematic PPFP counseling during ANC visits in health facilities and/or offering FP methods during facility delivery on the acceptance of FP methods during the postpartum period.
2. To understand women’s perspectives in receiving counseling on PPFP during ANC visits at health facilities and/or during facility delivery, and their decision-making process to use FP methods within the respective postpartum period.
3. To understand the providers’ perspective of PPFP service delivery, including the service delivery

system.

This was a comparative study consisting of an intervention arm and a comparison arm. One Mother & Child Welfare Centre (MCWC), one Upazila Health Complex (UHC), and one private hospital from the Chattogram division were intervention facilities where the MaMoni Maternal and Newborn Care Strengthening Project (MaMoni MNCSP) provides technical assistance to the Government of Bangladesh (GoB) for strengthened PFP counseling and service delivery. One MCWC and one UHC from the Chattogram division were the comparison facilities running only GoB programs. There were two population groups for this study: pregnant women who delivered at the intervention and comparison facilities, and pregnant women who sought ANC services in the intervention and comparison facilities. The follow-up survey data was complemented with qualitative data collected through the observation of ANC services, some key informant interviews (KIIs) with providers, and in-depth interviews (IDIs) with women who received ANC services and/or delivered.

Study Methods

The study was conducted using a mixed methods approach. Through the first eight months of the study (February 2022 to December 2022), five listers (three in intervention facilities and two in comparison facilities) enrolled the target groups at selected facilities. A separate team consisting of six data collectors under two supervisors interviewed the enrolled women three months after delivery. The number of women surveyed is given below.

Table 1. Study areas and sample in each facility

Enrolled during	Intervention			Comparison	
	MCWC	Private hospital	UHC	MCWC	UHC
ANC	574	262	730	-	-
Delivery	249	255	394	-	-
ANC	-	-	-	490	396
Delivery	-	-	-	133	289

The in-person interviews were conducted at the participants' residences from June 2022 to March 2023. Data on PFP initiation was collected using the DHS contraceptive calendar module.

Percentage distributions were used to understand the sample characteristics and variation in receipt of PFP counseling during ANC and delivery, the method offered at delivery, and PFP initiation within three months after birth. Multiple logistic regression was performed to measure the association between PFP counseling and PFP initiation.

The follow-up survey data was complemented with qualitative data collected through 27 observations of counseling sessions during ANC (7 in intervention facilities vs. 5 in comparison facilities), during labor (6 in intervention facilities vs. 4 in comparison facilities), and PNC (3 in intervention facilities vs. 2 in comparison facilities). To understand women's perspectives on receiving counseling and their decision-making process to use FP methods in the postpartum period, we conducted 24 IDIs with women interviewed in the household survey who received ANC from a facility and who delivered at a facility, and who received counseling during ANC/delivery/PNC (16 IDI in the intervention area and 8 in the comparison area). IDIs

were categorized as PFP acceptor (15 IDIs) and non-acceptor (9 IDIs). We conducted 13 KIIs with providers to understand their perspective on PFP service delivery. To select respondents for KIIs, we gave priority to those who received training on PFP (from Mamoni MNCSP) and were involved directly to provide counseling during ANC, delivery, and PNC. We conducted eight KIIs in intervention facilities and five in comparison facilities. The data were audio recorded, then transcribed in Bengali. “Thematic analysis” was used to sort and cluster data into similar categories using inductive coding.

Major Findings of the Research

Among all clients interviewed, only 5.8% received counseling on PFP during ANC. There was no statistically significant difference between the intervention and comparison facilities. The percentage of all clients who received counseling on PFP before delivery in a facility was a little higher, at 8%. Receiving counseling increased fourfold (21.7%) after delivery before leaving the facility. In both study arms, counseling on at least one modern method was around 5% during ANC, 8% before delivery, and 17% after delivery. Information about long-acting reversible contraception (LARC)/permanent methods (PMs) availability and counseling about FP adoption immediately after birth were even lower and similar between study arms. Providing a FP leaflet was almost absent in the comparison arm. Multivariable analyses suggest that counseling before and after delivery was significantly higher in intervention facilities than in comparison facilities. The chances of receiving PFP counseling considerably increase with higher order parties. Qualitative findings from KIIs also indicate that providers paid less attention to counseling women with lower order parities. Among all clients interviewed, PFP counseling was considerably lower in UHCs than in MCWCs (2.1% vs. 17.4% before delivery and 17.2% vs. 44.9% after delivery). UHC providers perceived PFP counseling as less of a priority service because there is a separate department for FP on the facility premises.

Providers reported limited human resources and excessive patient flow as a barrier to providing adequate FP counseling during ANC or around delivery time. However, the two weeks of ANC observation sessions revealed that the facilities serve patients for only 3 hours between 10 a.m. and 1 p.m., where the provision is to serve 6 hours.

About 56% of women interviewed adopted any FP method within 3 months postpartum, and the modern method adoption rate was 51%. About 47.9% of women who had a facility birth but did not receive counseling at the delivery place adopted any FP method. In contrast, the adoption rate was considerably higher among those who received counseling before delivery (69.4%), after delivery (77.5%), and both before and after delivery. Multivariable analysis shows that receiving PFP counseling around delivery is significantly associated with increased use of FP at 3 months postpartum. However, we cannot conclude with certainty whether this is a causal effect of counseling because clients with a pre-existing interest in PFP could be more likely to ask for counseling on PFP or recall counseling provided and be more likely to adopt PFP. Also, women cannot adopt a LARC/PM at delivery without receiving counseling.

Through the thematic analysis of the descriptive data, women expressed their opinions about the possible points of effective counseling and discouraged using the extreme period of labor for any kind of FP counseling. Moreover, mothers expected counseling from a doctor with a significant amount of time and responsiveness. Eventually, the mothers identified PNC as a suitable time for PFP counseling.

Recommendations

- Develop a training curriculum that should address the perception of DGHS staff that FP is not part of their responsibilities and that all women should receive PFP counseling regardless of parity. The curriculum should also include the standards and procedures of PFP counseling.
- Keep ANC services open during government office hours (8 a.m. to 2:30 p.m.). This will provide more time for providers per client and thus help provide quality services, including effective counseling.
- Counsel each woman delivering at facilities on PFP. This may increase FP use, especially the use of LARC and PM.
- Work with the MOHFW and DGHS and private sector facilities to increase awareness of the two GOs and identify and address structural, facility-level, and provider-level barriers to implementing the GOs to strengthen PFP counseling and services in ANC and delivery care.

Background

Adverse Effects of Closely-Spaced Births and the Role of Postpartum Family Planning (PPFP)

Closely-spaced pregnancies are associated with a higher risk of poor maternal and child health outcomes. It was estimated that 30% of maternal deaths and 10% of child mortality would be averted in the developing world if couples spaced their pregnancies more than two years apart (Cleland, et al., 2006). In examining data from 52 Demographic and Health Surveys (DHS), the risk of child mortality was found to be the highest in very short birth-to-pregnancy intervals of less than 12 months. This study also estimated that under-five mortality would decrease by 13% if couples waited 24 months to conceive again and by 25% if couples waited 36 months (Rutstein, 2008). Appropriate and timely use of postpartum family planning (PPFP) helps women prevent unintended and closely spaced pregnancies through the first 12 months following childbirth (World Health Organization [WHO], 2013). PPFP focuses on providing family planning (FP) counseling and services to women and couples in the first 12 months after birth. Effective PPFP programs help to improve maternal and child health through the reduction of short birth intervals.

WHO Recommendations on PPFP

The WHO has identified different points of contact with maternal, newborn, and child health (MNCH) interventions during the 12-month period after childbirth, which provide opportunities to integrate PPFP activities (WHO, 2013). During the prenatal period, the WHO recommends the provision of PPFP counseling during facility-based antenatal care (ANC) and community-based pregnancy screening (in cases where women do not go to facilities for ANC). During the delivery period, 48 hours after birth, and the six-week postpartum period, the WHO also recommends the provision of PPFP counseling and appropriate services during any contact between skilled birth attendants and women delivering in facilities or at home. Additionally, the WHO, with support from the United States Agency for International Development (USAID) and the Maternal and Child Health Integrated Program (MCHIP), released “Programming Strategies for Postpartum Family Planning” to emphasize the importance of PPFP and expanding the range of contraceptive options during the postpartum period (Gaffield, et al., 2014). Facility-based intrapartum services, postnatal care (PNC), and infant care; strengthening human resource capacity; and community-based information provision on pregnancy spacing and limitation were recommended as key interventions.

Role of Counseling in PPFP Initiation

Cleland et al. (2015) reviewed 35 studies (about half of which were from low- to middle-income countries) that aimed at evaluating the effect of postpartum interventions on FP use. They found that carefully designed PPFP interventions of different types can improve the use of FP methods. A strengthened postpartum intrauterine device (PPIUD) program that included training of providers and FP counseling at ANC helped to facilitate a marked uptake in intrauterine device (IUD) use in five Francophone African countries (Benin, Chad, Cote d’Ivoire, Niger, and Senegal) (Pleah, et al., 2016). While the countries had a low use rate of IUD at about 1%, the program achieved about 15% PPIUD use. In Bahir, Ethiopia, contraceptive use within 6 weeks of delivery was 38% among those who received FP counseling at least once during ANC services, compared to a use of 13% among those who were not counseled (Tafere, et al., 2018). In a randomized control study, 57% of women in Pakistan who were offered brochures and counseled before

discharge from the hospital began using a contraceptive at their follow-up visit 8–12 weeks postpartum, compared with 6% of women who were given no formal contraceptive advice (Saeed, et al., 2008).

FP in Bangladesh

Overall contraceptive use is high (55% using modern methods and 9% using traditional methods) among currently married women of reproductive age (15–49 years) in Bangladesh. Most couples use short-acting methods (49%) of contraception such as pills, condoms, and injectables for both birth-spacing and limiting (BDHS, 2022). Only 6% of currently married women ages 15–49 reported using long-acting methods like IUDs, implants, and tubectomy (BDHS, 2022). Regarding fertility among women of reproductive age, the BDHS 2017–18 reveals that the total wanted fertility rate in Bangladesh is 1.7 children, while the actual total fertility rate (TFR) is 2.3 children. This implies that, on average, Bangladeshi women have 0.6 children more than they want. In addition, 10% of married women have an unmet need for FP (BDHS, 2022). However, initiation of FP within the first year of birth has increased from 32% in 1993 to 74% in 2017 (Rahman, et al., 2023a). Moreover, the duration of postpartum insusceptibility, predominantly determined by lactational amenorrhea, was high in Bangladesh in the early stages of the FP program and now has declined (Rahman, et al., 2023a). Fertility remains at a low level when insusceptibility is high, and vice versa. Thus, it is important to increase PFP use to compensate for declines in postpartum insusceptibility.

PPFP in Bangladesh

The Government of Bangladesh (GoB) has been implementing limited PFP interventions in Bangladesh since 2002. In 2002, the GoB began a PFP intervention with the promotion of tubectomy to women who were to undergo caesarean section and normal vaginal delivery in 16 government facilities (both health and FP facilities) from eight districts in the country. This program was supported by USAID and implemented with the technical assistance of EngenderHealth Bangladesh (EGH) and the Obstetrical and Gynecological Society of Bangladesh (OGSB). This was the first ever initiative of PFP as part of a government initiative. Then, in 2008, initiatives—by the Directorate General of Health Services (DGHS), the Directorate General of Family Planning (DGFP), EGH, and USAID—were taken to introduce IUD and tubectomy on a pilot basis at Ad-Din Hospital. This was the first systematic effort to initiate immediate postpartum IUD services. With promising results, this initiative was scaled-up in three private sector and four public sector district hospitals (DHs) by April 2009. Between May 2009 and September 2012, the PFP program, including IUD and tubectomy, was scaled-up in 104 public, private, and nongovernmental organization (NGO) facilities. By 2013, PFP activities had been scaled-up in 60 public facilities (5 medical college hospitals, 24 DHs, 24 Mother & Child Welfare Centres (MCWCs), and 7 subdistrict level facilities), and 53 private facilities. PFP was included in the annual operational plans of the DGHS and DGFP.

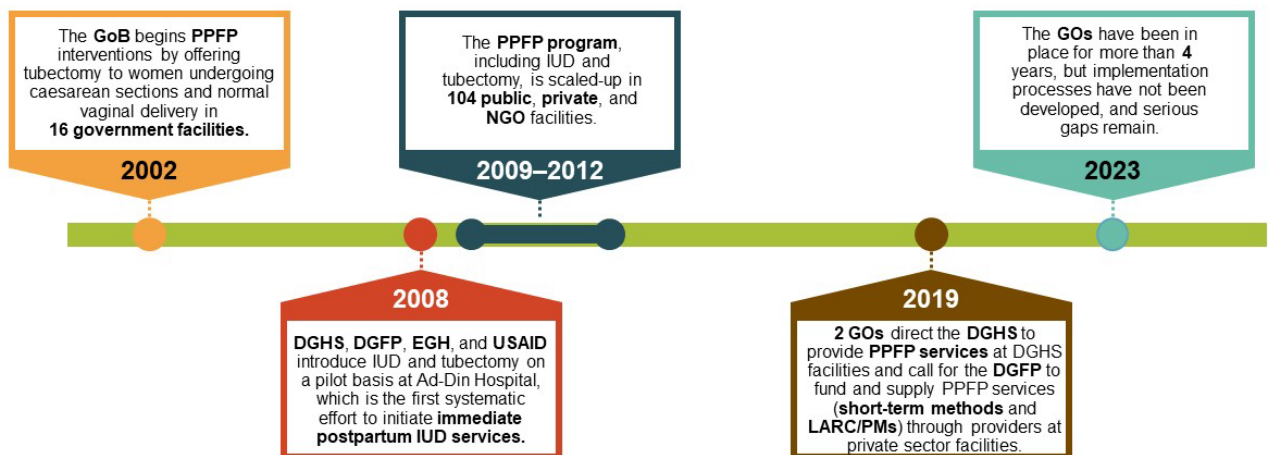
The DGFP puts high priority on PFP use, as indicated by a disbursement linked indicator related to the World Bank support of the Ministry of Health and Family Welfare (MOHFW). However, despite many efforts, the PFP initiatives of the DGFP, DGHS, and private-sector facilities and providers are weak (Barkataki, et al., 2019). PFP counseling hardly takes place, and methods are rarely offered at facilities during delivery. Although more than half of the deliveries take place at health facilities, the majority of public (both DGHS and DGFP) and private facilities are not ready to provide FP services (BHFS 2014; BHFS 2017; Haider, et al., 2019).

Government Orders (GOs) on PPF Service Delivery

Two GOs, which are also known as circulars, were put in place in early 2019 (Rahman, et al., 2023b). The first GO directed the DGHS to provide PPF services at DGHS facilities (medical college hospitals, specialized hospitals, DHs, Upazila Health Complexes (UHCs), and union-level facilities) and ensure that essential human resources, effective logistics systems, supplies, and appropriate financial management systems were in place. The GO specified that long-acting reversible contraception (LARC)/permanent methods (PMs) should be provided by registered and trained providers, that medical eligibility criteria for the provision of PMs should be followed, and that IUDs and other short-acting methods should be delivered by trained nurses/midwives (DGFP 2019a). The second GO called for the provision of PPF services (short-term methods and LARC/PMs) by trained providers at participating private sector facilities under a memorandum of understanding signed among the DGHS, DGFP, and the private facility owners' association, with funds and supplies provided by the DGFP (DGFP 2019b).

The GOs address the most essential inputs required to effectively initiate PPF services at public and private sector facilities. Although they have been in place for more than four years, implementation processes have not been developed, and serious gaps remain. There are no DGFP and DGHS documents on the initiation of the GOs' directives, and there are no monitoring mechanisms to track what has and has not been done to implement the GOs. A recent discussion with a Clinical Contraception Services Delivery Program (CCSDP) official revealed that only a few sporadic activities at some medical college hospitals have been carried out. This anecdotal evidence provides an indication of the lack of implementation of the GOs (Rahman, et al., 2023b).

Figure 1. Timeline of PPF interventions and GO implementation



National Technical Committee (NTC) on PFP

The National Technical Committee (NTC), led by the DGFP, identified several challenges and constraints of the PFP program: (a) lack of client awareness of PFP service availability, (b) no or limited information on PFP during ANC, PNC, and Expanded Program on Immunization (EPI) visits, and (c) limited availability of trained providers who can provide postpartum IUDs, implants, and tubal ligation (GOB, 2016). Facilities where PFP can be provided seriously lack readiness (Haider, et al., 2019). For example, of the 3,914 Union Health and Family Welfare Centers (UHFWCs) in the country, 1,299 do not provide IUDs. Among the 586 UHCs, MCWCs, and DHs, 127 do not provide implants, and 216 do not provide tubectomy. One important reason for not providing these methods in these facilities is the lack of trained providers available (Haider, et al., 2019). The extent of offering PPIUDs, implants, or tubal ligation is inadequate, as only 14% of women who delivered at facilities were offered a method during the years of 2015–2017 (Rahman, et al., 2019).

Knowledge Gap

The DHS 2022 shows that the percentage of women who have at least one ANC visit has increased to 92.6%, and the percentage of births delivered in a health facility has increased to 64.8%. This recent increase in ANC coverage and facility delivery provides an excellent opportunity to counsel women during ANC visits about PFP and offer FP methods during facility delivery. However, to what extent women may accept PFP if they are counseled at ANC visits and offered during facility delivery is not well studied in Bangladesh. Therefore, it is important to measure the effects of strengthened and systematic PFP counseling during facility-based ANC visits, delivery care, and PNC visits, and offering FP methods during facility-based delivery care and PNC visits on the uptake of FP methods within the postpartum period.

MaMoni Maternal and Newborn Care Strengthening Project (MaMoni MNCSP)

The MaMoni Maternal and Newborn Care Strengthening Project (MaMoni MNCSP) provides an opportunity to measure the effect of PFP counseling on PFP initiation. The USAID-funded MaMoni MNCSP is a five-year activity designed to contribute to the Health Population Nutrition Sector Program (HPNSP 2017–22) goals of reducing maternal and neonatal deaths by increasing equitable utilization of quality maternal and newborn care services in Bangladesh. The project began in 2018, and MaMoni MNCSP support in the Feni District began in 2019. MaMoni MNCSP worked with the DGHS and DGFP and covered medical college hospitals, DHs, MCWCs, UHCs, and union level health facilities in 17 districts. At the same time, the project engaged a few private hospitals in selected districts.

The MaMoni MNCSP provided technical support to the MOHFW to strengthen their efforts to provide PFP services through several means. These included training service providers on PFP, PPIUD, the maternal health package, the availability of FP commodities through the Electronic Logistics Management Information System (e-LMIS) & Supply Chain Management Portal (SCMP), providing PFP counseling job-aid, PFP method pictorial card job-aid, technical support that is relevant to GoB staff on recording and reporting to national platforms (e.g., MIS3-DGFP, DHIS2-DGHS), and monitoring FP compliance and supportive supervision, including joint supervisory visits. Additionally, the project facilitated DGHS facility providers like nurses and midwives receiving PFP training and ensured the coordination between health and FP services to increase utilization of FP methods at DGHS facilities¹.

¹ MaMoni MNCSP activities obtained from: <https://mamoni.info/>

The facilities covered by the MaMoni MNCSP are supposed to provide systematic PFP counseling and offer methods (e.g., IUD, implant, and tubal ligation) during delivery. As part of the system strengthening activities, the program coordinated with the DGFP and DGHS to make the facilities ready for providing (i.e., counseling and offering) PFP, particularly IUD, implant, and tubal ligation during delivery. The facilities covered by MaMoni MNCSP provided “systematic counselling” using Behavior Change Communication (BCC) materials for clients and job aids for providers. In contrast, facilities that are not covered by MaMoni MNCSP lack the characteristics mentioned above. Therefore, it is likely that ANC and delivery clients seeking services from MaMoni MNCSP-supported facilities may have received the required information, counseling, and services on PFP and thus may have made higher use of PFP than those from non-supported facilities.

Objectives

The objectives of this study are threefold:

1. To measure the effect of strengthened and systematic PFP counseling during ANC visits in health facilities and/or offering FP methods during facility delivery on the acceptance of FP methods during the postpartum period.
2. To understand women’s perspectives on receiving counseling on PFP during ANC visits at health facilities and/or during facility delivery and their decision-making process to use FP methods within the respective postpartum period.
3. To understand the providers’ perspectives on PFP service delivery, including the service delivery system.

Assessment of MaMoni PFP Activities: Who and When

The study started in November 2021 and ended in August 2023. The Data for Impact (D4I) project, in collaboration with the International Centre for Diarrhoeal Disease Research, Bangladesh’s (icddr,b) Research for Decision Makers Activity (RDMA) conducted the assessment. MaMoni MNCSP provided technical support to the study team to understand the MaMoni MNCSP intervention related to PFP. The line director of the CCSDP of DGFP provided overall guidance and support in the implementation of the assessment study. D4I conceptualized the objectives, methodology, and implementation plan for the study and developed the proposal with support from the RDMA. The RDMA led the protocol to obtain icddr,b Institutional Review Board (IRB) approval. D4I led the data analysis with support from RDMA.

Intended Use of Knowledge Gained

This study mainly emphasizes answering two research questions about PFP adoption, which may help increase the PFP adoption rate:

1. Did PFP counseling at ANC and around delivery help increase PFP use?
 - If yes: Invest to improve and increase PFP counseling at ANC and around delivery.
2. Was PFP counseling at ANC and around delivery higher in MaMoni MNCSP-supported facilities compared to facilities where MaMoni MNCSP did not provide any support?
 - If yes: Promote or scale up MaMoni PFP activities.
 - If no: Assess the strengths and weaknesses of MaMoni PFP activity in promoting PFP counseling at ANC and around delivery.

Methods and Limitations

Study Design

This was a comparative study consisting of “intervention” and “comparison” arms that followed pregnant women from pregnancy to three months after delivery in both arms. The study was conducted using a mixed methods approach. The use of PPFP was measured between women participating in the intervention and comparison arms three months after delivery.

Study Sites

The study was conducted in three intervention facilities and two comparison facilities from the Chattogram division, as shown in Table 2. In intervention areas, MaMoni MNCSP provided technical support to the GoB, and the comparison facilities ran only GoB programs.

Table 2. Intervention and comparison facilities

Type	Intervention	Comparison
District level public	One MCWC	One MCWC
Upazila level public	One UHC	One UHC
Private	One private hospital	-

Table 3 shows interventions implemented by MaMoni MNCSP to strengthen the health service delivery system, including PPFP services in the intervention facilities.

Table 3. Health system differences between facilities covered by intervention and comparison facilities

Intervention facilities ²		Comparison facilities ³
<p>Overall</p> <ul style="list-style-type: none"> ● Provider capacity is enhanced ● Ensure availability of required providers ● Ensure availability of commodities ● Ensure availability of required equipment ● Enhance quality of care ● Maintain LMIS ● Regularize monitoring visits ● Improve coordination between DGFP and DGHS 	<p>PPFP</p> <ul style="list-style-type: none"> ● Training on PPFP (IUD, implant, and tubal ligation) ● Availability of required provider, commodities, and equipment ● PPFP counseling at ANC, at delivery, and PNC ● Use of job-aid and pictorial cards on FP ● Offering methods at delivery 	<p>Overall</p> <p>The system is weak with a lack of trained providers, inadequate supplies of commodities, inadequate availability of required equipment, and with poor quality of care (NIPORT 2016, NIPORT 2019).</p> <p>PPFP</p> <p>Lack of trained providers and inadequacies in the availability of commodities and equipment. PPFP counseling at ANC is uncommon, unavailability of BCC materials for counseling is common, and FP methods are not routinely offered at delivery care (NIPORT 2016, NIPORT 2019).</p>

² DGFP, DGHS, and private facilities covered by MaMoni MNCSP project Health Systems Strengthening Interventions since 2019

³ DGFP, DGHS, and private facilities **not** covered by MaMoni MNCSP project

Study Population

As described above, there were two population groups for this study:

- Pregnant women who delivered at the intervention and comparison facilities.
- Pregnant women who sought ANC services in the intervention and comparison facilities.

Sample Size

Table 4 shows sample sizes at the intervention and comparison sites for two sample groups. The notes below the table show the statistical properties of the sample calculation.

Table 4. Sample size calculation+

Type	Intervention	Comparison	Assumption
Women who delivered at facilities	768	384	Use of IUD, implant, and tubal ligation will increase from 3% to 8%
Women who received ANC from facilities	1,564	782	Use of IUD, implant, and tubal ligation will increase from 3% to 6%

+with a confidence interval of 95%, power of 80%, design effect of 1.5, and a response rate of 85%.

The follow-up survey was complemented by relevant document reviews, 27 service observations, 24 in-depth interviews (IDIs) with women, and 13 key informant interviews (KIIs) of providers.

Enrollment

Five listers (three in intervention facilities and two in comparison facilities) enrolled women who came for ANC and delivery at the selected facilities through the first eight months of the study (February 2022 to December 2022). If a woman enrolled at ANC, we did not enroll her again when she came for delivery. Appendix Figure A1 provides a flow chart of enrollment activities both in the intervention and comparison facilities. During enrollment at ANC and delivery, we collected women's mobile phone numbers, their household address, and the names of any other household members or neighbors to easily locate their household. Additionally, during ANC enrollment, we collected their last date of menstruation to project the expected delivery date and interview date.

Data Collection Method

A separate team consisting of six data collectors under two supervisors conducted the in-person survey. The interviews were conducted at participants' residences three months after delivery. To meet the required sample size, we decided to enroll more women than required (Table 5). We continued enrollment even after starting to interview women who had enrolled earlier. We did not perform any sampling to select women from the enrollment list. Women who were enrolled first were interviewed first. We stopped contacting enrolled women after meeting the required sample size. Thus, women who enrolled later did not appear in our sample. As it is not likely to have any reason for which women who enrolled later can be different from the women who enrolled earlier, no selection bias was introduced in our study sample. Interviews were conducted from June 2022 to March 2023. Informed consent was obtained before conducting the interviews. On average, interviews took about 45–50 minutes. We used a structured questionnaire that included women's background characteristics; reproductive history and menstruation; knowledge and use of FP methods; ANC visits, delivery care, and PNC visits; exposure to systematic

counseling at ANC; delivery and PNC services; program exposure; and household characteristics (e.g., durable assets).

Enrollment facilities of the interviewed women are given in Appendix Table A2. Ethics approval of this study was taken from the Ethical Review Board of icddr,b.

Table 5. Enrollment and interview of the respondents*

	Intervention		Comparison	
	Enrolled at ANC	Enrolled at delivery	Enrolled at ANC	Enrolled at delivery
Required sample size	1,564	768	782	384
Enrolled	3,482	1,710	1,878	661
Interviewed	1,567	900	889	423
Interviewed women ages (15–49)	1,566	898	886	422
Response rate (%)	~75-80%*	~85-90%*	~75-80%*	~85-90%*

* The sampling frame consisted of women enrolled in ANC or delivery services. The first women to complete three months postpartum were contacted for interviews via phone calls and in-person visits. Those who participated in the interviews became the sampled respondents. Women who could not be reached by phone, were not found at home during visits, or refused to participate were classified as non-respondents. The exact number of women who were unreachable by phone was not systematically recorded, so we cannot provide an exact response rate. However, based on field monitoring activities and discussions with personnel, we have rough estimates of the response rates.

The lower response rate among women enrolled in ANC was mainly due to the first two months of interviews, which had a response rate of about 65%. During this period, we only visited women in person if we could reach them by phone. Later, we decided to visit all women in person, regardless of phone contact, which improved the response rate in subsequent months. The higher response rate among women enrolled at delivery may be due to the shorter time between enrollment and the interview attempt. Women enrolled at delivery were interviewed within 90–100 days, whereas for women enrolled in ANC, the interview attempt occurred 4–11 months after enrollment.

The follow-up survey data was complemented with qualitative data collected through 27 observations of counseling sessions during ANC (7 in intervention facilities vs. 5 in comparison facilities), during labor (6 in intervention facilities vs. 4 in comparison facilities), and PNC (3 in intervention facilities vs. 2 in comparison facilities). To conduct 24 IDIs, we selected women who received ANC from a facility and who delivered at a facility, and moreover, have received counseling during ANC/delivery/PNC. IDIs were categorized as PFP acceptor (15 IDIs) and non-acceptor (9 IDIs). Finally, we conducted 16 IDIs in the intervention area and 8 IDIs in the comparison area. To triangulate the information collected through IDIs, we conducted 13 KIIs with providers. To select respondents for KIIs, we gave priority to those persons who received training on PFP (from Mamoni MNCSP) and were involved directly to provide counseling during ANC, delivery, and PNC (e.g., Medical Officer – Maternal Child Health [MO-MCH]; Family Welfare Visitor [FWV]; Medical Officer [MO]). Among these, we collected some KIIs from facility managers (e.g., Upazila Health and Family Planning Officer [UHFPO]). We conducted eight KIIs in intervention facilities and five in comparison facilities. The topics covered by each of the three qualitative methods are listed below:

1. Observation of ANC services: type of services offered, counseling on PPF, client-provider interaction
2. IDI with postpartum women:
 - The extent and nature of women’s exposure to the components specific to PPF services
 - Experience in seeking ANC/delivery care, with special focus on PPF services
 - Women’s decision-making processes
 - Role of different actors (e.g., husband, in-laws, parents, other family members, neighbors, and healthcare providers) in the decision-making process for PPF
3. KIs with healthcare providers, namely FWs, MO-MCHs, and Residential MOs, regarding:
 - Provision of systematic counseling of pregnant women during ANC and facility delivery at public and private health facilities in Bangladesh
 - Experience of covering PPF components during ANC and offering PPF during delivery at public and private health facilities in Bangladesh
 - Contextual factors related to provision of PPF services

Trained research staff collected the qualitative data. The data were audio recorded, then transcribed in Bengali. “Thematic analysis” was used to sort and cluster data into similar categories. This process was guided by inductive coding. To conduct thematic analysis, the data familiarization, coding, categorization, and summarization were first done in Bengali, and then the summary findings were translated into English. During categorization and theme identification, we considered parity, mode of delivery, age, education, etc.

A quality assurance team (consisting of two members) monitored the quality of the quantitative data collection. Moreover, one Research Officer was assigned to monitor the quality of the collection of qualitative data and to address ongoing analysis, data saturation, etc. Feedback was given to the field teams to improve the quality of data collection, if needed. Data was collected using an app developed by the Data Management System team of the Maternal and Child Health Division, icddr,b. The assigned programmer from icddr,b checked the data quality when and where required. The qualitative interviews were conducted by two qualitative researchers who were trained in and experienced with qualitative data collection methods.

Analyses Strategies

The outcome variables were as follows:

Primary outcome indicators

- Percentage of women accepting a modern FP method immediately after facility delivery
- Percentage of women using any FP method within three months of delivery

Intermediate outcome indicators

- Percentage of delivered women who had PPF counseling during ANC or delivery
- Percentage of women who delivered at facilities and were offered a FP method

Quantitative analyses: Percentage distribution was used to understand the sample characteristics and

variation in PFPF counseling reception during ANC, delivery, and while visiting the facility within six weeks of birth; the method offered at delivery; and PFPF initiation within three months after birth. Multiple logistic regression was performed to measure the effect of PFPF counseling on PFPF initiation.

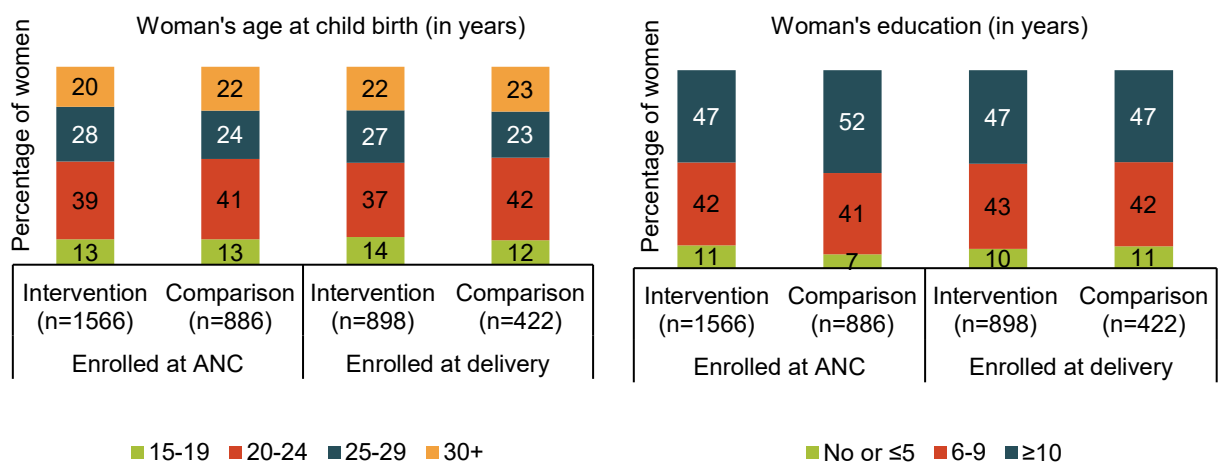
Qualitative analyses: The data were audio recorded and then transcribed into Bengali. “Thematic analysis” was used to sort and cluster data into similar categories supported by MS Excel (spreadsheet). This process was guided by inductive coding. To conduct thematic analysis, the data familiarization, coding, categorization, and summarization were first done in Bengali, and then the summary findings were translated into English. During categorization and theme identification, we considered parity, mode of delivery, age, education, etc. The reliability of the data was checked by comparing the results of two research team members coding the data independently. The results were presented with verbatim quotes from the respondents. Later, we checked the validity of the information by sharing it with respondents who had knowledge of the study topic.

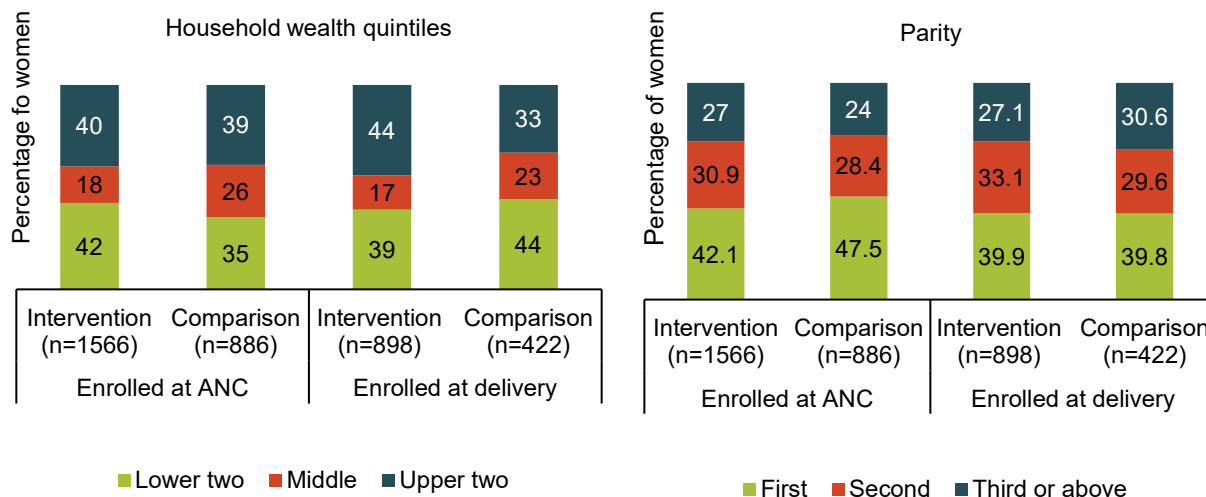
Results

Characteristics of Respondents

Figure 2 presents the comparability between the intervention and comparison groups in terms of age, educational level, household wealth quintiles, and parity of the interviewed women. The intervention and comparison groups were not statistically different in terms of women’s age at childbirth and parity. However, statistically significant differences were found for education and wealth. About two-thirds of the women were between the ages of 20 and 29 years, and nearly half of the women had completed at least 10 years of schooling.

Figure 2. Sociodemographic characteristics of interviewed women





The distribution of other sociodemographic characteristics and service utilization in the two study arms is given in Appendix Table A3. Media exposure and mobile phone ownership were higher in the intervention area than in the comparison area. Overall, more than half of the women had media exposure, and four out of five women own a mobile phone. The proportion of women living with their husbands was lower in the intervention area than in the comparison area (53.1% vs. 65.2% for ANC enrollment and 49.9% vs. 61.1% for delivery enrollment). Notably, unplanned pregnancy was more frequent in the intervention area than in the comparison area (16.9% vs. 8.9% for ANC enrollment and 16.6% vs. 13.5% for delivery enrollment). Among women who enrolled at ANC, having at least four ANC visits and receiving ANC in the later stage of pregnancy were lower in the intervention area than in the comparison area (60.5% vs. 74.3% for at least four ANC visits and 52.4% vs. 72.9% for receiving ANC in the later stage of pregnancy). Compared to women who enrolled at ANC, a considerably lower proportion of caesarean section deliveries were noticed among women who were enrolled at delivery. This may be due to the low proportion of deliveries at private facilities among women enrolled at delivery (intervention: 29.9% and comparison: 0%). There was no private facility enrollment in the comparison area. In contrast, delivery at private facilities was high among women enrolled at ANC (intervention: 40.6% and comparison: 45.3%).

Objective One: Effect of Strengthened and Systematic PFP Counseling during ANC Visits and Facility Delivery on the Acceptance of FP Methods

PPFP Counseling and Use of Counseling Materials at ANC and around Delivery

Figure 3 compares the probability of PFP counseling reception, being informed about LARC/PM availability, and obtaining a FP method and leaflet between the intervention and comparison groups. Receiving PFP counseling was low in both study arms, particularly during ANC. The probability of receiving counseling was the highest while staying at the facility after delivery (intervention: 26.7% and comparison: 23.7%). A significant differential in PFP counseling reception between the study arms was noticed only during ANC visits (intervention: 7.2% vs. comparison: 4.9%). Method-specific counseling during ANC and before and after delivery was low in both study arms. During ANC and before delivery, it was below 10%, and after delivery, it reached 17%. No significant difference in modern method-specific

counseling was noticed between the study arms. Detailed results on reproductive and maternal healthcare counseling at the different time points of maternity care are presented in Appendix Tables A4 and A5.

Informing women about LARC/PM availability in facilities was even lower than PPF counseling. Information about LARC/PM availability was a little higher in the intervention group than in the comparison group, with a significant differential only during ANC visits (intervention: 2.7% vs. comparison: 1.1%). Counseling about initiating a FP method immediately after birth was severely low, being below 10% in all three time points of maternity care.

Figure 3. Percentage of women who received family planning counseling during ANC, before and after delivery

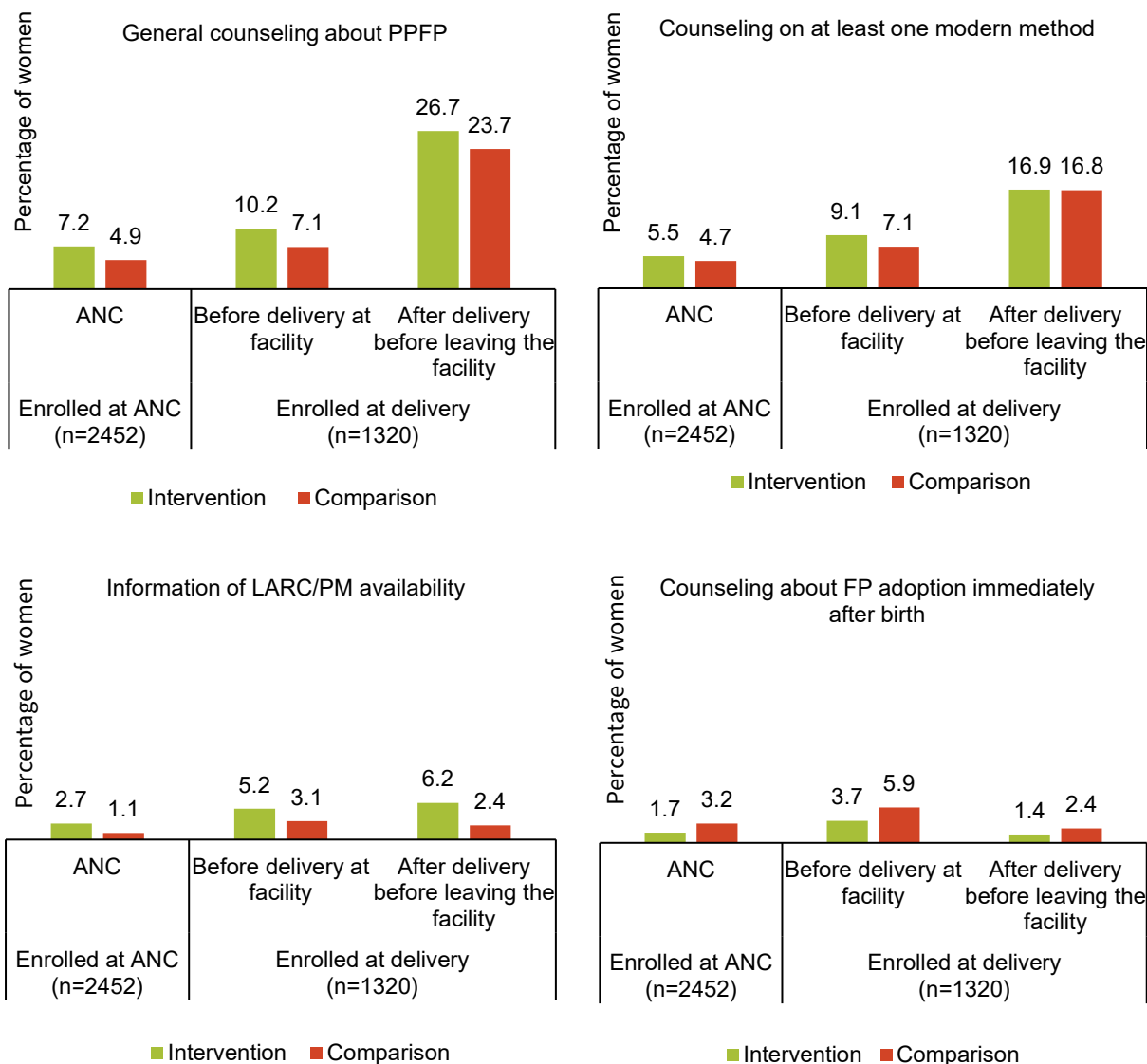
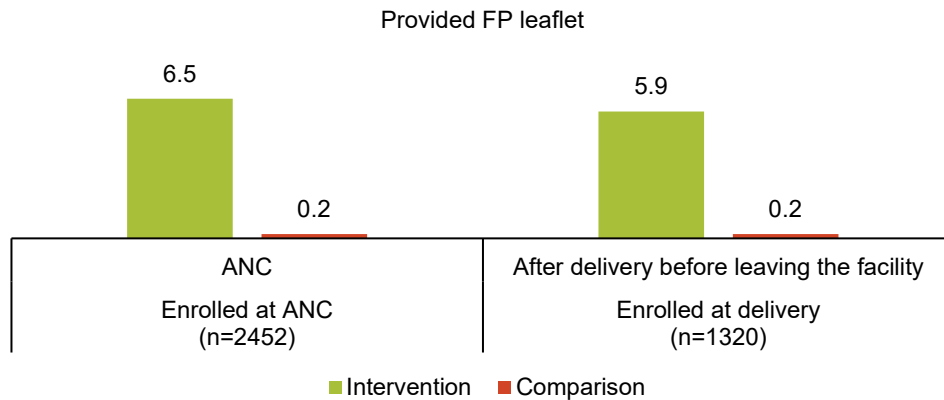


Figure 4 presents the percentage of women who received FP-related leaflets. The likelihood of getting a FP leaflet was critically low at any point in maternal healthcare service utilization. Importantly, almost no

women in the comparison group reported obtaining any FP leaflets from the providers. During KIIs, most of the providers mentioned that all the intervention facilities had models of methods, wall-hanging posters, job aids, and pictorial flip charts for counseling on PFP, but not leaflets. This information was further confirmed through observation sessions and facility assessments. One provider stated her experience:

Since we got many patients (all at a time), we could not get enough chances to show (a flip chart) to all the mothers. Since it seems that there are many patients, those materials were shown mainly to the patients (pregnant women) who came during their third trimester. — KII_6 (Female provider)

Figure 4. Percentage of women who were provided leaflets during ANC and after delivery before leaving the facility

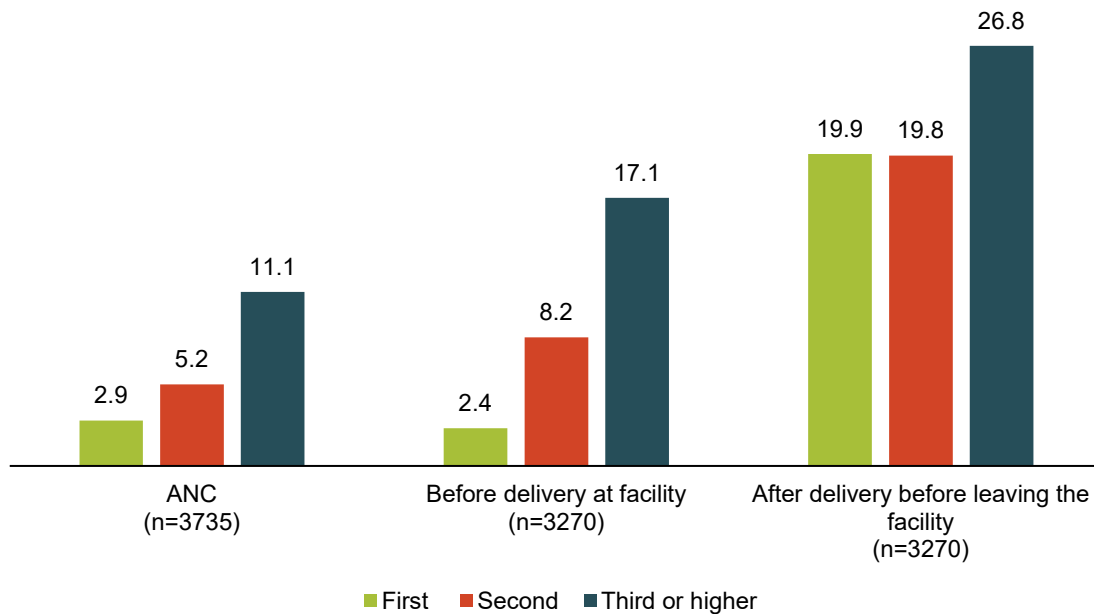


PPFP Counseling at ANC or Around Delivery: Does parity matter?

Figure 5 presents the percentage of women who received PFP counseling by parity at three different time points of maternity care using aggregated data (including women enrolled at ANC and delivery). Across all three time points, the probability of receiving counseling was considerably lower among women with first parity than among women with third or higher order parity. At ANC, among women with third or higher-order parity, 11.1% received PFP counseling, compared to only 2.9% among women with first parity. Although the probability of receiving counseling while staying at the facility after delivery was higher compared to ANC, the differential in receiving counseling at first and third or higher-order parities remains. The KIIs explored that the providers preferred to provide PFP counseling to women who had two or more children, as motivating these women was easier. The session observations also observed the practice of providing PFP counseling to women with two or more children. One provider perceived and stated that,

We found that if we give counseling to those mothers who have two or three children, it is easy; it means I can do motivation. Because there is a fear in their mind that now they have two children, and if another pregnancy happens! (fearing about what worse will become?) it means they can be persuaded more. — KII_1 (Female provider).

Figure 5. Percentage of women who received PFP counseling during ANC, before, and after delivery by parity

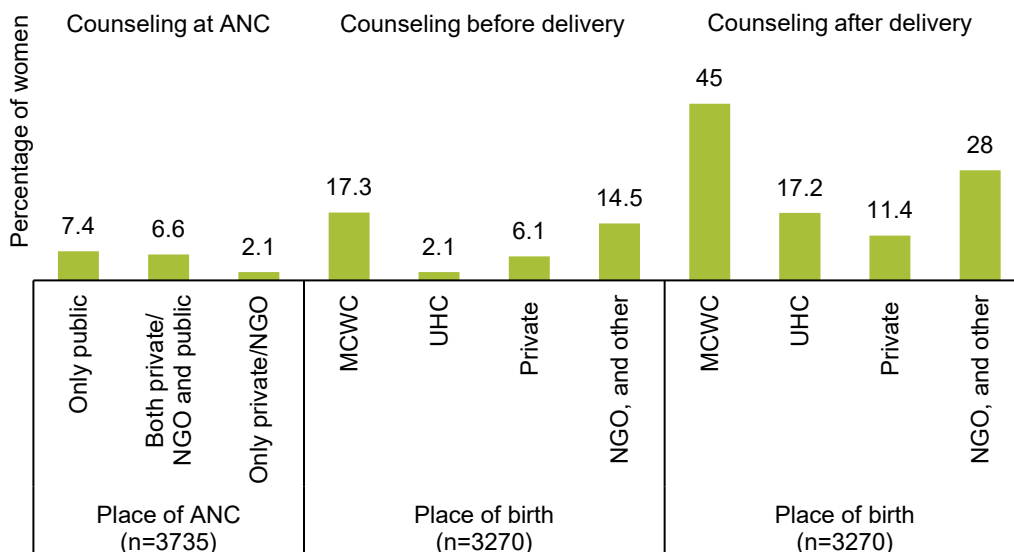


Note: Out of 3,772 enrolled women, 3,735 went for ANC and 3,270 went for facility delivery

PPFP Counseling at ANC and around Delivery: Does place of ANC and delivery matter?

Figure 6 shows that the probability of receiving counseling during ANC was comparatively high in public facilities (6% to 7%). Women who gave birth at a MCWC had a higher probability of getting counseled than women who gave birth at any other facility. Among women who gave birth at a MCWC, 17.3% and 45% received counseling before and after delivery, while only 2.1% and 17.2% received counseling before and after delivery among women who gave birth in UHCs.

Figure 6. Percentage of women who received PFP counseling by place of ANC and delivery



KII data revealed that MCWCs (both intervention and comparison) had specific monthly projections for providing different birth control methods, whereas UHCs or private hospitals did not have such specific projections. From KII, we found that MCWCs have adequately trained staff and FP commodities to provide PFP services. In contrast, in the UHCs of the comparison area, none of the providers had received any training on PFP counseling, and they had no access to BCC material for counseling or contraception other than ligation.

Appendix Table A5 presents the variation in the probability of receiving PFP counseling across different characteristics of women using aggregated data (including women enrolled at ANC and delivery). Among women who had at least one ANC from a facility, 5.8% reported that they received counseling during ANC, and 8% received counseling before delivery. Counseling mostly occurs when women stay at the facility after delivery. However, the coverage of PFP counseling after delivery was not satisfactory—only around 22% of the women who gave birth at the facility received PFP counseling after the delivery before leaving the facility. The percentage of women receiving counseling was quite similar across groups. However, receiving counseling was around 6% higher among women with unplanned pregnancies (mistimed or unwanted) than those who had planned pregnancies. The probability of receiving PFP counseling was higher among women who have exposure to radio/TV/newspaper and own mobile phones than their counterparts.

PFP Counseling at ANC or Around Delivery: What are the other enabling factors?

Table 6 presents the factors associated with receiving PFP counseling during ANC, before, and after delivery at the facility using multivariable logistic regression. Analyses of PFP counseling during ANC were on women who had at least one ANC visit from a facility irrespective of enrollment, while analyses of PFP counseling before and after delivery included women who had facility births irrespective of enrollment. Women in the intervention arm were respectively 2.9 and 1.5 times more likely to receive counseling before and after delivery at the facility than women in the comparison group. Counseling at ANC significantly increases the odds of receiving counseling before or after delivery at the facility. The place of ANC uptake and place of delivery were significantly associated with greater odds of receiving counseling. The odds of receiving counseling were 74% lower among women who did not take ANC from public facilities than those who took ANC only from a public facility. Women who gave birth in facilities other than MCWC were significantly less likely to receive PFP counseling. The likelihood of receiving PFP counseling during ANC and before delivery significantly rises with parity. The odds of women with third or higher order parity receiving counseling during ANC and before delivery were respectively three and 11 times higher than among women with first parity. Women with cesarean section deliveries were almost 13 times more likely to receive PFP counseling before delivery than women who had vaginal deliveries. The odds of receiving counseling on FP did not vary by when during the pregnancy women received their last ANC visit.

Table 6. Factors associated with receiving PFP counseling at ANC, before delivery at facility, and after delivery before leaving the facility: results from multiple logistic regression using aggregated data

Factors	Counseling received at ANC		Counseling received before delivery at facility		Counseling received after delivery before leaving the facility	
	AOR	CI	AOR	CI	AOR	CI
Number	3,725		3,233		3,270	
Program area						
Intervention	1.22	[0.89, 1.67]	2.86**	[1.97,4.17]	1.47**	[1.21,1.80]
Comparison	1.00	-	1.00	-	1.00	-
Place of ANC visit						
Only public	1.00	-	-	-	-	-
Both public and private/NGO	0.85	[0.62,1.17]	-	-	-	-
Only private/NGO	0.26* *	[0.16,0.44]	-	-	-	-
Number of ANC visits						
1–3	1.00	-	-	-	-	-
4+	1.64* *	[1.15,2.33]	-	-	-	-
Last ANC receiving month						
7 or earlier	1.00	-	-	-	-	-
8	0.93	[0.56,1.53]	-	-	-	-
9 or later	1.02	[0.63,1.64]	-	-	-	-
PFP counseling reception at ANC						
Did not receive counseling						
Received counseling			3.97**	[2.58,6.12]	1.56*	[1.10,2.23]
Did not go for ANC			NE		0.38	[0.13,1.13]
Parity						
First	1.00	-	1.00	-	1.00	-
Second	1.63* *	[1.04,2.55]	4.11**	[2.51,6.74]	0.90	[0.70,1.15]
Third or above	2.79* *	[1.64,4.77]	11.74**	[6.43,21.42]	1.18	[0.85,1.65]
Planning status of last birth						
Planned	1.00	-	1.00	-	1.00	-
Unplanned	1.70* *	[1.21,2.39]	1.28	[0.88,1.88]	1.22	[0.94,1.57]
Place of delivery						
MCWC			1.00	-	1.00	-
UHC			0.10**	[0.06,0.17]	0.24**	[0.19,0.30]
Private			0.04**	[0.02,0.06]	0.16**	[0.12,0.21]

Factors	Counseling received at ANC		Counseling received before delivery at facility		Counseling received after delivery before leaving the facility	
	AOR	CI	AOR	CI	AOR	CI
Home, NGO and other			0.46**	[0.28,0.76]	0.43**	[0.31,0.58]
Mode of birth						
Normal/vaginal birth					1.00	-
Cesarean section			12.87**	[8.28,19.99]	0.89	[0.68,1.17]
Woman's age at birth (in years)						
15–19	1.00	-	1.00	-	1.00	-
20–24	1.11	[0.59,2.09]	1.05	[0.47,2.33]	1.08	[0.79,1.47]
25–29	1.15	[0.56,2.35]	0.94	[0.40,2.23]	1.33	[0.92,1.93]
30+	1.53	[0.73,3.20]	1.07	[0.44,2.60]	1.64*	[1.08,2.49]
Woman's education (in years)						
No or ≤5	1.00	-	1.00	-	1.00	-
6-9	0.75	[0.49,1.15]	1.13	[0.67,1.89]	0.80	[0.58,1.09]
≥10	0.67	[0.42,1.08]	1.15	[0.67,1.98]	0.98	[0.70,1.37]
Exposure to TV/radio/newspaper						
No	1.00	-	1.00	-	1.00	-
Yes	1.56*	[1.15,2.10]	1.16	[0.86,1.58]	1.06	[0.89,1.28]
Mobile phone ownership						
No	1.00	-	1.00	-	1.00	-
Yes	1.34	[0.86,2.08]	0.95	[0.59,1.52]	0.69**	[0.54,0.87]
Household wealth quintiles						
Lower two	1.00	-	1.00	-	1.00	-
Middle	1.28	[0.87,1.89]	1.22	[0.80,1.87]	1.12	[0.87,1.43]
Upper two	1.12	[0.78,1.59]	0.97	[0.66,1.41]	0.91	[0.73,1.15]
Constant	0.02*	[0.01, 0.04]	0.01**	[0.02,0.10]	0.75	[0.47, 1.19]

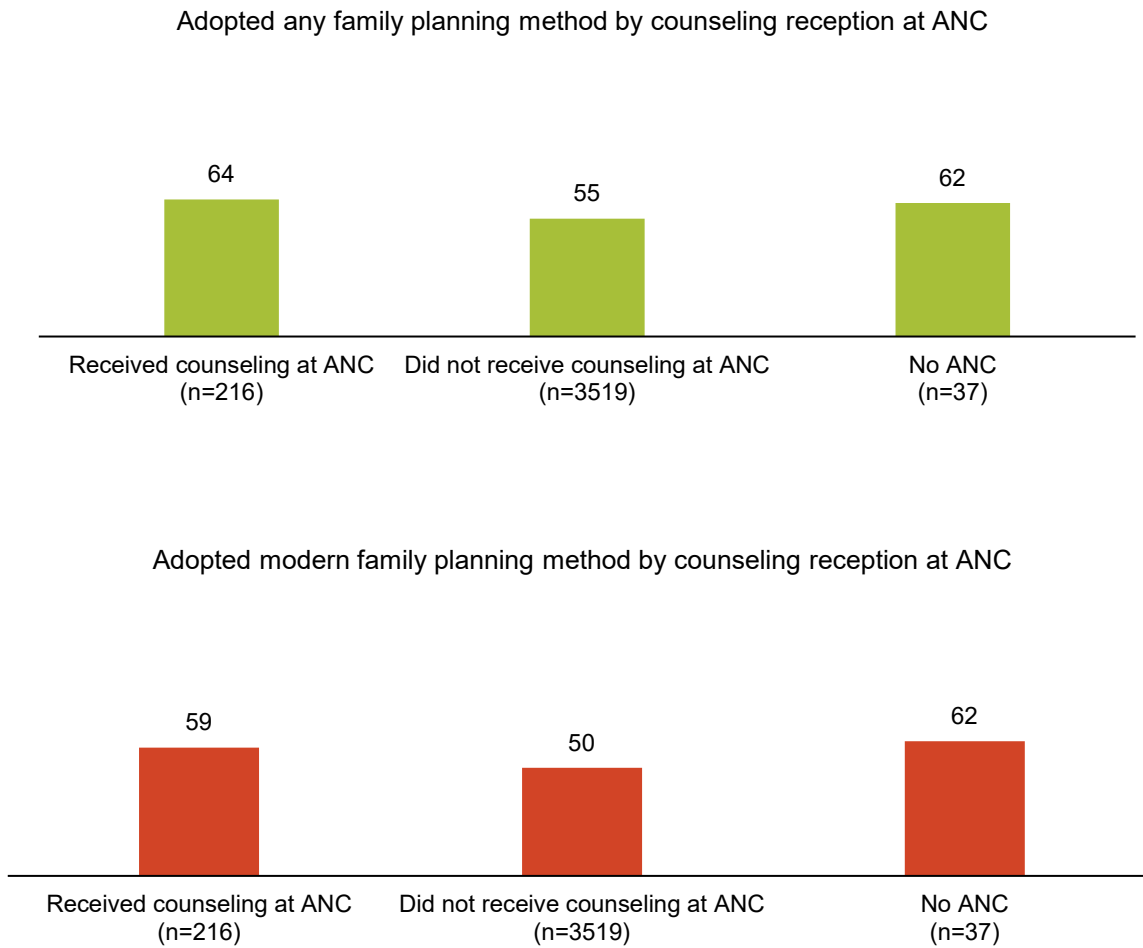
* p<0.05; ** p<0.01; no asterisk refers 'not significant'; NE: Not estimable
Only counseling during ANC is presented by ANC characteristics and only counseling before and after delivery is presented by delivery care characteristics

Does PFP counseling help increase FP adoption within three months postpartum?

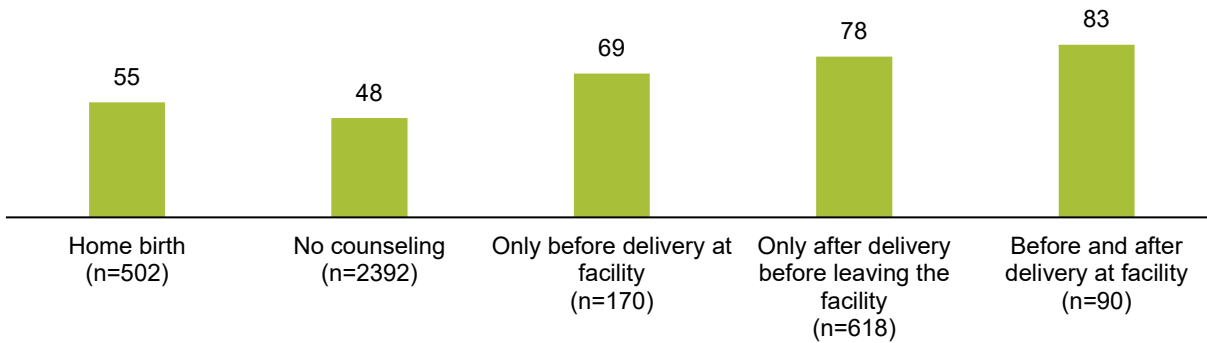
About 55.6% of the interviewed women adopted any PFP method within three months postpartum, whereas 50% adopted any modern method. Figure 7 shows the variation in PFP adoption rate by receiving PFP counseling at different time points in maternity care. The adoption rate of any FP method and modern methods was higher among women who received counseling during ANC than among those who did not receive counseling (any method: 63.9% vs. 55%; modern method: 59.3% vs. 49.9%). The PFP

adoption rate for women with no ANC is based on a small number of cases (n=37), so it is subject to large sampling errors. About 47.9% of women who had a facility birth but did not receive counseling adopted any FP method. In contrast, the adoption rate was considerably higher among those who received counseling before delivery (69.4%), after delivery (77.5%), and both before and after delivery (83.3%).

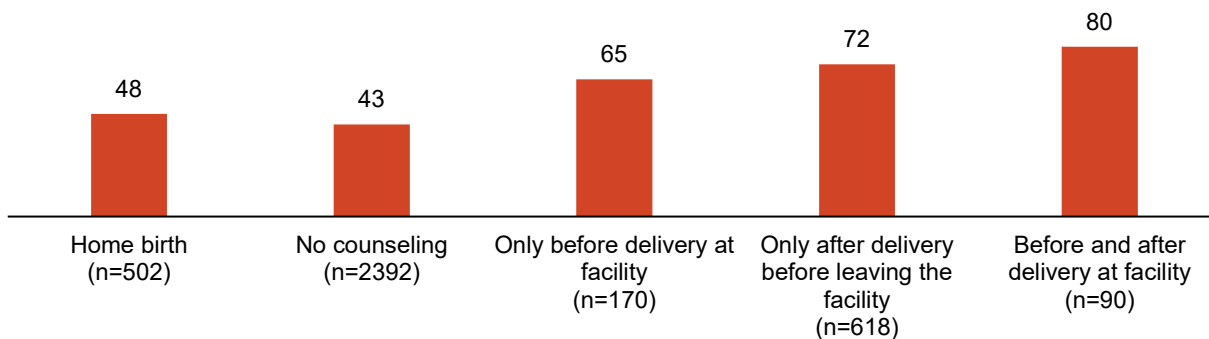
Figure 7. Percentage of women who adopted PFP during three months postpartum, by time and place of counseling



Adopted any family planning method by counseling reception at delivery



Adopted modern family planning method by counseling reception at delivery



The variation in PFP adoption by women’s sociodemographic and last birth-related factors is presented in Appendix Table A6. About 70% of women whose menstruation resumed adopted FP methods, which compared to 43% among amenorrheic women. The prevalence of PFP adoption did not vary much by parity. PFP adoption was higher among women whose last birth was unplanned than those who had a planned birth (67.8% vs. 53.5%). In addition, a comparatively higher rate of modern method adoption was noticed among younger women than older women (57.7% among ages 15–19 vs. 49.4% among ages 30 or above).

Factors Associated with PFP Adoption

Multiple logistic regression analyses were performed on all women, irrespective of their enrollment status, to identify the factors associated with any FP method adoption and modern method adoption within three months postpartum (Table 7). Receiving counseling at ANC was not associated with FP adoption. Having a facility birth and receiving counseling were found to be significantly associated with higher odds of adopting any method. Women who got counseling only before delivery, only after delivery, and both before and after delivery were respectively three, two, and five times as likely to adopt PFP than those who gave birth at the facility but did not receive counseling. Women with normal/vaginal birth are significantly more likely to adopt a FP method within three months postpartum. Women in the intervention area showed

higher odds of FP method adoption. Women whose menstruation has resumed, women with second and following parity, unplanned birth, young age, residing with their husband, and being in the highest two wealth quintiles were more likely to adopt any method within three months postpartum. Correlates of modern method adoption were similar to the correlates of any method adoption. Receiving ANC counseling did not influence modern method adoption, while receiving counseling at a delivery facility was positively associated with modern method adoption.

Table 7. Factors associated with PFP adoption within three months postpartum: results from multiple logistic regression

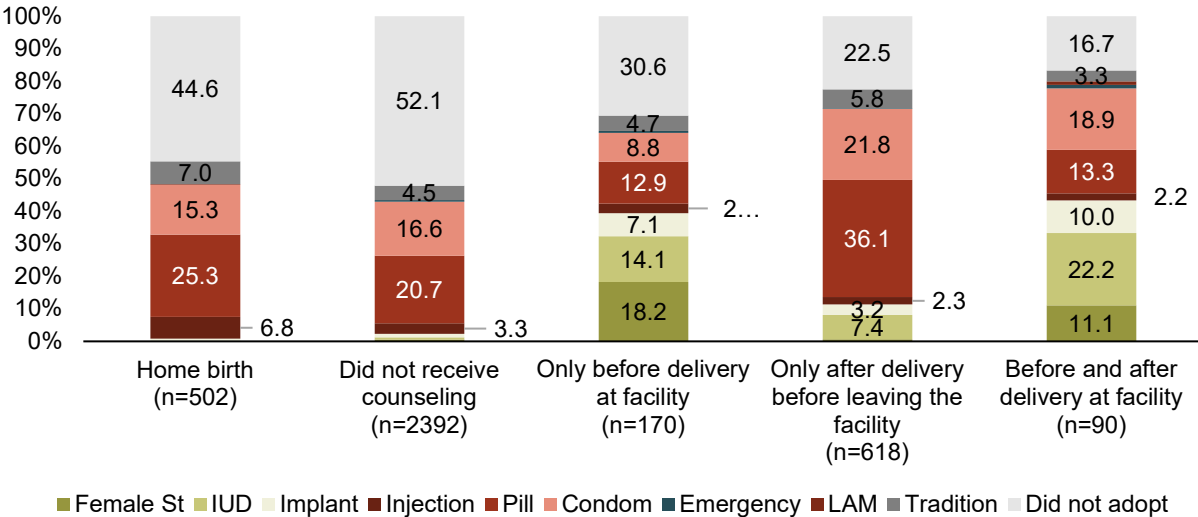
	Any method		Modern method	
	AOR	CI	AOR	CI
Number	3,772		3,772	
Program area				
Comparison	1.00	-	1.00	-
Intervention	1.32**	[1.09,1.61]	1.32**	[1.10,1.58]
PPFP counseling reception at ANC				
Did not receive counseling	1.00	-	1.00	-
Received counseling	0.94	[0.64,1.40]	1.03	[0.72,1.49]
Did not go for ANC	0.90	[0.37,2.20]	1.18	[0.49,2.83]
Timing of PFP counseling reception at facility				
Received no counseling	1.00	-	1.00	-
Only before delivery at facility	3.48**	[2.05,5.90]	2.95**	[1.85,4.70]
Only after delivery before leaving the facility	1.94**	[1.49,2.53]	1.82**	[1.44,2.31]
Before and after delivery at facility	5.43**	[2.57,11.50]	5.07**	[2.61,9.82]
Home birth	1.01	[0.76,1.34]	0.86	[0.66,1.12]
Menstruation returned				
No	1.00	-	1.00	-
Yes	2.92**	[2.41,3.53]	2.94**	[2.47,3.51]
Parity				
First	1.00	-	1.00	-
Second	1.36*	[1.06,1.75]	1.21	[0.96,1.53]
Third or above	1.48*	[1.05,2.08]	1.40*	[1.02,1.92]
Planning status of last birth				
Planned	1.00	-	1.00	-
Unplanned	1.33*	[1.01,1.76]	1.21	[0.94,1.56]
Sex of last child				
Female	1.00	-	1.00	-
Male	1.04	[0.87,1.25]	0.97	[0.81,1.15]
Mode of birth				
Cesarean Section	1.00	-	1.00	-
Normal/Vaginal birth	1.32*	[1.07,1.63]	1.27*	[1.04,1.54]
Woman's age at birth (in years)				
15-19	1.00	-	1.00	-
20-24	0.81	[0.59,1.12]	0.77	[0.57,1.04]
25-29	0.55**	[0.37,0.80]	0.59**	[0.42,0.84]
30+	0.45**	[0.29,0.70]	0.47**	[0.31,0.69]
Years of schooling (in years)				
No or ≤5	1.00	-	1.00	-
6-9	1.23	[0.90,1.67]	1.15	[0.86,1.53]
≥10	1.26	[0.90,1.75]	1.01	[0.74,1.38]
Husband's residing status				
Lives with her	1.00	-	1.00	-
Lives elsewhere: <i>visit regularly</i>	0.61**	[0.47,0.78]	0.70**	[0.56,0.89]

	Any method		Modern method	
	AOR	CI	AOR	CI
Lives elsewhere: <i>doesn't visit regularly</i>	0.02**	[0.01,0.02]	0.02**	[0.02,0.03]
Exposure to TV/ radio/ newspaper				
No	1.00	-	1.00	-
Yes	1.03	[0.85,1.24]	1.09	[0.92,1.30]
Mobile phone ownership				
No	1.00	-	1.00	-
Yes	0.97	[0.76,1.23]	0.93	[0.74,1.16]
Household wealth quintiles				
Lower two	1.00	-	1.00	-
Middle	1.03	[0.80,1.32]	1.09	[0.86,1.38]
Upper two	1.30*	[1.03,1.65]	1.07	[0.86,1.33]
Constant	1.28	[0.78, 2.08]	1.13	[0.71, 1.78]

PP-LARC/PM Counseling for Women Delivering at a Facility: What is the most effective time?

Figure 8 presents the distribution of the adopted FP method by the timing of counseling at delivery. About 40% of women who received counseling only before delivery adopted LARC/PM, while only around 11% (7% IUD and 3% implant) among those who received counseling only after delivery adopted LARC/PM. LARC/PM adoption was the highest (43%) among those who received counseling both before and after delivery. Among women who received counseling only before delivery, 18% went for sterilization.

Figure 8. Distribution of adopted FP method within three months postpartum by place of delivery and PFP counseling



Objective Two: Women’s Perspectives on Receiving PFP Counseling during ANC and Delivery and Their Decision-Making Process to Adopt FP Methods

Qualitative findings help explain women’s perspectives on receiving PFP counseling and their decision-making process to adopt PFP. Women expressed their opinions about the possible points of effective counseling and discouraged using the extreme period of labor for any kind of FP counseling. Moreover, mothers expected counseling from a doctor with a significant amount of time and responsiveness. Eventually, the mothers identified PNC as a suitable time for PFP counseling. Although some women did not get counseling, they often perceived the need for PFP and started it on their own initiative. However, sometimes they used PFP incorrectly (e.g., using progesterone-only pills as emergency pills). This means that some of them were aware of the importance of PFP despite not getting counseling, but they had misperceptions that could be corrected by improved counseling.

Client Perspective of PFP Counseling before Delivery

In the IDIs, most mothers agreed that any PFP-related discussions are completely useless at the very moment of delivery when they are in labor. Most mothers prefer counseling after delivery. A mother stated,

At that time (just before delivery), it was not right to talk about those things because my health condition was very bad at that time. Not only me as a mother, but also all mothers feel very bad to hear this counseling. No mother likes to hear even any good words at that time. — IDI_6 (PFP acceptor).

Client Perspective on Interaction with Provider

Mothers expected to get counseling from doctors, not from others. One of the mothers expressed concern:

It would be better if doctors said something about the method. All nurses do not have all the experience, but doctors do have more experience. Doctors' words are given more importance, definitely more than nurses. — IDI_16 (PFP non-acceptor).

In addition, from IDIs in intervention areas, a majority of mothers (10 out of 16) mentioned that the providers did not give enough time for counseling that they desired. One mother said,

As they are government service providers, they usually gave less attention. Patients felt distressed. They (providers) typically gave less importance (to patients) ... again they (providers) delayed also... If they gave more time to make us understand, it would work.... — IDI_07 (PFP non-acceptor).

Qualitative findings from the ANC session observations indicate unsatisfactory interactions between providers and clients because most of the time counseling took place while the provider was busy with the other work of ANC checkups. No eye contact between the provider and client was observed during counseling. The observations also revealed that providers just counseled about the information related to PFP; however, they did not ask whether the clients understood all the information or whether the client had anything to say about PFP. Regarding this issue, one mother urged,

... 'It would have been better if they (the providers) had given me a little more time to explain the benefits of post-partum family planning. Some mothers understand easily, and some do not. It is better if they explain these family planning issues in a well-understanding way. — IDI_7 (PFP non-acceptor).

Client Perspective of PFP Counseling at PNC

Mothers consider PNC a suitable time for PFP counseling. During an IDI, a mother stated her experience receiving counseling during PNC:

I passed about one and a half months after delivering the baby and went to the center again. Something was visible in my anal, and I went for treatment. After going there, they asked me, What method are you using now? What method have you taken before? This was asked by the "boro dactar" (senior doctor) ...She said, "What are the chances of the baby being conceived again? What should be done? Everything is being said at that time. They gave me enough time that day, which means I talked about the things that needed to be discussed. She listened to my words and also answered accordingly, everything was fine on that day. I got a chance to ask questions. — IDI_6 (PFP acceptor)

Decision-Making Process in Adopting FP Methods

Qualitative results suggest that mothers often hesitate to accept any postpartum contraception since their perception of the risk of pregnancy depends on the recurrence of menstruation after giving birth. Moreover, mothers usually knew about the lower chance of subsequent pregnancy if they continued breastfeeding. In response to these factors, healthcare providers usually offer contraception choices during the postpartum period. In cases where individuals became reluctant to consider some contraceptive methods like IUD or ligation, they offered the “Apon pill” (a progesterone-only pill) as a temporary solution. However, most of the time, this was offered without any counseling. Providers introduced taking at least the progesterone-only pill as a more suitable method for lactating mothers, but some of the mothers misunderstood the message due to a lack of proper counseling. One mother perceived getting the Apon pill as an emergency pill and said of her experience,

After the delivery, when I was about to leave, ‘Didi’ (the nurse) did not say anything; she just gave me medicine on the eve of departure. Giving me the ‘Apon pill, she told me to take the pill after 21 days. She did not say anything about the reason for taking it, but even if they did not say anything, I understood why they gave me the pill... They (providers) gave the pill to be taken if there would be any problem (if my husband forced me to be intimidated). I took the pill only on the day of intercourse, not regularly. — IDI_10 (PFP acceptor).

Objective Three: PFP Service Delivery—Providers’ Perspectives

Although MaMoni MNCSF enhanced facility readiness to provide PFP, excessive patient flow led to an unfavorable environment for counseling. Providers often struggled with human resource scarcity. Providers also consider the last stage of labor as inappropriate for counseling; however, some of them consider the predelivery period (before labor, when the pain is not severe) as an effective point for counseling. Providers identified the role of mothers-in-law as a barrier during ANC sessions since expectant mothers often come to the hospital with them. The time of PNC was considered suitable for PFP counseling by most of the providers.

MaMoni MNCSP Enhanced Facility Readiness

The training MaMoni MNCSP provided in intervention facilities focused on PPFp counseling and fixed topics for systematic counseling. As a consequence, providers mentioned increased knowledge and confidence about PPFp counseling. One of the providers said,

“Yes, our skills have improved as of Mamoni’s training. On before we could speak two words (regarding PPFp), and now we can speak four words.” – KII_2 (Female provider).

Excessive Patient Flow Leads to an Unfavorable Environment for Counseling

Some providers (three out of eight) in intervention facilities stated “excessive patient flow” as a barrier to adequate counseling. Below, we show data on client flow or client volume. Providers refer to an ANC seeker as a “patient,” but we consider an ANC seeker as a “client.”

Observed Client Flow/Volume

We collected data on client load in the intervention and comparison facilities over a period of two weeks. Appendix Figure A2 shows that the facilities provide ANC services for only three hours between 10 a.m. and 1 p.m. In each facility, there were no ANC clients who were served before 10 a.m. and after 1 p.m.

Appendix Figure A3 shows that the daily average number of ANC clients was between 13.8 and 26.6. Even in the intervention MCWC with the highest number of clients (average of 26.6 a day), the average number of clients per hour becomes 4.4 (26.6/6.0) with the full service hours between 8 a.m. and 2:30 p.m.⁴ This number means that 12–15 minutes could potentially be devoted to each ANC client if the full opening hours of clinics are used for ANC, which is a reasonable time interval to include FP counseling.

Struggle with Human Resource Scarcity

Most of the providers in intervention facilities mentioned that they were overburdened with limited human resources. We did not find any significant vacancy rate against any sanctioned position (the position of MO-Clinic, nurse, FWV, midwives) both in MCWC and UHC of the intervention facilities.

Providing PPFp Counseling During Labor Pain is Inappropriate

Adequate amounts of time to counsel and the mother’s physical condition have been considered when selecting a mother for counseling. Commonly, the providers could not get enough time to counsel about PPFp during delivery care because most of the mothers come to the hospital at the very last stage of their labor pain. The providers themselves believe that mothers are usually in severe pain during delivery, so counseling at that time is not appropriate.

Considering FP Counseling as Optional, Not Mandatory (Perspective of Providers of DGHS Facilities):

Most tubal ligation services are only provided during childbirth if women specifically ask for them on their initiative; they are not routinely offered to all women. Moreover, there is no pre-delivery counseling regarding PPFp at one of the DGHS facilities. One provider of UHC in the comparison area stated the reasons for this:

⁴ Six hours working time and half an hour tea break; personnel with 6 hourly rotations do not have lunch time. Providers are only providing ANC services.

In fact, we do not have to think about that issue (family planning). Actually, we have a separate department of family planning on the hospital premises. We are conscious of the health risks to a patient if she desires another child; however, we are not given any FP projections to perform... So, we do the counseling as much as we need as per our obligation or to do from our own responsibility." —KII_4 (Female provider).

Mothers-In-Law—a Barrier to FP Counseling at ANC Visits

During ANC visits, expectant mothers are usually accompanied by their mother-in-law. There is some resistance from mothers-in-law while discussing contraceptive methods during ANC. Some providers reported that counseling during pre-delivery (before labor, if possible) is the best time rather than during ANC. One provider said,

"When she (the mother) comes for delivery (in the hospital), then we can give the method... In ANC, mainly mothers-in-law bring the expectant mothers, but when we talk about the method, the mothers-in-laws become crooked. The mothers-in-law are not really willing to adopt these methods. They say that we come for a checkup. But why are you telling us about methods now? That is why I feel that motivation or counseling before labor (during the delivery period) is the best option for my patients." — KII_1 (Female provider)

Providers' Perspective in Counseling at PNC

During KIIIs, most of the providers mentioned that when the mothers come for PNC, comparatively, it becomes easier to convince them due to having more time to counsel. After solving the mother's problems first, counseling would be more effective for PFP. One provider said:

"When a mother comes for PNC; after solving the mother's problem, we arrange a sit for her. We counsel that since everything is fine with you now, you should take a method. You should give a gap of two years to have another child, as your husband is living with you. We say, having a baby within two years has such advantages and disadvantages, here are the risks for the child and the mother. Then counsel her for adopting a method". — KII_8 (Female provider)

Provision of at Least an "Apon Pill"

During the postpartum phase, healthcare professionals typically provide options for contraception. When people stopped being interested in certain forms of birth control, such as IUDs or ligations, they simply suggested the Apon pill as a stopgap measure. One provider said:

"First we offer long-term methods immediately after delivery. For instance, IUDs and implants. If the women do not want to adopt, then what else? We give "Apon". — KII_1 (Female provider).

Discussion

Key Findings—Women

The percent of women who received PFP counseling at ANC was very low in both intervention sites and comparison sites (7% and 5%, respectively). Method-specific counseling was lower than general PFP counseling. For example, counseling in ANC on LARC or PM was 2.7% in intervention sites and 2.1% in comparison sites.

For those who had their childbirth at facilities, PFP counseling before delivery, however, was slightly higher—10% in intervention sites and 7% in comparison sites. PFP counseling after delivery but before leaving the facility was 27% at intervention sites and 24% at comparison sites. For the same group who delivered at facilities, receiving counseling on FP methods was lower than receiving general PFP counseling, and receiving counseling on LARC or PM was much lower, with 6.2% in intervention sites and 2.4% in comparison sites.

Given the low level of FP counseling, women with higher parities were more likely to report that they received counseling than lower parity women. The level of FP counseling was relatively higher in DGFP facilities than in DGHS or private facilities.

Only around 6% of women reported that they received FP leaflets during counseling at the intervention facilities, and no leaflets were provided in comparison facilities. Adoption of FP within three postpartum months was strongly associated with counseling at delivery. The odds of FP adoption were 5.03 times higher if counseling was given both before and after delivery (but before leaving the facility), 3.24 times higher if counseling was given only before delivery, and 1.96 times higher if counseling was given only after delivery (but before leaving the facility) than those who were not counseled at delivery. The chance of adopting LARC and PM was higher when counseling was given around delivery time than without counseling.

Key Findings—Providers

Providers find it challenging to adequately counsel ANC clients because of the excessive client load compounded by a shortage of staff. DGHS providers claim that FP activities are not mandatory in their facilities as the DGFP delivers FP services. Providers perceive that there is a certain time when FP counseling is less appropriate (e.g., during ANC and immediately before labor), because women are interested in the services that they seek but not information or counseling on something else. Providers also perceive that there are certain priority clients (e.g., second or higher parity mothers) who are likely to be more interested in FP.

PPFP Counseling and Contraceptive Use: Theory of Change

The rationale behind PFP counseling during ANC is to empower pregnant women with information so that they can plan their next pregnancy with adequate means to do so because a short birth interval is a strong risk factor for neonatal, post-neonatal, and child mortality. Whatever method women use after delivery, it should be initiated early in the postpartum period because postpartum women are exposed to the risk of another conception shortly after delivery (even if they breastfeed their newborn). The risk of conception is low if a woman meets the criteria for the lactational amenorrhea method (LAM), but most postpartum women in Bangladesh do not meet LAM criteria fully. In this regard, nearly half of the women included in

this study had resumed menstruation within three months postpartum. Further, only 61% of infants ages 2 to 3 months were exclusively breastfed (BDHS, 2022). In qualitative interviews, providers often showed an attitude of focusing on higher parity women because providers thought it would be easier to motivate higher parity women to adopt a method. This qualitative finding is confirmed by our multivariate analysis, which shows that women of second and higher parity are more likely to receive PFP counseling during ANC and prior to delivery, but not in the period after delivery. However, this focus on higher parity women misses the point that birth spacing is important for all women, regardless of parity.

Systematic PFP counseling during ANC and delivery care is expected to increase PFP use by helping women plan and choose an appropriate and effective PFP method in advance. Pregnant women come for ANC multiple times; the topics of birth spacing, choosing a method, involving husband/family, and deciding to adopt a method during facility delivery can be discussed sequentially during ANC visits. This is particularly important for women who would like to consider a LARC/PM at the time of delivery, which requires pre-planning and counseling before delivery to ensure full informed consent and to ensure that the delivery provider is aware of the woman's choice to adopt a LARC/PM at the time of delivery. Offering a method during childbirth at the facility is also a part of systematic counseling.

This study found evidence that offering methods around the time of delivery is associated with increased postpartum contraceptive use, including the use of more effective LARC and PMs. However, the direction of causality cannot be determined from these data because counseling is part of providing a method, and we cannot determine from these data whether women who adopted a PFP method adopted a method because they received counseling or whether they received counseling because they wanted to adopt a method (see Limitations below). According to the qualitative findings, FP counseling immediately before delivery is challenging. The qualitative team observed that when a woman came to a facility for her delivery, providers counseled her about LARC/PM soon after delivery; she was only counseled before delivery if there was enough time before birth and her physical condition was stable enough so that she could be counseled. In qualitative interviews in this study, both women and providers discouraged counseling on PFP during active labor. Concerns about obtaining informed consent at the time of delivery for immediate PFP, particularly LARCs and PMs, underscore the need to have these conversations during ANC. However, our study found no associations between PFP counseling in ANC and PFP use. This may in part reflect the very low level of PFP counseling during ANC observed in this study in both intervention and comparison facilities.

Why is the practice of PFP counseling during ANC so low?

We find that, in intervention facilities, 7% of women reported being counseled on FP. This is too low. Providers reported two reasons: client load (i.e., too many clients are handled and thus limited time to discuss FP), and ANC visits being an inappropriate time as clients may be uninterested in FP information at that time.

Client Load

Our facility observation data show that the study facilities provide ANC for only three hours between 10 a.m. and 1 p.m. In each facility, there were no ANC clients who were served before 10 a.m. and after 1 p.m. This is a health system issue; if ANC services were provided during the full government office hours of 8 a.m. to 2:30 p.m., there would be more time for ANC clients to receive counseling from the providers,

including on PFP. The facilities with fewer clients have sufficient time for client counseling even in the existing time allocation pattern.

Inappropriate Timing of FP Counseling during ANC

Our qualitative data collected from ANC clients indicates that women are willing to discuss FP and related topics if it is done with sufficient time and reasonable provider engagement and attention. Our observation data show that not enough time is devoted per client, even if the client load is low. Clients can be better engaged in effective counseling with flip charts; although there are flip charts available, they are not used to counsel clients. Moreover, our observers noticed that providers did not seem to attempt to know if the clients understood whatever messages or information the providers were trying to give to clients during ANC, which is an essential component of quality counseling.

Conclusion

The use of a full range of PFP methods could be substantially improved if women were counseled on PFP and offered a method at delivery. Two in three childbirths take place in facilities in Bangladesh (BDHS, 2022). An estimated 2.6 million women who will deliver in facilities could be counseled every year, which would lead to increased use of PFP. This is a great opportunity for the Ministry of Health to reach women with PFP information and services. However, two-thirds of facility deliveries take place in private-sector facilities, and roughly one-third take place in DGHS facilities. Considering this, two GOs were issued jointly by the DGHS and DGFP directing DGHS and private-sector facilities to provide PFP services. Our findings in this study indicate that there are very few signs of PFP activities in these types of facilities, corroborating our experience working on other related research in Bangladesh. Counseling on PFP should be integrated into the continuum of maternity care (from ANC to delivery care) to strengthen PFP services. The low level of PFP counseling in ANC potentially limits women's awareness of and access to their full range of PFP options, particularly for immediate PFP, which requires counseling and planning prior to delivery and coordination with labor and delivery services. The results of this study suggest that training providers is necessary but not sufficient to improve counseling on PFP in ANC. Other actions that address broader attitudinal and system barriers to providing PFP counseling and services in maternity care are also needed.

Recommendations

We offer the following recommendations based on the study findings:

Table 8. Set of recommendations

Evidence	Recommendations
<p>Provider attitude/perception is unfavorable to effective PFP counseling during ANC and childbirth delivery at facilities.</p>	<p>Develop a training curriculum that should address the perception of DGHS staff that FP is not part of their responsibilities and that all women should receive PFP counseling regardless of parity. The curricula should also include the standards and procedures of PFP counseling.</p>
<p>Providers find client load to be a challenge and thus cannot devote enough time to FP counseling. ANC services are offered only for three hours, between 10 a.m. and 12 p.m.</p>	<p>Keep ANC services open during government office hours (8 a.m. to 2:30 p.m.). This will provide more time for providers per client and thus will help provide quality services, including effective counseling.</p>
<p>Counseling around the time of delivery at a facility (before, before and after, and after delivery) is significantly associated with higher PFP use. However, only one in four women is counseled on FP around delivery time at facilities.</p>	<p>Counsel each woman delivering at facilities on PFP. This may increase FP use, especially LARC and PM.</p>
<p>Most of the facilities that provide childbirth care services are from the DGHS and the private sector, and there are two GOs directing the facilities to provide PFP. However, these facilities are not engaged in PFP services.</p>	<p>Work with the MOHFW, DGHS, and private sector facilities to increase awareness of the two GOs and identify and address structural, facility-level, and provider-level barriers to implementing the GOs to strengthen PFP counseling and services in ANC and delivery care.</p>

Limitations

The study team acknowledges the following limitations:

- We did not estimate the impact of MaMoni MNCSP interventions using the difference-in-difference framework, as this was not an evaluation of MaMoni MNCSP interventions, and we do not have any information on whether the intervention and comparison facilities were similar before the Mamoni MNCSP interventions or not.
- We did not enroll all women who came for ANC or delivery. Thus, selectivity might introduce bias. We cannot statistically show whether clients not enrolled during ANC visits and delivery were similar to those who were enrolled. However, we can assume no or minimal selection bias from the lister's side because the failure to enroll happened mainly due to the heavy load of mothers for ANC checkups in a short time (for enrollment at ANC) or mothers who came for delivery in the evening and left the facility before usual working hours.
- As we could not reach all the enrolled women whom we tried to interview, it might introduce bias.
- Readers must be careful when comparing the results with other community-based studies, as we enrolled at facilities, not in communities. Women who came to the facility for ANC and delivery do not represent the whole community, as they are different in many aspects from those who did not seek facility-based maternity care.
- The data on PFP counseling during ANC and delivery care was self-reported by women. It is possible that a higher proportion of clients were counseled on FP, particularly during ANC, than was reported but not all women who received counseling reported it in the survey. It is possible that some clients did not absorb the information that they received due to ineffective counseling procedures and therefore did not report that they received counseling. It is also possible that women were not interested in those messages at that time, so they did not remember them and thus did not report them in the survey.
- This study can only reveal that PFP, particularly LARC/PM adoption, is higher among women who received counseling before delivery, but we cannot conclude this is an effect of counseling. The reason for this is that we do not know who initiated the conversion of PFP: the client (women) or the provider. Clients with a pre-existing interest in PFP could be more likely to ask about PFP and receive counseling in response to that request, or to recall counseling provided and be more likely to adopt PFP. Also, women who adopt PFP around the time of delivery (when most postpartum LARC/PM are adopted (Rahman et al. 2023a)) will receive counseling as part of receiving the method (i.e., a client cannot adopt a LARC/PM at delivery without receiving counseling).

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Appendix A1. Operational Definitions

Word	Operationalization
Systematic PPFPP counselling during ANC	Counselling is provided in phases. In the early stages of pregnancy, women are provided with information about the consequences of short pregnancy intervals and advised to plan for contraceptive use to sufficiently space or limit births according to their spacing and limiting needs. In later pregnancy stages, women are informed about a range of methods and advised to decide to accept a method during delivery if the delivery takes place in a facility. They are also advised to consult with their husband or family member(s) about deciding on a method.
Strengthened Service Delivery	Providing counselling on PPFPP during ANC visits, keeping the facility ready to provide PPFPP—particularly IUD, implant, and tubal ligation during delivery—and offering these methods.

Appendix A2. Enrollment Facilities of the Interviewed Women

Facilities	Intervention		Comparison	
	Enrolled at ANC	Enrolled at delivery	Enrolled at ANC	Enrolled at delivery
MCWC	574	249		
Private hospital	262	255		
UHC	730	394		
MCWC			490	133
UHC			396	289

Appendix A3. Supplementary Tables

Table A3. Background Characteristics of the respondents by types of enrollment facilities

	Group: Enrolled at ANC			Group: Enrolled at delivery			Group: All	
	Intervention	Comparison	Chi square (p-value)	Intervention	Comparison	Chi square (p-value)	Number	Total
Number	1,566	886		898	422		3,772	3,772
Total	100.0	100.0		100.0	100.0		100.0	100.0
Woman's age at birth (in years)								
15–19	12.8	12.9	3.7 (0.299)	14.0	12.3	3.3 (0.353)	492	13.0
20–24	39.3	40.5		37.4	41.7		1,486	39.4
25–29	27.7	24.4		26.5	23.2		986	26.1
30+	20.2	22.2		22.0	22.7		808	21.4
Woman's education (in years)								
No or ≤5	11.6	7.0	15.5	9.8	11.1	0.6	378	10.0

	Group: Enrolled at ANC			Group: Enrolled at delivery			Group: All	
	Intervention	Comparison	Chi square (p-value)	Intervention	Comparison	Chi square (p-value)	Number	Total
6-9	41.9	41.0	(0.000)	42.9	42.4	(0.754)	1,583	42.0
≥10	46.6	52.0		47.3	46.4		1,811	48.0
Exposure to TV/radio/newspaper								
No	39.7	48.0	15.7 (0.000)	40.6	49.1	8.3 (0.004)	1,619	42.9
Yes	60.3	52.0		59.4	50.9		2,153	57.1
Mobile phone ownership								
No	14.7	19.2	8.4 (0.004)	17.5	26.5	14.5 (0.000)	669	17.7
Yes	85.3	80.8		82.5	73.5		3,103	82.3
Smart phone	81.4	78.3		79.1	71.5		2981	79.0
Only basic phone	4.0	2.5		3.3	1.9		122	3.2
Husband's residing status								
Lives with her	53.1	65.2	46.8 (0.000)	49.9	61.1	14.971 (0.001)	2,116	56.1
Lives elsewhere:	46.9	34.7		50.1	38.9		1,656	43.9
<i>Visit regularly</i>	11.4	12.4		12.5	10.7		445	11.8
<i>Doesn't visit regularly</i>	35.5	22.3		37.6	28.2		1,211	32.1
Household wealth quintiles								
Lower two	42.2	35.2	23.6 (0.000)	39.0	44.1	15.8 (0.000)	1,509	40.0
Middle	17.9	25.7		16.8	22.7		756	20.0
Upper two	39.8	39.1		44.2	33.2		1,507	40.0
Parity								
First	42.1	47.5	6.9 (0.032)	39.9	39.8	2.3 (0.313)	1,606	42.6
Second	30.9	28.4		33.1	29.6		1,158	30.7
Third or above	27	24		27.1	30.6		1,008	26.7
Planning status of last birth								
Planned	83.1	91.1	29.7 (0.000)	83.4	86.5	2.1 (0.150)	3,223	85.4
Unplanned	16.9	8.9		16.6	13.5		549	14.6
<i>Wanted, but later</i>	12.3	5		12.6	6.4		376	10
<i>Unwanted</i>	4.6	4		4	7.1		173	4.6
Sex of last child								
Female	48.5	48.9	0.02 (0.871)	48.4	47.6	0.1 (0.783)	1,829	48.5
Male	51.5	51.1		51.6	52.4		1,943	51.5
Menstruation returned								

	Group: Enrolled at ANC			Group: Enrolled at delivery			Group: All	
	Intervention	Comparison	Chi square (p-value)	Intervention	Comparison	Chi square (p-value)	Number	Total
No	54.8	47.6	11.6 (0.001)	51.9	50.0	0.4 (0.521)	1,957	51.9
Yes	45.2	52.4		48.1	50.0		1,815	48.1
Received at least one ANC								
No	0.0	0.0	NA	3.3	1.7	3.0 (0.084)	37	1.0
Yes	100.0	100.0		96.7	98.3		3,735	99.0
ANC receiving facility								
Only home	0	0	103.7 (0.000)	1.2	0	6.6 (0.087)	10	0.3
Only government facility	41.1	37.9		24.3	22.4		1,283	34.4
Only NGO/private facility	15.4	3.3		49.4	48.9		902	24.1
Both NGO/private and government	43.6	58.8		25.1	28.7		1,540	41.2
Number of ANC visits								
1–3	39.5	25.7	47.6 (0.000)	49	45.8	1.1 (0.286)	1,462	39.1
4+	60.5	74.3		51	54.2		2,273	60.9
Last ANC receiving month								
7 or earlier	16.3	6.7	105.0 (0.000)	21	12	28.9 (0.000)	546	14.6
8	31.3	20.4		29.8	23.4		1,027	27.5
9 or later	52.4	72.9		49.2	64.6		2,162	57.9
ANC provider								
Non-health professional	0.3	0	2.3 (0.132)	2.1	1.0	5.4 (0.068)	27	0.7
Health professional	99.7	100		94.5	97.4		3,708	98.3
No ANC	0.0	0.0		3.3	1.7		37	1.0
Institutional delivery								
No	21.9	17.9	5.4 (0.020)	0.0	0.0	NA	502	13.3
Yes	78.1	82.1		100.0	100.0		3,270	86.7
Place of delivery								
MCWC	9.8	16.9	45.6 (0.000)	27.6	31.3	159.2 (0.000)	684	18.1
UHC	13.5	12.2		43.4	68.7		1,000	26.5
Private	40.6	45.3		29.0	0.0		1,297	34.4
Home, NGO, and other	36.0	25.6		0.0	0.0		791	21.0

	Group: Enrolled at ANC			Group: Enrolled at delivery			Group: All	
	Intervention	Comparison	Chi square (p-value)	Intervention	Comparison	Chi square (p-value)	Number	Total
Mode of birth								
Caesarean Section	47.3	61.2	35.6 (0.000)	30.3	14.0	40.6 (0.000)	1,354	41.4
Normal/vaginal birth	52.7	38.8		69.7	86.0		1,916	58.6
Visited health facility within 6 weeks after the delivery								
No	29.9	31.6	0.8 (0.375)	33.2	34.4	0.2 (0.673)	1,191	31.6
Yes	70.1	68.4		66.8	65.6		2,581	68.4

Table A4. Reproductive and maternal healthcare counseling at ANC and delivery

Services at ANC/ before delivery/ after delivery	Enrolled at ANC counseling at ANC			Enrolled at delivery counseling before delivery			Enrolled at delivery counseling after delivery		
	Intervention (I)	Comparison (C)	I-C	Intervention (I)	Comparison (C)	I-C	Intervention (I)	Comparison (C)	I-C
Number of women	1,566	886		898	422		898	422	
Percentage of women received:	%	%	%	%	%	%	%	%	%
Counseling about PPF	7.2	4.9	2.3*	10.2	7.1	3.1	26.7	23.7	3
Information that IUD, implant, or tubectomy can be availed from the facility	2.7	1.1	1.6*	5.2	3.1	2.1	6.2	2.4	3.8
Counseling about ≥2 years birth spacing	1.6	1.1	0.5	NA	NA	NA	12.9	4.5	8.4*
Counseling about FP adoption immediately after birth	1.7	3.2	-1.5*	3.7	5.9	-2.2	1.4	2.4	-1.0
Counseling for facility delivery	3.4	0.2	3.2**	-	-	-	-	-	-
Provided FP leaflet	6.5	0.2	6.3**	NA	NA	NA	5.9	0.2	5.7
Percentage of who women received information about specific modern FP methods	5.5	4.7	0.8	9.1	7.1	2.0	16.9	16.8	0.1
Pill	1.8	0.9	0.9	0.8	0.7	0.1	6.5	8.1	-1.6

Services at ANC/ before delivery/ after delivery	Enrolled at ANC counseling at ANC			Enrolled at delivery counseling before delivery			Enrolled at delivery counseling after delivery		
	Interv entio n (I)	Comp ariso n (C)	I-C	Interv entio n (I)	Comp ariso n (C)	I-C	Interv entio n (I)	Comp ariso n (C)	I-C
	Number of women	1,566	886		898	422		898	422
Percentage of women received:	%	%	%	%	%	%	%	%	%
Injectable	2	0.8	1.2*	0.2	0.2	0	2.7	0.7	2
Condom	0.9	0.2	0.7	0.0	0.0	0.0	0.6	0.2	0.4
IUD	2.9	2.4	0.5	2.6	4.7	-2.1*	8.1	7.1	1
Implant	2.5	1.7	0.8	1.8	1.4	0.4	5.3	2.4	2.9*
Tubectomy	1.8	2.9	-1.1	5.0	3.6	1.4	1.7	2.4	-0.7
NSV	0.2	0.1	0.1	0.0	0.2	-0.2	0.0	0.0	0.0
Traditional	1.7	0.1	1.6	1.3	0	1.3*	1.2	0	1.2*

* presents the significance of the differential in counseling between intervention and comparison group using unadjusted logistic regression models.
* p<0.05; ** p<0.01; no asterisk refers 'not significant'
NA: Not asked

Table A5. Percentage of women received PFP counseling by possible sociodemographic and other background factors

Factors	Counseling received at ANC		Counseling received before delivery at facility		Counseling received after delivery before leaving the facility	
	%	Number of women	%	Number of women	%	Number of women
Total	5.8	3,735	8.0	3,270	21.7	3,270
Program area						
Comparison	5.3	1,301	6.4	1,149	19.1	1,149
Intervention	6.0	2,434	8.8	2,121	23.1	2,121
Place of ANC visit						
Only home	0.0	10	-	-	-	-
Only public	7.4	1,283	-	-	-	-
Both public and private/NGO	6.6	1,540	-	-	-	-
Only private/NGO	2.1	902	-	-	-	-
Number of ANC visits						
1-3	4.2	1,462	-	-	-	-
4+	6.8	2,273	-	-	-	-
Last ANC receiving month						
7 or earlier	4.9	546	-	-	-	-
8	5.4	1,027	-	-	-	-

Factors	Counseling received at ANC		Counseling received before delivery at facility		Counseling received after delivery before leaving the facility	
	%	Number of women	%	Number of women	%	Number of women
9 or later	6.2	2,162	-	-	-	-
PPFP counseling reception at ANC						
Did not receive counseling	-	-	6.6	3,052	21.1	3,052
Received counseling	-	-	32.0	181	32.6	181
Did not go for ANC	-	-	0.0	37	10.8	37
Parity						
First	2.9	1,596	2.4	1,434	19.9	1,434
Second	5.2	1,147	8.2	1,000	19.8	1,000
Third or above	11.1	992	17.1	836	26.8	836
Planning status of last birth						
Planned	4.9	3,202	7.1	2,809	20.9	2,809
Unplanned	10.9	533	13.2	461	26.2	461
Place of delivery						
MCWC	-	-	17.4	684	44.9	684
UHC	-	-	2.1	1,000	17.2	1,000
Private	-	-	6.0	1,297	11.4	1,297
NGO, and other	-	-	14.5	289	28.0	289
Mode of birth						
Normal/vaginal birth	-	-	5.1	1,916	14.9	1,354
Cesarean section	-	-	12.0	1,354	26.4	1,916
Woman's age at birth (in years)						
15–19	2.9	486	2.1	431	18.8	431
20–24	3.9	1,475	4.9	1,295	19.3	1,295
25–29	5.9	976	8.4	848	21.8	848
30+	10.8	798	16.8	696	27.6	696
Woman's education (in years)						
No or ≤5	9.7	361	10.1	296	26.4	296
6–9	6.2	1,569	8.7	1,346	19.9	1,346
≥10	4.6	1,805	6.9	1,628	22.2	1,628
Exposure to TV/radio/ newspaper						
No	4.4	1,600	6.7	1,388	20.8	1,388
Yes	6.8	2,135	8.9	1,882	22.3	1,882
Mobile phone ownership						
No	4.0	654	5.0	577	25.0	577
Yes	6.2	3,081	8.6	2,693	20.9	2,693
Household wealth quintiles						
Lower two	5.8	1,480	6.4	1,252	20.9	1,252
Middle	6.3	752	9.9	656	24.5	656
Upper two	5.5	1,503	8.4	1,362	20.9	1,362

Factors	Counseling received at ANC		Counseling received before delivery at facility		Counseling received after delivery before leaving the facility	
	%	Number of women	%	Number of women	%	Number of women
Denominator for counseling during ANC includes all ANC receiver irrespective of enrollment, denominator for counseling before and after delivery includes all women who had facility birth irrespective of enrollment. Counseling during ANC is presented by ANC characteristics and Counseling before and after delivery is presented by delivery care characteristics.						

Table A6. Percentage of women adopted PFP methods within 3 months post-partum and menstruation resumption

	Menstruation returned	Any method (%)	Any modern method (%)	Total
Total	48.1	55.6	50.6	3,772
Program area				
Comparison	51.6	58.7	52.8	1,308
Intervention	46.3	53.9	49.4	2,464
PPFP counseling reception at ANC				
Did not receive counseling	48.6	55.0	49.9	3,519
Received counseling	38.4	63.9	59.3	216
Did not go for ANC	56.8	62.2	62.2	37
Timing of PPFP counseling reception at facility				
Did not receive counseling	48.5	47.9	43.4	2,392
Only before delivery at facility	41.8	69.4	64.7	170
Only after delivery before leaving the facility	52.1	77.5	71.7	618
Before and after delivery at facility	37.8	83.3	80.0	90
Home birth	45.4	55.4	48.4	502
Menstruation returned				
No	-	42.7	37.1	1,957
Yes	-	69.4	65.0	1,815
Parity				
First	57.3	56.1	51.4	1,606
Second	42.5	54.3	48.7	1,158
Third or above	39.9	56.2	51.3	1,008
Planning status of last birth				
Planned	48.3	53.5	48.7	3,223
Unplanned	46.8	67.8	61.7	549
Sex of last child				
Female	47.6	54.9	50.4	1,829
Male	48.6	56.2	50.7	1,943

	Menstruation returned	Any method (%)	Any modern method (%)	Total
Mode of birth				
Cesarean section	45.3	50.6	45.6	1,354
Normal/vaginal birth	49.7	58.4	53.3	2,418
Woman's age at birth (in years)				
15–19	63.6	61.0	57.7	492
20–24	54.1	56.9	51.4	1,486
25–29	38.9	51.4	46.7	986
30+	38.9	55.0	49.4	808
Woman's education (in years)				
No or ≤5	46.3	64.6	60.6	378
6–9	49.2	56.1	52.2	1,583
≥10	47.5	53.2	47.0	1,811
Husband's residing status				
Lives with her	55.0	80.4	73.2	2,116
Lives elsewhere; visits regularly	54.6	71.5	65.2	445
Lives elsewhere; doesn't visit regularly	33.7	6.3	5.7	1,211
Exposure to TV/ radio/ newspaper				
No	48.6	53.4	48.1	1,619
Yes	47.7	57.2	52.4	2,153
Mobile phone ownership				
No	57.5	70.6	65.8	669
Yes	46.1	52.3	47.3	3,103
Household wealth quintiles				
Lower two	49.8	58.7	54.4	1,509
Middle	46.7	56.3	52.6	756
Upper two	47.2	52.0	45.7	1,507
Denominator all women irrespective of enrollment.				

Appendix A4. Supplementary Figures

Figure A1. Flow-chart of enrollment activities

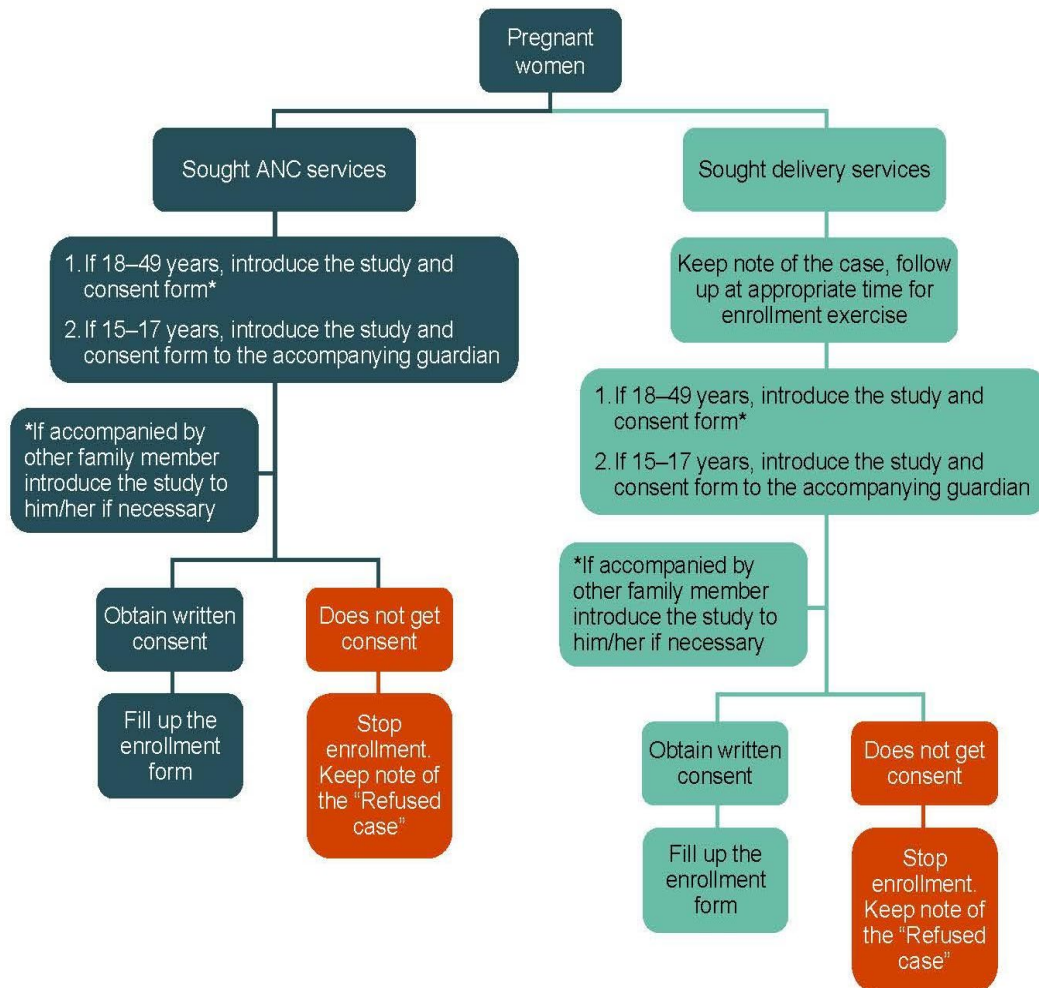


Figure A2. Average number of ANC clients, by hour, by facility, Nov. 12–27, 2022

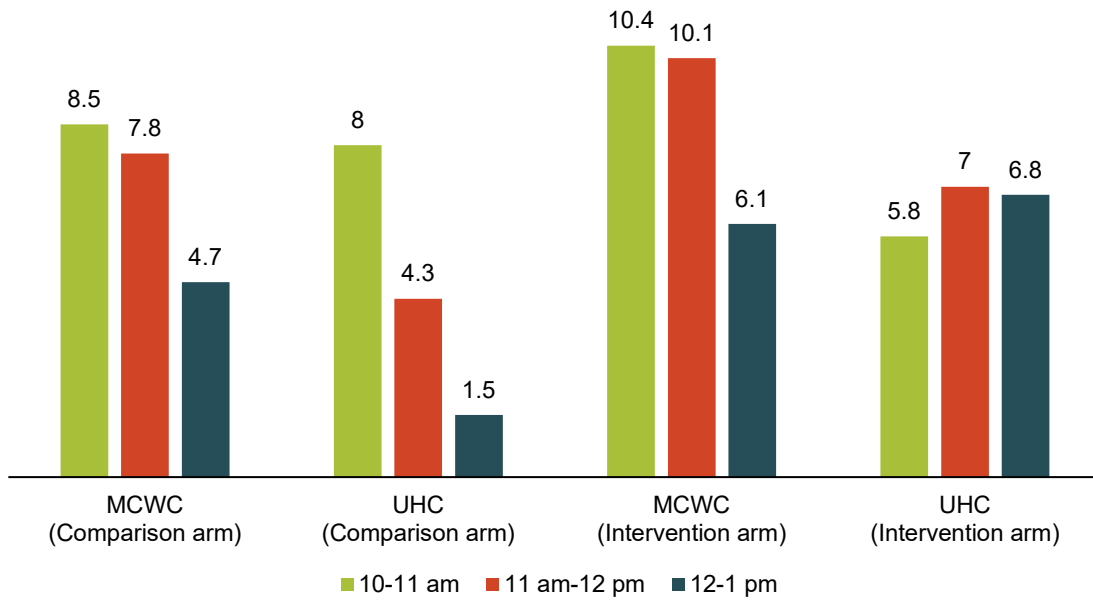
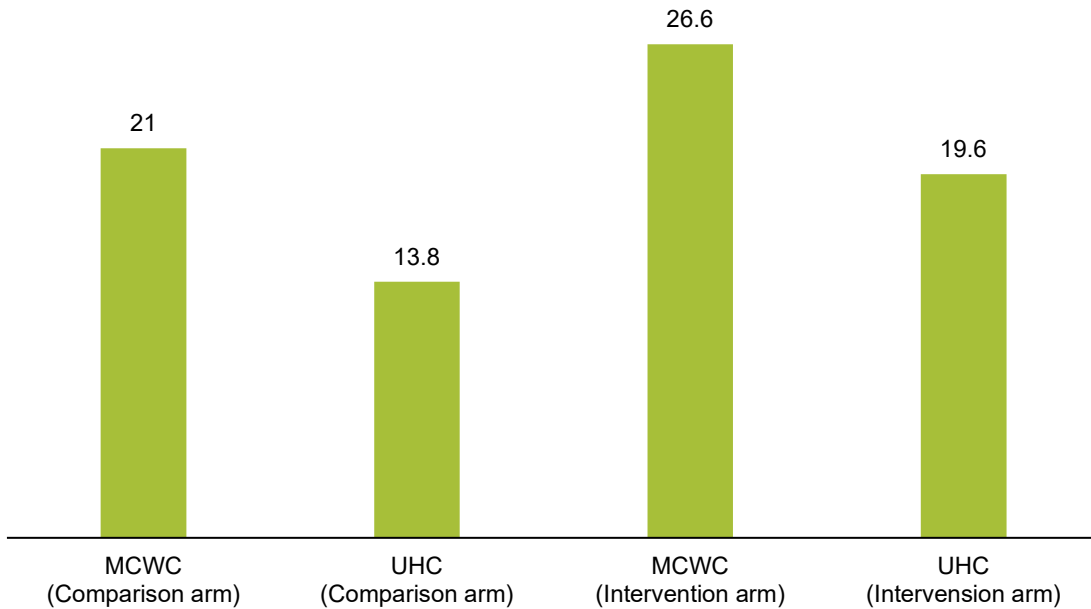


Figure A3. Average number of daily ANC clients, by facility, Nov. 12–27, 2022



Appendix A5. Questionnaires⁵

An assessment of a postpartum family planning (PPFP) intervention in selected areas of Bangladesh

Woman's questionnaire

SECTION 0: RESPONDENT IDENTIFICATION AND VISIT DETAILS

a	Survey follow-up	1 st follow-up	1
		2 nd follow-up	2 → Section 6

	Question	Answer list and skip
1	Respondent enrollment ID	_ _ _ _ _ _ _
2	Respondent identified	Yes 1 No 2→END
3	Visit 1 date (DON'T TYPE, TAP TO ENTER DATE)	Day _ _ _ _ Month _ _ _ _ Year _ _ _ _ _ _
4	Interview start	Yes 1→9 No 2→5
5	Visit 2 date (DON'T TYPE, TAP TO ENTER DATE)	Day _ _ _ _ Month _ _ _ _ Year _ _ _ _ _ _
6	Interview start	Yes 1→9 No 2→8
7	Visit 3 date (DON'T TYPE, TAP TO ENTER DATE)	Day _ _ _ _ Month _ _ _ _ Year _ _ _ _ _ _
8	Interview start	Yes 1 No 2→END
9	Division	Drop down menue
10	District	Drop down menue
11	Upazila	Drop down menue
12	Union	Drop down menue
13	Village	

Interview result:

Complete	1
Not indetified	2
Not at home	3
Postponed	4

⁵ This material is not copy-edited. It is presented in its original form to preserve how the material appeared when used in the field.

Refused	5
Partially completed	6
Other (Specify)	8

SECTION 1. WOMEN'S BACKGROUND

Qn. No.	QUESTION AND FILTER	CODING CATEGORIES AND SKIP	
100	Record time (TAP)	Hour __ __	Minute __ __
	We recorded your name and took your consent for this interview during your pregnancy when you went for maternity care (ANC checkup or delivery) in (<u>FACILITY NAME</u>). Now I would like to ask a few question about your age, education, marital status and others.		
101	Are you currently married?	Currently married	1
		Separated/deserted/divorced/ widowed	2→501
102	In what month and year were you born?	Month __ __	[99 if 'don't know']
		Year __ __ __ __	[9999 if 'don't know']
103	How old were you at your last birthday?	Age in completed years	__ __
104	Have you ever attended school/Madrasha?	Yes	1
		No	2→107
105	What is the highest level of school/Madrasha you attended: primary, secondary, or higher?	PRIMARY	1
		SECONDARY	2
		HIGHER	3
106	What is the highest class you completed at that level?	Class	__ __ [00 if less than 1]
107	Do you read a newspaper or magazine at least once a week, less than once a week or not at all?	Almost daily	1
		At least once a week	2
		Less than once a week	3
		Not at all	4
108	Do you listen to the radio (including FM and community radio) at least once a week, less than once a week or not at all?	Almost daily	1
		At least once a week	2
		Less than once a week	3
		Not at all	4
109	Do you watch television at least once a week, less than once a week or not at all?	Almost daily	1
		At least once a week	2
		Less than once a week	3
		Not at all	4
110	Do you have own a mobile phone?	Yes, smart	A
		Yes, basic	B→111
		No	Z→111

Qn. No.	QUESTION AND FILTER	CODING CATEGORIES AND SKIP	
110 a	What do you work with your smart phone?	To talk	A
		To watch TV	B
		To watch Youtube	C
		To do Facebook	D
		To read News	E
		To listen music/ ghazal	F
		Other (Specify)	X
111	Does your husband has own a mobile phone?	Yes, smart	A
		Yes, basic	B
		No	Z
112	What is your religion?	Islam	1
		Hinduism	2
		Buddhism	3
		Christianity	4
		Other	5

SECTION 2. REPRODUCTION

Qn. No.	QUESTION AND FILTER	CODING CATEGORIES AND SKIP	
200	We have already discussed that we recorded your name and took your consent for this interview during your pregnancy when you went for maternity care (ANC checkup or delivery) in (FACILITY NAME). Now I would like to ask about that pregnancy, its outcomes and related questions.		
201	What was the pregnancy outcome(s)?	Atleast one live birth	1
		Stillbirth/ Miscarriage/ Abortion	2 → 203a
201 a	Is the child alive now?	Yes	1
		No	2
201 b	Is/was that alive child male or female?	Female	1
		Male	2
202	What name was s/he given?	_____	
		Died before giving a name	95
		No name given until today	99
203	When was (NAME) born? Day? Month? Year?	Day	[99 if 'don't know']
		Month	[99 if 'don't know']
		Year	[9999 if 'don't know']
			→ 204

SECTION 3: CONTRACEPTION AND MENSTRUATION

Q. #	QUESTION AND FILTER	CODING CATEGORIES AND SKIP	
301	Now I would like to talk about family planning - the various ways or methods that a couple can use to delay or avoid a pregnancy. Now I'll ask few questions about that methods which you have ever heard.		
301a	Have you heard about Female Sterilization or Ligation? PROBE: Women can have an operation to avoid having any more children.	Yes	1
		No	2
301b	Have you heard about Male Sterilization. PROBE: Men can have an operation to avoid having any more children.	Yes	1
		No	2
301c	Have you heard about IUD or Copper-T? PROBE: Women can have a coil placed inside the uterus by a doctor or a nurse which can prevent pregnancy for one or more years.	Yes	1
		No	2
301d	Have you heard about Injectables? PROBE: Women can have an injection by a health provider that stops them from becoming pregnant for one or more months.	Yes	1
		No	2
301e	Have you heard about Implants? PROBE: Women can have one or more small sticks placed in their upper arm by a doctor or nurse which can prevent pregnancy for one or more years.	Yes	1
		No	2
301f	Have you heard about Pill? PROBE: Women can take a pill every day to avoid becoming pregnant.	Yes	1
		No	2
301g	Have you heard about Condom? PROBE: Men can put a rubber sheath on their penis before sexual intercourse.	Yes	1
		No	2
301h	Have you heard about Emergency Contraception? PROBE: As an emergency measure, within 3 days after they have unprotected sexual intercourse, women can take special pills to prevent pregnancy.	Yes	1
		No	2
301i	Have you heard about Lactational Amenorrhea Method (LAM)? PROBE: Up to 6 months after childbirth, before the menstrual period has returned, women use a method requiring frequent breastfeeding day and night.	Yes	1
		No	2
301j	Have you heard about Withdrawal? PROBE: Men can be careful and pull out before climax.	Yes	1
		No	2
301k	Have you heard about Rhythm Method? PROBE: To avoid pregnancy, women do not have sexual intercourse on the days of the month they think they can get pregnant.	Yes	1
		No	2
301l	From one menstrual period to the next, are there certain days when a woman is more likely to become pregnant?	Yes	1
		No	2 → 301n
		Don't know	8 → 301n

Q. #	QUESTION AND FILTER	CODING CATEGORIES AND SKIP	
301m	Is this time just before her period begins, during her period, right after her period has ended, or halfway between two periods?	Just before her period begins	1
		During her period	2
		Right after her period has ended	3
		Halfway between two periods	4
		Other (Specify)	6
		Don't know	8
301n	After the birth of a child, can a woman become pregnant before her menstrual period has returned?	Yes	1
		No	2
		Don't know	9
302	Did you or your husband ever did anything or use any method to delay or avoid getting pregnant?	Yes	1
		No	2
302a	Check 209	Yes	1 → 305
		No	2
		Unsure	8
303	Are you or your husband currently doing something or using any method to delay or avoid getting?	Yes	1
		No	2 → 305
304	Which method are you using?	Female sterilization	1
		Male sterilization	2
		Iud	3
		Injectables	4
		Implants	5
		Pill	6
		Condom	7
		Emergency contraception pill	8
		Lactational amenorrhea method	9
		Other traditional method (Safe period/	
		Withdrawal/Other)	10
		(Specify)	
		PUT IN CALENDAR IN CURRENT MONTH	
		[1ST CODE IN ALPHABETIC ORDER IF THERE ARE MULTIPLE ANSWERS]	

305. Calendar: pregnancy outcomes, family planning, and menstruation

			Col. 1 Birth, pregnancy , FP	Col. 2 FP in birth monh [Fill in Col 2 if 'B/T' in Co, 1]	Col. 3 FP source [Fill in Col 3 1-8 in Col 1]	Col. 4 First menstruatio n after finishing pregnancy	Col. 5 Intercours e have started after finishing pregnancy
2 0 2 3	0	JUN	0				
	6		1				
	0	MA	0				
	5	Y	2				
	0	APR	0				
	4		3				
	0	MA	0				
	3	R	4				
	0	FEB	0				
	2		5				
1 2 1 1 0 2 2	0	JAN	0				
	1		6				
	1	DEC	0				
	2		7				
	1	NO	0				
	1	V	8				
	1	OCT	0				
	0		9				
	2	SEP	1				
	9		0				
0 2 2	0	AU	1				
	8	G	1				
	0	JUL	1				
	7		2				
	0	JUN	1				
	2		3				
	0	MA	1				
	5	Y	4				
	0	APR	1				
	4		5				

0	MA	1					
3	R	6					

INSTRUCTIONS

ONLY ONE CODE SHOULD APPEAR IN ANY BOX.
COLUMN 1 REQUIRES A CODE IN EVERY MONTH.

Code for col. 1:

- B Live Birth(s)
- P Pregnancy
- T Stillbirth/Terminations/MR
- 0 No Method
- 1 Female Sterilization
- 2 Male Sterilization
- 3 IUD
- 4 Injectables
- 5 Implants
- 6 Pill
- 7 Condom
- 8 Emergency Contraception Pill
- 9 Lactational Ammenorrhea Method
- 10 Other traditional methods (Safe Period/Rhythm Method/Withdrawal/other)

Code for column 2:

- 0 No Method
- 1 Female Sterilization
- 2 Male Sterilization
- 3 IUD
- 4 Injectables
- 5 Implants
- 6 Pill
- 7 Condom
- 8 Emergency Contraception Pill
- 9 Lactational Ammenorrhea Method
- 10 Other traditional method (Safe Period/Rhythm Method/Withdrawal)

Code for col. 3

PUBLIC SECTOR

Medical college/Specialized/district hospital

1
Mother & child welfare centre (MCWC)

2
Upazila health complex (UHC)

3
UH & Family Welfare Center

4
Satelite clinic/EPI outreach

5
Community clinic (CC)

6
Govt. field worker (FWA)

7
Other

8

NGO SECTOR

NGO clinic/hospital/ satelite clinic

9
NGO depo holder

10
NGO field worker

11

Other NGO

12

PVT. MEDICAL SECTOR

Pvt. Medical college/hospital/clinic

13

Qualified/unqualified doctor's chamber

14

Pharmacy/drug store

15

Other private (Specify)

16

OTHER SOURCE

Shop

17

Friend/relative/neighbour

18

OTHER

19

Code for column 4:

Haven't started menstruation.....0

Have started menstruation.....1

Code for column 5:

Haven't done intercourse.....0

Have done intercourse.....1

SECTION 4. PREGNANCY, DELIVERY AND POSTNATAL CARE

Q. #	QUESTION AND FILTER	CODING CATEGORIES AND SKIP	
	Now I would like to ask some questions about your last pregnancy's Antenatal Checkup, delivery service and postnatal service.		
401	Now I will ask some questions about your last pregnancy.	Yes.	1→402
	Did you see anyone for antenatal care for this pregnancy?	No	2
401a	During last pregnancy, did anybody tell you about post partum family planning during pregnancy period?	Yes.	1
		No	2→419
401b	What were you told about? [PROMPT] Importance of postpartum family planning? Timing of postpartum family planning? Methods of postpartum family planning? Sources of postpartum family planning methods?	Importance of postpartum family planning Timing of postpartum family planning Methods of postpartum family planning Sources of postpartum family planning methods Other (specify)	A B C D X
401c	Filter	For any answer in 401b →419	
402	Where did you receive antenatal care for this pregnancy? ALSO WRITE DOWN THE NAME OF THE FACILITY	HOME Home PUBLIC SECTOR Hospital/Medical college Specialized govt. hospital District hospital. Mother & child welfare centre (MCWC) Upazila health complex (UHC) Union Health & Family Welfare Center (UH & FWC) Satelite clinic/EPI outreach Community Clinic (CC) Other NGO SECTOR NGO static clinic NGO satelite clinic Other	A B C D E F G H I J K L N

Q. #	QUESTION AND FILTER	CODING CATEGORIES AND SKIP
		PVT. MEDICAL SECTOR Pvt. Hospital/clinic O Qualified doctor's chamber P Traditional doctor's chamber Q Pvt. medical college hospital S Other X
403	Whom did you see? Anyone else? PROBE TO IDENTIFY EACH TYPE OF PERSON AND RECORD ALL MENTIONED. IF YOU ARE NOT SURE OF THE DESIGNATION OF THE PERSON, WRITE HER/HIS NAME AND ASK THE SUPERVISOR TO FIND OUT. CIRCLE THE APPROPRIATE _____ Name	HEALTH PROFESSIONAL Qualified doctor. A Nurse/paramedic B Midwife (wearing pink uniform) B1 Family Welfare Visitors (FWV) C CSBA. D Medical Assistant/SACMO E Health Assistant (HA) F Family Welfare Assistant (FWA) G Blue star Service Provider H OTHER PERSON Trained Traditional Birth Attendant (TTBA) I Untrained Traditional Birth Attendant (UTTBA) J Unqualified doctor. K Health Worker L NGO worker M Other X (Specify) NOT SURE OF THE DESIGNATION OF THE PERSON (NAME) X
404	How many times did you receive antenatal care during this pregnancy?	Number of times __ __ [99 if 'don't know/can't remember']
405	How many months pregnant were you when you first received antenatal care for this pregnancy?	Months __ __ [99 if 'don't know/can't remember']
406	Check 404	1. 1→409 2 or more 2
407	How many months pregnant were you when you received the last antenatal care for this pregnancy?	Months __ __ [99 if the answer is 'don't know']
409	During any of your ANC visits, did any provider discuss with you about FP methods	Yes. 1 No 2→414

Q. #	QUESTION AND FILTER	CODING CATEGORIES AND SKIP	
	that you or your husband can adopt after delivery?		
410	What methods were you told about?	FEMALE STERILIZATION	A
		MALE STERILIZATION	B
		IUD	C
		INJECTABLES	D
		IMPLANTS	E
		PILL	F
		CONDOM	G
		EMERGENCY CONTRACEPTION PILL	H
		LACTATIONAL AMENORRHEA METHOD	I
		OTHER TRADITIONAL METHOD (SAFE PERIOD/ WITHDRAWAL/Others)	J
		(Specify)	
411	During any of your ANC visits, did any provider discuss with you about when you could have started using the method after birth?	Yes.	1
		No	2→413
412	What were you advised?	To start using immediately after birth.	1
		To start using once menstruation returns	2
		To start using after cessation of breastfeeding	3
		Other (specify)	4
413	During ANC visits, service provider gives many advices about health and family planning. Now I would like to ask you about this type of issues. [PROMPT]: a. Advised for have two years gap between birth to next conception? b. Advised for facility delivery? c. Informed that implant or IUD can be adopted immediately after birth at facility? d. Informed that women who don't want anymore child can adopt tubectomy immediately after birth at facility? e. Informed that there are FP pill like Apon and Minicon can be started immediately after birth?	a. Advised for have two years gap between birth to next conception?	A
		b. Advised for facility delivery?	B
		c. Informed that implant or IUD can be adopted immediately after birth at facility?	C
		d. Informed that women who don't want anymore child can adopt tubectomy immediately after birth at facility?	D
		e. Informed that there are FP pill like Apon and Minicon can be started immediately after birth?	E
		f. Informed that breastfeeding mother can start combined pill after six months of birth?	F
		g. Informed that husband can use condom or adopt NSV anytime?	G

Q. #	QUESTION AND FILTER	CODING CATEGORIES AND SKIP	
	f. Informed that breastfeeding mother can start combined pill after six months of birth? g. Informed that husband can use condom or adopt NSV anytime?		
414	During any of your ANC visits, did any provider show any material like photo/ model on different family planning methods & BCC material during counselling?	Yes No	1 2
415	Were you given any materials on different family planning methods to take with you?	Yes. No	1 2
416	Were you given any FP method during any of your ANC visits to adopt after delivery?	Yes. No	1 2→418
417	Which method were you given?	Apon/Minipill Condom Other (Specify) _____	1 2 9
418	During your Pregnancy, did you discuss with any family member about adopting a family planning method after delivery?	Yes, with husband Yes, with mother/mother-in-law Yes, with other family members No	A C D Z
419	Who assisted with the delivery of (NAME)?	HEALTH PROF Qualified doctor. Nurse/paramedic Midwife (wearing pink uniform) Family Welfare Visitor (FWV) CSBA. Medical Assistant/SACMO CHCP Health Assistant (HA) Family Welfare Assistant (FWA) Blue star Service Provider NGO WORKER OTHER PERSON Trained Traditional Birth Attendant (TTBA) Untrained Traditional Birth Attendant (UTTBA) Relative/neighbor/friend. BRAC Sasthya Karmi	A B C D E F G H I J K L M N O

Q. #	QUESTION AND FILTER	CODING CATEGORIES AND SKIP
		Other (Specify) X
420	Where did you give birth to (NAME)? ALSO WRITE DOWN THE NAME OF THE FACILITY	HOME Home A→429 o PUBLIC SECTOR Public medical college hospital B Specialized govt. hospital C District hospital. D Mother & child welfare centre (MCWC) E Upazila health complex (UHC) F UH & Family welfare center (UH & FWC) G Community clinic (CC) I Other public setor (Specify) J NGO SECTOR NGO clinic K Delivery hut L PVT. MEDICAL SECTOR Pvt. Mdeical college hospital O Pvt. Hospital/ clinic P Unqualified Doctor Chamber Q Other pvt. Facility/ hospital.....T Other (Specify) X
421	How long after (NAME) was delivered did you stay there?	Hours1 __ __ days2 __ __ Don't know/can't remember998
422	Was (NAME) delivered by caesarean, that is, did they cut your belly open to take the baby	Yes. 1 No 2
423	Before delivery of the last pregnancy, did any provider at the facility tell you about FP that you or your husband could use after birth?	Yes. 1 No 2→429

Q. #	QUESTION AND FILTER	CODING CATEGORIES AND SKIP	
	[PROBE: AFTER REACHING THE FACILITY FOR DELIVERY UNTILL THE BIRTH HAPPENS]		
425	What methods were you told about?	FEMALE STERILIZATION MALE STERILIZATION IUD INJECTABLES IMPLANTS PILL CONDOM EMERGENCY CONTRACEPTION PILL LACTATIONAL AMENORRHEA METHOD OTHER TRADITIONAL METHOD (SAFE PERIOD/ WITHDRAWAL/ OTHER (Specify)	A B C D E F G H I J
425a	Before delivery of the last pregnancy, did any provider discuss with you about when you could have started using the FP method after birth?	Yes. No	1 ...2→425c
425b	What were you advised?	To start using immediately after birth. To start using once menstruation returns To start using after cessation of breastfeeding Other (specify)	1 2 3 4
425c	At the facility, before delivery, service provider gives many advices about health and family planning. Now I would like to ask you about this type of issues. [PROMPT]: a. Informed that IUD can be adopted immediately after birth at facility? b. Informed that implant can be adopted immediately after birth at facility? c. Informed that women who don't want anymore child can adopt tubectomy immediately after birth at facility?	a. Informed that IUD can be adopted immediately after birth at facility? b. Informed that implant can be adopted immediately after birth at facility? c. Informed that women who don't want anymore child can adopt tubectomy immediately after birth at facility? C	A B C
429	After delivery, when you stayed at the facility, did any provider discuss with you about FP methods that you or your husband can adopt after birth?	Yes. No 2	1 2→429a
429a	What methods were you told about?	FEMALE STERILIZATION MALE STERILIZATION	A B

Q. #	QUESTION AND FILTER	CODING CATEGORIES AND SKIP	
		IUD	C
		INJECTABLES	D
		IMPLANTS	E
		PILL	F
		CONDOM	G
		EMERGENCY CONTRACEPTION PILL	H
		LACTATIONAL AMENORRHEA METHO	I
		OTHER TRADITIONAL METHOD (SAFE PERIOD/ WITHDRAWAL/ OTHER	J
		(Specify)	
429a	Were you shown any material like photo/ 1 model (show the picture) on different FP methods & BCC material) during counselling?	Yes.	1
		No	2
429a	Were you given any materials on different 2 family planning methods to take with you?	Yes.	1
		No	2
429a	Before leaving facility, did you accept or were 3 you given any method after delivery?	Yes.	1
		No	2→429
		b	
429a	Which method did you accept or were given 4 to you immediately after delivery?	FEMALE STERILIZATION	A→439
		IUD	C→439
		INJECTABLES	D→439
		IMPLANTS	E→439
		PILL	F
		Other	Y
429b	Were you told about when you could have started using a method after birth?	Yes.	1
		No	2→429
		d	
429c	What were you advised?	To start using immediately after birth.	1
		To start using once menstruation returns	2
		To start using after cessation of breastfeeding	3
		Other (specify)	4
429d	After delivery, before leaving the facility, service provider gives many advices about health and family planning. Now I would like to ask you about this type of issues. [PROMPT]:	a. Advised for have two years gap between birth to next conception?	A

Q. #	QUESTION AND FILTER	CODING CATEGORIES AND SKIP	
	<p>a. Advised for have two years gap between birth to next conception?</p> <p>b. Informed that IUD can be adopted immediately after birth at facility?</p> <p>c. Informed that implant can be adopted immediately after birth at facility?</p> <p>d. Informed that women who don't want anymore child can adopt tubectomy immediately after birth at facility?</p> <p>e. Informed that there are FP pill like Apon and Minicon can be started immediately after birth?</p> <p>f. Informed that breastfeeding mother can start combined pill after six months of birth?</p> <p>g. Informed that husband can use condom or adopt NSV anytime?</p>	<p>b. Informed that IUD can be adopted immediately after birth at facility? B</p> <p>c. Informed that implant can be adopted immediately after birth at facility? C</p> <p>d. Informed that women who don't want anymore child can adopt tubectomy immediately after birth at facility? D</p> <p>e. Informed that there are FP pill like Apon and Minicon can be started immediately after birth? E</p> <p>f. Informed that breastfeeding mother can start combined pill after six months of birth? F</p> <p>g. Informed that husband can use condom or adopt NSV anytime? G</p>	
429e	Within one and half month after going home form the facility, did you see anyone for a health checkup for you or the baby?	Yes.	1
		No	2→439
429f	During the visit, did any provider discuss with you about FP methods that you or your husband can adopt after birth?	Yes.	1
		No	2→429j
429g	What methods were you told about?	FEMALE STERILIZATION	A
		MALE STERILIZATION	B
		IUD	C
		INJECTABLES	D
		IMPLANTS	E
		PILL	F
		CONDOM	G
		EMERGENCY CONTRACEPTION PILL	H
		LACTATIONAL AMENORRHEA METHOD	I
		OTHER TRADITIONAL METHOD (SAFE PERIOD/ WITHDRAWAL/ OTHER	J
		(Specify)	
429h	Were you told about when you could have started using the method after birth?	Yes.	1
		No	2→429j
429i	What were you adviced?	To start using immediately after birth.	1
		To start using once menstruation returns	2
		To start using after cessation of breastfeeding	3

Q. #	QUESTION AND FILTER	CODING CATEGORIES AND SKIP	
		Other (specify)	4
429j	During the visit, service provider gives many advices about health and family planning. Now I would like to ask you about this type of issues. [PROMPT]:		
	a. Advised for have two years gap between birth to next conception?	a. Advised for have two years gap between birth to next conception?	A
	b. Informed that there are FP pill like Apon and Minicon can be started immediately after birth?	b. Informed that there are FP pill like Apon and Minicon can be started immediately after birth?	B
	c. Informed that breastfeeding mother can start combined pill after six months of birth?	c. Informed that breastfeeding mother can start combined pill after six months of birth?	C
	d. Informed that husband can use condom or adopt NSV anytime?	d. Informed that husband can use condom or adopt NSV anytime?	D
429k	During this visit, did any provider show any material like photo/ model on different family planning methods & BCC material during counselling?	Yes	1
		No	2
429l	Were you given any materials on different family planning methods to take with you?	Yes.	1
		No	2
429m	Were you given any FP method during this visit or any of your postnatal visits to adopt?	Yes.	1
		No	2→439
429n	Which method were you given?	Apon/Minipill	1→439
		Condom	2→439
		Other method (Specify)	9→439
429o	Did anybody told you about postpartum family planning during home delivery?	Yes.	1
		No	2
429p	Were you given any family panning method during home delivery?	Yes.	1
		No	2→430
429q	Which method were you given?	Apon/Minipill	1
		Condom	2
		Injectable	3
		Other method (Specify)	9
430	Did you see anyone for a health checkup for you or the baby within one and half month of delivery?	Yes.	1
		No	2→439

Q. #	QUESTION AND FILTER	CODING CATEGORIES AND SKIP	
432	During the checkup, did any provider discuss with you about FP methods that you or your husband can adopt?	Yes.	1
		No	2→436
433	What methods were you told about?	FEMALE STERILIZATION	A
		MALE STERILIZATION	B
		IUD	C
		INJECTABLES	D
		IMPLANTS	E
		PILL	F
		CONDOM	G
		EMERGENCY CONTRACEPTION PILL	H
		LACTATIONAL AMENORRHEA METHO	I
		OTHER TRADITIONAL METHOD (SAFE PERIOD/ WITHDRAWAL/ OTHER	J
		(Specify)	
434	Were you told about when you could have started using the method after birth?	Yes.	1
		No	2→436
435	What were you advised?	To start using immediately.	1
		To start using once menstruation returns	2
		To start using after cessation of breastfeeding	3
		Other (specify)	4
436	During the check up, service provider gives many advices about health and family planning. Now I would like to ask you about this type of issues. [PROMPT]:	a. Advised for have two years gap between birth to next conception?	A
	a. Advised for have two years gap between birth to next conception?	b. Informed that there are FP pill like Apon and Minicon can be started immediately after birth?	B
	b. Informed that there are FP pill like Apon and Minicon can be started immediately after birth?	c. Informed that breastfeeding mother can start combined pill after six months of birth?	C
	c. Informed that breastfeeding mother can start combined pill after six months of birth?	d. Informed that husband can use condom or adopt NSV anytime?	D
	d. Informed that husband can use condom or adopt NSV anytime?		
437	During this check up, did any provider show any material like photo/ model (show the picture) on different FP methods & BCC material) during counselling?	Yes	1
		No	2

Q. #	QUESTION AND FILTER	CODING CATEGORIES AND SKIP	
438	Were you given any materials on different family planning methods to take with you?	Yes.	1
		No	2
439	Now I would like to ask you about the wantedness of your last pregnancy. When you got pregnant, did you want to get pregnant at that time?	Wanted then.	1
		Wanted later	2
		Wanted no more	3

SECTION 5. HOUSEHOLD AND HOUSING CHARACTERISTICS

Now I would like to know information related source of toilet facility, durable assets and others.

NO	QUESTIONS AND FILTERS	CODING CATEGORIES	
501	What kind of toilet facility do members of your household usually use?	FLUSH OR POUR FLUSH TOILET Flush to piped sewer system 11 Flush to septic tank 12 Flush to pit latrine 13 Flush to somewhere else 14 Flush, donot know where 15 PIT LATRINE Ventilated improved pit latrine 21 Pit latrine with slab 22 Pit latrine without slab/open pit 23 composting toilet 24 Bucket toilet 31 Hanging toilet/latrine 41 No facility/bush/field 51 Other 96 <p style="text-align: right;">Specify</p>	
502	Do you share this toilet facility with other households?	Yes 1 No 2	
503	Does your household (or any member of your household) have:	<u>Yes</u> <u>No</u>	
	Electricity?	Electricity 1	2
	A radio?	Radio 1	2
	A television?	Television 1	2
	A mobile telephone?	Mobile phone 1	2
	A non-mobile telephone?	Non-mobile phone 1	2
	A refrigerator/fridge?	Refrigerator/fridge 1	2
	An almirah/wardrobe?	Almirah/wardrobe 1	2
	A table?	Table 1	2
	A chair?	Chair 1	2
	An electric fan?	Electric fan 1	2
	A bicycle?	Bicycle 1	2
	A motorcycle/motor scooter/ tempo/CNG?	Motorcycle/motor scooter/ tempo/ CNG 1	2
	An animal drawn cart?	Animal-drawn cart 1	2
	A car/truck/bus/microbus?	Car/truck/bus/microbus 1	2
	A boat with a motor/troller?	Boat with motor/troller 1	2
	A ricksha/van/ auto ricksha?	Rickshaw/van/ auto ricksha 1	2
	A DVD/VCD player?	DVD/VCD player 1	2
	A water pump/ motor pump?	Water pump/ motor pump 1	2
504	Main material of the floor.	NATURAL FLOOR Earth/sand 11	

NO	QUESTIONS AND FILTERS	CODING CATEGORIES
	[RECORD OBSERVATION.]	RUDIMENTARY FLOOR Wood planks 21 Palm/bamboo 22 FINISHED FLOOR Parquet or polished wood 31 Ceramic tiles 32 Cement 33 Carpet 34 Other 96 Specify
505	Main material of the roof. [RECORD OBSERVATION.]	NATURAL ROOFING No roof 11 Thatch/palm leaf 12 RUDIMENTARY ROOFING Bamboo 21 Wood planks 22 Cardboard 23 FINISHED ROOFING Tin 31 Wood 32 Ceramic tiles 33 Cement 34 Roofing shingles 35 Other 96 (Specify)
506	Main Material Of The Exterior Walls [RECORD OBSERVATION.]	NATURAL WALLS No walls 11 Cane/palm/trunks 12 Dirt/mud/bamboo 13 RUDIMENTARY WALLS Bamboo with mud 21 Stone with mud 22 Plywood 23 Cardboard 24 FINISHED WALLS Tin 31 Cement/plaster 32 Stone with lime/cement 33 Bricks 34 Wood planks 35 Other 96 (Specify)
507	Does this household own any livestock, other farm animals, or poultry?	Yes 1 No 2
508	Does your household own any homestead? IF 'NO', PROBE: Does your household own homestead any other places?	Yes 1 No 2
509	Does your household own any land (other than the homestead land)?	Yes 1 No 2

SECTION 6. SECOND FOLLOW VISIT

601	Are you currently married?	Currently married	1
		Separated/deserted/divorced/ widowed	2→END
602	Check Q203 from follow up 1 and put "B" in the calendar for corresponding birth month.		
603	Check Q203a from follow up 1 and put "T" in the calendar for corresponding birth month.		

604. Calendar: pregnancy outcomes, family planning, and menstruation

			Col. 1 Birth, pregnancy, FP	Col. 2 FP in birth month [Fill in Col 2 if 'B/T' in Co, 1]	Col. 3 FP source [Fill in Col 3 if 1- 8 in Col 1]	Col. 4 First menstruatio n after finishing pregnancy	Col. 5 Intercourse have started after finishing pregnancy
	0		0				
	6	JUN	1				
	0	MA	0				
	5	Y	2				
2	0	APR	0				
	4		3				
0	0	MA	0				
	3	R	4				
2	0	FEB	0				
	2		5				
3	0	JAN	0				
	1		6				
	1	DEC	0				
	2		7				
	1	NO	0				
	1	V	8				
	1	OCT	0				
	0		9				
2	0	SEP	1				
	9		0				
0	0	AU	1				
	8	G	1				
2	0	JUL	1				
	7		2				
2	0	JUN	1				
	6		3				
	0	MA	1				
	5	Y	4				

0	APR	1					
4		5					
0	MA	1					
3	R	6					

INSTRUCTIONS

ONLY ONE CODE SHOULD APPEAR IN ANY BOX.
COLUMN 1 REQUIRES A CODE IN EVERY MONTH.

Code for col. 1:

- B Live Birth(s)
- P Pregnancy
- T Stillbirth/Terminations/MR
- 0 No Method
- 1 Female Sterilization
- 2 Male Sterilization
- 3 IUD
- 4 Injectables
- 5 Implants
- 6 Pill
- 7 Condom
- 8 Emergency Contraception Pill
- 9 Lactational Amenorrhea Method
- 10 Other traditional method (Safe Period/Rhythm Method/Withdrawal)

Code for column 2:

- 0 No Method
- 1 Female Sterilization
- 2 Male Sterilization
- 3 IUD
- 4 Injectables
- 5 Implants
- 6 Pill
- 7 Condom
- 8 Emergency Contraception Pill
- 9 Lactational Amenorrhea Method
- 10 Other traditional method (Safe Period/Rhythm Method/Withdrawal)

Code for col. 3

PUBLIC SECTOR

- Medical college/Specialized/district hospital 1
- Mother & child welfare centre (MCWC) 2
- Upazila health complex (UHC) 3
- UH & Family Welfare Center 4
- Satellite clinic/EPI outreach 5
- Community Clinic (CC) 6
- Govt. field worker (FWA) 7
- Other 8

NGO SECTOR

- NGO clinic/hospital/ satellite clinic 9
- NGO depo holder 1
- 0
- NGO field worker 1
- 1
- Other NGO 1
- 2

PVT. MEDICAL SECTOR

- Pvt. Medical college/hospital/clinic 1
- 3
- Qualified/unqualified doctor's chamber 1
- 4
- Pharmacy/drug store 1
- 5
- Other private (Specify) 1
- 6

OTHER SOURCE

Shop

1

7

Friend/relative/neighbour

1

8

OTHER

1

9

Code for column 4:

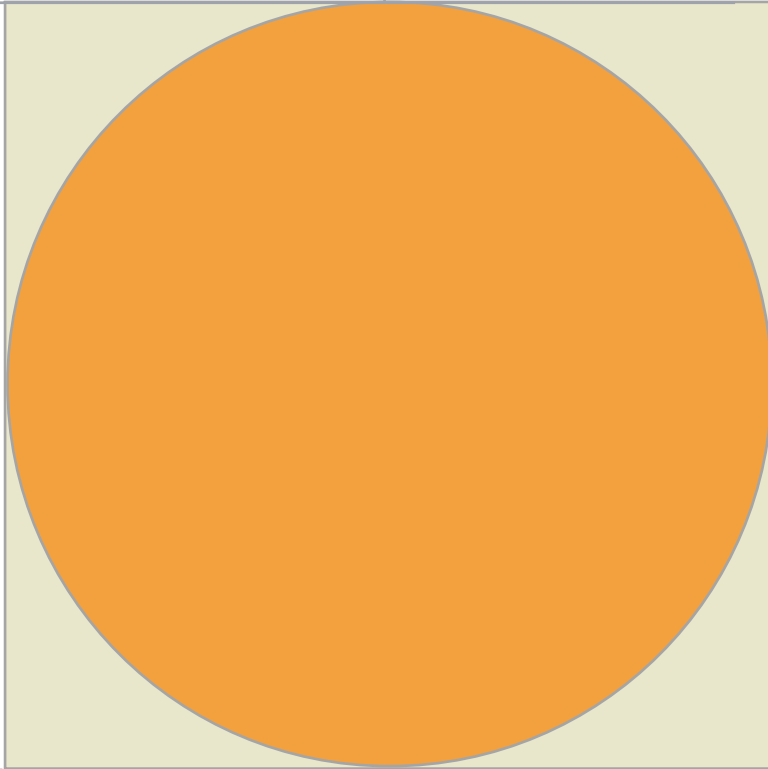
Haven't started menstruation.....0

Have started menstruation.....1

Code for column 5:

Haven't done intercourse.....0

Have done intercourse.....1



Data for Impact

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