12-2021

Optimizing provision of rights-based family planning services by community midwives (CMWs) in Tando Allah Yar

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LIST OF ACRONYMS

ANC	antenatal care
AMAN	Association for Mothers and Newborns
CMW	Community Midwife
CPR	contraceptive prevalence rate
DoH	Department of Health
DHQ	District Headquarter Hospital
DKT	Deutsche Kautschuk Tagung
FGDs	Focus Group Discussion
FP	family planning
IUCD	intrauterine contraceptive device
LARCs	Long-Acting Reversible Contraceptives
LHW	Lady Health Worker
MCH	mother and child health
MNCH	Maternal, Neonatal, and Child Health
MSS	Marie Stopes Society
PNC	postnatal care
PPE	personal protective equipment
PPFP	post-partum family planning
PPHI	People's Primary Healthcare Initiative
PPIUCD	postpartum intrauterine contraceptive device
PW	Population Welfare
PWD	Population Welfare Department
RMNCH	Reproductive, Maternal, Newborn, and Child Health
RTI	Regional Training Institute
UNFPA	United Nations Population Fund

ACKNOWLEDGEMENTS

We are grateful to the United Nations Population Fund (UNFPA) for commissioning this study and extend our sincere appreciation to the senior officials at the Sindh Department of Health and Department of Population Welfare, whose extensive support made this project possible. We are obliged to the Maternal, Neonatal, and Child Health program, Lady Health Worker Program, the District Health Office of Tando Allah Yar, and the staff of the Midwifery School of Tando Allah Yar, whose valuable assistance was indispensable to our work. Our gratitude is also due to the People's Primary Healthcare Initiative for its excellent facilitation of the intrauterine contraceptive device (IUCD) training component of the project through the arrangement of clinical attachments for the CMWs working with us. We are additionally grateful to staff of Regional Training Institutes for conducting the primary training efficiently and effectively.

We deeply appreciate the respondents in this study for sparing their precious time to participate voluntarily in interviews; without their honest and valuable responses during the challenging time of the COVID-19 pandemic, we would have not been able to generate the useful data and insights documented in this report.

Many staff members of the Population Council Islamabad worked tirelessly for the conceptualization and completion of this project. We are indebted to Dr. Ali Mohammad Mir, Senior Director Research and Programs, for his leadership, technical advice, and farsighted input at every stage of the research and report writing process. We are profoundly grateful to Dr. Gul Rashida, senior consultant on the project, for all her technical advice and continuous support at each stage of the project. We are extremely grateful to Ms. Kiren Khan, whose exhaustive editing helped finalizing this report.

The Administration and Finance teams worked hard to facilitate all field activities involved, while the IT team made excellent contributions to the project by arranging an online postpartum IUCD training session for the first batch of CMWs. Local coordinators were indispensable to the implementation of all project activities.

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KEY STAKEHOLDERS' COMMENTS ON THE PILOT PROJECT RESULTS

Mr. Nasimuddin Mirani

Additional Secretary (Public Health)
Department of Health, Government of Sindh

"I would appreciate if Population Council could develop this model as well as refresher training modules for community midwives working in other districts. This is a really good tool for the Health department and can be used for PPIUCD service provision. Thank you very much for your efforts."

Dr. Talib Lashari

Technical Advisor and Focal Person for FP 2030 CIP Cell,
Government of Sindh

"I congratulate Population Council on this endline assessment and the innovative and robust methodology that has produced some very encouraging and interesting results. It is very good to hear that the uptake of both short- and long-term methods has increased and on the basis of this report it is clear that CMWs are fully capable of providing these methods to the clients.

It is important that the lessons from this study are used to inform further improvement of Supportive Supervision and we will also talk with you about how this tool can be scaled up. I would urge you to initiate this project in other districts for which both the government and the Department of Health will definitely provide support. This project is an example of the level of quality that we have come to expect from the Population Council."

EXECUTIVE SUMMARY

Community Midwives (CMWs) are a key cadre of community-level reproductive health service providers in Pakistan. CMWs are mandated to provide a range of maternal and child health (MCH) services including Family Planning (FP) but due to a lack of supplies and training and other reasons they are currently not providing FP services. The objective of this pilot study was to examine the effects of providing (1) training in client-centered family planning (FP) service provision, (2) a regular supply of free contraceptives, and (3) necessary equipment on the uptake, outreach, and quality of CMWs' family planning (FP) services. The study was conducted in Tando Allah Yar, a district of Sindh with average provincial demographic and socioeconomic characteristics.

The aim was to identify expeditious and cost-effective ways of utilizing existing health resources to improve women's rights-based access to family planning services in Sindh, particularly its rural areas. The longer-term goal was recommending the involvement of CMWs in strategies to enhance the availability of quality family planning (FP) services to Pakistani women and men elsewhere.

The study used a quasi-experimental mixed methods design, measuring pre-test and post-test design changes. Such a design may be expressed as O1 X O2, where O1 is the pre-intervention measurement (baseline), X is the intervention, and O2 is the post-intervention measurement (i.e., the results of the endline survey). The study involved a baseline survey in October 2019; a core project period during which the intervention was implemented (November 2019 to December 2020); and an endline survey (April 2021). Data from the surveys were used to assess changes in the quality, uptake and outreach of the FP services provided by CMWs. The table below summarizes the project design, including its intended aims and interventions.

<table>
<tr><th colspan="3">Intervention</th><th>Results</th><th>Community-Level Outcomes</th></tr>
<tr><td>1</td><td>Training</td><td>Theoretical and hands-on training in client-centred FP service provision</td><td>Improved FP and client counseling knowledge and skills; acceptance of CMWs as FP service providers</td><td rowspan="3">Increased capacity to meet unmet demand for FP

Creation of additional demand for FP</td></tr>
<tr><td>2</td><td>Commodity Supply</td><td>Provision of a direct and regular supply of contraceptives</td><td rowspan="2">Uninterrupted access to an expanded range of quality FP services at birth stations</td></tr>
<tr><td>3</td><td>Equipment</td><td>Procurement and installation of essential equipment including IUCD kits, sterilizers and infection prevention measures/tools</td></tr>
</table>

IUCD=intrauterine contraceptive device

The key findings of the study are as follows:

- **There is an increase in community-wide uptake of family planning services because of the intervention.** The availability of a free and regular supply of contraceptives, combined with improved quality of care by CMWs, increased the number of FP clients at birth stations substantially.

Indicator	Change between baseline and endline surveys
Mean number of daily clients for **condoms**	+65.8%
Mean number of daily clients for **oral pills**	+67.5%
Mean number of daily clients for **injectables**	+71.2%
Mean number of daily clients for **emergency contraceptive pills**	+76.2%
Mean number of daily clients for **IUCD**	+60.0%

- **Community-level confidence in CMWs as FP service providers has increased.** By the end of the project period, 100% of CMWs reported that they were established as trustworthy FP service providers in their respective communities. Furthermore, 34% of CMWs reported that their training in FP service provision with the Population Council had enhanced their scope of services and credibility in their respective communities.

Indicator	Change between baseline and endline surveys
Percentage of clients given condoms	+11 percentage points
Percentage of clients given oral Pills	+3 percentage points
Percentage of clients given EC pills	+81 percentage points
Percentage of clients given injectables	+5 percentage points
Percentage of clients given IUCD	+88 percentage points

- **CMW capacity for delivering postpartum family planning (PPFP) services has increased.** The intervention successfully motivated CMWs to prioritize FP counseling for the critical postpartum period.

Indicator	Change between baseline and endline surveys
Percentage of clients given FP counseling when they solicited **FP services**	+4 percentage points
Percentage of clients given FP counseling when they solicited **antenatal care**	+22 percentage points
Percentage of clients given FP counseling after they **delivered** a child	+5 percentage points
Percentage of clients given FP counseling when they solicited **postnatal care**	+6 percentage points
Percentage of clients given FP counseling when they solicited **post-abortion care**	+23 percentage points

Regular contraceptive supplies to CMWs enhanced their productivity. For the duration of the project, the Population Council team addressed bottlenecks in contraceptive supply by coordinating directly with District Health officials. This included acquiring requisite quantities of stocks and supplying these directly to CMWs at their birth stations.

There were almost no contraceptive stock-outs at the birth stations. With a reliable and needs-based contraceptive supply established, the intervention enhanced the range of FP methods available at birth stations: between baseline and end line, the proportion of CMWs providing emergency contraceptive (EC) pills rose by 68 percentage-points, and IUCDs rose by 55 percentage points.

Unfortunately, after the end of the intervention period, there was significant decline in stock availability, which underscores the importance of continued uninterrupted supply of contraceptive commodities to CMWs.

Indicator	Change between baseline and Intervention completion (Dec-2020)	Change between Intervention completion (Dec-2020) and Endline survey (Apr-2021)
CMWs having **Condoms** stock at the day of visit	18.1	-47.4
CMWs having **oral pills** stock at the day of visit	19.4	-94.7
CMWs having **EC pills** stock at the day of visit	82.5	-90.0
CMWs having **Injectables** stock at the day of visit	19.4	-31.0

- **There was a major difference in pre-training and post-training knowledge and skills of CMWs.** Tests conducted before and after the training period revealed that the instruction in FP services provision given to CMWs increased their knowledge of pills, IUCDs, and injectables by a distinct margin.

Description	Change between pre-training and post-training tests
Percentage of CMWs demonstrating accurate knowledge of **injectables**	+41 percentage points
Percentage of CMWs demonstrating accurate knowledge of **IUCDs**	+59 percentage points
Percentage of CMWs demonstrating accurate knowledge of **pills**	+33 percentage points

Overall findings suggest that CMWs attributed the increase in utilization of their FP services to a number of factors:

- **Access to a reliable supply of contraceptive commodities**, which allowed them to offer FP services proactively.
- **Reduced price of their services**, which was possible because contraceptive commodities were provided to them for free (in some cases, they were even able to provide free services).
- **Improved ability to handle FP cases** more effectively due to the training and IEC materials they had received from the Council, as well as enhanced confidence in providing FP services; and
- **Increased professionalism** in their own dealings with **clients**, which was a result of the focus on counseling skills and a client-centered approach in their training.

In sum, the data acquired from the study demonstrates significant improvements in the quality of the FP services provided by CMWs as a result of the intervention. The following recommendations are made based on these results:

- **Focused and in-depth training** is a key intervention for enhancing the FP service provision capabilities of CMWs.
- **Regular refresher trainings** are necessary to ensure that CMWs retain the knowledge and skills that they acquire from training programs; and
- **Direct, regular, and free contraceptive supplies** enhance CMWs' ability to provide cost-effective FP services on a regular basis.

The results of the study indicate that investing in CMWs is a strong strategy for improving access to FP services at the community level. The CMW cadre, if effectively utilized, can prove pivotal in the drive towards achieving key reproductive, maternal, newborn and child health as well as family planning related goals in Sindh specifically, and Pakistan generally.

INTRODUCTION

From October 2019 to April 2021, the Population Council, with the support of the United Nations Population Fund (UNFPA) and in coordination with the departments of health and population welfare of the Government of Sindh, conducted a pilot intervention aimed at increasing the involvement of Community Midwives (CMWs) in rights-based family planning service provision in Tando Allah Yar district of Sindh. The intervention was executed as an operations research study, with baseline and endline surveys conducted in October 2019 and April 2021, respectively. This report presents the results of the study.

Background

Pakistan's consistently high fertility levels represent a growing challenge in terms of both long-term population growth and the negative implications of unmet need and high-risk fertility behaviors for reproductive, maternal, newborn, and child health (RMNCH). The contraceptive prevalence rate (CPR) has remained low across all provinces of the country, with minimal gains made over the decades. Among currently married women of reproductive age (15 to 49 years) in the province of Sindh, the CPR is only 30.9% (PDHS 2017-18). The modern contraceptive prevalence rate (mCPR) is even lower, at 24.4%. Rural areas are considerably worse off, with a CPR of only 21.4% in the rural areas compared to 39.3% in urban areas. Eight in 10 married women of reproductive age (MWRA) in Sindh's rural areas are using no family planning (FP) methods at all.

There is strong potential for the expansion of contraceptive use in Sindh because a high proportion of existing demand for family planning remains unmet, especially in rural areas where nearly half of the total demand is still unmet (Figure 1). On the other hand, as Figure 2 shows, the proportion of met demand fulfilled through modern contraceptive methods is much lower in urban than in rural areas, pointing towards an opportunity to convert traditional method users to more reliable modern contraceptives.

Figure 1: Met and unmet demand for family planning among MWRA in Sindh (%)

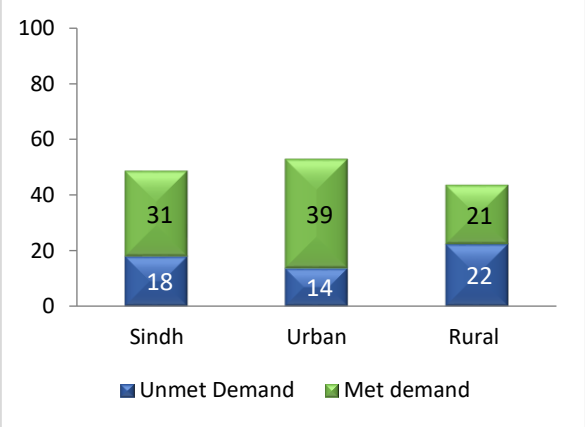
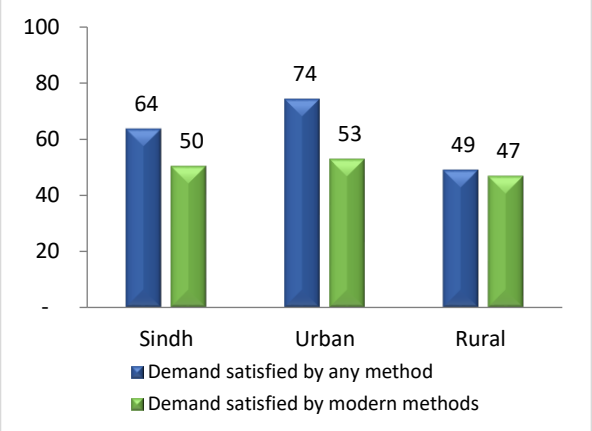


Figure 2: Demand for FP satisfied by any FP method and by modern methods in Sindh (%)

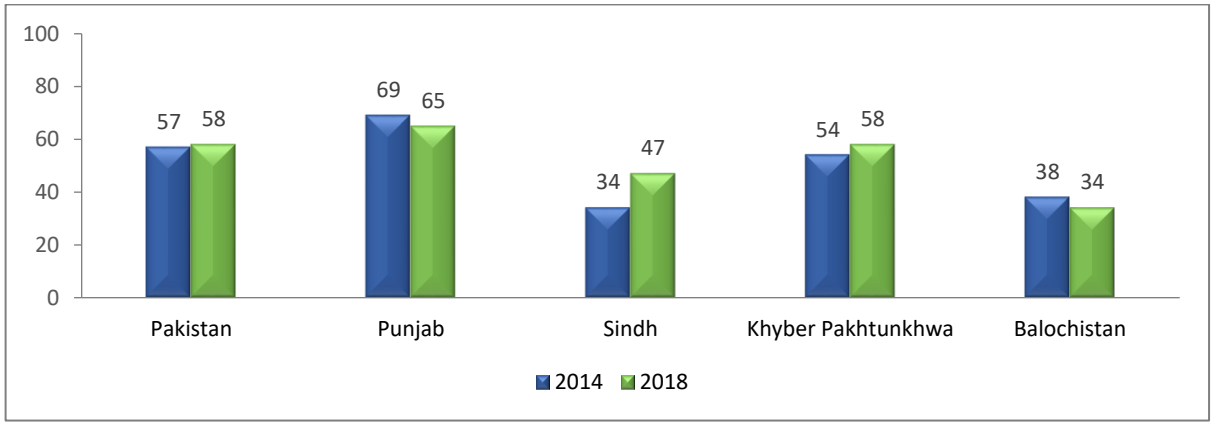


Source: PDHS 2017-18

The high levels of unmet need for FP in Sindh imply poor access to FP and reproductive health services in the province, particularly in rural areas. Because of the wide-ranging implications of this issue for public health, and for Sindh's progress in achieving core reproductive, maternal, neonatal and child health (RMNCH) targets, it is of utmost importance to identify and analyze ways to improve rights-based access to FP services in the province. Enabling community-level access to FP services is particularly important for addressing unmet demand, especially in rural areas. Unfortunately, despite its proven role in

increasing contraceptive prevalence, coverage of the Lady Health Worker Program (LHWP) remains restricted in Sindh as well as the rest of the country (Figure 3). According to LHW-Management Information System (MIS) data, less than half (47%) of Sindh's population had access to the services provided by the Lady Health Workers (LHWs) in 2018.[1] Even areas that *do* have access can claim diluted coverage at best due to the many additional responsibilities that LHWs have been delegated in recent years.[2,3]

Figure 3: Lady Health Worker program's population coverage, by region (%)



Source: Oxford Policy Management Limited. 2019

Rationale for the Study

Given the need to meet existing demand for contraception, the existing cadre of Community Midwives (CMWs) represents a promising option. The Government of Pakistan introduced this cadre in 2007 to improve and increase access to maternal, neonatal, and child health (MNCH) services in the country. Nearly 6,000 CMWs have been deployed nationwide against a target of approximately 12,000. They are primarily responsible for conducting deliveries within the communities they reside in, based at birth stations that the government establishes and supports with supplies for the first two years of operation.

The case for tapping into the CMW cadre to optimize FP and MCH service provision is strong. This is particularly the case given the limitations of the LHWP. It is necessary to consider alternative or supplemental cadres of health service providers to enhance community-level access to FP services in Pakistan. Although they are trained and deployed by the government, CMWs are not *de facto* government employees; therefore, they do not represent as heavy a cost burden on the government as LHWs. More importantly, visits to CMWs' birthing stations by women seeking antenatal, natal, and postnatal care services are vital opportunities to impart FP counseling and choice-based service provision to a receptive clientele. Moreover, instruction on FP counseling and service provision is already part of the 2-year competency-based training imparted to newly inducted CMWs. Although family planning service provision is part of their mandate, the latest available data shows that CMWs are not actively engaged in FP service provision. In the PDHS 2017-18, a mere 1.3 percent of users of intrauterine contraceptive devices (IUCDs) and 0.8 percent of users of injectables reported obtaining these methods from CMWs. No implant, pill, or condom users reported receiving these methods from CMWs.

[1] After accounting for limitations in the LHW-MIS data, the figure for Sindh could be as low as 42% according to the Oxford Policy Management (OPML 2019).

[2] Oxford Policy Management, "Lady Health Worker Program, Pakistan: Performance Evaluation," 2019. https://www.unicef.org/pakistan/media/3096/file/Performance%20Evaluation%20Report%20-%20Lady%20Health%20Workers%20Programme%20in%20Pakistan.pdf

[3] Harvard School of Public Health (2014). "Lady Health Workers in Pakistan: Improving Access to Health Care for Rural Women and Families". https://cdn2.sph.harvard.edu/wp-content/uploads/sites/32/2014/09/HSPH-Pakistan5.pdf

Recognizing the potential for enhancing availability of FP services at the community level, the Population Council Pakistan conceived a pilot intervention aimed at encouraging CMWs to provide these services, especially in the extended 1-year postpartum period, as part of a designated full package of maternal and newborn health care. A package of interventions was introduced in a selected district, based on the hypothesis that the low engagement of CMWs in FP service provision is due to absence of family planning refresher trainings and contraceptive supplies. Implementation was carried out in an operations research framework to assess whether the interventions led to reduced barriers to access; met unmet demand; and created additional demand for family planning. If these positive outcomes were attained, the intervention would demonstrate that CMWs are a strong option for addressing the low rates of contraceptive prevalence in the country, particularly in rural areas.

The Intervention

The pilot intervention was designed to test whether enhancing the capacity of CMWs to provide FP services—through training of CMWs, making them suitably equipped, and ensuring a regular supply of contraceptives—would lead to increased uptake of family planning in their communities. The intervention was based on the theory of change illustrated in Table 1. The aim of the selected supply-side interventions was to *enhance access of community women to family planning services through the channel of CMWs* by developing CMWs' ability to (1) cater to existing unmet demand, and (2) create additional demand, with a focus on the 1-year post-partum period in particular.[4]

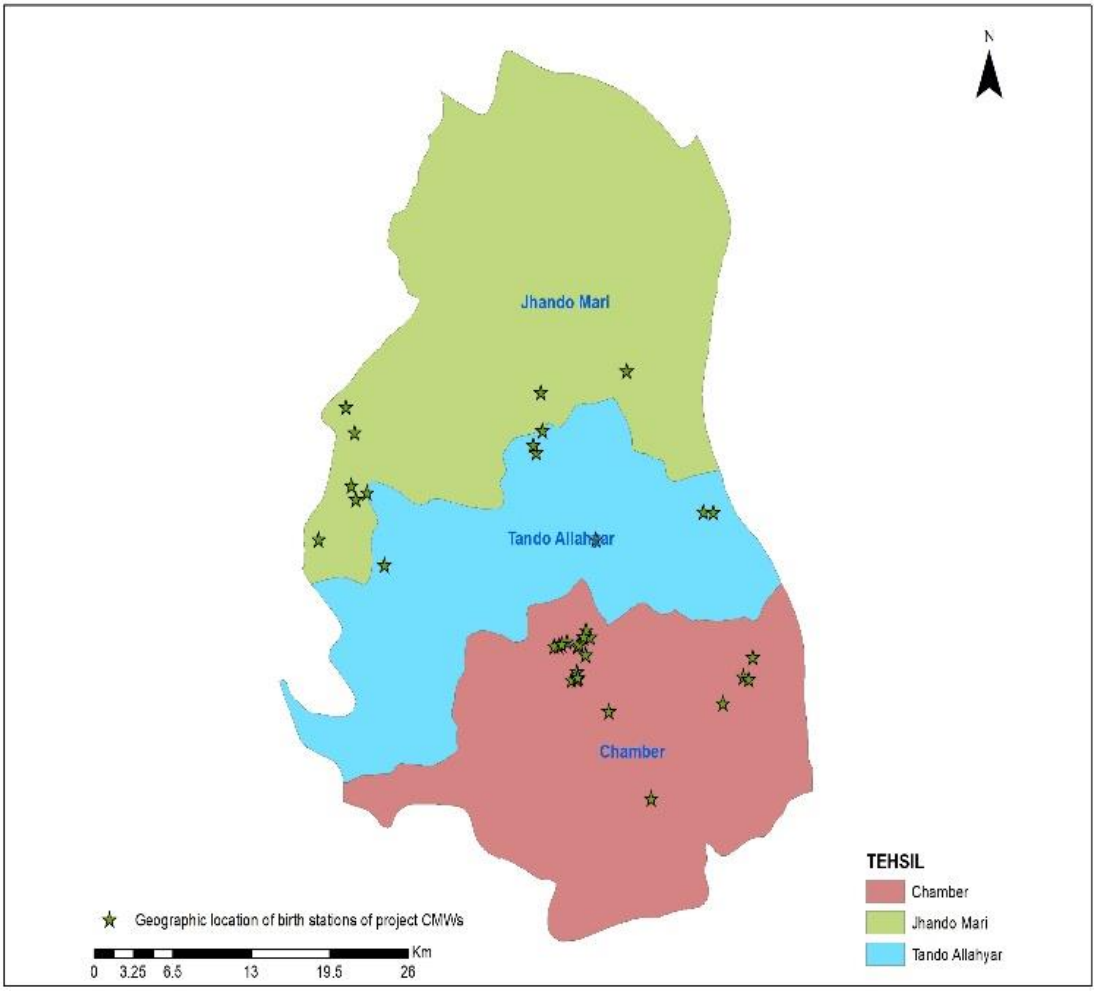
Table 1: Theory of change

<table>
<tr><th>Inputs</th><th>Activities</th><th>Output</th><th>Outcomes</th><th rowspan="6">Increase in uptake of FP services among community women</th></tr>
<tr><td rowspan="2">Training</td><td>Training in provision of specific FP methods, especially hands-on training in IUCD insertion</td><td rowspan="2">Improved method-specific knowledge and client counseling skills of CMWs, and consequently, acceptance of CMWs in the community as FP (in addition to MNCH) service providers</td><td rowspan="2">Creation of additional demand for FP at the community level</td></tr>
<tr><td>Training in client-centered FP service provision</td></tr>
<tr><td>Commodity Supply</td><td>Provision of a regular supply of contraceptives</td><td rowspan="2">Availability of expanded range of quality FP services at birth stations, including post-abortion services</td><td rowspan="3">Ability to meet pre-existing unmet demand at the community level</td></tr>
<tr><td rowspan="2">Equipment</td><td>Provision of essential equipment</td></tr>
<tr><td>Provision of information, education, and communication (IEC) materials</td><td>Availability of materials to refresh FP knowledge, maintain skills, and improve counseling</td></tr>
</table>

[4] Global evidence indicates that over 90% of postpartum women want to delay or avoid another pregnancy, but two-thirds of them do not have access to contraception (Family Planning 2020, "Postpartum/Post-Abortion Family Planning: Accelerating the Global Movement," 2021, https://www.familyplanning2020.org/ppfp). In view of higher unmet need among women during the crucial postpartum period, increasing PPFP services uptake was a key objective of this pilot study.

The pilot study was implemented between October 2019 and April 2021 in Tando Allah Yar district of Sindh (Figure 4). Tando Allah Yar is a primarily agricultural district ranking 11th among the 24 districts of Sindh on the Human Development Index, with "low-to-medium" human development.[5] Its socioeconomic and demographic characteristics are fairly representative of Sindh, and therefore it was expected that a project in this location would yield insights generalizable to the province at large. On these grounds, the provincial Departments of Health and Population Welfare also recommended that the study be conducted in this district. Tando Allah Yar consists of three tehsils—Tando Allah Yar, Chamber, and Jhando Mari. With a predominantly rural population (68.7%),[6] Tando Allah Yar has only 8 government hospitals and 312 beds available in government health institutions to cater to a population of nearly a million people.[7]

Figure 4: Map of study location (district Tando Allah Yar) showing location of birth stations of participating CMWs



[5] UNDP (2018). "National Human Development Report 2017: Pakistan". http://hdr.undp.org/en/content/national-human-development-report-2017-pakistan
[6] Population and Housing Census of Pakistan (2017).
[7] Sindh Department of Health. (2017). "Health Profile of Sindh 2017". http://sindhbos.gov.pk/wp-content/uploads/2016/01/Health-Profile-of-Sindh-2017.pdf

STUDY DESIGN

Objectives

The key objectives of this study were to:

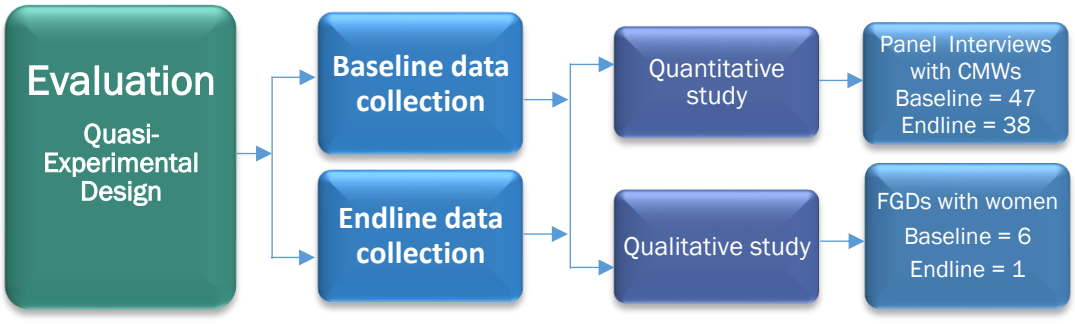
- Assess the **feasibility of engaging CMWs to provide family planning services** by giving them support-based facilitation.
- Assess the **change in the quality of FP services provided by CMWs** through training in FP methods and rights-based, client-centered services.
- Assess the **change in uptake of family planning services** among community women.

Methodology

A quasi-experimental, mixed-methods, pre-test, post-test design, without any control group, was utilized for the study. Such a design may be expressed as O1 X O2, where O1 is the pre-intervention measurement (baseline), X is the intervention, and O2 is the post- intervention measurement (i.e., the results of the endline survey). Under this framework, the study prospectively assessed changes in knowledge, attitude, and practices of the CMWs in provision of FP pre- and post-intervention. The study further assessed whether the provision of training, commodity supplies, and supplementary interventions was associated with an increase in FP service provision by CMWs in Tando Allah Yar, and, subsequently, with an increased uptake of FP services by community women. Ethical approval was secured for the study from the Population Council's Internal Review Board (IRB) in New York, on October 21, 2019.

Figure 5 illustrates, the impact of the intervention—particularly changes in the knowledge, attitude, and practice of the CMWs—were assessed using data from baseline and endline surveys conducted with a panel of CMWs. Both quantitative and qualitative approaches were utilized in the surveys, which solicited information on sociodemographic characteristics, training and skills, routine practices and existing infrastructure, expectations of and experiences with family planning provision, referrals, stock availability, supply systems, and record keeping. The two surveys asked almost identical questions, but the endline survey had additional questions related to the pilot interventions, with a focus on evaluating progress made by the CMWs in quality FP service provision.

Figure 5: Evaluation methodology



At the time of the study, the total number of women from Tando Allah Yar who had ever been trained as CMWs was 176, but only 47 were attached to functional birth stations. Given its small size, the entire universe of active CMWs was included in the study. While all 47 CMWs were attached with the Population Council in the training program, 43 continued to work formally after the training and reported monthly data to the Council. A further 8 CMWs later left the project due to personal reasons, as outlined in Annex

A. At the time of the endline survey, 39 CMWs were actively involved in the project, while 38 were interviewed. Table 2 describes the background characteristics of these 38 CMWs. The majority (45%) were from Tando Allah Yar tehsil, with smaller, roughly equal proportions from Jhando Mari and Chambar. Most CMWs hailed from urban (58%) rather than rural areas (42%). More than half were above 30 years of age. The majority (58%) had attained intermediate education. Almost 80% of the CMWs were married.

Table 2: Profile of CMWs who participated in the pilot study (n=38)

Name of Tehsil/ Taluka	%	N
Tando AllahYar	45	17
Chambar	26	10
Jhando Mari	29	11
Residence		
Urban	58	22
Rural	42	16
Age		
20-24 Yrs.	11	4
25-29 Yrs.	32	12
30-34 Yrs.	34	13
34+ Yrs.	24	9
Educational level		
Matriculation	18	7
Intermediate	58	22
Graduation	24	9
Marital status		
Never married	13	5
Currently married	79	30
Widowed/divorced	8	3
Total	**100**	**38**
Work experience as CMW (Mean years)	**03**	**38**

The qualitative component of the evaluation design comprised FGDs with married women at the level of the community. The purpose of the FGDs was to assess the women's knowledge of, and experiences with, acquiring FP services from CMWs. FGDs were conducted in communities of randomly selected CMWs. While six FGDs were conducted at baseline, only one FGD could be conducted at endline due to a rise in local cases of COVID-19 during the third wave of the pandemic. Baseline data was collected in October 2019, while endline data was acquired in April 2021.

Intervention Activities

The following activities were implemented as part of the intervention from November 2019 to December 2020:

1. Training of CMWs

CMWs were provided extensive theoretical and hands-on training in FP service provision. The training was conducted in November and December 2019 at the Regional Training Institute (RTI) Hyderabad through expert trainers from the Population Welfare Department (PWD). These senior trainers had previously received training from the Population Council. The Population Council was involved in ensuring that quality standards were maintained throughout the period of instruction. The 47 CMWs were divided into three batches for training. Each batch was trained in 6 days and therefore the total training period lasted for 18 days. The training included both theoretical and practical hands-on training in contraceptive technology, as well as a behavioral change component designed to improve CMWs' counseling skills. A framework developed by the Council on client-centered service provision constituted a key component of the training.

The knowledge and skills of CMWs were assessed via a pre- and post-training test. An additional assessment was conducted at endline to assess participants' retention of knowledge.

One of the key focus areas of the intervention was IUCD insertion and removal. Clinical attachments were arranged for the CMWs, who were required to complete two IUCD observations and five IUCD insertions, under the supervision of a designated service provider from the People's Primary Healthcare Initiative (PPHI), PWD, or the District Headquarter Hospital (DHQ), to be qualified to provide IUCD services at community level. This was also a prerequisite to qualify for postpartum IUCD (PPIUCD) training at the next stage of the intervention.

A total of 22 CMWs were able to complete the assigned number of IUCD observations and insertions and qualify for PPIUD training. A sub-batch of 10 qualifying CMWs received theoretical training in PPIUCD virtually, in November 2020, from the Association for Mothers and Newborns (AMAN). The remaining components of the training were disrupted due to a spike in COVID cases in the district.

2. Facilitation of Contraceptive Supplies

Free contraceptive supplies were regularly provided to the CMWs with the support of the District Health Office during the intervention period, from January to December 2020. Although this office constitutes the regular source of supply for CMWs, under the existing system, its scope is limited to CMWs who are attached with MNCH program, i.e., those currently in their initial two-year training period. Furthermore, the range of methods under this system is limited to condoms, pills and injectables, and supplies of these methods are also irregular. Only three CMWs who were providing IUCD at baseline survey reported to be trained by a few private organizations such as DKT and Marie Stopes. The same organizations also provided the stock of the method. For the duration of the project, the Council addressed these bottlenecks by coordinating directly with District Health officials to acquire demand-based stocks on a monthly basis and supply these directly to CMWs at their doorsteps. Emergency contraceptive pills were also supplied as an additional method. The MNCH program has IUCD stock for qualified CMWs but in the absence of training, there is no demand and therefore IUCD stock is not being supplied to CMWs. Under the project, the original plan was also to supply IUCDs, but this plan could not be executed because only half of the CMWs had completed the required hands-on training in IUCD provision, and they were able to complete their hands-on training towards the end of the intervention phase.

3. Provision of Essential Equipment

To support CMWs in providing high-quality FP services, the Council also provided them relevant equipment, such as IUCD kits, and infection prevention supplies including sterilizers. In addition, personal protection equipment (PPE) kits were also provided to mitigate risk of contracting the COVID-19 virus.

4. Provision of IEC Material

The CMWs had been trained using an extensive set of resource materials, including:

- Trainee manuals;
- Handouts explaining the permissibility of family planning from an Islamic perspective;
- Brochures detailing various FP methods;
- A didactic calendar counseling tool;
- A medical eligibility criteria wheel to facilitate method selection;
- Client-centered counseling materials;
- The "SAHR"[8] checklist; and
- Material on the Healthy Timing and Spacing of Pregnancies (HTSP).

These IEC materials were handed over to CMWs to serve as reference materials and facilitate them in counseling FP clients.

5. Supportive Supervision

As part of the intervention design, supportive supervision visits were carried out by staff of the Midwifery School working under the Department of Health as well as the Population Council. These visits were planned on a monthly basis but could only be carried out from February to mid-March 2020, after which the pandemic and lockdown made it difficult to continue on account of precautionary Standard Operating Procedures (SOPs), and later, the unavailability of team members in the field.

Monitoring

Client record cards, referral slips, and material for the completion of monthly reports was given to the CMWs after their training to share data with the Population Council for monitoring. Monthly data was collected by the Council's designated local coordinator during field visits for the distribution of contraceptive supplies. It included information on the number of new clients by FP methods, follow-up clients, referrals, group meetings with community women for FP awareness, and the status of contraceptive commodity stocks.

[8] The Salutation, Assessment, Help and Reassurance (SAHR) checklist is a client-centered care tool introduced by the Population Council to help FP service providers to ensure clients rights following a respectful and comfortable consultation for clients.

PROJECT RESULTS

Based on the results, we find that the interventions conducted in the course of this pilot project had a positive and significant impact on FP service provision by CMWs in Tando Allah Yar. The results of the intervention were assessed primarily on the basis of findings of the baseline and endline survey. They are presented below, further elucidated by qualitative findings from FGDs conducted before and after the intervention. Specifically:

1. There is an increase in community-wide family planning service uptake due to the improved outreach

2. Community-level acceptance and confidence on CMWs as FP service providers has increased because of their recent training, improved counseling skills and ability to address FP related apprehensions

3. CMWs' FP service provision has improved due to expanded choice of methods and capacity for delivering postpartum FP counseling

4. Regular contraceptive supplies played a major role in enhancing utilization of CMWs' FP services.

5. Training made a major difference in enhancing capacities of CMWs in terms of knowledge and skills, although refresher trainings are necessary to retain this impact.

Increase in Community-wide Family Planning Service Uptake

The results of the study are encouraging about an increase in contraceptive uptake in the communities served by CMWs, and to establish them as reliable providers of FP services.

Trend in Number of FP Clients

A comparison of baseline and monthly data during the intervention phase of the project reveals significant increases in the number of clients seeking FP services from CMWs. Table 3 compares the sum of clients visiting 15 of the birth stations for various FP services in the 6-month period before the baseline survey, the first 6 months of the intervention, and the final 6 months before the end of the intervention. The data show a consistent increase, with a substantial difference achieved across the project year.

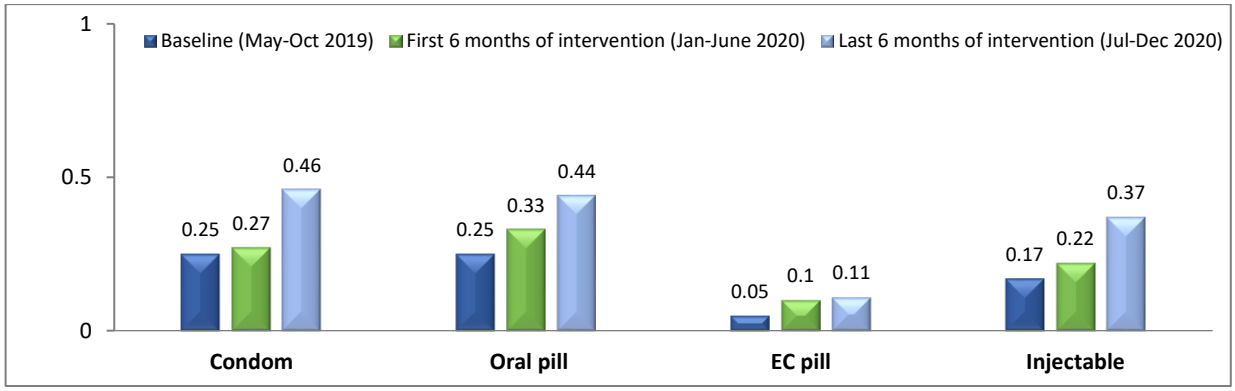
Table 3: Number of clients visiting birth stations for family planning services before and during the intervention, by method (n=15)

	Baseline (May-Oct 2019)	First 6 months of intervention (Jan-June 2020)	Last 6 months of intervention (Jul-Dec 2020)	Overall increase (%)
Condom	676	727	1255	65.9
Oral pill	667	886	1200	68.0
EC pill	140	266	296	75.1
Injectable	456	600	1005	71.6
IUCD	172	134	281	58.6

Note: The comparison is based on records of the 15 CMWs who could provide client data at baseline.

The mean number of clients visiting a birth station to seek FP services per day per CMW also increased substantially for all methods over the course of the project year. As Figure 6 shows, between the baseline period and the end of the project, the mean number of daily clients per CMW rose by 77% for oral pills, 73% for condoms, and 59% for injectables.

Figure 6: Mean number of clients visiting birth stations for family planning services per CMW per day before and during the intervention, by method (n=15)

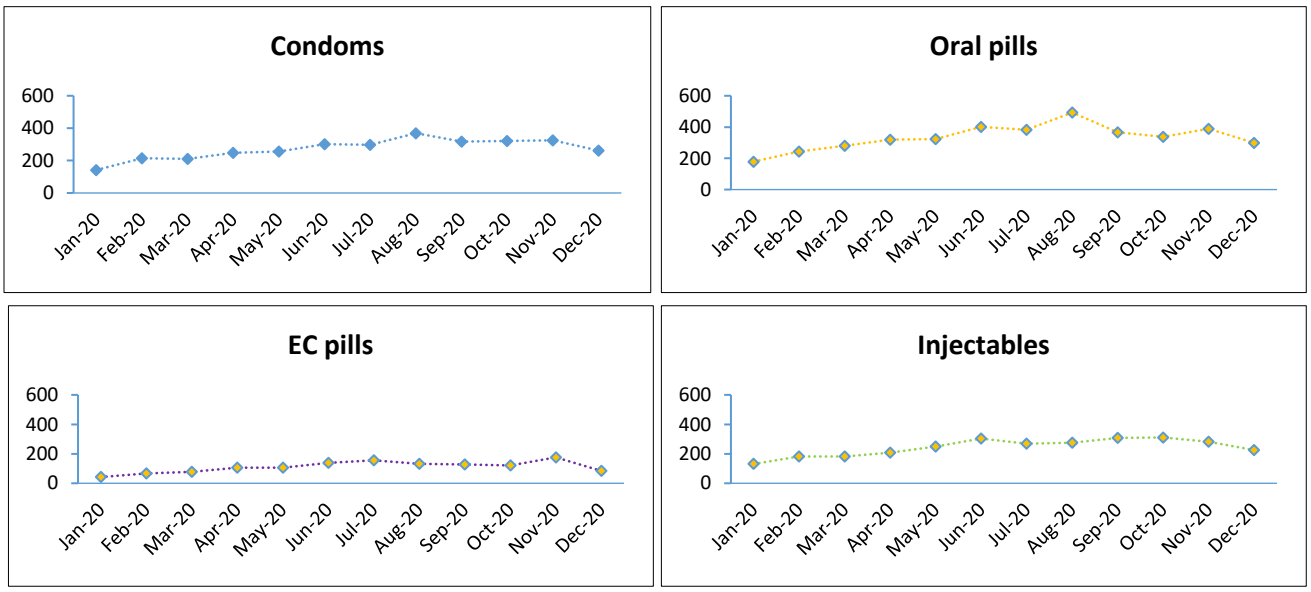


Note: The comparison is based on records of the 15 CMWs who could provide client data at baseline.

Figure 7 shows the trend in the monthly number of clients visiting CMWs' birth stations for various methods. There is an overall upward trend in the utilization of injectables, condoms, oral pills, and EC pills over the course of the project period. By the end of the intervention period, clients had doubled for EC pills, and nearly doubled for injectables, condoms, and oral pills compared to levels at baseline. This substantial increase signifies the success of the intervention.

It is noted that utilization decreased in the final months of the intervention (November and December) when the second wave of the COVID-19 pandemic intensified in the area. However, because care was taken to ensure that CMWs were adequately stocked with contraceptive supplies throughout the project, the decrease in clients was well-contained, with the number of clients for all FP methods remaining above pre-intervention levels during this period.

Figure 7: Trend in number of FP clients per month during the intervention period (Jan–Dec 2020), by method (n=38)



Cost of FP Services

Because the intervention kept the CMWs supplied with a wider range of free contraceptives on a regular basis, they no longer needed to purchase contraceptives from the market. Consequently, their operational costs were reduced, and they could afford to lower the price of their FP services. Table 4 provides details of the difference in the costs and prices of specific contraceptive methods and services between the baseline and endline surveys.

Table 4: Mean cost of FP methods to CMWs and price charged to clients at baseline and endline (n=38)

	Baseline survey		Endline survey	
	Cost to CMWs (PKR)	Price charged to clients (PKR)	Cost to CMWs (PKR)	Price charged to clients (PKR)
Condom	6	29	0*	21
Oral pill	4	35	0	30
EC pill	1	2	0	31
Injectable (3-month)	14	93	0	74
Injectable (2-month)	10	27	0	6
Injectable (1-month)	4	11	1	9
IUCD	8	48	3	160

* Free of cost

In response to open-ended questions in the endline survey, CMWs emphasized the more economical nature of the services they provided as a key factor contributing to the increase in FP uptake recorded by the study.

> *"The field coordinator provided us with free commodity supplies, because of which we could also afford to provide them for free.* This made it easy for the people to avail our services."

Increased Community Level Acceptance of CMWs as FP Service Providers

Acceptance of CMWs as FP service providers is key to increasing contraceptive uptake in their respective communities.

Attributes of CMWs for Being Accepted as Service Providers

The FGD conducted with community women at the project endline indicated widespread acceptance of CMWs as FP service providers. Community women reported greater satisfaction with the services provided by CMWs at endline than they had at baseline. The ability of CMWs to deliver a range of quality FP services according to the needs of their clients was appreciated by the women. Some women noted that they preferred to avail FP services from CMWs rather than LHWs.

"Normally, I acquire oral contraceptives from the local LHW. After my last delivery, however, they seemed to lose their effectiveness. The LHW suggested that I opt for injectables instead, but I decided to go to the local CMW for an IUCD. Now I am satisfied." (Endline FGD)

"I received an IUCD from a CMW. After that, I experienced prolonged bleeding. I reported the problem to the CMW, and she gave me some tablets. That solved the issue." (Endline FGD)

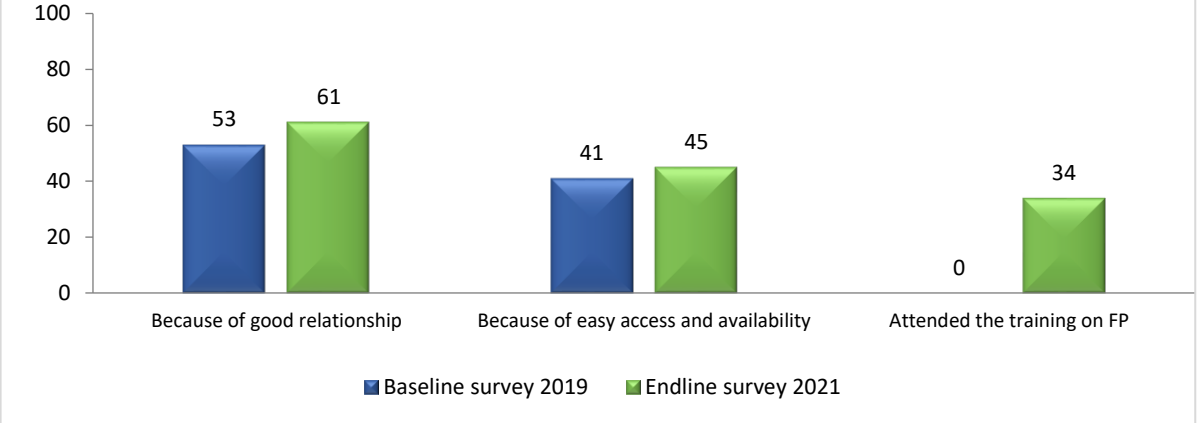
CMWs also confirmed, in open-ended responses during interviews, that acceptance and confidence of community women in their services has increased because they are more confident in providing FP services. This is due to their enhanced knowledge about FP methods and improved counseling style, and also uninterrupted availability of contraceptives. In addition, they also contribute to addressing couples' religious apprehensions about using FP methods. Training has enhanced their knowledge on FP and now they have expertise in providing FP services.

"We explain to women that just as the earth needs a break to produce a healthy crop next time, so a woman needs a space between pregnancies. The way we counsel women on FP methods, they feel that the CMW must have capacities to provide good FP services if she is explaining things in such a [good] way."

"During training, we acquired a lot of knowledge about the permissibility of family planning in religion, so we shared that knowledge with community women and made them understand about their apprehensions with the help of examples."

Three key reasons why CMWs believed their acceptance as FP service providers at the community level had further increased were the good relationships that they maintained at the community level, their easy accessibility, and their training (Figure 8). A 34 percentage-point increase occurred between the baseline and endline surveys in the percentage of CMWs who attributed their enhanced reputation to the training they had received. A 4 percentage-point increase occurred in the percentage of CMWs who attributed their legitimacy to the easy accessibility of the services that they provided.

Figure 8: Main factors reported by CMWs for their acceptance as FP service providers at the community level % (n=38)



Compliance with CMWs' Instructions

An important indicator of the degree of acceptance of, and confidence in, the services provided by a FP service provider among clients is whether or not they follow the referral instructions of the service provider and return for follow-up. The CMWs were asked whether their referred clients go to seek services from

their referred facilities, and whether or not the clients come back to them afterwards for follow-up. A 24 percentage-point increase took place in the number of CMWs who reported that their clients visit the facilities they refer them to (see Figure 9). Similarly, a 40 percentage-point increase took place among those who affirmed that their clients always returned to them after visiting a referred facility (Figure 10). These are substantial improvements, indicating increased trust in CMWs among FP clients.

Figure 9: Percentage of CMWs whose clients always, sometimes, or never follow their referrals (n=38)

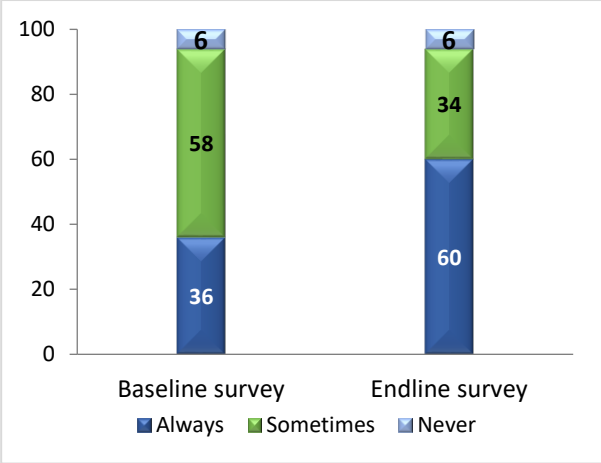
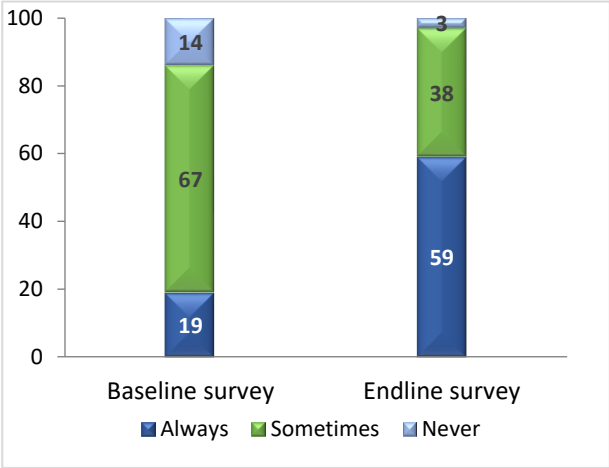


Figure 10: Percentage of CMWs whose clients return to them after following through on a referral (n=38)



Improved Quality of FP Services

The study assessed whether interventions to enhance the capacity of CMWs led to changes in their provision of FP services. The relevant findings are discussed below.

Range of Methods Provided

Number of CMWs providing IUCD

At baseline survey = 03

At endline survey = 24

While all CMWs were already providing FP services at their birth stations at baseline, the range of methods they provided was severely limited. Bridging this deficiency was an important target of the intervention since offering more choice of FP methods to clients is a key measure of the quality of care provided. The data show that while CMWs were mainly providing two to three FP methods at baseline, by endline, almost all of them were offering at least three methods and over half were providing 5 methods (Figure 11). It is particularly noteworthy that a large proportion of CMWs added emergency contraceptive (EC) pills and IUCDs to their repertoire as a result of the project (Figure 12) as well as arranging IUCD through their own sources.

Figure 11: Proportion of CMWs providing 2 or more than 3 FP methods (n=38)

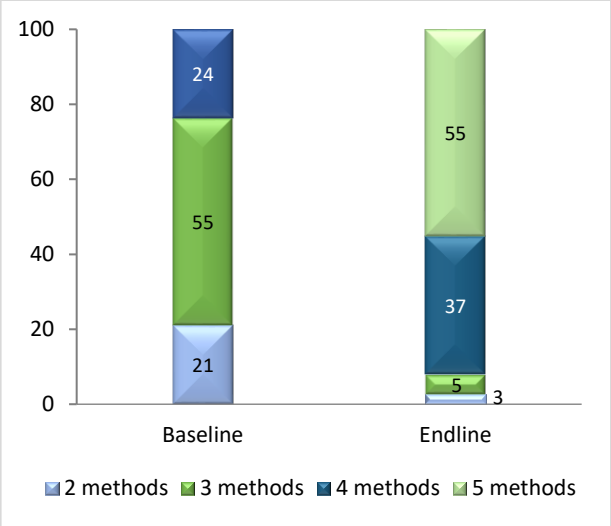
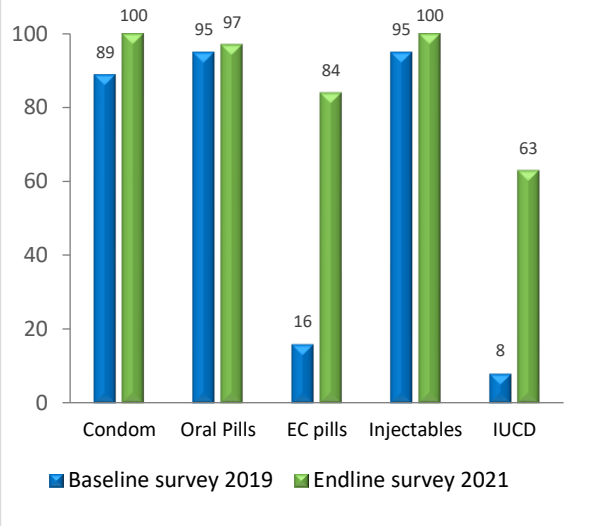


Figure 12: Percentage of CMWs currently providing FP services, by method (n=38)



Furthermore, qualitative data suggest that the wider range of methods available with CMWs, and their greater attention to helping clients choose for themselves, was also a factor.

Greater Choice – A Factor in Communities' Increased Utilization of CMWs' FP Services

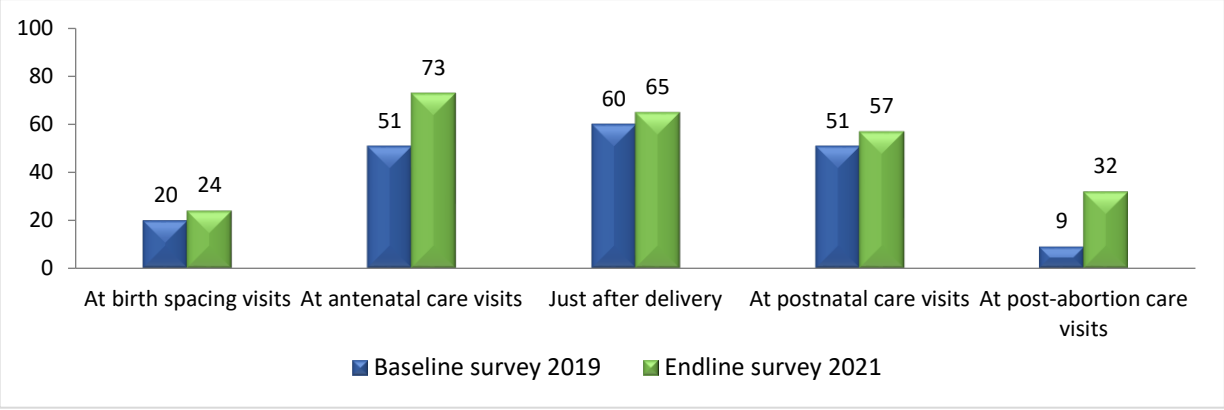
Community women who participated in the endline FGD agreed that the quality of CMWs' FP services had improved considerably over the past year. Availability of a range of FP methods and their well-mannered and considerate attitude received widespread appreciation from the community women.

"CMWs have every FP method available with them. The services they provide depend on what their clients choose." (Endline FGD)

Postpartum Family Planning (PPFP) Services

A large proportion of women seek to delay or avoid another pregnancy in the postpartum period, when it poses greater risks to their own health as well as their baby's. The data indicate that the intervention was successful and CMWs' capacity for delivering PPFP has increased. The proportion of CMWs who counseled clients about PPFP in the course of providing other reproductive health services rose considerably as seen in Figure 13. The greatest increase was seen in conjunction with antenatal care services (about 22 percentage points) and post-abortion care services (23 percentage points).

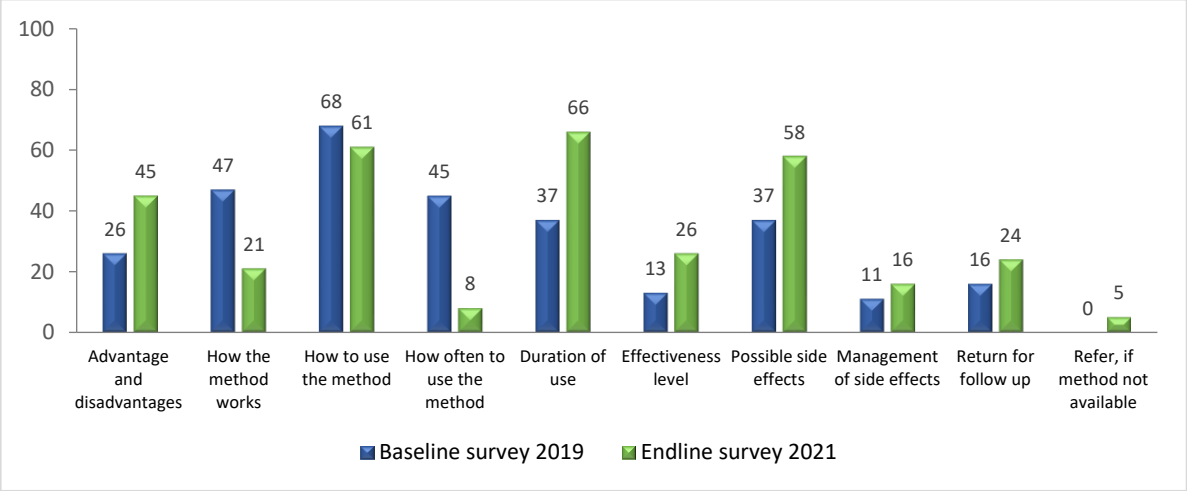
Figure 13: Percentage of CMWs who counsel clients about PPFP when they visit for FP services, antenatal care, postnatal care, post-abortion care, and just after delivery (n=38)



Information Provided to Clients

Not only did the CMWs offer more contraceptive methods and increase focus on PPFP, but the quality of the FP services they were offering also improved substantially. A key indicator of this is the quality of information provided to clients about their chosen FP method. Figure 14 shows an increase in the percentage of CMWs who explained key aspects of the contraceptive method provided, including advantages and disadvantages, effectiveness, side effects, duration of use, and need for follow-ups between the baseline and endline surveys. Overall, an increase was noted in seven aspects of information provision between the baseline and endline surveys. The data show that information provision on some elements still needs improvement, such as management of side effects, when to return for follow-up, effectiveness of various methods, and referrals.

Figure 14: Information provided by CMWs to clients when they selected an FP method



Multiple responses were allowed

Regular Contraceptive Supplies Essential for Uptake of FP Services

A continuous supply of contraceptive commodities is important to ensure the expansion and retention of FP clients at the community level. While CMWs are supplied contraceptives from their parent program, i.e., the MNCH under Department of Health (DoH), the supply is irregular; includes only three methods—condoms, pills, and injectables; and is not delivered directly to CMW birth stations. As a result, many of the CMWs participating in the intervention were unable to access contraceptives or faced frequent stock-outs. They had to collect or purchase contraceptives and could not offer a wide range of options to clients.

In the baseline FGDs, community women also said they preferred to obtain contraceptives locally from CMWs but complained that they were undersupplied and frequently out of stock of key FP methods.

For many of these women, community-level service provision is their only recourse to obtaining FP services, making a stable supply of contraceptives key to meeting their demand for family planning.

"We prefer to obtain family planning methods from the local CMW. Although she doesn't offer the full range of FP-related facilities, she does provide condoms, pills, and injections." (Baseline FGD)

"This is a male-dominated society in which men do not let women go too far from their houses. In these circumstances, CMWs are the best resource available to women for accessing the required family planning methods within the community." (Baseline FGD)

Regular Supply System of Contraceptives

Providing CMWs a continuous supply of free contraceptive commodities was the second major component of the intervention related to improving quality of care. The Population Council, in direct collaboration with the DoH, took over the responsibility of contraceptive distribution for the duration of the project. The range of contraceptives supplied was expanded to include emergency contraceptive pills. Injectables, pills, condoms, and EC pills were delivered directly to CMWs' birth stations. Uninterrupted, need-based supply was maintained for most of the study period, and the Council was successful in limiting interruptions due to the pandemic to a single week.[9] As mentioned earlier, IUCDs were not supplied by the Council because the CMWs who completed their hands-on training on this method could do so towards end of the intervention period. Moreover, implants were not provided as this method is not included in CMWs' mandate.

Availability of Contraceptive Stocks

Table 5 shows that nearly all the CMWs reported having contraceptive stocks available, at the end of the intervention which was not the case at the time of the baseline.[10] The few CMWs visiting other facilities to procure contraceptives were doing so only to acquire methods not provided by the Population Council, such as IUCDs. It is notable that availability of IUCD stocks had improved by intervention end, and the increased level was retained at endline. This could indicate that CMWs, after attending training, were sufficiently encouraged and keen to provide the method after procuring it on their own. CMWs' capacity and willingness to provide IUCDs make them a potential source of expanding access to long-acting reversible contraceptives (LARCs) at the community level; in this respect, they offer an advantage over LHWs, who are not permitted to provide IUCDs.

Table 5 shows that the position of contraceptive availability with CMWs increased greatly during the intervention period. However, at the time of the endline visit, which was conducted in April 2021, after the project had formally ended, the proportion of CMWs with contraceptives available had declined considerably even than baseline in some methods, it could be due to the pandemic because when Population Council withdrew, the CMWs were no longer receiving supplies.

Overall, the results underscore the necessity of instituting a well-coordinated mechanism of contraceptive supplies which delivers directly to birth stations.

Table 5: Proportion of CMWs having contraceptive stocks on the day of visits at baseline, intervention end, and endline, by method (n=38)

	Baseline survey (Sep 2019)		Intervention completion (Dec 2020)		Endline survey (Apr 2021)	
	%	Number of CMWs	%	Number of CMWs	%	Number of CMWs
Condom	79	34	97	38	66	38
Oral Pills	81	36	100	38	51	37
EC pills	17	6	95	38	50	32
Injectables	81	36	100	38	76	38
IUCD	67	3	71	24	71	24

[9] CMWs reported that the mean number of days during which their contraceptive supplies were disrupted due to COVID-19 was 7. The items they were short on were condoms, pills, and injections. Five CMWs consequently purchased these items from pharmacies, while two obtained them from other sources, such as LHWs.

[10] The situation at the end of the intervention, i.e., in December 2020, was assessed on the basis of monitoring data.

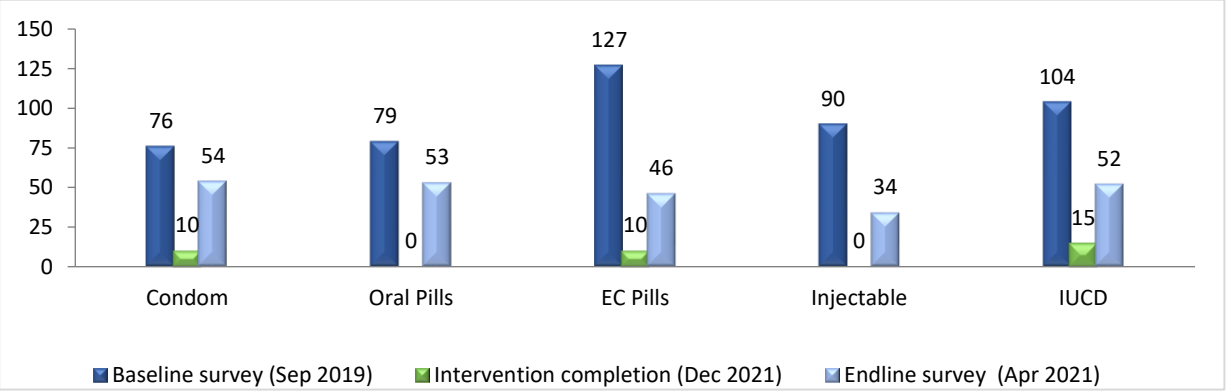
Table 6 shows that, at baseline, fairly high proportions of CMWs reported they had been out-of-stock of selected FP methods in the 6 months before the survey. In comparison, at the end of the intervention, almost no CMWs reflected that they had been out-of-stock for those methods in the past 6 months, i.e., during the project period. Some difficulties were reported during the first lockdown at the beginning of the pandemic, but as mentioned earlier, these were quickly contained by the Council. However, figures from the endline survey clearly show a resurgence in contraceptive stock-outs.

Table 6: Proportion of CMWs who reported being out of stock in the last 6 months, by method they provide and survey type (n=38)

	Baseline survey (Sep 2019)		Intervention completion (Dec 2020)		Endline survey (Apr 2021)	
	%	Number of CMWs	%	Number of CMWs	%	Number of CMWs
Condom	44	34	3	38	32	38
Oral Pills	39	36	0	38	49	37
EC pills	67	6	6	38	44	32
Injectables	22	36	0	38	21	38
IUCD	33	3	8	24	29	24

A similar pattern is seen in the duration of stock-outs (Figure 15). No CMW reported being out-of-stock for longer than 15 days for any method during the project period. This is in stark contrast to the situation before the project, when CMWs had lacked essential contraceptives for as long as two months or more. At the time of the evaluation visit in April 2021, after the closing of the project, the mean number of days that CMWs were out of stock had begun to rise once again.

Figure 15: Mean number of days during which CMWs reported being out of stock of five key methods in the last 6 months, at baseline, endline, and evaluation visit (n=38)



Qualitative findings indicate that women in the communities served by CMWs discerned the positive change in contraceptive availability during the project period. This impression lasted even at endline, after the project had closed and data shows that stock-outs had begun to increase.

"Our local CMW has an adequate stock of contraceptives now. She never excuses herself from providing a particular service on account of being undersupplied in a contraceptive method." (Endline FGD)

"It's true that our local CMWs did not offer as many FP facilities before as she is offering now." (Endline FGD)

The above findings underscore the importance of improving the supply of contraceptives to CMWs so they can remain effective as FP service providers in their communities. The success of the system introduced under the intervention makes a potent case for the Department of Health to consider expanding its scope of stock provision permanently and regularly to include all functional CMWs regardless of their current attachment status.

Augmented Capacity of CMWs to Provide FP Services

The intervention sought to enhance the capacity of CMWs to provide FP services in two key ways: training, and provision of a free and uninterrupted supply of contraceptives. In addition, basic equipment was provided to enhance their functional capacity. The results of these activities are outlined below.

Knowledge and Confidence

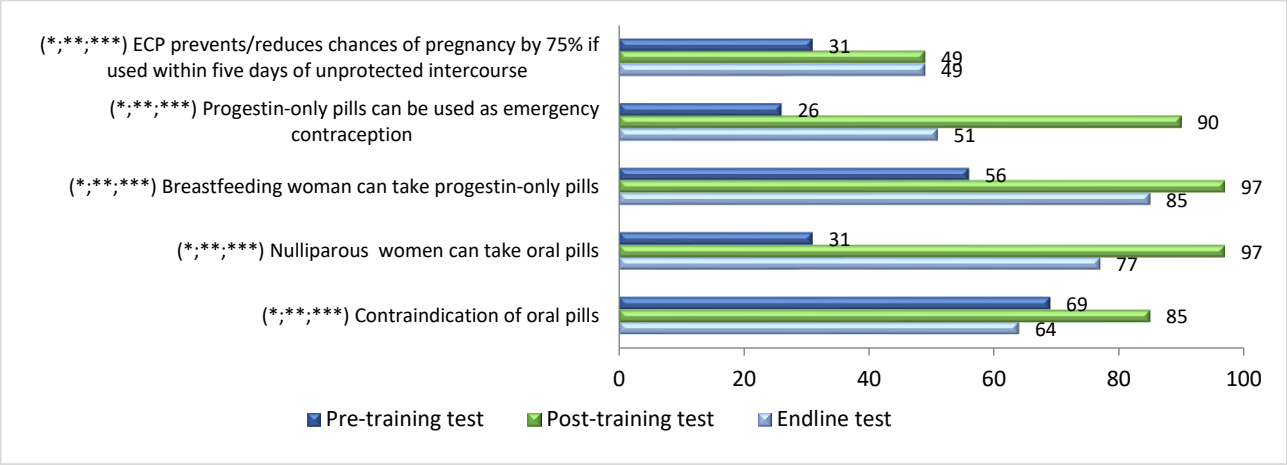
The study postulated that CMWs' lack of training in FP service provision is a major impediment to the provision of these services as it leads to poor counseling abilities and hesitation in offering services. They were therefore provided detailed training in provision of specific contraceptive methods, as outlined in the previous section.

Pre- and post-training tests were conducted to gauge CMWs' knowledge of specific FP methods before and after their training. Furthermore, to analyze the effectiveness of the training program in terms of the retention of knowledge after one year of training, an additional assessment was conducted at the time of the endline survey, and its results compared with those from the pre-training test. The results of the three tests for each method are discussed below.

The data presented in Figure 16 indicates a noteworthy improvement in CMW's knowledge about pills as a result of the FP training conducted by the Council. Compared to pre-training levels, substantially higher percentages of CMWs responded correctly to all five of the questions that were used to assess their understanding of this method directly after the training was complete.

However, endline responses indicate that even though much of the knowledge gained from training declined, it was still better than the baseline. While the proportion of CMWs scoring correctly on the 5 questions concerning pills had risen from 16 to 66 percentage-points between the pre- and post-training tests, the gap between the pre-training test and endline test was modest. These figures demonstrate that, periodic refresher trainings, must be an integral part of supportive supervision.

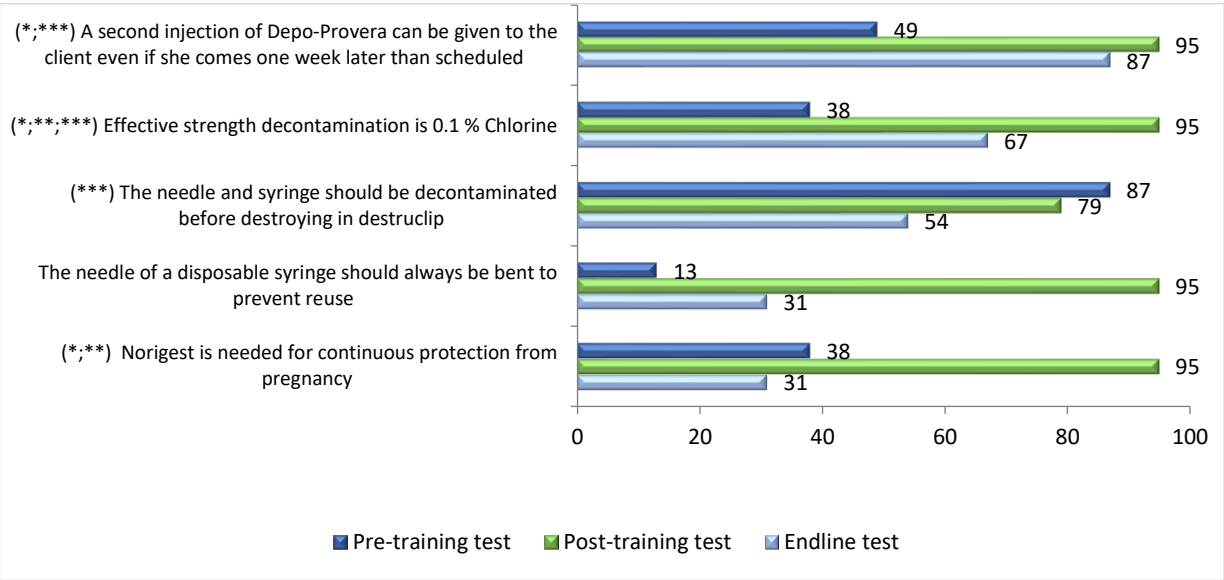
Figure 16: Percentage of CMWs who gave correct answers about pills in the pre-training, post-training, and endline tests (n=38)



* p < 0.05.(Pre-training test vs. Post-training test); ** p < 0.05. (Post-training test vs. Endline test); *** p < 0.05. (Pre-training test vs. Endline test)

Similarly, Figure 17 indicates a notable improvement in CMWs' knowledge of injectables immediately after their training. Post-training, considerably higher proportions of CMWs responded correctly to four of the five questions that assessed their understanding of injectables. Again, however, endline data shows a modest decline in CMWs' retention of knowledge about injectables compared to post-training levels yet they were still better than baseline.

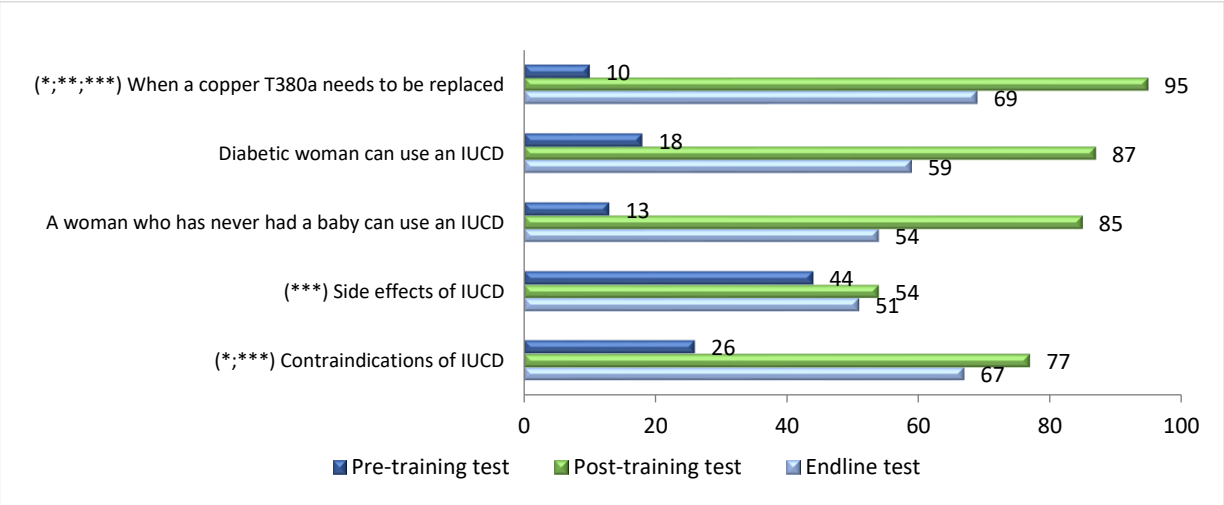
Figure 17: Percentage of CMWs who gave correct answers about injectables in the pre-training, post-training, and endline tests (n=38)



* p < 0.05.(Pre-training test vs. Post-training test); ** p < 0.05. (Post-training test vs. Endline test); *** p < 0.05. (Pre-training test vs. Endline test)

The CMWs performed better overall when tested on IUCDs than they did when tested on pills and injectables, both post-training and at endline. Nevertheless, as Figure 18 shows, the same pattern was repeated, with knowledge peaking post-training, and declining to some extent by endline, albeit still significantly higher than pre-test levels.

Figure 18: Percentage of CMWs who gave correct answers about IUCDs in the pre-training, post-training, and endline tests (n=38)



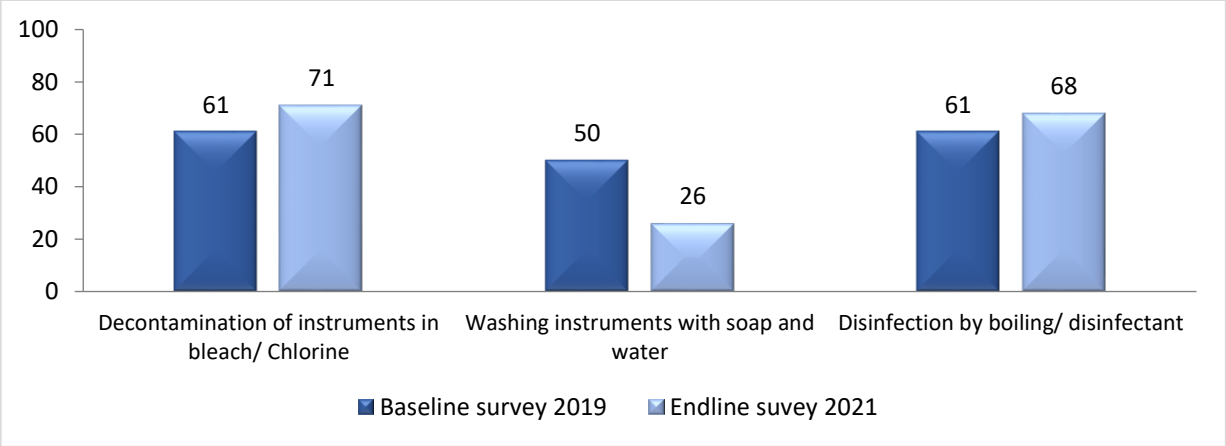
* p < 0.05.(Pre-training test vs. Post-training test); ** p < 0.05. (Post-training test vs. Endline test); *** p < 0.05. (Pre-training test vs. Endline test))

Results support that the need for CMWs' training was correctly assessed. Before the training program, the CMWs had demonstrated a weak and limited conceptual understanding of family planning methods as well as a limited skillset. Post-training results indicate that the training conducted by the Council was successful in improving CMWs' knowledge, and by extension, also the quality and range of their FP services.

However, the results also unequivocally highlight the importance of refresher trainings to ensure that CMWs maintain their grasp of essential knowledge about FP. This is critical in order to help them remain capable of providing quality FP services in the long-term.

Based on the data (Figure 19), it is further noted that a key topic that these refresher trainings ought to address is disinfection and sterilization as a component of infection-prevention skills. When tested on the protocol of infection prevention at endline, CMWs tended to downgrade the importance of the crucial intermediary step of washing their instruments with soap and water in the process of sterilizing them appropriately. This lapse occurred due to the prevalent misunderstanding that the use of chlorine, an item provided to CMWs by the Council, sufficed to sterilize birth station equipment. Infection prevention is a crucial aspect of FP service delivery, and it is noted that refresher trainings must address and duly correct such critical concepts.

Figure 19: Percentage of CMWs following infection prevention protocol at birth station (n=38)

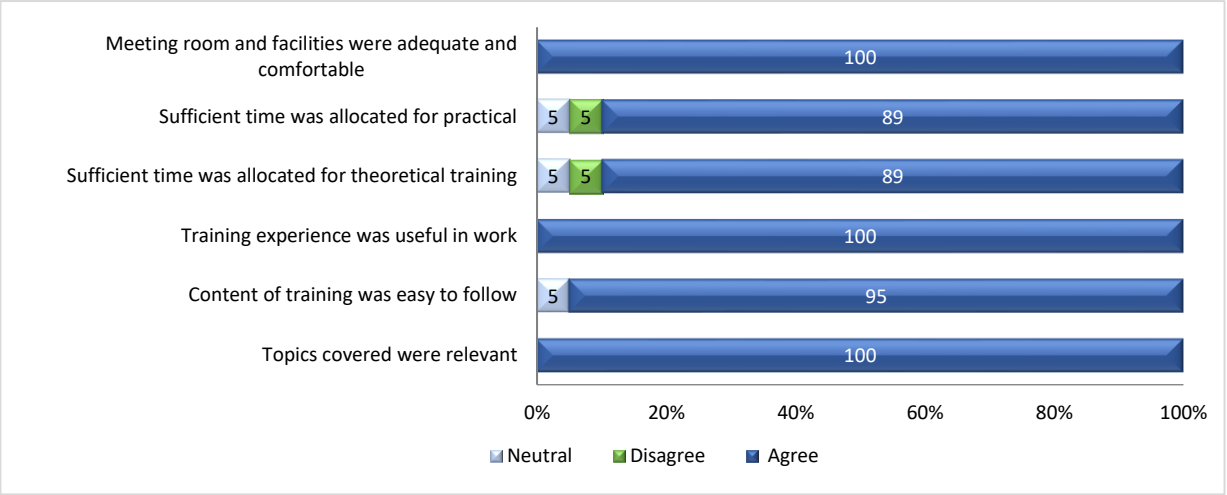


Qualitative findings indicate that for many rural women, CMWs are the best, and sometimes only, source of reliable information on family planning methods. As the following quote from an FGD with community women indicates, it is important that CMWs be sufficiently knowledgeable to appropriately educate, advise, and serve women in order to meet their needs as effectively as possible.

"CMWs are the best source of FP facilities for us because we are uneducated women. We have no prior knowledge of FP methods. The CMW in our area explains each method that we can obtain from her in detail. This enhances our knowledge of FP methods and we come to know more about their advantages." (Endline FGD)

Endline data shows (Figure 20) that the CMWs were almost universally satisfied with the quality of the training provided to them by the Population Council in terms of its relevance, understandability, practicability, time spacing, and mode of transmission. Qualitative findings presented in Box 1 also support this result. The usefulness of the content imparted and the visible reduction in their retention after a gap of several months further strengthens the case for regular refresher trainings.

Figure 20: Percentage of CMWs providing positive or negative feedback on training program (n=38)



Box 1: Training enhanced the confidence and skills of CMWs

According to responses given by CMWs to open-ended questions in the endline survey, they were neither confident nor skilled in providing family planning methods before the training arranged by the Population Council. They struggled to tackle misconceptions about methods; had fears when they tried to counsel or provide any FP method to a client; and would feel especially shy and nervous while providing FP services, which discouraged clients from visiting them.

All of the CMWs shared that the training has had positive effects on their skills and FP service provision. It enhanced their knowledge and counseling skills, and they feel much more confident while providing FP methods and managing side effects. They regularly use the Medical Eligibility Criteria (MEC) Wheel and IEC material provided during training in counseling and providing various FP methods. Moreover, they feel their communication skills have improved after training, which has led to an increase in clientele at their birth stations. The CMWs also mentioned that they learned about family planning rights of clients through the training.

"The training was highly beneficial for us; we did not learn in our CMW training as much as we learnt in Population Council's training."

"Earlier, clients used to associate different kinds of health problems with any FP method and we, being ignorant, felt kind of foolish and confused in front of them. But now we have complete knowledge about possible side effects of each method. Now I can even provide IUCD services to clients confidently and can satisfy them with appropriate information."

"I always used to tremble while dispensing injectables but now I am fully confident."

"Earlier, I was not able to communicate with clients appropriately because I did not feel confident but after attending this training, I can easily make them understand anything."

"Before attending Population Council's training, I used to think that I am needed by my clients, but after attending the behavioral training session, I realized that, in fact, these clients are needed by me. So I focused on improving my behavior towards them."

Availability of Functional Basic Equipment

Availability of functional basic equipment is a prerequisite for service providers to be able to provide quality services. For CMWs, the equipment shown in Figure 12 is essential to provide maternal as well as family planning services. Generally, a highly unsatisfactory situation had prevailed with regards to the availability of this equipment at CMWs' birth stations at baseline. Qualitative findings also showed that community women generally had a poor view of the adequacy of CMWs' birth stations.

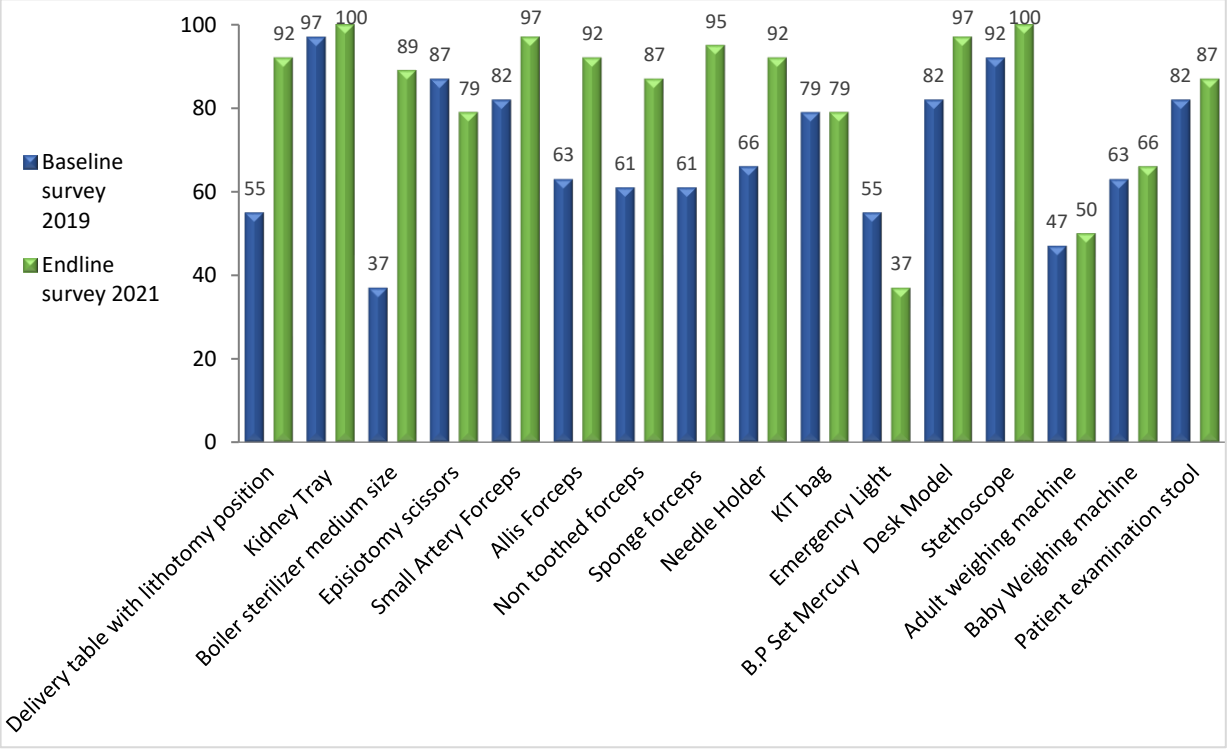
In FGDs conducted at baseline, women noted that their local CMWs' functionality was hampered by lack of facilities, such as appropriate and professional looking premises; sufficient, quality equipment; durable infrastructure; and a sufficient number of rooms to provide a range of health services to an adequate number of clients.

"The CMW in our area does not have a proper setup. She must be provided a proper clinic." (Baseline FGD)

"The CMW [in our area] could perform much better if a birth station was established for her and duly furnished with all the required facilities, including an ultrasound machine." (Baseline FGD)

Figure 21 shows that low proportions of CMWs had essential equipment available such as delivery tables (55%), sterilizers (37%), and different kinds of forceps at baseline. In contrast, the situation at endline had improved considerably due to the intervention. More than 85 percent of CMWs had functional basic equipment for providing FP services including IUCD. It is important to mention that full IUCD kits, including vaginal speculum, uterine sound and tenaculum, and sterilizers were also provided to all participants at the time of training to improve their capacity to provide IUCDs.

Figure 21: Percentage of CMWs reporting availability of functional basic equipment at birth station (n=38)



In addition to above mentioned equipment, availability of PPE is also important in the persistent COVID situation and as mentioned earlier, this too was provided to all CMWs under the project so they could provide services without any fear of contracting the virus.

In view of its benefits, all 38 CMWs suggested that the intervention should be replicated with the same arrangements and quality of training in other districts to improve FP services provided by CMWs to communities in Sindh (Box 2).

Box 2: CMWs' perspectives on need to replicate intervention in other districts

In response to open-ended questions, each of the interviewed CMWs endorsed the need to replicate the intervention in other districts for the reason that the problems they had faced were there in other districts as well, hampering poor people's access to FP services. They were of the view that the intervention would help resolve the problems of CMWs in other districts; with better knowledge and support in service provision, they would be able to run their birth stations more efficiently. After receiving this type of training, they felt a CMW's self-confidence increases, which leads to better work in the community.

> *"It should be introduced everywhere because we have learnt a lot from this training. The same should be given to all CMWs so that they can get also get benefit and increase their knowledge."*

The CMWs mentioned that the intervention is of benefit to common and poor people because it provides them access to improved FP services at their doorstep. Women who cannot leave their house for FP can be visited by CMWs.

> *"If a poor household receives FP services at the doorstep, it can improve mother and child health. It will be hugely beneficial for the community because all methods would be available under one roof. When a CMW, being a female, will provide services in slum areas, more people will come to her and the poor could get some benefit out of it."*

CHALLENGES AND LIMITATIONS

A number of limitations and special challenges were experienced during the study, which are outlined below along with the mitigation strategies adopted.

Disruptions Due to COVID-19

- Due to the COVID-19 pandemic, supportive supervision and monitoring field visits had to be postponed, and eventually cancelled quite early in the intervention. The Council sought to address this limitation by shifting to online communication and increasing the frequency of interactions between the core project team and the CMWs.

- CMWs could not be supervised in filling in the complete client record proforma which provided greater details about the client characteristics in the absence of regular field visits. CMWs' monthly performance reports have been used along with baseline and endline survey data in the analysis of FP use, particularly to determine the number of clients by method and by month.

- As per the original design, CMWs were to collect monthly contraceptive stocks supplied by PWD and placed at the CMW School. However, commodity supply to birth stations was disrupted during the first week of lockdown. To mitigate this challenge the Council acquired demand-based stocks on a monthly basis and supplied these directly to CMWs at their doorsteps.

- CMWs were not supplied appropriate personal protective equipment (PPE), such as masks, gloves, and sanitizers, by the government. The Population Council sought to address this problem by providing PPE to CMWs. About 97% of CMWs confirmed that they had received PPE from the Council. Of these CMWs, 97% confirmed that they received face shields, gloves, and aprons (Data not shown).

- Due to COVID pandemic and lockdown, 22 of 39 CMWs were able to complete the final requirements of their training in IUCD insertion and removal, i.e., two observations of IUCD insertion and five IUCD insertions, while 5 had done so partially. Due to the staggered and incomplete training of CMWs in IUCD insertion, IUCD supplies to them could also not be regularized under the project.

- Due to the COVID pandemic, PPIUCD training was postponed from March to November. Theoretical PPIUCD training for the first batch of 11 CMWs in November 2020 by the Council. The rest of the planned instruction could not be imparted due to intensification of the second wave of COVID-19 in Tando Allah Yar.

CONCLUSIONS

- **Family planning services uptake increased due to the intervention.** The target of the study was to assess whether improving FP service delivery via CMWs through the provision of training and commodity supplies would encourage them to enhance their practice of reproductive health and family planning service provision, thereby increasing access in communities. Our results indicate that this was indeed the case; an increase in the community-level uptake of FP services took place in areas where the intervention was administered. Factors that contributed to success include training of CMWs, which enhanced their knowledge, skills and confidence and expanded the choice of methods they could provide, and also the supply of contraceptives and essential equipment.

- **Community-level trust and confidence in CMWs' FP services increased.** While community-level acceptance of non-FP services by CMWs existed beforehand, their enhanced skills, improved counseling, and expanded method choice inspired trust and confidence of the community. The endline focus group discussion with community women indicated extensive utilization of CMW FP services by multiple women. The women had also been benefitting from door-to-door FP service provision by their resident CMW. All of them reported feeling satisfied by the services provided by the CMW.

- **Training provided was successful in enabling CMWs to provide PPFP services.** The high unmet need among women in the province during the critical postpartum period makes PPFP provision capability an important milestone. As a result of the training provided, CMWs' gained valuable counseling skills for postpartum FP, enabling them to provide this service at appropriate times in their clients' maternal healthcare visits.

- **A regular supply of free contraceptives enhanced CMWs' effectiveness as FP service providers.** Easy accessibility and availability of FP services increased the utilization of CMWs as FP service providers capable of providing a wider choice of FP methods in their communities. This underscores the importance of ensuring a continuous supply of contraceptives to enhance FP service provision capabilities.

- **Supplies of essential equipment and PPE supported CMWs in providing FP services at community level.** Filling the gap of equipment availability, particularly infection prevention measures and IUCD kits, supported CMWs in providing FP methods, especially IUCDs, which they had not been able to provide earlier. In addition, provision of PPE also made it possible for them to provide services to the extent possible without fear of contracting COVID-19.

- **Training needs to be repeated.** Results of the study indicate clearly that training improves the knowledge of CMWs about key FP methods in the short run. However, retention can be low and refresher training must be conducted on a regular basis for the benefits to be sustained.

- **Impact of COVID-19 on service provision.** While the data limitations and restrictions on field visits incurred during the COVID-19 period make it difficult to assess the full impact of the pandemic on the scope of FP service provision in Tando Allah Yar, we have enough information to highlight that the direction of the impact has been significant and negative, and that further research on the issue is needed.

RECOMMENDATIONS

- **The intervention should be upscaled in other districts of Sindh.** The results of the study demonstrate that training, combined with provision of essential equipment and a regular supply of contraceptives, effected a tangible improvement in CMWs' capacity and confidence for providing FP services; enhanced both the range and quality of their FP services; and led to increased receptivity and utilization of their FP services among served communities. With some adjustments to preempt the challenges and limitations experienced, the package of interventions tested can be replicated in other districts of Sindh to improve access to FP services at the community level.

- **More training** is required to enhance the capacity of CMWs to provide FP services. The results of this study showed that training was essential for improving the knowledge and skillset of CMWs, enhancing their counseling and service provision capabilities considerably. **Supportive supervision** is additionally recommended as an important component of such programs.

- It should be essential for all CMWs to complete **hands-on training on IUCD** and, as the next step, training in postpartum IUCD (PPIUCD) administration should be provided as it is crucial and relevant given CMWs' role of conducting deliveries.

- To further expand the range of methods available to community women, **Sayana Press®** should be added to CMWs' mandate. They should be trained and stocked to provide this method, regardless of their current attachment status with the program.

- The importance of **regular and assured contraceptive supplies** in enhancing FP uptake is duly emphasized. This is a major recommendation of this study. Programmatic efforts must be made to regularize the supply of essential commodities to CMWs providing FP services to prevent the loss of FP clientele and avert the possibility of method discontinuation. Direct, need-based supply of free contraceptives to CMW birth stations by the Council contributed greatly to improving their quality of services.

- The importance of **refresher trainings** to cement the gains in CMW knowledge and training is duly emphasized. Even though CMWs performed better on their endline assessments than they did on their baseline assessments, the study showed that refresher trainings are required to maintain sufficiently high levels of FP knowledge and skills. Periodic refresher trainings, including hands-on practice of key skills, should ideally be conducted during regular supervision visits to help CMWs renew, retain, and refresh their understanding of FP service provision. Hands-on training would also be useful in helping CMWs to resolve any queries and concerns that may have arisen while catering to specific cases during their regular practice.

- The **distribution of IEC materials** is recommended. Its prominent display at birth stations. This will not only help CMWs in dispensing quality FP services, but also enhance community awareness about family planning methods.

APPENDIX

Reasons for CMWs' Withdrawal from the Project

ID of CMW	Reason for dropping out
21	Could not be contacted by the field coordinator or remaining CMWs.
30	Moved to Shahdadpur District and left the project.
40	Married and ceased to respond to the field coordinator.
48	Was forbidden to work in the project by her husband.
104	Moved to Punjab province and left the project.
105	Withdrew from the project on account of her pregnancy and the illness of one of her children.
106	Moved to another village and did not share any data.
111	Withdrew from the project after marrying and moving.