Amani Dawai/Save the Children

FINDINGS FROM CROSS-SECTIONAL SURVEY OF FIRST-TIME MOTHERS IN DODOMA REGION, TANZANIA

Save the Children

Milken Institute School of Public Health
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Contents

Acronym list

ANC: Antenatal care

CBO: Community-based organization

CHW: Community health workers

COSTECH: Commission for Science and Technology

CSG: Community support groups

cRCT: Cluster-randomized controlled trial

EPDS: Edinburgh Postnatal Depression Scale

FP: Family planning

FPSE: Family planning self-efficacy

FTM: First-time mother

FTP: First-time parent

GWU: George Washington University

IPV: Intimate partner violence

IUCD: Intra-uterine contraceptive device

IUD: Intra-uterine device

LAM: Lactational amenorrhea method

LARC: Long-acting reversible contraception

LMIC: Low- and middle-income country

MOH: Ministry of Health

NGO: Non-governmental organization

NIMR: National Institute for Medical Research

OJT: On-the-job training

PNC: Postnatal care

PPFP: Postpartum family planning

PO-RALG: President's Office for Regional and Local Government

TAHEA: Tanzania Home Economics Association

TDHS: Tanzania Demographic and Health Survey

WRA: Women of reproductive age

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Executive Summary

Background

Globally, millions of adolescents (ages 15-19) and young women (ages 20-24) continue to give birth every year despite declining fertility rates. These first-time mothers (FTMs) and their children are particularly vulnerable to poor health outcomes. In many contexts, FTMs are less likely than non-FTMs and older women to access reproductive, maternal, and newborn health services, including postpartum family planning (PPFP), and are most likely to have closely-spaced second pregnancies. The transition to parenthood is also a time of rapid and significant change and vulnerability, for which many FTMs are unprepared, while facing inequitable gender norms and expectations. Despite challenges, this period is increasingly seen as a window of opportunity to shape life-long practices, especially since gender norms make it challenging to intervene prior to a first child.

In Tanzania, 22% of adolescent women ages 15-19 have either given birth or are pregnant. Furthermore, contraceptive use among sexually active adolescents and young women is low while the demand for contraception remains high. However, approximately 6 in 10 young mothers receive four or more antenatal care (ANC) visits and over 80% deliver in a health facility; thus, presenting a unique opportunity to engage them through existing services.

The Connect project implements community and facility-based interventions to increase FTMs' PPFP use, and that have potential for sustainability through institutionalization in existing government and community health systems. A baseline study was conducted as part of an ongoing cluster-randomized controlled trial to evaluate the impact of Connect's approaches. Data was collected through quantitative surveys with 1,129 FTMs ages 14-25 in two districts of the Dodoma region. The surveys included questions on adoption and continuation of PPFP, as well as other key indicators to deepen understanding of the factors that influence PPFP adoption for FTMs.

Key findings

Among postpartum FTMs in the study sample, approximately 27% had adopted a modern PPFP method, and 25% reported current use of PPFP at baseline. Reflecting national trends, implants were the most commonly adopted method. In addition to implants, method adoption varied by age: FTMs ages 14-19 were more likely to adopt IUDs and LAM while FTMs ages 20-25 reported higher use of condoms, pills, and injectables. Among the 514 postpartum FTMs who had not adopted a PPFP method, 27% indicated their intent to adopt implants while 19% reported intent to use injectables to delay or avoid a future pregnancy. PPFP discontinuation was higher for short-acting methods than long-acting reversible contraceptives (LARCs; IUDs and implants). More than 60% of FTMs who had adopted a PPFP method indicated that the advantages of using their PPFP methods outweighed the disadvantages of that method, and the ability to discontinue using a PPFP method was the most important characteristic when selecting a method.

Baseline study findings also provide insights into key factors that influence PPFP use among FTMs, including couple communication, misconceptions and lack of accurate FP knowledge, and social norms. Half of partnered FTMs (50.5%) had discussed FP with their partner, and couple communication around FP matters was more common among older FTMs (59.3%) than their

younger counterparts (45.2%). Just over half (55%) of FTMs reported that their ideal family size aligned with their partner's fertility preference. However, FTMs ages 20-25 reported higher rates of agreement with their partner compared to adolescent FTMs, and more FTMs ages 14-19 did not know their partner's preferences at all, compared to older FTMs ages 20-25.

FTMs demonstrated belief in myths and misconceptions around PPFP methods with 45.4% indicating that they believed FP methods are likely to cause infertility. Additionally, FTMs exhibited a low knowledge of FP method efficacy. For example, only 19.3% correctly chose "False" for the statement "Implants and oral contraceptive pills are equally effective at preventing pregnancy."

We also assessed descriptive and injunctive norms related to FP. Although the majority of FTMs (74% married and 69% unmarried FTMs) indicated that they believe that members of their community think it is appropriate for young women with one child to use FP methods, many FTMs in the study did not think it was common for other FTMs in their context to use medical methods of FP (pills, injectables, IUDs, and implants).

Conclusions

While baseline findings identified positive attitudes towards FP and overall satisfaction among PPFP adopters, key barriers including prevailing social norms, limited reproductive decision-making agency and self-efficacy among FTMs, as well as misconceptions and lack of accurate FP knowledge pose challenges to Tanzanian FTMs' PPFP adoption and continuation. Baseline findings also identified greater socio-economic vulnerability, less couple communication, and more limited agency among adolescent FTMs. Consequently, the need for simultaneously addressing these determinants in a sustainable way in order to increase PPFP uptake among adolescent and young FTMs and improve maternal and neonatal health outcomes is clear.

Background and Significance

Why first-time mothers?

While global adolescent fertility rates have declined, an estimated 12 million adolescents (ages 15-19) and many more young women (ages 20-24) give birth annually.[1,2] The vast majority of births to adolescents and young women occur in low- and middle-income country (LMIC) settings.[3]

First-time mothers (FTMs) and their children are particularly vulnerable to poor health outcomes. Complications from pregnancy and childbirth are among the leading causes of death for girls ages 15-19 globally,[4] and an estimated 15% of all global deaths among women ages 10-25 result from maternal causes.[5] In many contexts, FTMs are less likely than non-FTMs and older women to access reproductive, maternal, and newborn health services, including postpartum family planning (PPFP). Young mothers are at greatest risk of closely-spaced second pregnancies.[6] Both younger age at first birth and closely spaced pregnancies contribute to increased risk for maternal and infant morbidity and mortality.[7,8,9,10]

Evidence increasingly shows that for adolescents and youth, the transition to parenthood means navigating new family structures and social roles, for which many are unprepared, while facing increasingly inequitable gender norms and expectations.[11,12] Youth who become parents outside of marriage often face extreme social stigma, with limited support. Regardless of marital status, the transition to parenthood is a time of rapid and significant change and vulnerability. At the same time that young women are removed from family, school, and social support networks, they must navigate caring for their own health while learning to care for a newborn.

At this life stage, a period of rapid change and vulnerability, it is vital that FTMs receive the support they need. Despite challenges, this period is increasingly seen as a window of opportunity to shape life-long practices, especially since gender norms make it challenging to intervene prior to a first child.[13]

Evidence of effective approaches

Increasingly, program experience and evidence suggest that comprehensive interventions targeting adolescents and youth as they transition into parenthood can increase use of contraception and other health services, improve the social support that first-time parents (FTPs) receive, and catalyze more gender equitable practices in the household.[14,15,16,17] Most of these interventions have been holistic in nature, intervening at multiple levels of the socio-ecological model. They have included approaches such as small groups or home visits for FTMs, small groups for male partners, engagement of household influencers (i.e., mothers-in-law), community social and behavior change processes, and efforts to strengthen health service delivery.[18,19,20,21,22,23]

While dedicated FTM initiatives have shown promising results in small pilot areas, many have proven challenging to scale-up and to institutionalize within government systems.[24,25]

Tanzania's context

In Tanzania, contraceptive use among sexually active adolescents is low (15.2%), and almost a quarter (22%) of adolescent women ages 15-19 have either given birth or are pregnant.[26] While 17% of all non-first births are spaced less than 24 months from the previous birth, the median birth interval for adolescent mothers (ages 15-19) is shorter compared to young mothers (ages 20-29)

(24 months versus 32.6 months). Accordingly, current use of modern contraception is lowest among 15- to 19-year-olds (15.2%), while use among 20- to 24-years-olds (26.5%) is on par with that of older women (31.7%). The demand for contraception in Tanzania, however, is high. Approximately 6 in 10 married women ages 15-49 have a demand for FP (42% want to space births and 16% want to limit births).[i][27]

In Tanzania, adolescent mothers access health services at comparable rates to older mothers: 61.3% of young mothers receive four or more ANC), and 81.7% deliver in a health facility, compared to 62.9% and 81.2% of all mothers aged 15-49, respectively. This presents a unique opportunity to reach and engage adolescent mothers through existing health services and systems.

Overview of the Connect Project

With these gaps in mind, the Connect project, led by Save the Children in partnership with The George Washington University (GWU), designed light-touch interventions, called "enhancements," that could be layered onto a larger project in Tanzania and eventually institutionalized within the existing health system. In the Tanzanian context as in many low- and middle-income country (LMIC) settings, community health systems rely heavily on non-governmental organizations (NGOs) and community-based organizations (CBOs) for efforts such as training and support to community health workers (CHWs), community groups and events, and home visits. As such, the enhancements leveraged a USAID-funded project called Lishe Endelevu (2018-2023). Lishe Endelevu, which means "sustainable nutrition" in Kiswahili, operated in 493 wards and 1,755 villages in 23 districts of Dodoma, Iringa, Rukwa, and Morogoro regions. Lishe Endelevu reached breastfeeding and young mothers and their household and community influencers.

With the aim of leveraging Lishe Endelevu's reach to improve use of PPFP among FTMs ages 15-24, Connect introduced light-touch, scalable enhancements to Lishe Endelevu's community activities. The specific set of enhancements were designed in 2020 through a participatory process[28] based on two considerations:

1. ***Potential for impact:*** We selected interventions with potential to address key barriers identified in Connect's formative work. These included social pressure for FTMs to grow their families quickly; limited power in decisions related to fertility and FP, with most decisions made by male partners and older female relatives; and judgmental and harsh treatment by providers when seeking care.[29]
2. ***Potential for institutionalization:*** We selected interventions that had a path to sustainability through institutionalization in existing government or community platforms, given the characteristics of the Tanzania health system. This entailed moving beyond some potential interventions that had potential for impact, but limited potential for institutionalization. For example, a peer mentor model that paired FTMs with older mothers had potential to address key barriers, but would require donor resources to be sustained in the Tanzania context. In addition, while formative findings pointed to the importance of engaging household influencers and male partners to build support for

[i] Measures of demand for and unmet FP are imperfect, but are included here in the absence of more appropriate DHS indicators.

FTMs agency, improve couple communication, and improve knowledge, no existing platforms provided opportunities for deep engagement of male partners or older female relatives of FTMs.

These light-touch enhancements, designed for scalability, are described in further detail below. Table 1 provides a high-level summary of how the enhancements relate to Lishe Endelevu community activities.

Table 1: Connect's enhancements to Lishe Endelevu community and facility activities. Enhancements marked with an asterisk (*) below are included in the cluster-randomized controlled trial described in the following section.

	Existing Lishe Endelevu Activities	Connect Enhancements
Community level	Community support groups (CSGs) led by CHWs target breastfeeding mothers, pregnant adolescents, and adolescent mothers.	Inclusion of four PPFP-focused sessions in CSGs. Intentional targets for inclusion of FTMs in CSGs. FTMs receive CHW home visits; CHWs use integrated nutrition and PPFP job aids, with referrals to facility FP services.
Facility level	Supportive supervision focused on providers' interpersonal communication skills aims to improve the quality of nutrition counseling.	Respectful care on-the-job training (OJT) for facility staff aims to increase self-awareness of bias related to FTMs and PPFP.

Community-level enhancements

Community-level enhancements were designed to leverage Lishe Endelevu's existing activities, as well as existing government community systems (i.e., CHWs) to address the key barriers to FTMs' PPFP use as identified in the formative work. With the focus on scalability, enhancements are light-touch by design.

Community support groups (CSGs)*: Connect enhances Lishe Endelevu's CSGs of pregnant and lactating mothers ages 15-49. The CSGs use a toolkit to provide information about nutrition over the course of six months. Women are recruited into CSGs by CHWs. CHWs aim to recruit 15 mothers per group. Over the next four months after recruitment, the CSGs meet two times per month. After five to six months, the groups end and CHWs recruit new mothers to form new groups.

Connect's enhancements to CSGs: CSGs formed by Lishe Endelevu prior to 2021 had limited and varied enrollment of FTMs, with some CSGs not having any enrolled FTMs. Connect enhances Lishe Endelevu's Standard Operating Procedures to require at least seven FTMs to be recruited into each CSG established. In addition, Connect enhances the CSG toolkit to include FTM-focused content, including four activities with information on birth spacing and PPFP.

Home visits*: As part of the Connect package of enhancements, the CHWs who facilitate the community support groups also conduct home visits to FTMs. CHWs are provided a job aid to counsel FTMs and their families on PPFP and nutrition. Counseling addresses myths about FP, norms around fertility and spacing, and includes prompts to engage family and male partners

when present and available to participate. CHWs are asked to make at least two visits to each FTM group member, with at least one visit ideally timed to occur as soon as possible after delivery. Counseling also integrates timely nutrition information from the support groups (i.e., exclusive breastfeeding, introduction of complementary foods) with PPFP information (i.e., discussing lactation amenorrhea method, or lactational amenorrhea method (LAM), and providing information on lactation-safe FP methods for FTMs who are breastfeeding, discussing transition to another modern method when complementary foods are introduced, etc.). CHWs provide non-clinical FP methods (pills for refill and condoms) and provide referrals for services at public health facilities. With scalability in mind, the home visits entail several key trade-offs, including limited control over the number and timing of visits, and limited engagement of family members and male partners.

Facility level interventions

Connect's facility-level interventions are implemented only in public health facilities. All public health facilities in project districts receive the facility-level enhancements.

Respectful care on-the-job training (OJT): A light-touch respectful care activity was designed to complement planned Lishe Endelevu efforts that aim to strengthen interpersonal communication skills for facility-based health providers. Connect supported the Ministry of Health (MOH) to introduce a three- to four-day OJT on respectful care for healthcare providers to operationalize the MOH's *National Guidelines for Gender and Respectful Care Mainstreaming and Integration Across RMNCAH services in Tanzania*. This resource is fully owned by the MOH, and supports MOH goals of respectful care across RMNCAH services. The package includes provider reflection activities to increase self-awareness on specific biases related to FTPs and PPFP.

Small-scale testing of enhancement package (2021-22): Program enhancements were implemented on a small scale in five wards of Kongwa district, Dodoma region beginning in January 2021. In 2021, rapid surveys with FTMs identified associations between exposure to the enhancements and outcomes of interest. Findings are detailed in this brief.

On the basis of promising findings during small-scale testing, the enhancements were expanded to new wards in Kongwa and introduced in Bahi district, Dodoma region in March 2023. The enhancements are implemented by a local civil society organization (CSO), Tanzania Home Economics Association (TAHEA).

Study Goals and Objectives

This study report details findings from the 2023 baseline study conducted as part of a cluster-randomized controlled trial (cRCT) to evaluate the impact of project enhancements as implemented at a wider degree of scale, following promising findings from smaller-scale testing (2021-22). This report aims to provide a snapshot of the lives of FTMs in study areas, helping to provide understanding and context for the cRCT evaluation. Baseline data collection took place between February and March 2023.

Specifically, this report aims to detail:

1. The characteristics of FTMs in two districts of Dodoma region, Tanzania, including prevalence of perinatal depression and intimate partner violence (IPV)
2. FTMs' touchpoints with the health system during pregnancy and the postpartum period

3. PPFP adoption, including timing of adoption, discontinuation, and current use
4. Key factors associated with PPFP adoption, including key barriers identified in Connect's formative work, and factors that have been widely demonstrated to influence FP adoption among FTMs and youth in Tanzania or other LMIC settings. These include:
    a. Preferences for PPFP and for fertility
    b. Norms
    c. Communication
    d. Agency
    e. Family planning self-efficacy (FPSE)
    f. Knowledge and attitudes

The cRCT will focus on evaluating enhancements to the CSGs (shaded grey in Table 1 and marked with an *asterisk in the description above). The full cRCT impact evaluation design can be found here: https://www.socialscienceregistry.org/trials/11333.[30] The goal of the cRCT is to add to the evidence base on scalable and efficacious approaches for increasing PPFP uptake among adolescent and young FTMs.

Methodology

Study setting and village sample selection

This study was conducted in two districts within the Dodoma region of Tanzania, Kongwa, and Bahi. Dodoma is located in the center of the country, is semi-arid, and, as of the 2022 census, has a population of over 3 million.[31] It includes the capital city and the University of Dodoma. According to Tanzania Demographic and Health Survey (TDHS) 2022, 16.1% of women of reproductive age (WRA) in Dodoma could not read at all, less than half (47.2%) completed primary education, and 17.4% had secondary education or higher. WRA were more likely to be currently employed than not (over 60%), with more than half working in agriculture. In Dodoma, more than one out of five girls ages 15- to 19-year-old have begun childbearing (21.2%), which is similar to the national average (22%) among adolescent girls 15-19 years. Current use of modern contraceptive methods among WRA in Dodoma is 36.1%, with implants and injectables being the most commonly used, respectively.[32]

Kongwa has a population of 408,410 and includes 22 wards and 87 villages across three divisions. There are five health centers in Kongwa (four public and one private) and 56 dispensaries (30 public and 26 private). Kongwa also has one public district hospital. Bahi has a population of 287,901. It includes four divisions, 22 wards, and 59 villages. There are six health centers in Bahi (all of which are public) and 39 dispensaries (27 public and 12 private). Bahi also has one private district hospital.

Dodoma region was selected for this study on the basis of high rates of adolescent pregnancy, proximity to the national government to facilitate institutionalization efforts, and operational considerations (i.e., presence of a Save the Children sub-national office in Dodoma City, vehicles, and administrative support). Within Dodoma, Kongwa and Bahi were selected for wider-scale implementation by the President's Office for Regional and Local Government (PO-RALG) through discussions with Save the Children based on the presence of existing CSGs established by Lishe Endelevu, access to Dodoma City, presence of the district hospital, and rate of facility deliveries to facilitate PPFP. In addition, Bahi has peri-urban areas in an otherwise primarily rural region, allowing for implementation in diverse areas.

Out of the 143 total villages in Kongwa and Bahi (87 in Kongwa and 56 in Bahi), 111 villages were available for randomization (56 in Kongwa and 55 in Bahi). The other villages were either included in the pilot or in initial testing during Phase II, prior to the baseline survey, or were excluded due to many other ongoing interventions. The study team purposely selected all urban and peri-urban villages for inclusion in the sample and then randomly selected 31 rural villages from Kongwa and 33 rural villages in Bahi for a total of 38 villages in each district.

Subsequently, four villages had to be dropped from the sample because they did not have CHWs (three villages) or they were inaccessible (one village). The final sample included 36 villages in Bahi (18 treatment, 18 control) and 36 villages in Kongwa (19 treatment, 17 control).

Sampling, FTM inclusion, and recruitment

FTM recruitment

The study sample was identified through CSG recruitment in both treatment and control communities. Recruitment was carried out by CHWs with support from Save the Children and TAHEA between January and February 2023.

Ethics approval

The study design was approved by the GWU Committee on Human Research Institutional Review Board (NCR203091, approved on 4 October 2022), the Tanzania National Institute for Medical Research (NIMR/HQ/R.8a/Vol.IX/4174, approved on 19 December 2022), and the Tanzania Commission for Science and Technology (COSTECH), approved on 15 February 2023. Following approval from NIMR and COSTECH in Tanzania, approval from the PO-RALG was obtained prior to data collection.

Areas of interest

As noted, we collected data through quantitative surveys with adolescent (ages 15-19) and young (ages 20-24) FTMs.

The surveys gathered demographic information about FTMs and included comprehensive sets of questions on adoption and continuation of PPFP, as well as other key indicators to deepen understanding of the factors that influence PPFP adoption for FTMs.

Based on learning from the pilot phase and country-context, we considered three different categories of family planning methods: medical methods (which includes oral contraceptive pills, injectables, and long-acting reversible contraception (LARC) methods (implants and intrauterine device [IUD]); modern methods (which includes all medical methods plus condoms and LAM); and family planning methods (which includes all modern methods and traditional family planning methods). These groupings account for varying barriers that exist in adopting different family planning methods—for example, there are different barriers to adopting condoms compared to adopting medical methods. We use these classifications of family planning methods to account for this heterogeneity and to reflect language used in the Tanzanian context so that the questions were more readily understandable to the FTMs. Throughout this report, we distinguish between *medical* (Box 1) and *modern* (Box 2) methods.

Box 1: Medical FP methods

- Oral contraceptive pills
- Injectables
- Implants
- IUDs

Box 2: Modern FP methods

- Male condoms
- Oral contraceptive pills
- Injectables
- Implants
- IUDs
- LAM

The survey also included questions exploring FP norms and preferences, fertility preferences, communication and agency around FP and reproduction/reproductive health, FP knowledge and attitudes, postpartum mental health, and IPV.

Data collection and analysis

Survey data collection

Data was collected by a Tanzanian data collection firm, EDI, using experienced and trained survey enumerators who speak the local language of the study area (Kiswahili). Weekly communications between field supervisors and the GWU team were maintained to monitor the progress and quality of the data collection.

The interviewers reviewed responses to ensure completion and accuracy of each interview before terminating the interview session and transmitting the data. At the end of each day, the field supervisor had debriefing meetings with interviewers to discuss any problems or shortcomings and followed up with necessary actions in consultation with the in-country data collection firm and GWU team members.

The in-country data collection firm and GWU team members reviewed the data collected during field visits for completeness and consistency. Back check surveys consisting of re-interviews asking respondents a subset of questions were conducted by supervisors for approximately 10% of the sample. In addition, meetings were arranged in the field to discuss progress, problems, and troubleshooting tips.

Basic data cleaning was performed by EDI, with additional quality control by GWU. Variable construction and data analysis was conducted by the GWU team.

Results

The following sections present the findings of the baseline study. We detail: 1) the characteristics of FTMs; 2) FTMs' touchpoints with the health system during pregnancy and the postpartum period; 3) PPFP adoption, including timing of adoption, discontinuation, and current use; 4) factors influencing PPFP adoption; and 5) prevalence of self-reported perinatal depression and IPV among FTMs. Throughout, we disaggregate data by respondent age (15-19 vs. 20-24) and partnership status—partnered (married, engaged, living together as if married) vs. unpartnered (single or boyfriend).

Characteristics of FTMs in two districts of Dodoma region, Tanzania

The final sample for the baseline assessment included 1,129 FTMs ages 14-25 (Table 2). Treatment and control groups were well balanced in terms of baseline characteristics and key measures.

Table 2: Overall FTM sample

Age	FTM
14-15	**22**
16-17	**220**
18-19	**454**
20-21	**276**
22-23	**114**
24-25	**43**
Total	**1,129**

Of the 1,129 FTMs included in the sample, 302 (26.7%) were pregnant, and 827 (73.3%) had a child under 12 months old. The average age of the FTMs in the sample was 19.2 years old and average age at first marriage was 17.3 years old (out of those who had ever been married, n=716). Approximately one in five (21.3%) FTMs had a female head of household, and 66.3% were partnered. Fifty-nine percent of the sample had a primary school certificate or higher, while only 0.3% of FTMs were currently enrolled in school, with little variation between those ages 14-19 and 20-25. Almost one-third (31.3%, n=1127) of FTMs were poor, measured using the Tanzania Poverty Probability Index (2022) with the upper national poverty line.[33]

In addition, some CHWs who formed the CSGs recruited young mothers who did not meet the age and/or parity criteria for participation. Young women ages 15-24 who were pregnant with a second or higher-order pregnancy, or who already had two or more children (n=163), and FTMs older than age 25 (n=14), were excluded from the results presented in this report.

In terms of age, a higher proportion of younger FTMs (ages 14-19) were pregnant at the time of the baseline than older FTMs (ages 20-25; 29.4% younger vs. 22.4% older). When it came to partnered FTMs compared to unpartnered FTMs, important differences were observed as well. More partnered FTMs were pregnant (29.4% vs. 21.6%) and tended to have a smaller household size than unpartnered FTMs. More unpartnered FTMs had a female head of household (44.2% unpartnered vs. 9.7% partnered), a primary-level education or higher (68.2% vs. 54.3%), and a personal mobile phone (56.1% vs. 35.2%). However, almost half (45.4%) of unpartnered FTMs lived in poor households compared to a quarter (24.2%) of partnered FTMs. See Table 3 for all demographic data.

Table 3: FTM characteristics

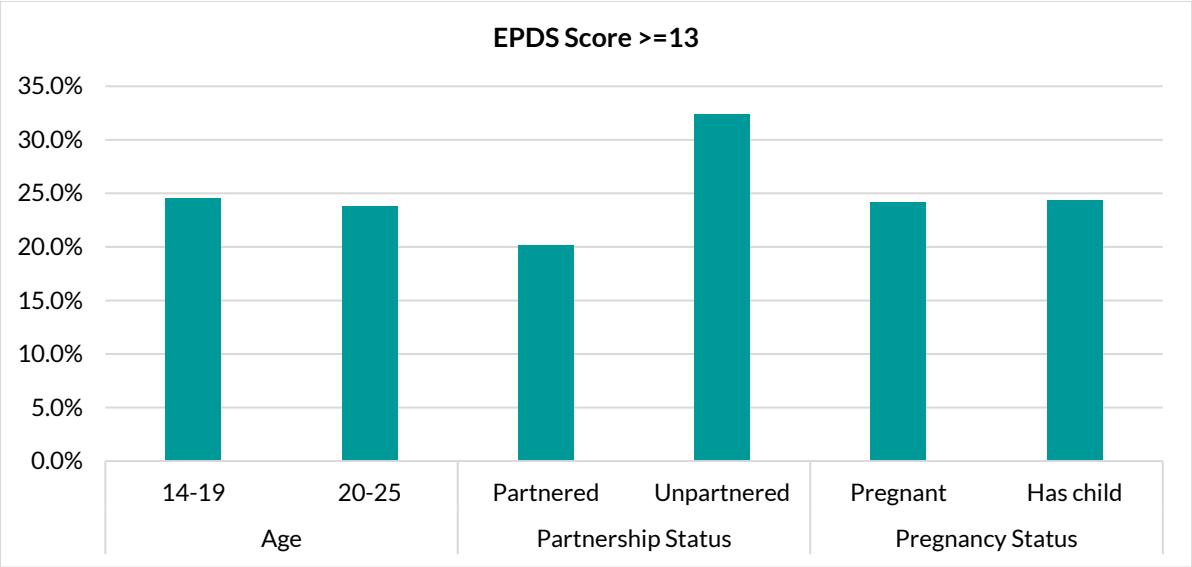
	ALL FTMs (n=1129)	AGE		PARTNERSHIP STATUS		PREGNANCY STATUS	
		14-19 (n=696)	20-25 (n=433)	PARTNERED (n=749)	UNPARTNERED (n=380)	PREGNANT (n=302)	POSTPARTUM (n=827)
FTM age	19.16	17.83	21.30	19.15	19.18	18.80	19.29
Partnered	66.3%	66.7%	65.8%			72.8%	64.0%
Age of first marriage *among partnered FTMs* (n=716)		16.26	19.09	17.33		17.34	17.33
Pregnant	26.7%	29.5%	22.4%	29.4%	21.6%		
Child age in months *among postpartum FTMs*		5.33	5.31	5.19	5.55		5.32
Household size	5.05	5.05	5.04	4.30	6.52	4.27	5.33
Female head of household	21.3%	22.4%	19.6%	9.7%	44.2%	20.2%	21.8%
Enrolled in school	0.3%	0.3%	0.2%	0.3%	0.3%	0.3%	0.2%
Has primary school certificate or higher	59.0%	52.0%	70.2%	54.3%	68.2%	61.6%	58.0%
Poverty likelihood, upper national poverty line (N=1127)	31.3%	33.4%	27.9%	24.2%	45.4%	27.4%	32.7%
Household has mobile phone	88.4%	86.5%	91.5%	88.5%	88.2%	90.1%	87.8%
FTM has personal mobile phone	42.2%	31.5%	59.6%	35.2%	56.1%	43.4%	41.8%

Mental health

Maternal depression is associated with harmful behaviors and adverse outcomes for women and children, and a 2016 study showed that adolescent mothers have a 63% higher risk of experiencing perinatal depression compared with adult mothers.[34] Mental health among all FTMs in the sample was measured using the Edinburgh Postnatal Depression Scale (EPDS), which is a 10-item scale to measure depression in women during pregnancy and postpartum.[35] Women with scores greater than or equal to 13 (out of 30) are considered to be experiencing depression. In our sample, almost a quarter of FTMs (24.3%) were experiencing depression at the time of data

collection.[ii] Experience of depression was higher among unpartnered FTMs (32.4%) than among partnered FTMs (20.2%), but there was no difference in depression rates by age cohort or pregnancy status. See Figure 1 below.

Figure 1: FTMs reporting depression during pregnancy and postpartum



Intimate partner violence

Violence has been identified as a factor leading to adolescent pregnancy in other studies[36,37] and can lead to poor outcomes for mother and baby[38], as well as inhibit use of health services, including PPFP. We adapted questions from two validated scales[39,40] to assess violence within intimate relationships. FTMs were asked if their current husband, current partner, or father of child had ever perpetrated acts of physical, sexual, and emotional violence against them.[iii] In general, high rates of IPV were reported by FTMs, with approximately a quarter of FTMs (22.5%) indicating that they had experienced IPV with their current partner (Table 4); almost all of those FTMs (92.7%) said they experienced IPV within the past year. Slightly more of the younger FTMs reported ever experiencing IPV compared to FTMs 20-25 years (25% vs 18%, respectively).

[ii] A 2023 meta-analysis found that 20.7% of women in low-income settings, and 24.3% in Sub-Saharan Africa, experienced perinatal depression. Roddy Mitchell A, Gordon H, Lindquist A, et al. Prevalence of Perinatal Depression in Low- and Middle-Income Countries: A Systematic Review and Meta-analysis. JAMA Psychiatry. 2023;80(5):425–431. doi:10.1001/jamapsychiatry.2023.0069

[iii] FTMs who needed IPV-related psychosocial support or care were provided with referral options including a national toll-free hotline and recommendation to contact a social welfare officer at the district level, a gender-based violence desk at the nearest police station, nearest health facility, or community leader.

Table 4: IPV prevalence reported by FTMs

	ALL FTMs	AGE		PARTNERSHIP STATUS		PREGNANCY STATUS	
		14-19	20-25	PARTNERED	UNPARTNERED	PREGNANT	POSTPARTUM
FTM experienced IPV with current husband, current partner, or father of child (n=1104)*	22.5%	25.4%	17.8%	21.1%	25.3%	23.0%	20.9%
FTM experienced IPV in past year with current husband, current partner or father of child, among those who experienced IPV with current husband, current partner, or father of child (n=248)	92.7%	93.6%	90.7%	92.4%	93.3%	93.0%	91.9%
FTM experienced IPV ever (n=1129)	22.3%	25.0%	18.0%	21.2%	24.5%	22.7%	21.2%

*sample sizes less than 1129 due to refusals and not applicable answers

All FTMs' touchpoints with the health system before pregnancy, during pregnancy, and in the postpartum period

We assessed use of maternal, newborn and child health services across the continuum of care, as well as FP and PPFP service use, to provide insights into FTMs' contacts with the health system at baseline. Box 3 provides information on FP, ANC, facility delivery, and postnatal care (PNC) use among adolescents ages 15-19 from the latest DHS, as a proxy for service use among FTMs.

In our study sample, almost all FTMs (98.7%) received ANC services. Among FTMs who have given birth (n=827), 88% gave birth in a facility, and almost half received PNC (47.5%) and adopted a modern PPFP method including LAM (45.9%). PPFP uptake is detailed in the following section. Almost three-quarters (73.2%) of babies received PNC.

There were no significant differences between younger FTMs who have given birth and older FTMs regarding facility delivery, PNC use, and PPFP adoption (detailed below).

In addition to uptake of PPFP (detailed in the following section), we also assessed ever-use of modern FP, including before pregnancy. Of the 1,129 FTMs sampled, 40.5% had ever used a modern FP method (condoms, pills, injectables, implants, IUDs, and LAM), while 24% ever used a medical FP method (pills, injectables, implants, and IUDs); only 34.8% (n=1128) ever received FP counseling. A higher percentage of older FTMs had ever used a modern FP method (46.4% vs. 36.8%) and had received FP counseling (41.6% vs. 30.6%) compared to younger FTMs. Additionally, more partnered FTMs than unpartnered FTMs had ever used a modern (42.7% vs. 36.1%) or medical (27.8% vs. 16.6%) FP method. Similarly, postpartum FTMs were more likely than pregnant FTMs to have ever used a FP method (44.9% vs. 28.5% modern, 29.4% vs. 9.3% medical). Postpartum FTMs were also more likely than pregnant FTMs to have ever received FP counseling (42.1% vs. 14.9%), suggesting that FP counseling during ANC may not be consistently provided.

Box 3: Service use among on adolescents ages 15-19 years in Tanzania (2022 TDHS data)

- Contraceptive use: 15.2%
- Received ANC services: 64%
- Delivered in a health facility: 82%
- PNC use: 48%

PPFP adoption, current use, and discontinuation among postpartum FTMs

This section presents findings on PPFP adoption, current use, and discontinuation among FTMs with a child under 12 months ("postpartum FTMs").

Adoption and current use among postpartum FTMs

Table 5 shows the percentage of postpartum FTMs who adopted or were currently using a medical and modern PPFP method by age and partnership status. Approximately 27% of FTMs had adopted a medical PPFP method, while 25% reported current use of a medical PPFP method. Almost half of the postpartum FTMs (45.9%) who participated in the survey indicated adopting modern PPFP including LAM, compared to 37.8% of postpartum FTMs. Over a third of FTMs (34.2%) reported current PPFP use. PPFP adoption of medical and modern methods did not vary by age group. In contrast, differences in adoption and current use patterns were more pronounced by partnership status. Adoption of medical and modern PPFP methods was higher among partnered FTMs compared to unpartnered FTMs (32.7% and 16.1%, respectively, for medical PPFP, and 50.9% and 37.2%, respectively, for modern PPFP). Similarly, almost twice as many partnered FTMs reported current use of medical PPFP methods compared to their unpartnered counterparts (30.2% vs 15.8%, respectively).

Table 5: Adoption and current use of medical and modern PPFP methods among postpartum FTMs

	Postpartum FTMs (n=827)	AGE		PARTNERSHIP STATUS	
		14-19 (n=491)	20-25 (n=336)	PARTNERED (n=529)	UNPARTNERED (n=298)
Adopted medical PPFP	26.7%	27.5%	25.6%	32.7%	16.1%
Current medical PPFP use	25.0%	25.7%	24.1%	30.2%	15.8%
Adopted modern PPFP *(including LAM)*	45.9%	47.7%	43.5%	50.9%	37.2%
Adopted modern PPFP *(not including LAM)*	37.8%	38.7%	36.6%	43.1%	28.5%
Current modern PPFP use	34.2%	34.0%	34.5%	40.5%	23.2%

Among all postpartum FTMs using modern PPFP methods, the largest proportion used implants (37.9%), followed by condoms (36.1%), and LAM (32.4 %). As shown in Table 6, the implant was the most used method among all FTMs, which is consistent with findings presented in the 2022 TDHS among majority of women.[41] Notable differences in methods adopted are seen by age and partnership status. The findings show slightly higher use of condoms, pills, and injectables among FTMs in the 20-25 age group compared to younger FTMs. FTMs ages 14-19 were more likely to adopt IUDs and LAM than the older FTMs. Further, unpartnered FTMs tended to adopt condoms, LAM, and implants, while partnered FTMs had higher adoption of pills, injectables, implants, and IUDs.

Table 6: Modern PPFP methods adopted by postpartum FTMs

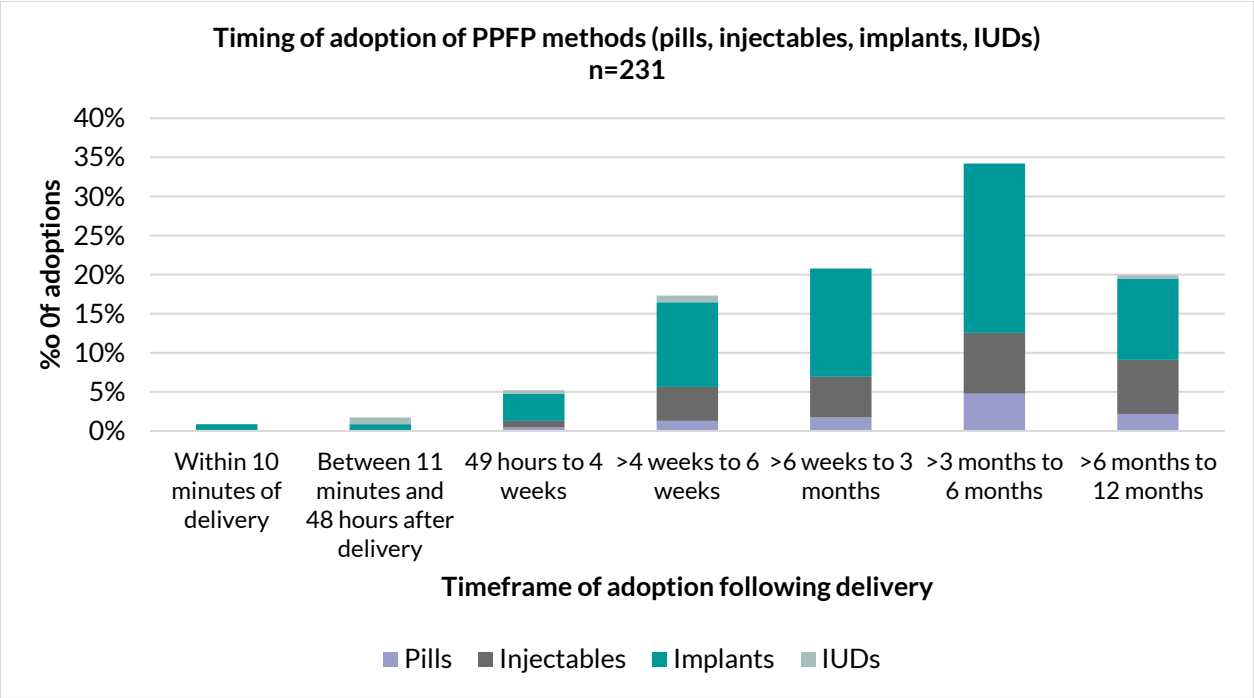
	ALL FTMs (n=380)	AGE		PARTNERSHIP STATUS	
		14-19	20-25	PARTNERED	UNPARTNERED
Condoms	36.1%	33.8%	39.7%	34.6%	39.6%
Pills	6.3%	5.1%	8.2%	7.8%	2.7%
Injectables	15.5%	14.1%	17.8%	19.0%	7.2%
Implant	37.9%	38.0%	37.7%	39.8%	33.3%
LAM	32.4%	34.2%	29.5%	30.5%	36.9%
IUD	1.8%	3.0%	0.0	2.6%	0.0

Timing of PPFP adoption

We measured timing of PPFP uptake by asking postpartum FTMs when they started using a method relative to giving birth. The majority of FTMs who adopted PPFP (26.7%) started using a

contraceptive method between three and six months after giving birth (Figure 2). Implants were the most-frequently adopted method among FTMs who adopted within this timeframe, followed by injectables and pills.

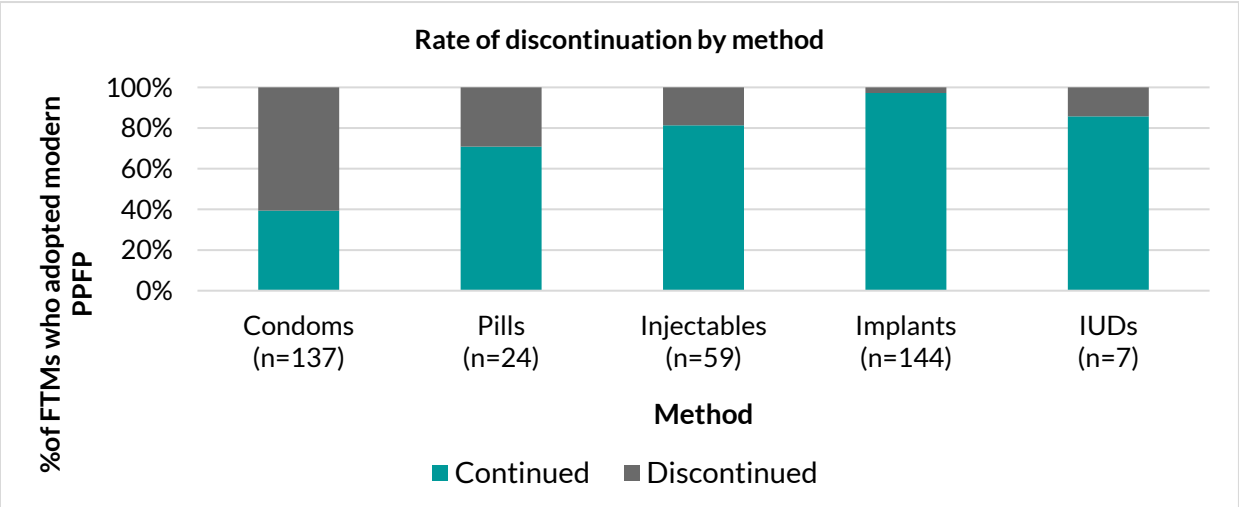
Figure 2: Timing of PPFP adoption



PPFP discontinuation

As depicted in Figure 3 below, discontinuation was higher for short-acting methods than LARCs. Discontinuation rates ranged from 19% for injectables to 61% among condom users.

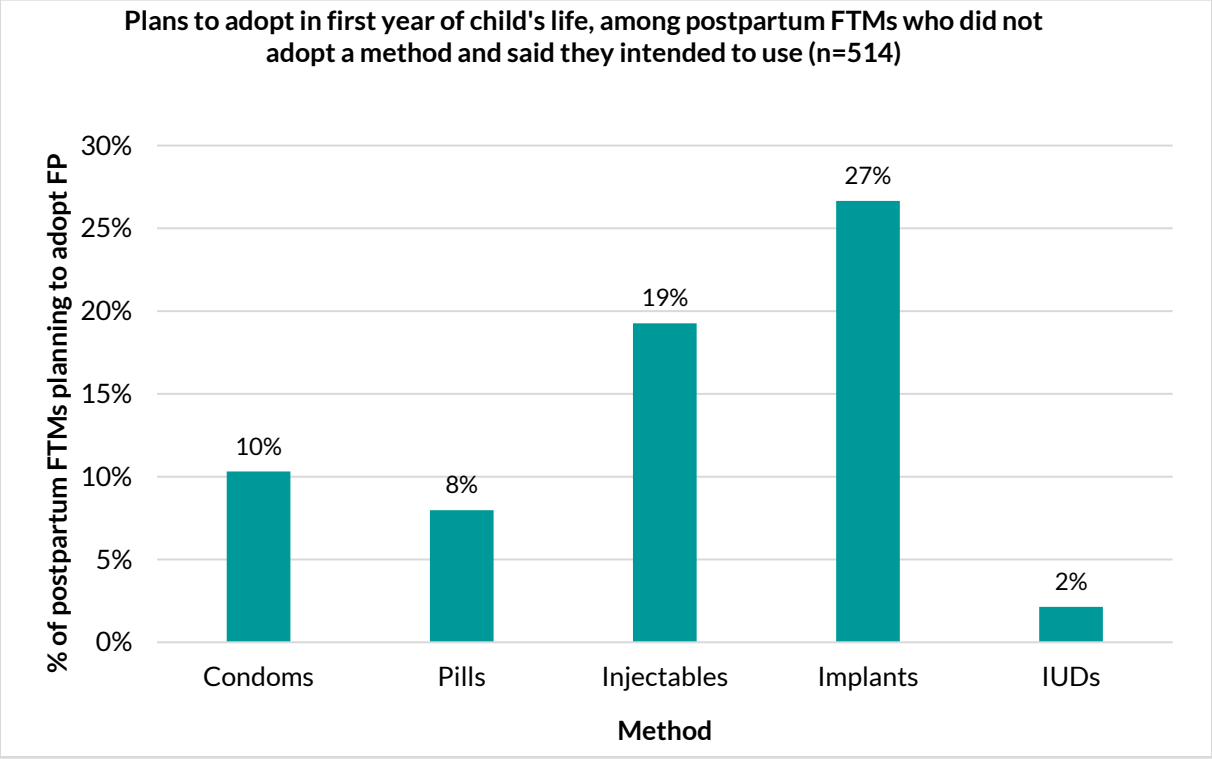
Figure 3: Rate of PPFP discontinuation by method



Plans to adopt PPFP among postpartum FTMs who had not adopted PPFP

We inquired about postpartum FTMs' plans to use a PPFP method to delay or avoid pregnancy in the future if they were not using a method at the time of the survey. Among postpartum FTMs who had not adopted any modern PPFP methods (66.3%), 27% indicated that they plan to adopt implants, followed by 19% who said they plan to use injectables to delay or avoid a future pregnancy (figure 4).

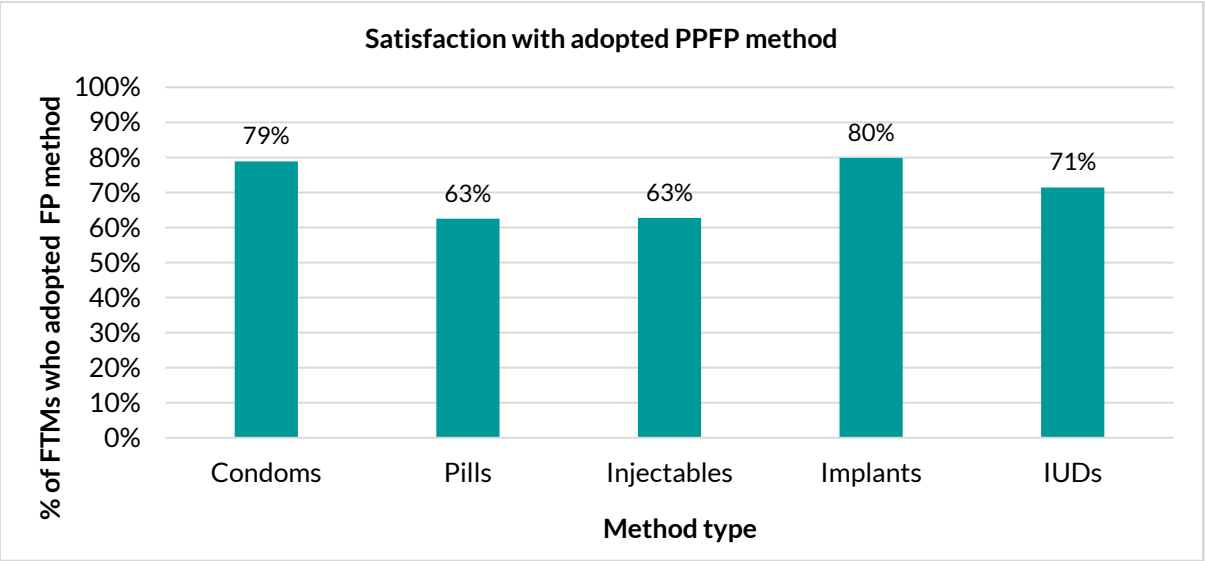
Figure 4: FTMs' plans to adopt PPFP among postpartum FTMs who did not adopt a modern PPFP method (multiple responses possible)



Satisfaction with PPFP methods

To assess satisfaction with the PPFP method that FTMs adopted, we asked FTMs to identify what they liked and did not like about the chosen method. Subsequently, we sought to understand whether or not FTMs believed the advantages of using the method were greater than the disadvantages. In general, satisfaction with PPFP methods was high among FTM adopters (Figure 5). Many FTMs who had adopted a PPFP method (26.7%) expressed the belief that the advantages of their method outweighed the disadvantages of that method. For implants specifically, 80% of FTMs who adopted implants reported that advantages outweigh disadvantages.

Figure 5: Belief that advantages of PPFP method outweighs disadvantages

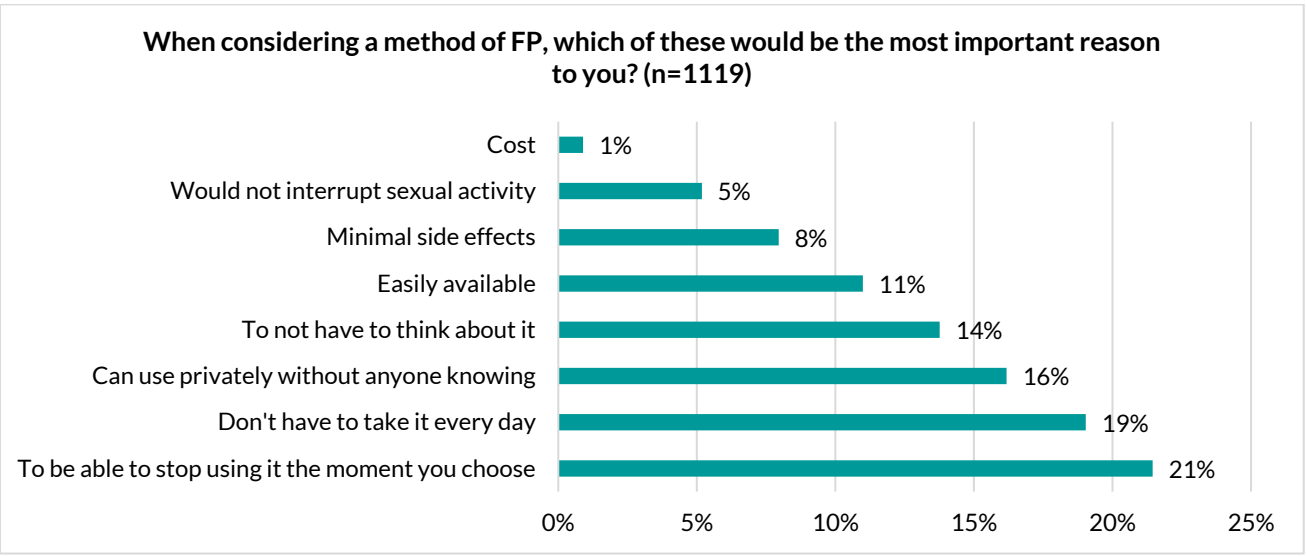


Key factors influencing PPFP adoption

FTMs' preferences for PPFP method characteristics

All FTMs in the study sample were asked to identify the most important characteristic when selecting a PPFP method. About 21% of the 1,119 FTMs noted that the ability to discontinue using a PPFP method is the most important characteristic when selecting a method (Figure 6). Having to not take the method daily (19%) and the ability to use discretely (16%) were also cited as key characteristics for selecting a method.

Figure 6: Key characteristics for selecting a PPFP method



Reasons for non-use of PPFP among postpartum FTMs

The baseline survey asked postpartum FTMs who were not using any FP method to delay or avoid pregnancy to provide the main reason for non-use. Approximately half of the 620 FTMs (47.2%) who reported not using a medical PPFP method—thus understanding they were already using a modern PPFP method—and abstaining from sex as key reasons for not adopting a contraceptive method (Table 7).

Table 7: Reasons for not using PPFP among postpartum FTMs

	ALL FTMs	AGE		PARTNERSHIP STATUS	
	n=620	14-19	20-25	PARTNERED	UNPARTNERED
Breastfeeding	24.0%	23.8%	24.3%	29.0%	16.7%
Not having sex	23.2%	21.1%	26.3%	17.1%	32.3%
Not menstruated since last birth	11.3%	11.5%	11.0%	16.3%	4.0%
Infrequent sex	9.0%	10.4%	7.1%	6.5%	12.7%
Not married	8.9%	9.0%	8.6%	1.1%	20.3%
Respondent opposed to using	4.8%	4.1%	5.9%	5.7%	3.6%
Knows no method	4.4%	4.9%	3.5%	5.1%	3.2%
Husband/partner opposed	3.2%	3.6%	2.7%	5.1%	0.4%
Inconvenient to use	1.8%	1.9%	1.6%	2.4%	0.8%
Side effects	1.3%	1.1%	1.6%	2.2%	0.0%
Don't know	1.1%	1.4%	0.8%	1.4%	0.8%
Using condoms	1.1%	1.1%	1.2%	1.1%	1.2%

Among FTMs who did not adopt a PPFP method, reasons for not using a method were similar across age groups; but there were a few distinctions based on partnership status. FTMs with a partner were almost twice as likely to report breastfeeding as a reason for not using a method compared to unpartnered FTMs (29.0% and 16.7%, respectively). 32% of FTMs without a partner indicated that they were not using PPFP because they were not having sex compared to 17.1% of FTMs with a partner.

Family planning method preferences among all FTMs

In order to understand FTMs' preferences for contraception, we asked the following to all FTMs: "If there were no constraints (e.g., cost, access, opinions of others, etc.), which strategy for birth spacing, if any, would you choose?" The most preferred FP method was implants (42.7% of FTMs), followed by injectables (27.7%). 86.8% of those who actually adopted the implant had selected the implant as their ideal method of PPFP. Other methods, including the pill, male condom, calendar

method, IUD, and abstinence were each chosen by less than 10% of postpartum FTMs in the sample.

Table 8: FTMs' ideal PPFP method

Findings in **bold** represent FTMs who say that their current method is their ideal method

PREFERRED METHOD AMONG ALL FTMs	ALL FTMs (N=1126)	METHOD ADOPTED AMONG POSTPARTUM FTMs (N=827) BY PREFERRED METHOD						
		IMPLANT	INJECTABLE	PILL	NO METHOD	MALE CONDOM	IUD	LAM
Implant	**42.7%**	**86.8%**	18.6%	33.3%	40.2%	46.0%	28.6%	45.5%
Injectable	**27.7%**	4.9%	**74.6%**	16.7%	29.7%	30.7%	14.3%	27.6%
Pill	**8.5%**	0.7%	1.7%	**50.0%**	8.8%	6.6%	14.3%	6.5%
No method	**5.8%**	2.8%	0.0%	0.0%	**6.3%**	0.7%	0.0%	5.7%
Male condom	**5.0%**	0.7%	1.7%	0.0%	3.4%	**13.9%**	0.0%	8.1%
IUD (IUCD)	**1.2%**	0.7%	1.7%	0.0%	0.7%	0.7%	**42.9%**	1.6%
Don't know	**4.4%**	0.0%	1.7%	0.0%	5.8%	0.0%	0.0%	0.8%
Calendar/standard days method	**2.7%**	1.4%	0.0%	0.0%	3.1%	0.7%	0.0%	1.6%
Abstinence	**1.2%**	0.7%	0.0%	0.0%	1.3%	0.0%	0.0%	1.6%
Withdrawal	**0.4%**	1.4%	0.0%	0.0%	0.2%	0.7%	0.0%	0.0%
Other traditional method	**0.3%**	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.8%
Female condom	**0.1%**	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%
Female sterilization	**0.1%**	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table 8 depicts the ideal method reported by FTMs who adopted each method. For medical methods, adoption aligns with reported preferences (i.e., pills are the most preferred method amongst those who adopted pills). For those who adopted no method, condoms, or LAM, most FTMs reported implants or injectables as their ideal method.

Fertility preferences

All FTMs were asked about their ideal family size and whether it aligned with their partner's preference. On average, FTMs reported their ideal number of children as four, which is consistent with the most recent TDHS findings among currently married women ages 15-49.[42] In particular, partnered FTMs reported wanting more children (4.36) than unpartnered FTMs (3.78), but no significant differences in fertility preferences existed by age cohort or pregnancy status. Furthermore, the majority of partnered FTMs indicated that they have the same fertility preferences as their partner (Table 9). However, older FTMs reported higher rates of agreement with their partner compared to younger FTMs, and younger FTMs, more than older FTMs, tended to not know their partner's preferences at all. For birth spacing, 96.9% of FTMs reported the

desire to space their births by two or more years, which is a much higher percentage than TDHS findings of 35%.[43]

Table 9: Preferences of FTMs' partners

	FTMs (n=731)	AGE		PREGNANCY STATUS	
		14-19	20-25	PREGNANT	POSTPARTUM
Don't know	26.9%	32.5%	17.9%	32.7%	24.6%
Same number	54.6%	49.3%	63.1%	46.9%	57.7%
More	16.0%	15.3%	17.2%	16.1%	16.0%
Fewer	2.5%	2.9%	1.8%	4.3%	1.7%

Norms around family planning

Social norms are the "perceived informal, mostly unwritten, rules that define acceptable, appropriate, and obligatory actions within a given group or community," and are enforced through a combination of sanctions and rewards that may include structural, social, individual, and material factors.[44] We assessed social norms using questions adapted from Costenbader et. al., 2019.[45]

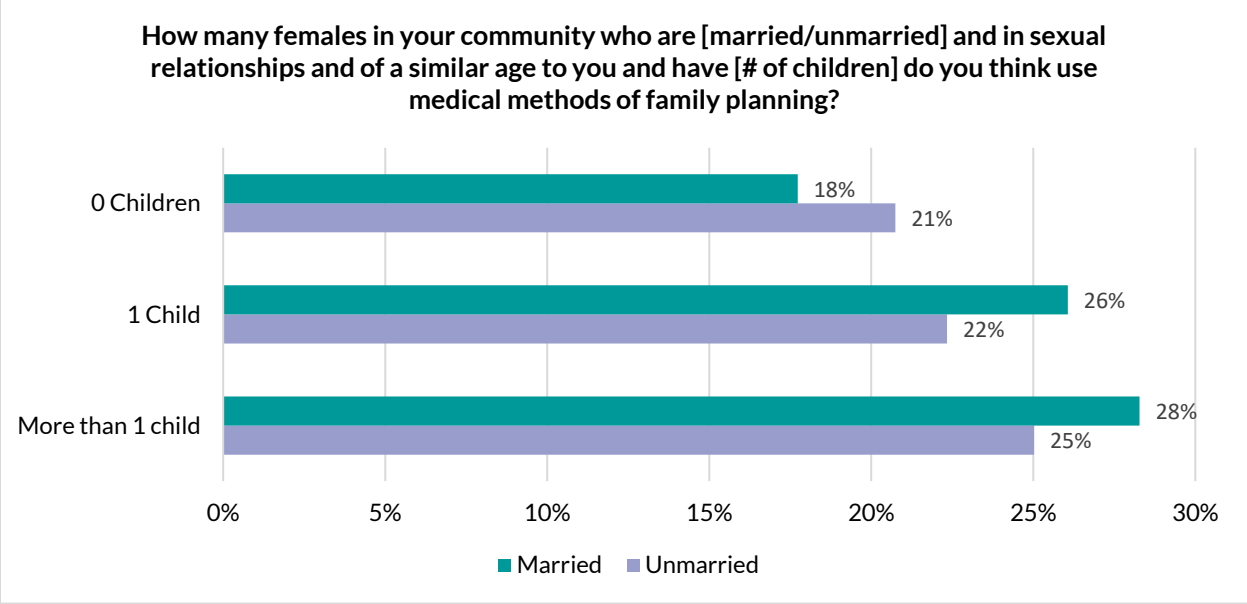
Descriptive norms

Descriptive norms are perceptions about typical or common behaviors, i.e., what others actually do. To understand the respondents' perceptions about whether other FTMs in their community are using medical methods of family planning (pills, injectables, implants, IUDs) or other FP, we asked all FTMs in the study sample the following:

- How many females in your community who are [married/unmarried] and in sexual relationships and of a similar age to you and have [# of children] do you think use medical methods of family planning?

In Figure 7 below, we present the distribution of FTMs who responded "most" or "all". In general, many of FTMs in the study did not think it was common for other FTMs in their context to use medical methods of FP. Additionally, the findings indicate that FTMs perceive increased medical FP use among women with more children and among married women.

Figure 7: FTMs' perception of FP use



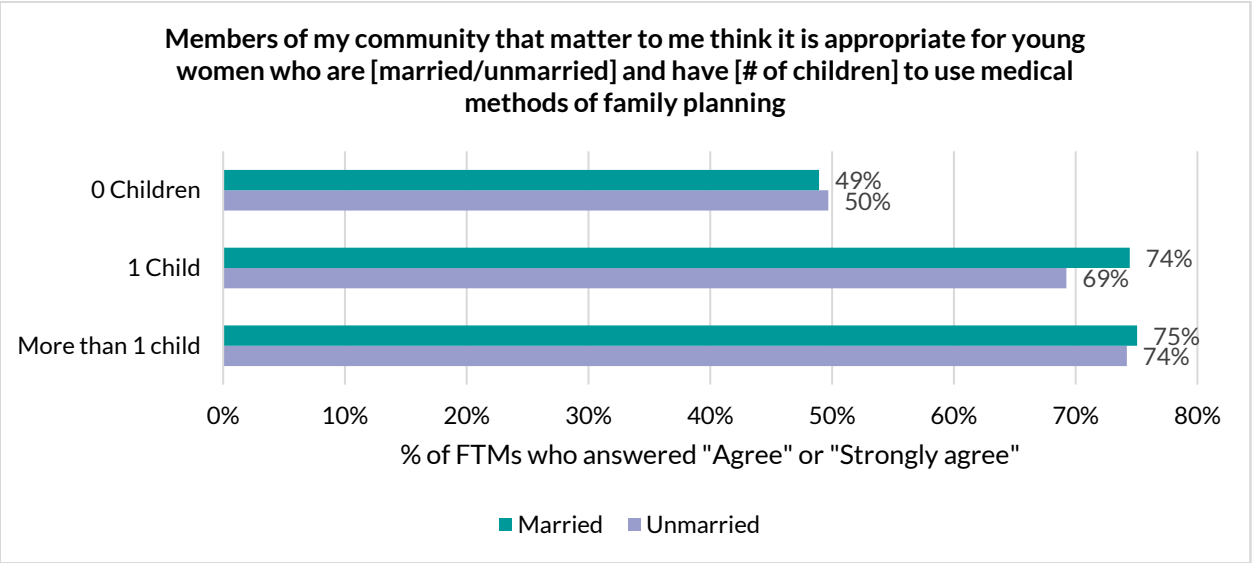
Injunctive norms

Injunctive norms are perceptions that people important to individuals approve of a certain practice.[46] We measured injunctive norms about whether most people approve or disapprove of FP use by young women. We asked all FTMs to respond to the following question:

- Members of my community that matter to me think it is appropriate for young women who are [married/unmarried] and have [# of children] to use medical methods of family planning.

As depicted in Figure 8, there was agreement among all respondents that parity status (i.e., those who are mothers versus those who are nulliparous) influences norms around FP use. Specifically, FTMs indicated that it was appropriate for young women who have one or more children to adopt a FP method. Further, the majority of FTMs (74% married and 69% unmarried FTMs) responded that they believe that members of their community think it is appropriate for young women with one child to use medical FP methods. There were limited differences between younger and older FTMs in perceived approval rates for FTM's use of FP. Notably, actual and perceived fears around consequences of FP use was limited.

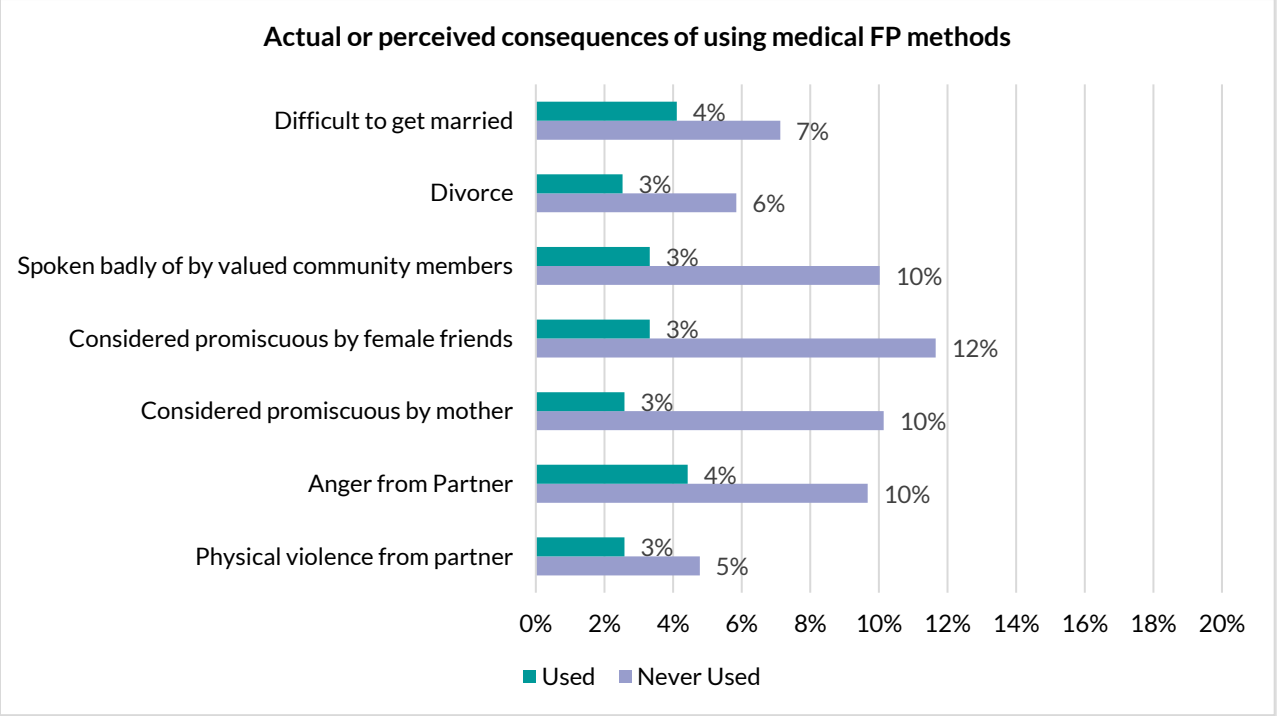
Figure 8: Approval of Medical Methods of FP use



Sanctions

Sanctions refer to negative consequences that result from going against a social norm. To assess sanctions related to actual FP use, FTMs who had ever used a medical FP method were asked to indicate consequences that occurred. Similarly, FTMs who have never used a medical FP method were asked to describe perceived sanctions of taking up a method if they decided to do so. Figure 9 below shows that perceptions around sanctions are higher compared to actual experiences.

Figure 9: Sanctions for FP use



Communication

Discussion of fertility intentions and FP within couples has been associated with improved FP uptake.[47] To measure communication regarding FP, we asked baseline survey respondents: "Have you ever talked about strategies for birth spacing with your [HUSBAND/PARTNER] either prior to pregnancy, during pregnancy, or after delivery?"

Table 10 provides details on communication around strategies for birth spacing. Results showed that half of partnered FTMs discussed FP with their partner. Communication around FP matters was more common among older FTMs (59.3%) than their younger counterparts (45.2%). Only one in ten FTMs had discussed FP with another member of their household (who is not their partner). FTMs 20-24 years were more likely to discuss using a method of contraception with others compared to FTMs 14-19 years (13.2% vs 9.9%). When it comes to relationship status, more unpartnered FTMs (14.5%) reported discussing FP with a family member than those who have a partner (9.5%).

Table 10: Communication around FP

	ALL FTMs	AGE		PREGNANCY STATUS	
		14-19	20-25	PREGNANT	POSTPARTUM
Discussed FP with partner (N=734)	50.5%	45.2%	59.3%	36.2%	56.4%
Discussed FP with other household member (N=1129)	11.2%	9.9%	13.2%	6.6%	12.8%

Agency among partnered FTMs

Agency—the capacity to make decisions about one's own life and act on them—is increasingly recognized as a critical element in achieving healthy SRH outcomes for adolescents and youth.[48,49] Reproductive decision-making agency was measured by partnered FTMs' perception of the degree to which they were meaningfully engaged in the decision-making process, and their level of satisfaction with their own influence over the decision itself.[50] The majority of partnered FTMs described having limited reproductive decision-making agency over their fertility intentions and FP preferences. In general, meaningful engagement in the reproductive decision-making process and levels of agency varied by age and pregnancy status (Table 11). Across all domains, a slightly higher proportion of older FTMs reported that they shared their opinion, had a say in final decisions related to their fertility intentions and FP preferences, and felt satisfied with their level of influence in the final decision. Similarly, FTMs with at least one child reported higher levels of agency compared to pregnant FTMs. Further, variations in decision-making agency related to when and how many children, were less compared to differences around whether and which method of FP to use by age and pregnancy status.

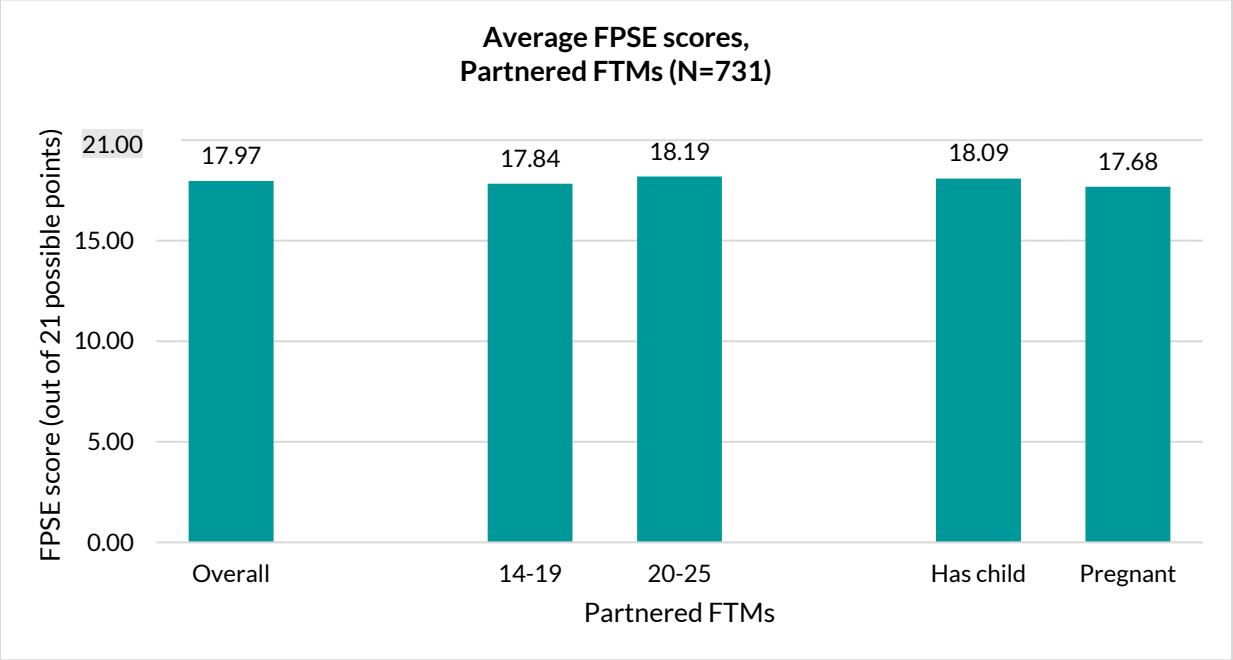
Table 11: Percentages of partnered FTMs who have high reproductive decision-making agency in each of four domains

	Overall (n=749)	AGE		PREGNANCY STATUS	
		14-19 (n=464)	20-25 (n=285)	PREGNANT (n= 220)	POSTPARTUM (n= 529)
Discussed when to have children	23.5%	22.0%	26.0%	23.6%	23.4%
Discussed how many children to have	20.4%	18.5%	23.5%	17.3%	21.7%
Discussed whether to use modern family planning	23.8%	21.1%	28.1%	17.3%	26.5%
Discussed which method of family planning to use	23.4%	20.0%	28.8%	17.7%	25.7%

Family planning self-efficacy among partnered FTMs

Family planning self-efficacy (FPSE) was assessed by a 7-item measure[51] asking partnered FTMs (n= 731) about their beliefs on their ability to successfully access and use FP methods under specific conditions, such in the face of opposition. The overall FPSE score was calculated by summing responses to the 7 measures. FPSE scores were high among all partnered FTMs and did not vary by age or pregnancy status. Specifically, FTMs scored an average of 17.97 points. Possible scores ranged from 7-21 points (Figure 9).

Figure 9: Family planning self-efficacy scores among partnered FTMs



Knowledge and attitudes

PPFP knowledge was measured with a series of "True" or "False" questions adapted from a similar study with FTMs in the Democratic Republic of Congo[52], which all FTMs answered to the best of their ability (Table 12). Knowledge questions were selected to reflect key knowledge barriers identified in Connect's formative work and targeted with the enhancements.

More than 80% of respondents were aware that they can switch to another FP method if they do not like the current method they are using. Respondents demonstrated belief in myths and misconceptions around medical FP. Almost half of respondents (45.4%) incorrectly answered "True" to "Medical methods of family planning are likely to cause infertility," and over one-third of respondents (36.2%) incorrectly answered "True" to "Medical methods of family planning are likely to give you deformed babies." Finally, more than two-thirds of FTMs thought that they must be accompanied by a male partner to access FP or other health services. There were no significant differences by age group, partnership status, or pregnancy status for any of these knowledge assessment questions.

It is also important to note that the directionality of the "True" or "False" statements may have impacted how respondents answered.

We also assessed knowledge of FP method efficacy. Overall, the FTMs exhibited a low knowledge of FP method efficacy – only 19.3% correctly chose "False" for "Implants and oral contraceptive pills are equally effective at preventing pregnancy," only 28% correctly chose "False" for "Condoms and implants are equally effective at preventing pregnancy," and only 55.2% correctly chose "True" for "Oral contraceptive pills are more effective than condoms at preventing pregnancy."

Table 12: FTMs' PPFP knowledge

	ALL FTMs (n=1129)	AGE		PARTNERSHIP STATUS		PREGNANCY STATUS	
		14-19 (n=696)	20-25 (n=433)	PARTNERED (n=749)	UNPARTNERED (n=380)	PREGNANT (n=302)	POSTPARTUM (n=827)
Medical methods of family planning are likely to cause infertility (% false)	54.6%	53.0%	57.0%	52.6%	58.4%	56.3%	49.7%
If you do not like the family planning method you choose first, you can switch to another method (% true)	83.2%	81.9%	85.2%	81.8%	85.8%	84.6%	79.1%
Young women need to be accompanied by a male partner to access family planning services (% false)	30.9%	33.1%	27.3%	31.1%	30.3%	30.3%	32.5%
Young women need to be accompanied by a male partner to access any health services (% false)	27.2%	29.8%	23.1%	25.6%	30.3%	28.1%	24.8%
Medical methods of family planning are likely to give you deformed babies (% false)	63.8%	62.8%	65.4%	61.1%	68.9%	65.8%	58.3%
Implants and oral contraceptive pills are equally effective at preventing pregnancy (% false)	19.3%	19.7%	18.5%	19.4%	19.0%	19.5%	18.5%
Condoms and implants are equally effective at preventing pregnancy (% false)	28.0%	27.1%	29.6%	27.7%	28.7%	27.2%	30.1%
Oral contraceptive pills are more effective than condoms at preventing pregnancy (% true)	55.2%	53.7%	57.5%	55.4%	54.7%	57.3%	49.3%

Regarding FTMs' knowledge on birth spacing, respondents were asked to select all reasons for the importance of birth spacing by two or more years (Table 13). Most respondents (72.2%) correctly chose "Baby grows up stronger and healthier." However, few respondents identified other vital reasons for birth spacing. Only 15.9% selected "Mother less likely to miscarry," 11.7% selected

"Mother less likely to die," 10.8% selected "Baby less likely to die," 10.7% selected "Baby less likely to be underweight," and only 8.1% selected "Baby less likely to be premature."

Table 13: FTMs' knowledge on birth spacing

	ALL FTMs (n=1129)	AGE		PARTNERSHIP STATUS		PREGNANCY STATUS	
		14-19 (n=696)	20-25 (n=433)	PARTNERED (n=749)	UNPARTNERED (n=380)	PREGNANT (n=302)	POSTPARTUM (n=827)
Mother less likely to die	11.7%	11.1%	12.7%	12.6%	10.0%	11.9%	11.3%
Baby less likely to die	10.8%	10.2%	11.8%	10.5%	11.3%	10.9%	10.6%
Baby less likely to be premature	8.1%	7.8%	8.5%	7.6%	8.9%	8.3%	7.3%
Baby less likely to be underweight	10.7%	9.9%	12.0%	10.8%	10.5%	11.1%	9.6%
Mother less likely to miscarry	15.9%	14.8%	17.6%	14.4%	18.7%	16.9%	12.9%
Baby grows up stronger and healthier	72.2%	71.7%	73.0%	71.6%	73.4%	72.6%	71.2%
No benefits	1.7%	1.7%	1.6%	2.1%	0.8%	1.7%	1.7%

Attitudes around FP use and number of children were measured with a set of nine questions, adapted from EMERGE[53] and PMA 2020, and answered via a five-point Likert scale (1=strongly agree, 5=strongly disagree). Attitudes were consistent with norms identified (see "Norms around Family Planning" section above). Over 70% of respondents did not think it is disrespectful for a young mother who has a partner to consider using FP, and almost 80% did not think young women who use FP are promiscuous. On the other hand, about 68% of respondents agreed that a young woman should not use medical methods of family planning until she has had at least one child, although 62.4% disagreed that FP is only for women who don't want more children. Most FTMs believed that it is appropriate for a husband and wife to talk about FP, but only half of partnered FTMs had done so. Finally, most respondents agreed that birth spacing is good for mothers.

Table 14: FTMs' attitudes around FP

	ALL FTMs (n=1129)	AGE		PARTNERSHIP STATUS		PREGNANCY STATUS	
		14-19 (n=696)	20-25 (n=433)	PARTNERED (n=749)	UNPARTNERED (n=380)	PREGNANT (n=302)	POSTPARTUM (n=827)
Spacing births is good for all mothers, no matter their age or how many children they have (% agree)	79.1%	77.2%	82.2%	78.0%	81.3%	80.3%	75.8%
It is better to have one's children close together, while the mother is still young (% disagree)	71.4%	71.0%	72.1%	68.4%	77.4%	71.0%	72.5%
If a young mother who is married or in a relationship considers using FP, it is disrespectful to her husband and her family (% disagree)	73.7%	72.8%	75.1%	70.5%	80.0%	74.4%	71.9%
A young woman should not use medical methods of FP until she has had at least one child (% disagree)	31.9%	30.9%	33.5%	28.3%	38.9%	32.4%	30.5%
Young women who use modern FP are promiscuous (% disagree)	77.0%	76.4%	78.1%	75.4%	80.3%	78.5%	73.2%
It is appropriate for a husband and wife to talk about strategies for birth spacing to delay or avoid pregnancy (% agree)	83.7%	82.2%	86.1%	83.8%	83.4%	83.3%	84.8%
FP is only for women who don't want more children (% disagree)	62.4%	61.4%	64.0%	60.7%	65.5%	61.5%	64.6%
A young woman should not use strategies of birth spacing until she has had at least one child (% disagree)	36.0%	34.1%	39.0%	34.0%	39.8%	35.8%	36.4%
Women do not have to inform their partners if they use FP methods (% agree)	20.7%	20.4%	21.2%	19.5%	23.2%	19.5%	24.2%

Limitations

This baseline study is not without limitations. First, the sample is not representative of FTMs in Tanzania, thus the findings may not be generalizable beyond other areas in Kongwa and Bahi

districts that share similar socioeconomic characteristics to our study sites. Second, the findings presented in this report are cross-sectional and do not speak to causality. Results from the planned endline evaluation (2024) will be used to evaluate the impact of Connect's interventions on primary outcomes (PPFP uptake) and secondary outcomes (e.g., knowledge, attitudes, FPSE, agency) among FTMs.

Key Takeaways

These baseline findings demonstrate that PPFP use and adoption rates among FTMs remain low, despite positive attitudes towards FP and overall satisfaction among PPFP adopters. Gaps in accurate knowledge around FP, and limited FP self-efficacy persist, and are important barriers to FTMs' PPFP adoption and continuation. Overall, our findings underscore the need for and potential of intervention to address key barriers to PPFP adoption for FTMs in Tanzania.

Findings from this cross-sectional baseline survey of FTMs point to implications for Connect's enhancements and implementation approaches in Tanzania, as well as future research and scalable interventions with FTMs. Notably, some findings may be challenging to fully address with scalable approaches in Tanzania, particularly given the lack of existing platforms to intervene deeply with FTMs, their male partners, and household influencers, pointing to inherent tensions in designing both for impact and for scalability and institutionalization.

- Despite guidance on participant eligibility criteria, some CHWs recruited young multigravidas (pregnant with a second or higher-order pregnancy, or with more than one child) into the CSGs. This reflects challenges specific to the focus on a specific population of young people (FTMs). This underscores that in moving from smaller-scale implementation, which entailed more involvement in recruitment from Connect's program staff, to expansion led by a CSO, CHWs had some challenges in recruiting individuals meeting specific characteristics (age, parity) for community activities.
- As with results from Connect's small-scale testing, adolescent FTMs (ages 15-19 years) have heightened socio-economic vulnerability and more limited reproductive decision-making agency when compared with slightly older FTMs (ages 20-24). Efforts to engage postpartum women and girls, including FTMs, may need to consider targeted strategies that address younger FTMs' vulnerability, such as through deeper intervention with family and household influencers, or linkages to livelihood opportunities. Further efforts are needed to understand how adolescent FTMs' vulnerabilities can be addressed through existing platforms, to avoid unsustainable or siloed approaches.
- Just over half of partnered FTMs had discussed FP with their male partners, and most partnered FTMs reported limited agency over their fertility intentions and FP preferences. Engaging FTMs' male partners are needed to build support for FP and birth spacing and strengthen gender equitable attitudes. However, few existing platforms offer opportunities for deep intervention with male partners of a specific group of women and girls, as evidenced by Connect's light-touch engagement of partners through a limited number of home visits, when they are available and willing to participate.
- In this study, the results showed that implants were the most frequently adopted PPFP method, and the majority of FTMs indicated a preference for this method. However, this

contrasts with findings that the ability to discontinue a method was the most important characteristic for FTMs when selecting a method. This contrast is an important area for further exploration in Tanzania. It is possible that FTMs may truly prefer implants despite the lack of alignment with their preferred method characteristics, it is also possible that providers may prioritize implants due to limited availability of other FP methods, efforts to improve quality of FP counseling on the full range of method options through home visits and facility services might be needed.

- Our findings underscore the importance of shifting descriptive norms to facilitate PPFP adoption among FTMs in this setting. Despite the fact that many FTMs believe that members of their community think it is appropriate for FTMs to use medical FP methods, many FTMs perceived that medical FP methods were not commonly used by other FTMs and were more commonly used by married and multiparous women. Efforts such as client testimonials or sharing through peer networks could normalize PPFP use by FTMs.
- Prevalence of depression among FTMs in this study was high, underscoring the importance of providing mental health support for mothers in general, and first-time mothers in particular. Notably, self-reported rates of depression among our sample were much higher than prevalence rates recorded among postpartum mothers from other sub-Saharan countries.[54,55]
- Results from the survey highlight the elevated risk for experiencing IPV that adolescent and young FTMs face during the postpartum period. Screening for various forms of IPV by health care providers is necessary to maximize detection. In addition, multi-level approaches that engage young women, their partners, families, and communities to address gender inequity and norms need to be considered.
- Last, interventions for FTMs are critical given the number of births to adolescent mothers in LMIC settings, including Tanzania. However, interventions targeting FTMs should be implemented alongside interventions aiming to reduce adolescent pregnancy through addressing key drivers that include child marriage, limited or poor-quality education and lack of livelihood opportunities, limited agency of girls, and barriers to contraceptive access including knowledge gaps and system-level barriers.[56,57]

Conclusion

This report presents findings from a 2023 cross-sectional survey of 1,129 first-time mothers ages 15-24 in Dodoma Region, Tanzania. At baseline, we found that approximately a quarter of FTMs had adopted and used PPFP, with implants the most commonly adopted method. We noted important differences across several of the study's main areas of interest by partnership status; a finding generally consistent with DHS data. Our results provide insights into factors that shape FTMs' use of modern PPFP methods in Tanzania. These factors include social norms, inequitable gender attitudes, and misconceptions and lack of accurate FP knowledge. It is critical to simultaneously address these determinants in a sustainable way in order to increase PPFP uptake among adolescent and young FTMs and improve maternal and neonatal health outcomes.

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