Understanding Rates and Determinants of Modern Contraceptive Uptake

Survey Findings from EngenderHealth's Access to Better Reproductive Health Initiative (ABRI) Project

Background

Guided by the vision of a gender-equal world where all people achieve their sexual and reproductive health and rights, EngenderHealth works globally to support individuals, communities, and healthcare systems in delivering high-quality, gender-equitable programs and services that advance sexual and reproductive health and rights. The Access to Better Reproductive Health Initiative (ABRI) project has been providing strategic capacity building and technical assistance support to the Federal Ministry of Health and sub-national partners in Ethiopia for the past 11 years. Through this project, EngenderHealth has made substantial contributions to the expansion of quality comprehensive contraception (CC) and comprehensive abortion care (CAC) services through 632 sites in selected regions of Ethiopia. We trained more than 17,000 providers at different levels on CC and CAC, who in turn served more than eight million women, girls, and families during this period. The aim of this evaluation was to track trends in CC and CAC between 2009 and 2019 across the ABRI program area. This brief focuses on the findings from our CC interventions.

Methodology

ABRI used a non-experimental design for a simple pre/post comparison of baseline and endline results across two domains: urban and rural. The evaluation survey was population-based with the sample drawn randomly from the sample frame of all households residing within one of the project regions. The sample size was determined to provide statistically representative results for indicators at the household level and among women aged 15 to 49 years. The study team implemented a multi-stage sample selection process to identify respondents. In the first stage, we selected clusters (kebeles) in two geographic strata: rural areas (within Amhara, Oromia, and the Southern Nations, Nationalities, and Peoples' Region [SNNPR]) and urban towns (Dessie, Dire Dawa, Harari, Hawassa, and Nekempt). In the second stage, we selected 25 households in each area. The study team selected households from a census listing of all households in the selected areas, and then selected one eligible respondent from each household. We interviewed 2,480 women in July 2009 and 2,400 women in December 2019. During the analyses, we weighted the sample to account for the fact that within the two strata, the proportion of sampled households to strata population was different.

The study obtained Institutional Review Board clearance from the national ethical review board of the Ethiopia Public Health Institute (EPHI): [# EPHI-IRB AF 01-008/02.0].

Results

Use of Modern Contraceptives

We compared the modern contraceptive prevalence rate (mCPR) between the baseline (2009) and endline (2019) (Table 1). In the overall sample, the mCPR increased significantly from 37.1% in 2009 to 48.9% in 2019 ($p<0.0001$). Increases were larger in the rural area than the other domains (32.6% versus 48.2%, $p<0.0001$). Contraceptive use also increased in the urban areas, though modestly, from 47.1% to 56.4% ($p=<0.01$).

Our data illustrated increases between 2009 and 2019 in the adoption of implants (2.4% to 20.4%, $p<0.0001$) and intrauterine devices (1.2% in 2009 to 3.0% in 2019, $p<0.05$), resulting in an overall increase in long-acting and reversible contraceptive (LARC) uptake from 3.6% to 23.4% ($p<0.0001$). We also observed significant differences in the adoption of LARCs between the rural areas (2.8% in 2009 to 22.2% in 2019, $p<0.001$), Addis Ababa (8.0% in 2009 to 30.6% in 2019, $p<0.0001$), and other urban areas (3.1% in 2009 to 26.3% in 2019, $p<0.0001$). In contrast, use of injectables demonstrated a statistically significant reversal trend (28.8% in 2009 to 22.3% in 2019, $p<0.05$).

Table 1. Proportion of Currently Married Women Who are Currently Using Family Planning (FP) by Type of Method, Baseline (2009) and Endline (2019)

	Rural Area		Addis Ababa		Other Urban Area		Total	
	Baseline (2009)	Endline (2019)	Baseline (2009)	Endline (2019)	Baseline (2009)	Endline (2019)	Baseline (2009)	Endline (2019)
	N=883	N=958	N=313	N=356	N=297	N=456	N=1493	N=1770
Current use of any FP method	32.6	48.2***	67.7	57.6	54.2	59.9**	38.2	49.7***
Current use of modern contraceptive method	32.6	47.7***	61.7	55.1	47.1	56.4**	37.1	48.9***
Modern methods								
Female sterilization	0.5	0.1	1.0	0.0	0.7	0.2	0.5	0.1
Implants	2.0	19.9***	4.5	23.0***	2.4	22.6***	2.4	20.4***
Intrauterine devices	0.8	2.3	3.5	7.6*	0.7	3.7*	1.2	3.0*
Oral contraceptives	2.3	1.7	11.8	6.7*	9.8	9.9	3.9	2.6
Injectables	27.0	23.6	39.3	16.0***	32.3	19.3**	28.8	22.5*
External condoms	0.3	0.2	0.1	0.0	1.6	1.7	1.3	0.6
Short-acting methods	29.3	25.3	52.7	24.4***	43.4	29.8**	33.1	25.3*
LARCs	2.8	22.2***	8.0	30.6***	3.1	26.3***	3.6	23.4***
Permanent methods (PMs)	0.5	0.1	1.0	0.0	0.7	0.2	0.5	0.1

Multivariate analyses also show that the observed significant increasing trends in mCPR and use of LARCs in the total sample in the rural and other urban areas persisted after adjusting for women's age, education, number of children ever born, and religion (data not shown). Meaning that mCPR and LARC rates increased significantly in the ABRI areas between 2009 and 2019 irrespective of differences in the sociodemographic composition of the respondents.

Use of Modern Contraceptive, by Age

Our analyses revealed important differences according to the age of the respondent. We note that the largest increase in mCPR was among married adolescents aged 15 to 19 years (22.3% in 2009 to 64.1% in 2019, $p<0.0001$). We also observed significant increases among women aged 20 to 24 years (34.5% in 2009 and 58.5% in 2019, $p<0.001$) (Figure 1).

Furthermore, the adoption of LARCs among younger cohorts also increased between 2009 and 2019 across all age brackets. In 2009, the use of LARCs among younger cohorts was notably low, but increased significantly over time, from 0.2% in 2009 to 18.5% in 2019 among respondents aged 15 to 19 years, $p<0.001$; and 2.9% to 29.7% among respondents aged 20 to 24, $p<0.001$. LARC increases in older cohorts was not significant (Figure 2).

Figure 1. Trends in mCPR by Age, Baseline (2009) and Endline (2019)

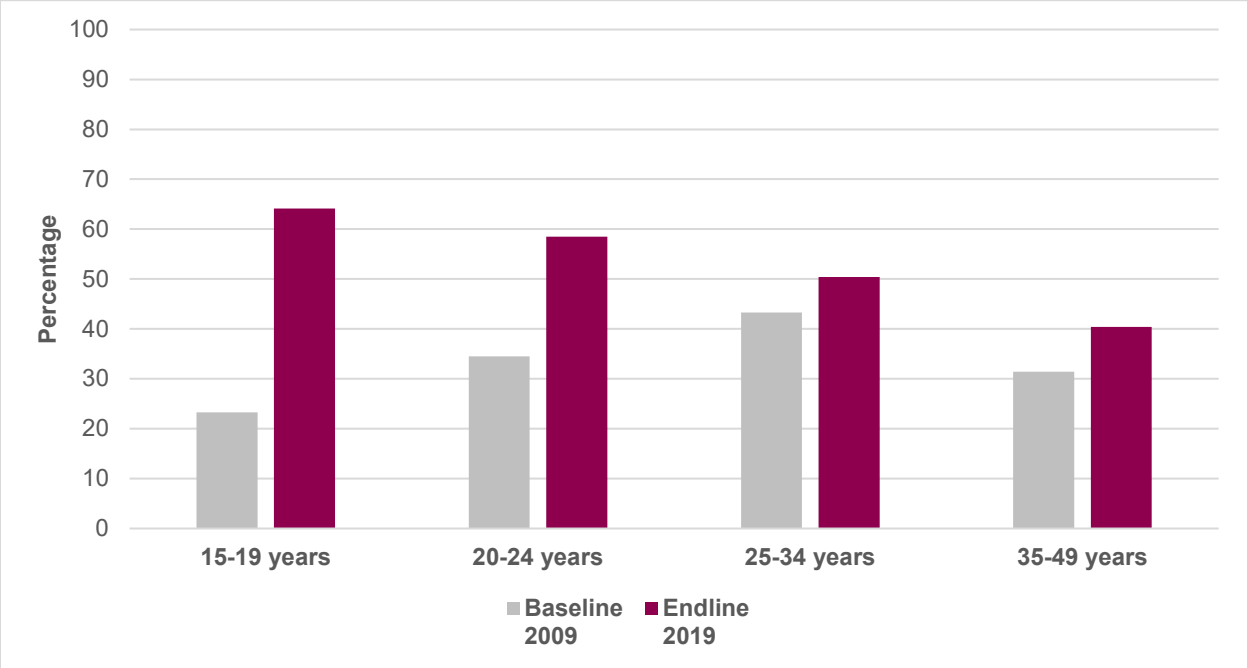
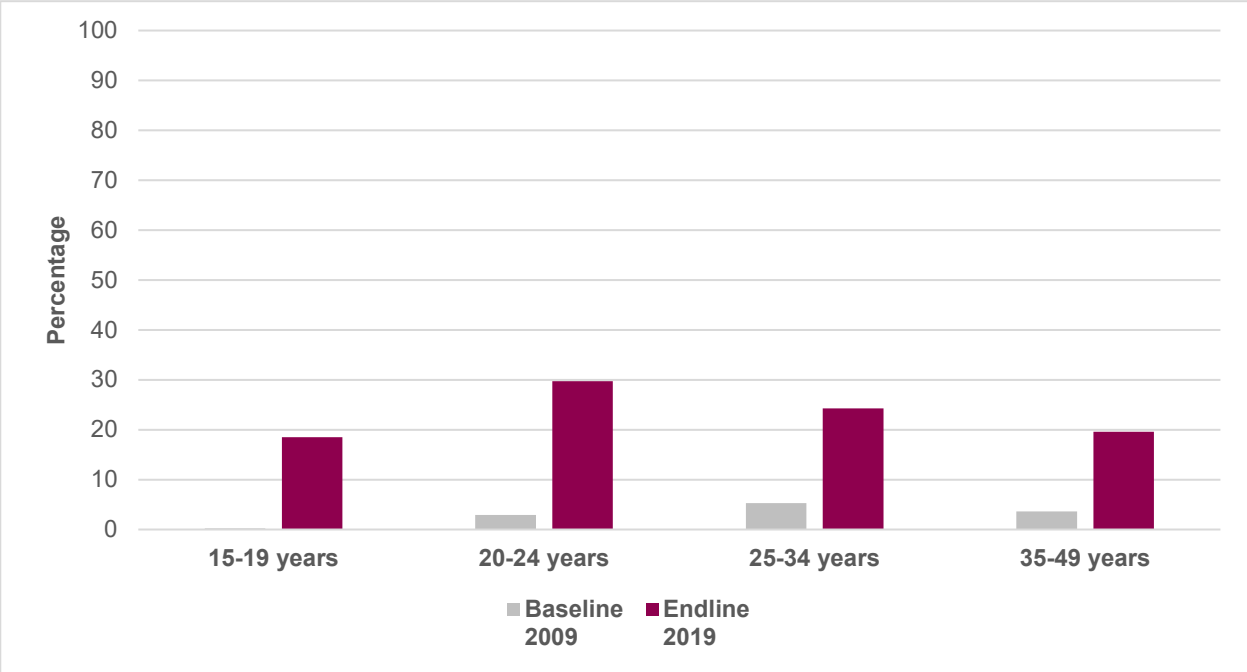


Figure 2. Trends in LARC Use by Age, Baseline (2009) and Endline (2019)



Determinants of LACR Uptake

Using a multivariate model (Table 2), we assessed the roles of individual sociodemographic characteristics of the respondents, their fertility preferences, and their spouses' attitudes and involvement in family planning (FP) decisions, as factors influencing LARC use versus non-LARC use (i.e., short-acting method use or non-contraceptive use) based on the 2019 endline data. The variables included in the model were respondents' age, number of children, religion, education, timing of next birth, spousal approval of FP, joint-spousal discussion about FP, spousal agreement on the desired number of children, and the sample domain. We observed that use of a LARC in the target population was significantly shaped by a woman's religion, the number of children ever born, fertility preferences, spousal approval of FP, and a couple's concordance on their desired number of children. Women's education did not emerge as a significant and independent predictor of LARC use in the present analyses. This may well point to a narrowing of the education-based inequality gap in access to and use of LARCs in the study area.

Factors Associated with LARC Use

Highlights of our analyses include:

- Compared to the Muslims, Orthodox respondents were 2.5 times more likely to use a LARC (adjusted odds ratio [AOR] =2.5). Similarly, the use of LARCs was twice as common among Protestants compared to their Muslim counterparts (AOR=2.0).
- Higher odds of using LARCs were associated with women who wanted to wait for two or more years until the next birth (AOR=1.7) and those who wanted to stop childbearing (AOR=1.6) compared to those who preferred their next birth within less than two years.
- A woman whose spouse approves the use of FP is 2.8 times more likely to use a LARC (AOR=2.77), than one whose spouse does not approve of FP.
- In the situation where a husband wishes to have more children than his wife, the odds of using a LARC decreased significantly, by 36% (AOR=0.64). On the other hand, the likelihood of using a LARC does not differ significantly between those women who have the same family size desire as their husbands or those who want to have more children than their husbands.

Informed Choice

In the absence of direct observation of the client-provider interactions, asking respondents about the information they received served as a proxy indicator of the quality of the services provided.[1] We calculated these indicators using current contraceptive users' responses to three questions about the information providers offered when they received their current method: (1) if they were informed about other methods aside from their current method, (2) if they were informed about possible side effects associated with their current method, and (3) if they were advised on what to do if they experienced side effects.

Among current modern contraceptive users, the proportion of contraceptive users who reported receiving information about other methods increased significantly, from 58.2% in 2009 to 73.8% in 2019 ($p<0.0001$). The proportion who said that providers informed them of potential side effects associated with the methods also increased significantly, from 45.2% in 2009 to 66.1% in 2019 ($p<0.001$). Similarly, the proportion who received information about what to do if they experienced one or more potential side effects increased from 41.5% in 2009 to 65.2% in 2019 ($p<0.0001$). These trends hold in the rural and other urban areas, yet remained almost stable in Addis Ababa.

[1] Chin-Quee D. S., Barbara J., and Conrad O. 2007. Counseling Tools Alone Do Not Improve Method Continuation: Further Evidence from the Decision-Making Tool for Family Planning Clients and Providers in Nicaragua. *Contraception* 76 no. 5 (September): 377–82. https://doi.org/10.1016/j.contraception.2007.07.003.

Table 2. AOR in the Estimation of the Likelihood of Using a LARC or PM, According to Selected Sociodemographic Characteristics, Fertility Behavior, and Spousal Involvement, 2019

	LARC/PM %	AOR	P-value	95% Confidence Interval	
				Lower	Upper
Age					
15-19 (ref)	18.5	1.0			
20-24	29.7	1.38	0.513	0.52	3.64
25-34	24.3	1.05	0.917	0.41	2.73
35-49	19.6	0.84	0.755	0.29	2.49
Number of children ever born					
0(ref)	14.8	1.00			
1-2	28.2	1.90	0.031	1.06	3.38
3-4	23.1	1.85	0.050	1.01	3.62
5+	19.1	1.92	0.072	0.94	3.92
Religion					
Muslim (ref)	12.8				
Orthodox	28.7	2.48	0.010	1.25	4.92
Protestant	22.7	2.00	0.049	1.02	4.22
Education					
No education (ref)	18.3	1.00			
Elementary	25.6	1.31	0.181	0.88	1.96
Junior secondary	28.3	1.37	0.142	0.90	2.08
Secondary	26.0	1.17	0.470	0.76	1.82
Higher	31.0	1.41	0.260	0.77	2.55
Timing of next birth					
Before 2 years (ref)	15.3	1.00			
No more	22.6	1.61	0.045	1.04	2.74
After 2 years	26.4	1.70	0.021	1.09	2.67
Spousal approval of FP					
No (ref)	8.4	1.00			
Yes	26.6	2.77	0.005	1.36	5.62
Couple discusses FP					
Do not discuss (ref)	18.0				
Discuss FP	26.1	1.14	0.522	0.76	1.71
Couple agrees on the desired number of children					
Both want the same number (ref)	25.3	1.00			
Husband wants more	15.8	0.64	0.019	0.44	0.93
Husband wants fewer	22.5	0.94	0.734	0.65	1.36

Conclusion

This evaluation set out to track trends in FP-related indicators between 2009 and 2019 in the ABRI program area. Pre/post comparisons of contraceptive use revealed significant improvements in the use of modern contraceptive methods in general, as well as, more importantly, in the use of LARCs in the ABRI program area. Indeed, use of LARCs in the ABRI area has been trending at an unprecedented pace, and notably much faster than the trend recorded for the same at the national level. As findings of this evaluation revealed, the proportion of women that have ever heard of LARCs is much higher now than a decade ago. Furthermore, as a proxy indicator of the quality of FP services provided to clients in the ABRI target area, we compared informed choice for contraception between 2009 and 2019. Findings suggested significant improvements in the proportion of women who were informed about other methods aside from their current method, about possible side effects associated with their current method, and about what to do if they experienced side effects. These important findings may well suggest that FP providers in the study area provided the necessary information and counseling to help clients make informed choices.

This evaluation attempted to untangle the factors influencing LARC use among the target population using multivariate model. All other factors in the model being equal, LARC use among the target population is significantly shaped by several factors. Importantly, LARC use was positively associated with both partners approving of FP and negatively associated with the husbands wanting more children than their wives. This finding underscores the significance of male involvement in improving LARC uptake and the need to broaden men's roles, strengthen their partnerships with their spouses, and enhance their active involvement in FP and other reproductive health issues.

Acknowledgemets

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