Breakthrough ACTION Liberia:
Baseline Report
for FP and LARCs

Submitted to: United States Agency for International Development

Submitted by: Johns Hopkins Center for Communication Programs

30 June 2022

Cooperative Agreement #AID-OAA-A-17-00017

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Acronyms

CCP	Johns Hopkins Center for Communication Programs
CI	Confidence interval
FP	Family planning
GEM	Gender-equitable men
LISGIS	Liberia Institute of Statistics and Geo-Information Services
OR	Odds ratio
SBC	Social and behavior change
USAID	U.S. Agency for International Development

Overall Study and Findings Summary

Breakthrough ACTION is a global social and behavior change (SBC) project funded by USAID to lead SBC programs around the world. Breakthrough ACTION ignites collective action and encourages people to adopt healthier behaviors—from using modern contraceptive methods to sleeping under bed nets and beyond. Family planning is one of the most cost-effective interventions to prevent maternal, infant, and child deaths. Reducing the number of unintended pregnancies in a country can help prevent up to one-quarter to one-third of all maternal deaths.[1] This report describes the baseline study conducted by Breakthrough ACTION Liberia on family planning (FP) and long-acting reversible contraceptive (LARC)[2] use. The objectives of this report are as follows:

- To identify **key determinants** of modern FP and LARC use
- To set benchmarks for evaluation of impact
- To assess the roles of gender equitable norms, social norms, couple communication in the adoption of FP behaviors
- To identify **selected audiences** for FP promotion

Study Setting and Sample

The study used a longitudinal quasi-experimental design. USAID supports Breakthrough ACTION's work in 12 of Liberia's 15 counties; Breakthrough ACTION Liberia and its research partner, Research Innovations Hub, collected data in two counties (Bong and Bomi) where USAID supports integrated reproductive, maternal, newborn, child, and adolescent health + malaria interventions, and in one county, Gbarpolu, with no planned Breakthrough ACTION Liberia programming, as a control. These three counties were selected based on their similar estimated contraceptive prevalence among married women: 24.1%–30% (Liberia Demographic and Health Survey, 2019). Also, Bong is a large county, whereas Bomi is small.

The Breakthrough ACTION Liberia baseline study is a quantitative, cross-sectional household survey that includes the following two respondent groups:

- Women of reproductive age (20–49 years) currently living with a partner,
- Men (20–55 years) currently living with a partner.

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[1] Singh, S., Darroch, J. E., Ashford, L. S., & Vlassoff, M. (2009). *Adding It Up: The costs and benefits of investing in family planning and maternal and newborn health*. Guttmacher Institute

[2] *Long-acting reversible contraception (LARC) are a group of contraception methods that provide very effective long-acting contraception without requiring everyday effort on the part of the user and are immediately reversible when removed. LARC include intrauterine devices (IUDs), injectables and contraceptive implants* (Long-acting reversible contraception. London: National Institute for Health and Care Excellence (NICE); 2019 Jul.; NICE Clinical Guidelines, No. 30. Available from: https://www.ncbi.nlm.nih.gov/books/NBK553263/)

Households were selected through systematic stratified random sampling. Data collected from these surveys are being triangulated to develop a deeper understanding of household practices, preferences, and barriers. This report focuses on cohabitating women and men in Liberia. It is one of three baseline study reports that will be submitted to USAID. The other two are a general report on the baseline study findings for adult men and women in Liberia and another general report on the baseline study findings for female and male adolescents in Liberia.

Sample Size

Criteria for sample selection

Sample size selection was determined based on three aspects:

- The sample size formula (see page 19 for more details)
- Resources (financial, human, and time) necessary to implement the study in a rigorous manner
- Over or under sampling to increase the representativeness of the sample to the county/district (see page 6 of the Liberia Demographic and Health Survey, 2019).

Bong comprises 75% of the overall population of the three counties, and the other two counties account for about 12.5 percent of the population each. As a result, we sampled 50% of respondents from Bong County and 25% each from Bomi and Gbarpolu counties (see Table 1).

Table 1. Sample size for men and women in different counties, total

County	Women (20-49 years)	Men (20-55 years)
Bong	1250	625
Bomi	625	313
Gbarpolu	625	312
Total	**2500**	**1250**

Findings of Contraceptive Use among Survey Respondents

Overall, about half of the participants reported currently using an FP method, though use by women and by men differed slightly. Among women, current use was slightly higher in Gbarpolu (51%), compared to Bong and Bomi (47%). Among men, reported current FP use was highest in Gbarpolu, where more than half (56%) reported using an FP method, compared to men's reported FP use in Bomi (36%) and Bong (45%). The largest difference in women's and men's reported FP use was in Bomi, where about one-

third (36%) of men and almost half of women (47%) indicated they are current FP users, a 10-point difference.

In the two intervention counties, 41% of married women reported using FP, compared to 58% of single women who reported using contraceptives. FP use was substantially higher among sexually active single women, compared to married women, similar to the results in the 2019 Liberia Demographic and Health Survey. The most commonly used FP methods were injectables, implants, and oral pills. While injectables and oral pills had higher use rates among single women than married women, the use of implants was higher among married women than single women. Intrauterine devices (IUDs) had almost zero use among both married and single women.

Reasons for not Currently Using FP

Half of the survey respondents were not currently using an FP method. To determine why, a multiple-choice question asked respondents to provide their reasons for not using an FP method (more than one option could be selected). Unfamiliarity with any methods was higher for men across the three counties, while fear of side effects was higher for women across the three counties. Interestingly, a higher percentage of men than women responded that their partner does not allow FP use. The main reasons for not currently using FP among women and men are summarized in Table 2:

Table 2. Percent of women and men not currently having sex, and top five reasons for not having sex, by county

	Intervention			Control	Intervention			Control
	Women				Men			
Top reasons for no current FP use	Bong (604) %	Bomi (312) %	Total (916) %	Gbarpolu (321) %	Bong (433) %	Bomi (213) %	Total (646) %	Gbarpolu (168) %
Not currently having sex	27.0	16.0	23.3	33.0	16.2	7.5	13.3	21.4
Want to get pregnant or currently pregnant	22.5	19.2	21.4	18.1	24.7	17.4	22.3	28.6
Fear of side effects	17.4	11.2	15.3	8.7	9.0	4.2	7.4	4.8

Not familiar with any methods	5.6	6.1	5.8	16.2	12.7	8.5	11.3	19.1
Health concerns	4.6	6.4	5.2	6.2	11.8	7.0	10.2	1.8
Partner does not allow	6.3	7.7	6.8	2.2	10.2	4.7	8.4	6.9

Factors Associated with Health Behaviors

Couple Communication and Decision Making: Key Findings

- Visiting an FP provider within the last 12 months and couple communication were significant predictors of FP and LARC use.
- Women and men both reported that decision-making related to the number and spacing of children and both minor and major FP decisions is primarily in the hands of men; this was reported by   85% in the intervention counties and 82% in the control county   .
- Women in the control county (Gbarpolu) had higher decision-making levels than those in the intervention counties (Bong and Bomi).

Gender Inequitable Norms: Key Findings

The major finding related to gender norms indicates that most women and men still hold inequitable values around women and men's roles as shown below:

- The majority of participants supported inequitable norms related to contraceptive use and childbearing, as assessed using the Gender Equitable Men (GEM) scale.
- Nearly all women and men strongly support inequitable gender roles within the household (daily living and daily chores subscales).

Partner Violence and Household Environment: Key Findings

The partner violence subscale of the GEM scale indicates that women and men across the study sites reported mixed levels of partner violence. Key findings were as follows:

- Reported rates of partner violence during pregnancy varied substantially across counties. For example, more women in Bong County reported facing violence in their communities compared to Bomi County which reported fewer numbers of women who faced violence in their communities (see page 44 for more details).
- Partner violence in pregnancy was lower than during the non-pregnancy periods, as reported by both women and men. Women in Bong County reported the most partner violence during pregnancy among the three counties.
- Women reported higher household level stress during pregnancy in both intervention counties (71.5%) compared to the control county (51.9%).

- Women and men both reported that few women had a supportive household environment during pregnancy.

Factors Associated with FP Use

The results of the regression of FP use (any method) on main FP predictors and sociodemographic variables are presented below. The results indicate that holding everything else constant, women who currently use any method of contraception:

- Are highly confident (have high self-efficacy) that they can use FP;
- Frequently talk with their partner about FP;
- Have used FP services in the last 12 months;
- Are the main decision makers about the number of children to have, FP use, and health services utilization if ill;
- Have heard or seen FP messages in the last six months;
- Are younger than 35 years; and
- Are single, widowed, or divorced.

The strength of these predictors associated with FP use cannot be understated. For example, women who reported a medium level of couple communication were over three times (adjusted odds ratio: 3.24, P>z=0.00) more likely than those with low to no couple communication to be current FP users. Women who practiced high levels of couple communication were over four times (adjusted odds ratio: 4.13, P>z=0.00) more likely to be a current FP user than those with low couple communication. Furthermore, seeing a provider was a significant predictor of current FP use; women who saw a provider in the last 12 months were three and a half times more likely to be currently using FP methods than women who did not (adjusted odds ratios: 3.53 and 3.56, P>z=0.00).

Regarding decision-making, women who were the main deciders on all FP-related issues were 1.6 times more likely to be currently using FP (adjusted odds ratio: 1.59, P>z=0.00) than those who were not the main FP decision maker. Finally, women exposed to FP messaging in the past six months were 1.8 times (adjusted odds ratio: 1.76, P>z=0.0) more likely to currently be using an FP method than women who had not been exposed to any FP messaging in the past six months.

Factors Associated with LARC Use

Contrary to the results found for FP use, only a few potential predictors were significant in the multivariate analysis for current use of a LARC method. In the multivariate regression analysis, we included FP predictors and sociodemographic variables to assess their independent effects on the use of LARC methods. The results indicate that, other things being equal, women who currently use a LARC method are more likely to:

- Have frequent communication with partner about FP;
- Have used FP services in the last 12 months;
- Have been exposed to FP messages in the last six months.
- Live in urban areas;
- Live in Gbarpolu County;
- Live in communities with high rates of contraceptive use (bounded descriptive norms);

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- Have higher support for equitable gender norms related to reproductive health;
- Be younger than 35 years; and
- Have more than four children.

The baseline study found that knowledge of LARC methods was not associated with LARC use, and FP self-efficacy was not significantly associated with LARC use, indicating a low impact of two crucial cognitive variables: knowledge and self-efficacy.

As expected within the Liberian cultural context, FP social norms had a strong association with LARC use. We measured social norms by asking women if they lived in a community with low (0–3), medium (4–6), or high (7–10) FP use. Data indicated that women living in communities with medium- and high-FP-use were 2.7 (95% confidence interval [CI] 0.53, 3.70) and 2.2 (95% CI 1.10, 4.37) times more likely to use LARCs, respectively, compared with women who lived in communities with low-FP-use.

Communication and dialogue related to FP use was a significant predictor of LARC use. Women who reported a medium[3] level of discussion with their partners were twice as likely (95% CI 1.27, 3.30) to be LARC users, compared to women who reported low FP communication. Similarly, women who stated they have high communication on FP with their partners were nearly twice (1.9 times) as likely (95% CI 1.25, 2.85) to use a LARC method, compared to those with low FP communication.

Recommendations

The recommendations for increasing FP and LARC use are derived from the baseline data:

- FP programs should consistently use FP SBC approaches that encourage and normalize discussions around FP and establish LARC use as a norm among women of all ages who want long term contraceptive options. Every FP message should end with an action point, such as "please share this message with your partner, family, and friends."
- FP programs should actively promote visits to an FP provider and build linkages with FP providers and the community to ensure women know what methods are available and where to get them, and to establish FP use as a norm in the community.
- It is essential to provide high-quality counseling skills to FP providers to ensure they provide comprehensive FP information according to clients' FP goals and needs, treat clients with respect, and raise awareness and demand for LARCs.
- FP programs could promote LARCs among women and couples who have less than four children, and among both married and sexually active single women.
- As FP programs promote use of FP, it is imperative to also promote couple communication around FP and LARCs.

Other supply side recommendations derived from the baseline data include:

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[3] The scale is 0–33 (low); 34–66 (medium), 67–100 (high). More details on the scale are available in Chapter 4.

- Train FP providers to provide LARC services (both IUD and implants) as currently there are few FP providers trained to proficiently provide LARCs.
- Promote strong advocacy efforts to ensure that as demand is raised, products are consistently available.

Introduction

Overview of the Breakthrough ACTION Liberia Integrated SBC Project

Breakthrough ACTION is a global social and behavior change (SBC) project funded by USAID to lead SBC programs around the world. Breakthrough ACTION ignites collective action and encourages people to adopt healthier behaviors—from using modern contraceptive methods to sleeping under bed nets and beyond. The work harnesses the demonstrated power of communication and integrates innovative approaches from communication science, behavioral economics, and human-centered design.

The Center for Communication Programs under the Breakthrough ACTION Liberia project is working to support the increased adoption of health behaviors among Liberian individuals, families, and communities. Using an integrated health approach, the Breakthrough ACTION Liberia project promotes a full suite of healthy behaviors across the areas of malaria; reproductive, maternal, newborn, child and adolescent health; family planning (FP); nutrition; zoonotic diseases; and water, sanitation, and hygiene—all areas identified as priority areas by the Liberian Ministry of Health and the US Agency for International Development (USAID).

In Liberia, adopting healthy behaviors remains a critical barrier to improved health outcomes. USAID Liberia has previously invested in community health, social mobilization, and community engagement, including outreach activities and facility strengthening. However, there is still need for household-level change and strengthened engagement of traditional leadership structures. To address these needs and contribute to USAID/Liberia's Development Objective 3, Breakthrough ACTION is delivering effective quality SBC activities in Liberia that will result in behavior change across a variety of health sectors. Breakthrough ACTION builds on and complements existing knowledge, information, and partner efforts where possible while building capacity of Liberian institutions in SBC.

Background: Current Status of Family Planning in Liberia

Family planning is one of the most cost-effective interventions to prevent maternal, infant, and child deaths. Reducing the number of unintended pregnancies in a country can prevent up to one-quarter to one-third of all maternal deaths. In low- and middle-income countries, pregnancy and childbirth complications are the leading causes of death among girls ages 15–19. Liberia has a high rate of teenage pregnancies: 33.5% of 15–19-year-olds have begun childbearing, and these rates are much higher in rural versus urban areas (Liberia Demographic and Health Survey, 2019). Generally, teenagers residing in rural areas who have little or no access to education and who are in lower wealth quintiles are more likely to begin childbearing than their peers in urban areas who have more access to higher education and wealth. Despite national guidance for health promotion (i.e., the 2016–2021 National Policy and Strategic Plan on Health Promotion and 2016–2021 National Health Communication Strategy), the FP program can still benefit from translating the strategy to reflect a comprehensive and targeted FP SBC action plan with key messages and tools.

The 2019 Liberia Demographic and Health Survey demonstrates a gap in knowledge of long-acting reversible contraceptives (LARCs): 96% of women and 84% of men had heard of implants, compared to only 29% of women and 25% of men who had heard of intrauterine devices (IUDs). Moreover, although knowledge is relatively high, use is low: only 5% of women reported currently using implants, and only

0.1% of women reported currently using an IUD. Current implant use was highest in Gbarpolu (7%), followed by Bong (5%) and Bomi (3%). A few residents in Bomi (0.2%) reported currently using IUDs, compared to none (0%) in Bong and Gbarpolu. Overall awareness of implants seems to be high in Liberia, but actual use is low, suggesting a potential gap between knowledge and use of implants.

Breakthrough ACTION Liberia

Breakthrough ACTION Liberia works primarily in the 12 counties in which USAID is active in both a vertical and integrated manner across multiple health areas and channels. Integrated programs have the advantage of strengthening health systems by delivering multiple health programs. Standalone or vertical programs have the advantage of rapid implementation due to a focused approach.

As described in Chapter 2, this study, along with an endline study that will take place at the end of Breakthrough ACTION Liberia's project, will be conducted in **only three counties** to compare the integrated activities against a control county where no Breakthrough ACTION work is ongoing.

Outline of the Report

The baseline study aims to establish reference levels for FP-related behaviors along with intermediate outcomes that may affect priority FP behaviors. These intermediate outcomes might include couple communication, knowledge, attitudes, care-seeking behaviors, patient–provider interactive experiences, and health information seeking. The baseline study also measures underlying social and gender norms, decision-making, and media exposure that promote or constrain key FP health behaviors, including perceived norms around the priority FP behaviors. The activity also captures Breakthrough ACTION Liberia's program-related message recall.

The study allows Breakthrough ACTION Liberia to determine how various demographic, psychosocial, cultural, and relational factors relate to FP health outcomes so that programs can be tailored for specific counties and audiences. The survey results will help assess the effects of Breakthrough ACTION Liberia project activities on its target audiences and related shifts occurring over time.

Breakthrough ACTION, with the Johns Hopkins Center for Communication Programs serving as the prime, leads this activity in close collaboration with Research Innovations Hub, a local research firm that collected data for the baseline study. The baseline survey is a part of a socio-behavioral study assessing determinants of key health behaviors, estimating prevalence of behaviors, and tracking adoption and maintenance of behaviors, including FP behaviors. The survey also includes an in-depth exploration of "influencing" or intermediary factors, such as knowledge, social and gender norms, attitudes, couple communication, and access and use of health services.

The objectives of this FP and LARCs report are as follows:

1. To identify **key determinants of modern FP and LARCs use**
2. To **set benchmarks** for evaluation of impact
3. To assess the role of **gender equitable norms, social norms,** and **couple communication** in the adoption of FP behaviors
4. To **identify selected audiences** for FP promotion

Methodology

Study Goals

The Breakthrough ACTION Liberia baseline survey adopts a quasi-experimental design to collect data on various health behaviors, including FP, RMNCAH, maternal and child nutrition, malaria, COVID-19, and GHSA. The survey also assessed the sociodemographic and psychosocial determinants of these behaviors. The goal of the survey is threefold: 1) to provide a better understanding of the factors associated with relevant health behavioral outcomes in Liberia; 2) to determine the appropriate focus of programmatic activities designed to improve behavioral outcomes, and 3) to yield baseline indicators against which the effects of programmatic activities can be measured.

FP and LARC Study

The LARC study is a subset of the baseline survey aiming to identify opportunities for improving the availability, accessibility, and quality of FP services, including LARCs. The baseline survey measured household factors (e.g., couple communication, household environment, gender equitable norms, social norms) and their associations with LARC and FP use. The study measured individual factors (e.g., self-efficacy and knowledge) and health system factors (e.g., access to, use of, and location of health services).

Study Design and Populations of Interest

Data were collected in two intervention counties, Bong and Bomi, where USAID supports integrated programming for RMNCAH plus malaria, and in one control county, Gbarpolu, with no planned USAID or Breakthrough ACTION Liberia programming. These three counties were selected based on their similar contraceptive prevalence rates (24%–30.0%) among married women (Liberia Demographic and Health Survey, 2019). However, differences exist between the two intervention counties: Bong is a larger county than Bomi and is predominantly Christian (95%), whereas Bomi has a substantial Muslim population (55%). However, we account for the size difference in our sampling and we also control for religious affiliation in our multivariate analyses, allowing for comparison across counties.

The survey specifically targeted in-union women of reproductive age (20–49 years), their spouses (ages 20–55 years), unmarried adolescent girls (ages 15–19 years), unmarried adolescent boys (ages 15–19 years), and in-union young women (16–19 years). This report presents findings related to FP and LARCs from in-union women and men of reproductive age. A separate report   presents findings on baseline findings for other health outcomes among women and men in Liberia, and another report presents findings on baseline findings (including FP) for adolescent girls and boys in Liberia.

Sample Size and Selection

Using a contraceptive prevalence rate of 24% and assuming an increase of six percentage points by the end of the project, a design effect of 1.25, a margin of error of 5%, and a power of 80%, we computed

the overall required sample size to be 2433 households across the three counties. This sample size was divided among the three counties such that half of the sample (1250) was selected from Bong (the largest county) and one-quarter (625) from each of Bomi and Gbarpolu.

The households were selected through a multi-stage process that involved selecting districts within each county, EAs within each district, households within each EA, and respondents within each EA. A total of 102 EAs (42 from Bong and 30 from Bomi and Gbarpolu) were selected for inclusion in the survey. In each EA, the study team followed the following procedures to recruit eligible respondents:

1. In each EA, all households were enumerated using a household listing form. The household listing form allows the study team to specify for each of the households the number of partnered women aged 20–49 years, the number of partnered men aged 20–55 years, the numbers of unmarried male and female adolescents aged 15–19 years, and the number of married/cohabiting female adolescents aged 16–19 years.
2. From the list of eligible households (that is, with at least one woman aged 20–49 years) in each EA, 30 households in Bong and 21 each in Bomi and Gbarpolu were selected to participate in the study using a systematic random sampling method.
3. Upon arrival at a selected household, the study team used a random number generator to select partnered women aged 20–49 years based on the number of such women in the household. For example, if there were four such women and the random number generator yielded number 2, the study team would list the eligible women by their age in descending order and select the woman in the second position.
4. Eligible unmarried male and female adolescents and married/cohabiting adolescents in households were also selected using the same procedure.
5. In half of the selected households, the study team selected either the partner of the selected woman or any other partnered man who met the age requirements.

This process recruited 2,161 partnered women and 1,362 partnered men to participate in the study.

Ethical Considerations

Ethical approval to conduct the study was obtained from the JHU IRB and the UL-PIRE Africa IRB in Liberia. Training was provided to data collectors and supervisors on approved study protocols and ethics guidelines to protect human research subjects. Informed consent was obtained from all study participants before the interview, using an oral consent process. Through the oral consent script, data collectors explained the purpose of the survey, the types of questions that would be asked, the potential risks associated with participating in the survey, and the actions the study team would take to protect the confidentiality of the participants. In addition, the data collectors explained that participants did not have to participate in the study, that they could decide to discontinue their interview at any point, and that they did not need to answer any questions they did not want to.

Questionnaire Development and Pretesting

Breakthrough Action   developed the survey instruments and provided them to the local research firm, RIH. Many questions had been used previously, such as in the DHS, and some were original to the baseline study, such as questions on social norms, couple communication, decision-making, and household environment. Before data collection began, RIH translated the survey instruments into Liberian English, pretested them in a community outside Monrovia, made necessary modifications, and then back-translated them into English.

Recruitment and Data Collection

Data were collected between August and September 2021. The enumerators used a recruitment script to conduct a short screening with each potential participant to determine the individual's age and participation eligibility. Consent discussions and data collection were conducted in private using an appropriate approach, with each enumerator equipped with a selection criteria checklist. Surveys took 60–90 minutes to conduct. Participants received US$ 1 in phone credit as a token for their time responding to the survey.

Data Management

The research team used a Google app installed on encryption-protected electronic devices to collect the data. Personal identification information was collected on paper during household listings and recruitment in EAs. The research team destroyed all personal identifying information after completing all interviews in the EA. Before analysis, the data were fully de-identified. The dataset will be available in the USAID online data repository.

Data Analysis

STATA 16 was used to analyze quantitative survey data. Data analysis involved reviewing the differences and similarities across age groups, sex, education level, marital status, region, and other key aspects of people's social locations. Programmatic reach and message recall were also assessed. The strength of associations between program participation/reach or recall and key variables, such as knowledge, attitudes, norms, efficacy, and practice of priority FP and LARCs behaviors, were also examined across target populations.

Bivariate and multivariate analyses were performed. We report bivariate results for all key questions (responses by key background characteristics and influencing factors, such as knowledge, social norms, gender norms, access to health services, and self-efficacy). The baseline survey explored the determinants of all key behaviors using logistic regression analysis. Regression analyses identified common determinants among FP and LARC behaviors and located specific FP and LARC determinants simultaneously. The resultant data will inform the program design and assist in developing SBC strategies.

Participant Overview

In this chapter, we describe the general characteristics of the adult (not adolescent) survey respondents, and their FP use profiles.

General Characteristics of the Study Population

Table 6 summarizes the demographic characteristics of the respondents. Women's mean **age** was 32 years, and men's was 36 (data not shown). The difference in mean ages reflects the age criteria (35–49 for women and 35–55 for men), with about 40% of women and more than 50% of men falling in these age categories.

The results on **education** indicate that about half of the women lacked formal education, and only about one-third had some primary schooling. For men, about one-third had some education and in contrast to the women, another one-third had some secondary or higher education. In Gbarpolu county particularly, 48% of men reported having a secondary or higher level of education. Overall, most women and men reported their **religion** as Christianity, though more than half of respondents in Bomi reported being Muslim. **Marital status** also differed across counties. In Bomi, about half reported being divorced, widowed, or single. In Gbarpolu, 38% of men reported cohabitating and 39% reported being married, 40% of women reported cohabitating and only 21% reporting being married.

To assess the **socioeconomic** level of survey respondents, the questionnaire included items that allowed for the creation of a **vulnerability index** and a **standard of living index**. The vulnerability index measures whether in the last 12 months respondents were able to feed themselves, to provide shelter for themselves, and to obtain medical services. The standard of living index measures access to resources such as household durables (e.g., radio, television) and services (e.g., electricity, sanitation). See the note in Table 6 for a thorough description of these two indices. The results suggest that residents in Bong and Gbarpolu counties were more vulnerable, as these two counties had the largest proportions (nearly 80%) of respondents indicating low access to household durables and basic services.

Table 6. Demographics of Adult Study Respondents

	Women				Men			
	Intervention			Control	Intervention			Control
	Bong N=1253 %	Bomi N=614 %	Total N=1867 %	Gbarpolu N=627 %	Bong N=767 %	Bomi N=331 %	Total N=1098 %	Gbarpolu N=372 %
Age of participant								
19–24	26.8	24.9	26.2	26.2	15.8	14.2	15.3	14.5
25–34	34.6	30.1	33.2	36.4	30.1	26.3	29.0	28.5
35–49 (women) 35–55 (men)	38.6	45.0	40.7	37.5	54.1	59.5	55.7	57.0
Education								
No formal education	52.4	47.6	50.8	48.2	25.7	40.8	30.2	18.6
Primary	32.5	34.7	33.2	32.4	36.5	29.9	34.5	33.6
Secondary or higher	15.1	17.8	16.0	19.5	37.8	29.3	35.3	47.9
Religion								
Christian	95.5	44.5	78.7	83.1	94.1	39.4	77.6	75.5
Muslim	1.2	55.5	19.1	16.4	2.4	60.4	19.9	23.9
Other (traditional)	3.3	0.0	2.2	0.5	3.5	0.3	2.6	0.5
Marital status								
Married	15.2	29.3	19.9	21.4	22.3	45.6	29.3	39.4
Cohabitating	53.5	18.4	41.9	40.2	58.0	10.6	43.7	37.7
Single	31.3	52.3	38.2	38.4	19.7	43.8	26.9	22.9
Vulnerability index[a]								
Low	6.0	18.4	10.1	7.5	6.4	22.1	11.1	8.3
Moderate	53.8	69.2	58.9	35.7	48.0	45.9	47.4	23.9
High	40.2	12.4	31.1	56.8	45.6	32.0	41.5	67.7
Standard of living index[b]								

Low	83.1	68.6	78.3	79.7	78.2	68.9	75.4	81.5
Moderate	16.5	30.8	21.2	19.8	21.3	30.8	24.1	18.5
High	0.4	0.7	0.5	0.5	0.5	0.3	0.5	0.5

Notes: [a] The vulnerability index measures experience of four conditions in the last 12 months: lack of food, lack of shelter, unable to afford to send children to school, and unable to afford medicines or medical treatment. Responses range from low (<=4) to moderate (5–7) to high (8–12). [b] The standard of living index measures household ownership of electricity, working radio, working television, non-mobile telephone, mobile telephone, iron, refrigerator, table, chair, bed with cotton/sponge/spring mattress, flush/pour flush toilet, and pit latrine, as well as the four items from the vulnerability index. Responses range from low (<=6) to moderate (7–8) to high (>=9).

Mass media consumption among survey respondents was relatively low overall and slightly lower among women compared to men (see Table 8). Participants in Gbarpolu reported the highest rates of radio and television consumption: 25% of women and 38% of men reported listening to the radio every day, compared to 10%–15% of women and 25%–30% of men in Bong and Bomi. Overall, 34% of women and 12% of men in the sample never listened to the radio, and 50%–70% of women and 50%–75% of men never watched TV.

Table 7. Percentage of Participants Exposed to TV and Radio

	Women				Men			
	Intervention			Control	Intervention			Control
	Bong N=1,253	Bomi N=614	Total N=1,867	Gbarpolu N=627	Bong N=767	Bomi N=331	Total N=1,098	Gbarpolu N=372
901. How often do you listen to the **radio**, I mean anywhere, not just at your home?								
Every day	15.3	9.8	13.5	24.7	31.7	27.2	30.3	38.4
More than once a week	17.2	15.2	16.6	26.5	26.6	19.6	24.5	21.0
Once per week	11.3	14.7	12.4	8.6	13.7	22.1	16.2	15.9
Less than once per week	21.8	26.4	23.3	11.8	16.0	18.7	16.9	11.8
Never	34.3	34.0	34.2	28.4	12.0	12.4	12.1	12.9
902. How often do you watch **TV**, I mean anywhere, not just at your home?								
Every day	2.8	1.1	2.3	9.9	3.5	1.8	3.0	7.5
More than once a week	4.6	3.3	4.1	16.6	10.2	3.3	8.1	10.0
Once per week	4.9	3.3	4.3	6.2	11.1	8.2	10.2	10.5
Less than once per week	16.4	18.9	17.3	12.6	15.3	11.8	14.2	20.2
Never	71.4	73.5	72.0	54.7	60.0	74.9	64.5	51.9

Table 8 summarizes the survey results about **cellphone** ownership and use, as well as **social media consumption**. Unlike mass media consumption, cellphone ownership and use were high across all counties. On average, households reported owning 1–1.8 cellphones. Only 20% of women and 20% of men reported not having a cellphone in the household (data now shown). Cellphone use among women was slightly lower than for men, but still high. Between 50% to 70% of women indicated using a cellphone whenever they want, compared to 70% to 80% of men. When using the phone, a much higher percentage of women reported using it for voice calls (95.1%-98.9%) than did men (84.0%-86.8%), meaning a higher percentage of men. Additionally, a much higher percentage of women and men in Gbarpolu (22.6% and 35.3%, respectively) reported using their phone for media than in the intervention counties (4.0% of women). **Social media** consumption was quite low, however, and even lower among women. Only 16% of women in Gbarpolu reported ever using any social media, which is double that of

women in the other two counties (7%–8%). Men in Gbarpolu also reported higher use of social media (29%), compared to their counterparts in Bong and Bomi (18% and 12%, respectively).

Table 8. Cellphone and Social Media Use

	Women				Men			
	Intervention			Control	Intervention			Control
	Bong N=1,253 %	Bomi N=614 %	Total N=1,867 %	Gbarpolu N=627 %	Bong N=767 %	Bomi N=331 %	Total N=1,098	Control N=372 %
How many **cellphones** in your household? [average number of phones]	1.3 [1.1]	1.0 [0.7]	1.2 [1.0]	1.5 [1.4]	1.5 [1.3]	1.1 [1.2]	1.4 [1.3]	1.8 [1.4]
Number of basic/button **cellphone**s [average number of phones], (n)	1.5 [0.92] (958)	1.2 [0.58] (463)	1.4 [0.84] (1,421)	1.5 [1.07] (514)	1.7 [1.05] (616)	1.5 1.18 (231)	1.6 1.09 (847)	1.4 1.07 (312)
Number of **feature phones** [average number of phones], (n)	0.6 [0.3] (913)	0.6 [0.2] (458)	0.6 [0.3] (1,371)	0.1 [0.3] (504)	0.1 [0.5] (565)	0.1 [0.4] (175)	0.1 [0.5] (740)	0.4 [0.8] (310)
Number of **smartphones** [average number of phones], (n)	0.1 [0.4] (914)	0.1 [0.3] (459)	0.1 [0.4] (1,373)	0.3 [0.7] (504)	0.2 [0.8] (570)	0.1 [0.3] (172)	0.2 [0.7] (742)	0.4 [0.8] (312)
Who is the **main person** that can use your cell phone(s) in the household?	(967) %	(463) %	(1,430) %	(514) %	(618) %	(232) %	(850) %	(312) %
Not applicable	1.1	0.0	0.1	0.0	0.2	0.4	0.2	0.3
Respondent	34.3	59.5	42.5	67.1	62.5	78.9	66.9	70.8
Spouse/partner	34.1	20.1	29.6	18.1	14.9	8.6	13.2	10.6
Respondent and spouse/partner	20.6	12.1	17.8	7.8	12.6	8.2	11.4	7.4
Father/father-in-law	2.6	0.2	1.8	0.4	2.9	0.4	2.2	1.3
Mother/mother-in-law	1.1	0.4	0.9	0.0	0.7	0.9	0.7	0.6

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Other male relative	2.7	3.0	2.8	3.5	3.4	0.9	2.7	3.9
Other female relative	3.7	2.8	3.4	2.9	1.1	1.3	1.2	1.6
Adolescent	0.5	1.7	0.9	0.0	1.0	0.4	0.8	3.2
Other	0.2	0.2	0.2	0.2	0.8	0.0	0.6	0.3
Do **women/small girls** need permission to use cell phones?	(967) %	(463) %	(1,430) %	(514) %	(618) %	(232) %	(850) %	(312) %
No	8.8	8.6	8.7	22.6	32.7	16.0	28.1	26.0
Yes	91.2	91.4	91.3	77.4	67.3	84.1	71.9	74.0
How often do you use cell phones?	(967) %	(463) %	(1,430) %	(514) %	(618) %	(232) %	(850) %	(312) %
Never (No Time)	4.8	1.1	3.6	2.1	1.9	0.9	1.7	0.3
A few times	17.4	13.2	16.0	7.6	6.3	1.7	5.1	14.1
Sometimes	25.4	19.2	23.4	18.1	11.7	16.4	12.9	16.4
Most times	10.7	12.7	11.3	9.0	12.5	8.6	11.4	20.2
Frequently	41.8	53.8	45.7	63.2	67.6	72.4	68.9	49.0
When the phone is with you, **what do you use it for?** (top three uses)	(967) %	(463) %	(1,430) %	(514) %	(618) %	(232) %	(850) %	(312) %
	Voice call 95.1	Voice call 98.9	Voice call 96.4	Voice call 97.5	Voice call 84.0	Voice call 84.5	Voice call 84.1	Voice call 86.8
	SMS 9.1	SMS 10.6	SMS 9.6	SMS 28.0	SMS 25.6	SMS 10.6	SMS 21.0	View media 35.3
	Radio 4.7	View media 3.0	View media 4.0	View media 22.6	Radio 17.2	No access 15.7	No access 16.0	Radio 25.3
Have you ever used **social media** such as Facebook, Instagram, snapchat, WhatsApp, etc.?	(1,253) %	(614) %	(1,867) %	(627) %	(767) %	(331) %	(1,098) %	(372) %

No	93.6	92.2	93.5	84.5	81.9	87.9	83.7	71.2
Yes	6.4	7.8	6.9	15.5	18.1	12.1	16.3	28.8

Respondents were asked to indicate how many children they or their partner have given birth to, including those who died. The average **number of children** reported by women was 4.5 (median of 4) and by men was 4.4 (median of 4).

In terms of **interpersonal communication**, respondents were asked how many times a community health volunteer or community health service supervisor had visited them in the past six months. More than three-fourths of women in each county reported no visits in the past six months. Women in Bomi were most likely to report no visits from community health volunteers (80%) or community health service supervisors (85%).

Overall, a higher percentage of men than women reported at least one visit from a community health volunteer and at least one visit from a community health service supervisor in the past six months. However, over 60% of men in each county reported never receiving any such visit in the past six months. Like women, a slightly higher percentage of men in Bomi reported not receiving any visits from community health volunteers (75%) or community health service supervisors (80%). Table 9 summarizes the results.

Table 9. Visits from Community Health Workers and Community Health Service Supervisors

	Women				**Men**			
	Intervention			Control	Intervention			Control
	Bong N=1,253 %	Bomi N=614 %	Total N=1,86% 	Gbarpolu N=627 %	Bong N=767 %	Bomi N=331 %	Total N=1,098 	Gbarpolu N=372 %
In the past six months, how many times a **community health volunteer** visited you?	(1,253) %	(614) %	(1,867) %	(627) %	(767) %	(331) %	(1,098) %	(372) %
0	73.6	79.5	75.5	74.3	60.6	74.9	64.9	61.6
1	7.5	5.4	6.8	5.1	15.0	9.7	13.4	7.3
2+	18.9	15.2	17.7	19.6	24.4	15.4	21.7	31.2
In the past six months, how many times has a **community health service supervisor** visited you?	(1,253) %	(614) %	(1,867) %	(627) %	(767) %	(331) %	(1,098) %	(372) %
0	75.4	84.5	78.4	75.9	68.2	79.8	71.7	66.1

1	7.7	7.0	7.5	6.4	17.2	7.9	14.4	8.3
2+	16.8	8.5	14.1	17.7	14.6	12.4	13.9	25.5

Contraceptive Use Among Survey Respondents

This section describes the results for past and current FP use, as well as reasons for not currently using an FP method. Excluded from these results are 242 women who did not mention any specific method when asked which FP methods they have heard of, leaving a sample of 2,252. Following technical standards, the results for current FP use exclude 128 single or never married women who reported not being sexually active, leaving a total sample of 2,124 women. For men, the FP use analysis excluded 43 who reported being single or not sexually active, for a remaining sample of 1,427 men.

Past FP Use

Overall, more than 70% of women had used a FP method (70% in Bong, 73% in Bomi, and 77% in Gbarpolu). Among men, 60% indicated they had used FP, about 10% less use compared to the women. Men in Gbarpolu were most likely to have used FP (69%), followed by men in Bong (62%) and Bomi (45%). The top methods ever used by women included injectables (about half reported using this method), followed by the pill and implants. For men, the top methods they or their partner were using were the pill, followed by male condoms and injectables. See Table 10 for a detailed breakdown of responses.

Table 10. Past Use of any FP Method

	Women (n=2,494)				Men (n=1,470)			
	Intervention			Control	Intervention			Control
	Bong N=1253 %	Bomi N=614 %	Total N=1867 %	Gbarpolu N=627 %	Bong N=767 %	Bomi N=331 %	Total N=1098 %	Gbarpolu N=372 %
409: What **family planning** have you **used** even if you are not using it now? (top 5)	(1090) %	(559) %	(1649) %	(603) %	(767) %	(331) %	(1,098) %	(372) %
	Injectable 44.9	Injectable 7.9	Injectable 42.5	Injectable 49.4	No method 37.8	No method 55.3	No method 43.1	No method 31.2
	No method 26.6	No method 29.5	No method 27.5	Pill 25.2	Pill 17.6	Pill 11.5	Pill 15.8	Pill 22.9
	Pill 20.4	Pill 20.4	Pill 20.4	No method 22.7	Male condom 17.3	Injectable 9.4	Male condom 14.3	Male condom 18.8

	Implant 8.5	Calendar 6.4	Implant 7.3	Implant 10.3	Injectable 14.3	Male condom 7.3	Injectable 12.8	Injectable 14.8
	Don't know 2.8	Implant 4.9	Calendar 2.7	Don't know 2.2	Implant 5.9	Calendar 3.3	Implant 4.9	Implant 4.8
Other	(1090) %	(559) %	(1649) %	(603) %	(767) %	(331) %	(1,098) %	(372) %
None	26.6	29.5	27.6	22.7	37.8	55.3	43.1	31.2
Traditional	1.5	8.1	3.7	2.5	6.4	3.6	5.6	6.2
Non-LARC modern	62.1	56.5	60.2	66.2	45.0	26.9	39.5	54.3
LARC	8.6	5.2	7.5	10.3	5.9	2.7	4.9	4.8

Current Use of FP

About half of women and men in the sample reported currently using an FP method, though use rates by women and men differed slightly. Among women, current use was slightly higher in Gbarpolu (51%), compared to Bong and Bomi (47%). For men, current use was highest in Gbarpolu (56%) and lowest in Bomi (36%), followed by Bong (45%). The largest difference in women's and men's reporting of current use was in Bomi County, where 36% of men reported currently using an FP method and 47% of women indicated so, a 10-point difference. Table 11 summarizes the results.

Table 11. Current Use of FP Methods

	Women (n=2,494)				Men (n=1,470)			
	Intervention			Control	Intervention			Control
	Bong N=1253 %	Bomi N=614 %	Total N=1867 %	Gbarpolu N=627 %	Bong N=767 %	Bomi N=331 %	Total N=1098 %	Gbarpolu N=372 %
407: What kind of **FP** methods are you **currently** using? (top 5)	(1090) %	(559) %	(1649) %	(544) %	(767) %	(331) %	(1,098) %	(372) %
	Not using 55.5	Not using 55.5	Not using 55.5	Not using 52.7	Not using 54.9	Not using 64.1	Not using 57.7	Not using 44.1
	Injectable	Injectable	Injectable	Injectable	Injectable	Injectable	Injectable	Injectable

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	26.2	21.1	24.4	23.2	15.3	13.00	14.6	18.0
	Implant 8.6	Pill 6.3	Implant 7.3	Implant 9.8	Pill 8.7	Implant 6.8	Pill 8.1	Implant 1.6
	Pill 7.3	Implant 4.7	Pill 6.9	Pill 7.2	Male condom 8.0	Pill 6.7	Implant 5.7	Pill 11.3
	Breast-feeding 1.1	Breast-feeding 3.9	Breast-feeding 2.1	Breast-feeding 1.5	Implant 7.3	Male condom .4	Male condom 7.2	Male condom 8.3
Other	(1090) %	(559) %	(1649) %	(603) %	(767) %	(331) %	(1,098) %	(372) %
None	55.5	55,46	55.5	52.7	54.9	64.1	57.7	44.1
Traditional	1.6	8.2	3.8	3.7	5.2	5.1	5.2	9.4
Non-LARC modern	34.4	31.3	33.4	33.2	32.3	24.8	30.1	35.0
LARC	8.6	4.8	7.4	10.0	7.3	5.7	6.8	11.6

The method most frequently mentioned by both women and men across all counties was the injectable. For women in Bong and Gbarpolu, implants were the second-most used method, followed by the pill. For women in Bomi, it was the inverse; more women mentioned the pill, followed by implants. Breastfeeding ranked fourth overall as a top FP method used by women. Among men, injectables were the most frequently mentioned method that they or their partner used, but men mentioned other options that differed from the women's responses. For example, among men in Bong, the pill ranked second, followed by male condoms and implants. Among women in Bong, however, implants ranked second, and male condoms did not rank among the top methods. Answers from men in Gbarpolu were more consistent with those of women, as both mentioned using or having a partner who used injectables, followed by implants and the pill. Their answers differed in the fourth method, though: women cited breastfeeding and men male condoms.

Overall LARC use among women was 9%, with the highest use reported by women in Gbarpolu (11%), followed by women in Bong (9%) and Bomi (5%). Among men, overall LARC use among their partners was 8%, again with highest use reported in Gbarpolu (12%), followed by Bong (8%) and Bomi (6%). For both women and men, the lowest use of a LARC method was reported by respondents in Bomi.

Current FP Use Among Women in Liberia

The 2019 Liberia Demographic and Health Survey separately reports the contraceptive prevalence rate among women who are married or currently in a union (25%) and sexually active women who are single, separated, or divorced (45%). Table 12 shows similar trends in the baseline data on current FP use: in the two intervention counties, 41% of married women reported using FP methods, compared to 58% of single women. FP use was substantially higher among sexually active single women, compared to married women. The most frequently cited FP methods were injectables, implants, and oral pills. Injectables and oral pills showed higher use among single women than among married women; whereas the use of implants was higher among married women in the intervention counties. LARC methods (e.g., IUDs) had almost zero use among all women.

Table 12. Current FP Use Among Married Women and Single Sexually Active Women

	Married women				Single, sexually active women			
	Intervention			Control	Intervention			Control
	Bong N=746 %	Bomi N=260 %	Total N=1006 %	Gbarpolu N=367 %	Bong N=274 %	Bomi N=263 %	Total N=537 %	Gbarpolu N=185 %
No method	56.7	63.1	58.4	45.8	40.9	41.8	41.3	36.8
Pill	6.4	5.8	6.3	8.5	11.3	7.6	9.5	9.2
Injectable	24.8	16.9	22.8	22.1	36.5	21.48	32.4	31.9
Emergency contraception	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Male condom	0.0	0.0	0.0	0.3	0.0	0.4	0.2	0.0
Diaphragm, foam, jelly	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
IUD, loop, coil	0.0	0.4	0.1	0.3	0.0	0.0	0.0	0.0
Implant	9.5	4.6	8.3	8.2	8.4	5.3	6.9	15.7
Female sterilization	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Breastfeeding	1.3	3.5	1.9	2.5	0.7	4.9	2.8	0.0
Withdrawal	0.1	0.0	0.1	0.3	0.0	1.5	0.7	0.5
Calendar	0.7	5.0	1.8	0.8	0.4	10.7	5.4	1.1
Cycle beads	0.7	0.8	0.7	2.5	1.8	0.0	0.9	3.2
Other	0.0	0.4	0.1	0.3	0.0	0.4	0.2	1.1

Total use	43.3	36.9	41.6	54.2	59.1	58.2	58.7	63.2

Reasons for not Currently Using FP

Half of the participants reported not currently using an FP method. Respondents could provide more than one answer for not using contraceptives. Excluding those who responded "not having sex" as a reason, the main reasons for women were wanting to get pregnant or being currently pregnant (28%), fear of side effects (18%), unfamiliar with any methods (11%), health concerns (7%), and partner does not allow it (7%). Among men, main reasons for non-use were wanting partner to get pregnant or currently pregnant partner (28%), unfamiliar with any methods (15%), partner does not allow it (9%), other concerns (9%), and fear of side effects (8%).

Both men and women cited their top reason for not using FP as pregnancy or trying to get pregnant. Fear of side effects was mentioned by more women (18.2%) than men (7.8%); not being familiar with any FP method was mentioned in similar frequency by women and men (11.4% and 15%, respectively). Interestingly, partner not allowing the use of contraception was lower among women (7.4%) than men (9.2%).

Factors Associated with Health Behaviors: Couple Communication, Decision Making, Inequitable Gender Norms, and Household Environment

Examining the role of social factors in determining health behaviors is crucial for countries with cohesive social networks where community and family are prioritized over self. Social factors are complex, multidimensional, and difficult to measure. The Breakthrough Action Liberia baseline survey aimed to include a range of social household and community factors to measure different social dimensions. Household factors include couple communication, decision-making, and household environment. Community factors include social norms, gender-restrictive norms, and social capital.

Couple Communication

The survey asked 2,494 women and 1,403 men about communication patterns with their partners, including the extent of discussions about six health topics (FP, pregnancy, sanitation, nutrition, malaria, and child health). We gauged "how much" a couple talked in general in the past six months to assess their overall pattern of communication. We also measured the quality of couple communication by asking how "freely" they communicated with their partners. The final aspect of couple communication measured the extent to which couples have differences in opinions. Table 13 shows the results.

Table 13. Frequency of Discussion of Topics among Couples

	Intervention (Bong and Bomi)		Control (Gbarpolu)		Total	
	Women N=1712 %	Men N=1045 %	Women N=593 %	Men N=358 %	Women N=2305 %	Men N=1403 %
Malaria	54.4	61.4	46.9	83.2	52.5	67.0
Nutrition	41.9	55.5	46.5	83.8	43.12	62.7
Sanitation	37.4	55.7	32.0	84.6	36.0	63.1
Maternal health	29.6	44.1	18.6	50.6	26.8	45.8
FP	29.9	35.0	25.0	51.7	28.6	39.3

Only 29% of women in the intervention counties (Bong and Bomi) and 25% of women in the control county (Gbarpolu) reported a high level (67–100) of couple communication about **FP**. Many women from Bomi County reported infrequent partner discussion about FP (67%). Overall, fewer than one-third of couples discussed FP frequently. Men's perceptions on partner communication on FP differed from those of the women. For example, 51% of men in Gbarpolu reported strong interaction on FP, compared with 25% of women. In the intervention counties, 35% of men versus 30% of women reported strong interaction on FP.

About 58% of women from the intervention counties (Bong and Bomi) reported very low communication with their partners related to their **pregnancy**. Half the men in the intervention counties reported low levels of discussion on pregnancy with their partners. Similarly, about 60% of women in Gbarpolu reported low communication on maternal health with their partners. In Gbarpolu, 50% of men reported good partner communication on maternal health.

A wide discrepancy in communication on **sanitation** was observed. Whereas only 32%–37% of women reported high communication on sanitation, 55% (Bong and Bomi) to 84% (Gbarpolu) of men reported frequent discussions with their partners on sanitation.

Only 22% of women in Bomi reported frequent discussions on **nutrition** with their partners, indicating that couples in Bomi rarely discuss nutrition among themselves, though 50% of women in Bong reported frequent discussions on nutrition with their partners. Almost half the women from Gbarpolu said they often discuss nutrition with their partners, and men reported higher levels of communication than did women. More than half the men (55%) from the intervention counties stated that they frequently discuss nutrition with their partners, and 83% of men from Gbarpolu reported the same.

Both women (54%) and men (61%) reported discussing **malaria**, with men reporting overall higher levels of couple communication than women. Men from Gbarpolu reported the highest level of couple communication on malaria (83%). Compared with nutrition, maternal health, and FP, couples were more likely to talk frequently about malaria. Women in the intervention counties spoke more frequently (54%) about malaria than their counterparts in the control county (47%). The reverse trend is true for men, where 83% of the control group reported numerous conversations with their spouses around malaria, compared to the men in the intervention counties (61%).

Compared to 50% of women in the intervention counties who frequently discussed **child health**, only 30% of women in Gbarpolu reported the same high frequency of couple communication on child health. Data on couple communication related to child health showed some surprising trends. Overall, women reported far less partner discussion than did the men. Only 30% of women in Gbarpolu discussed child health with their partners, but 80% of men interviewed in Gbarpolu said they spoke with their partners about their children's health.

The frequency of discussion around these five health topic areas were then aggregated and divided into tertiles to create a couple communication index, which indicates the perceived level of communication a participant has with their partner when discussing health issues. This couple communication index is later used to understand how household decision-making might be associated with FP use and LARCs use.

We asked three questions to assess the overall level of couple communication (Table 14). The first question assessed the amount couples talked among themselves and the second measured how "free" or unrestricted is their interaction. The questions are:

1. From 0–100, how much do you talk with your partner?
2. From 0–100, how freely do you talk with your partner?
3. From 0–100, how much of a difference of opinion do you have with your partner?

Table 14. Overall Couple Communication

	Women				Men			
	Intervention			Control	Intervention			Control
	Bong N=1,253 %	Bomi N=614 %	Total N=1,867 %	Gbarpolu N=627 %	Bong N=767 %	Bomi N=331 %	Total N=1,098	Gbarpolu N=372 %
Q502: How much do you talk with your partner?	(1,174) %	(538) %	(1,712) %	(593) %	(742) %	(303) %	(1,045) %	(358) %
0–33 (low)	8.6	17.5	11.4	14.8	4.0	15.8	7.5	3.9
34–66 (medium)	14.6	17.7	15.5	17.4	9.7	14.9	11.2	7.0
67–100 (high)	76.8	64.9	73.1	67.8	86.3	69.3	81.3	89.1
Q503: How much do you talk **freely** with your partner?	(1,174) %	(538) %	(1,712) %	(593) %	(742) %	(303) %	(1,045) %	(358) %
0–33 (low)	8.3	14.3	10.2	10.6	4.5	6.9	5.2	2.5
34–66 (medium)	12.8	16.0	13.8	18.7	7.4	12.9	9.0	6.7
67–100 (high)	79.0	69.7	76.1	70.7	88.1	80.2	85.8	90.8
Q504: How often do you have a diffe**rence** of opinion with your partner?	(1,174) %	(538) %	(1,712) %	(593) %	(742) %	(303) %	(1,045) %	(358) %
0–33 (low)	51.8	63.2	55.4	46.2	66.4	43.6	59.8	36.0
34–66 (medium)	35.4	28.6	33.2	32.0	22.8	30.4	25.0	30.2
67–100 (high)	12.9	8.2	11.4	21.8	10.8	26.1	15.2	33.8

Overall, participants reported frequent interaction with their partners. In Bong County, 77% of women reported very frequent discussions with their partners, compared with 64% of women in Bomi and 68% of women in Gbarpolu. Men in general reported regular couple communication (86% in Bong, 69% in Bomi, and 89 % in Gbarpolu). Bomi County reported the lowest level of regular partner communication among both women and men.

The data from all three counties also indicated that most couples practiced free and frequent partner communication. About 76% of women in the intervention counties reported open partner communication, compared to 70% in the control county. Men reported higher levels of free communication with their spouses, compared with women. About 80% to 90% of men said they communicate freely with their partners. Except for Gbarpolu County (21% of women and 33% of men), women and men reported low levels of disagreement with their partners (13% and 8% of women and 10% and 26% men in Bong and Bomi, respectively).

Key findings are as follows:

- Men and women both report high levels of free and frequent couple communication in Liberia.
- Communication on health topics like FP and maternal health is infrequent.
- Communication on sanitation and child health is medium.
- Communication on malaria is the most discussed health topic among couples.

Household Decision-making

Household decision-making and couple communication are inextricably intertwined. We view their effects on a continuum of processes resulting in health behavior change. Couple communication is the process, and the outcome is the decision-making. Using eight decisions (four minor and four major) to create a household decision-making index, the questionnaire asked respondents to identify a primary and secondary decision maker for each. This household decision-making index is later used to understand how household decision-making might be associated with FP use and LARCs use.

Minor Household Decision-making

Table 15 summarizes the results for the four minor decisions (buying soap, buying fish or vegetables, buying new clothes for the children, and deciding what to cook for dinner).

Table 15. Primary and Secondary Deciders of Four Minor Household Decisions

	Women				Men			
	Intervention			Control	Intervention			Control
	Bong N=1,253 %	Bomi N=614 %	Total N=1,867	Gbarpolu N=627 %	Bong N=767 %	Bomi N=331 %	Total N=1,098	Gbarpolu N=372 %

Buying soap for the house – primary decider								
Myself	33.4	33.2	33.4	55.5	75.1	78.0	76.0	79.3
Partner	59.8	61.6	60.4	41.5	20.5	18.7	20.0	15.6
Buying soap for the house – secondary decider								
Myself	60.5	61.9	61.0	41.8	21.8	18.4	20.8	16.9
Partner	27.3	18.4	24.4	48.0	72.9	70.1	72.0	73.9
Buying fish, meat, vegetables – primary decider								
Myself	35.4	31.9	34.2	55.3	70.7	73.4	71.5	78.0
Partner	57.2	63.0	59.1	41.8	25.0	22.7	24.3	16.9
Buying fish, meat, vegetables – secondary decider								
Myself	58.5	62.9	59.9	42.6	25.8	23.0	25.0	18.3
Partner	29.4	16.5	25.1	46.9	68.5	66.2	67.8	72.6
Buying new clothes for the children – primary decider								
Myself	32.7	36.3	33.9	54.2	75.8	77.3	76.2	83.6
Partner	60.7	59.3	60.2	43.5	18.4	16.6	17.9	11.8
Buying new clothes for the children – secondary decider								
Myself	61.8	60.4	61.3	43.9	19.8	17.2	19.0	13.4
Partner	26.7	21.7	25.0	46.4	73.5	71.9	73.0	78.2
Deciding what to cook for dinner – primary decider								
Myself	46.1	59.0	50.4	69.9	53.7	68.6	58.2	53.5
Partner	46.7	37.3	43.6	27.4	41.1	27.5	37.0	41.1

Deciding what to cook for dinner – secondary decider								
Myself	49.0	39.3	45.8	28.6	41.2	28.1	37.3	40.5
Partner	39.0	42.0	40.0	60.1	52.7	61.9	55.5	51.1

Note: Two responses—other relatives and not applicable—are not shown due to low values. Therefore, percentages do not add to 100.

Only 33% of women in the two intervention counties reported they are the primary decision makers for **buying soap**. On the other hand, more than half (55%) of women in the control county stated that they decide when to buy soap. In contrast, 75% of men in the intervention counties and 79% in the control county reported being the primary decision makers when it comes to buying soap. Overall, men in the intervention counties are the primary decision makers for this minor decision.

For **buying fish and vegetables**, about 34% of women in the intervention counties and 55% of women in the control county maintained they are the primary decision makers. This finding shows that women in the control area have higher decision-making power to buy food. Men identified themselves more than women as the primary decision makers for buying fish and vegetables. About 71% of men in the intervention counties and 77% of men in the control county said they oversaw this minor decision.

Women in the intervention counties followed a similar trend of low decision-making power for **buying new clothes for children**. About 33% of women in the intervention areas and 54% in the control area asserted that they are the primary decision-makers for buying their children's clothes. Men unilaterally stated that they were in charge of this decision: 75% of men in the intervention counties and 83% in the control county claimed they were the primary decision-makers for this minor decision.

Deciding what to cook for dinner generally falls within the domestic domain, but here too 47% of men from Bong County made such decisions (as reported by the women). Similarly, 37% of men from Bomi and 27% men from Gbarpolu are the primary decision-makers of what to cook for dinner (women's data). Interestingly, men's reporting show that they are the primary decision makers in more than half of cases when deciding what to have for dinner. About 53% of men in Bong, 68% of men in Bomi, and 53% of men in Gbarpolu identified themselves as primary decision-makers for this minor decision. In Bong, only 28% of men identified their wives as the primary decision-makers for this task.

Major Household Decision-making

Table 16 summarizes the results for major household decision-making (how many children to have, whether to use contraceptives, going to the primary health center for illness, and taking a child to the primary health center for illness).

Table 16. Major Household Decision-making

	Women				Men			
	Intervention			Control	Intervention			Control
	Bong N=1,253 %	Bomi N=614 %	Total N=1,867 %	Gbarpolu N=627 %	Bong N=767 %	Bomi N=331 %	Total N=1,098 %	Gbarpolu N=372 %
How many children to have – Primary Decision								
Myself	29.1	41.0	33.1	56.8	86.2	84.3	85.6	82.5
Partner	64.3	55.4	61.4	40.8	9.7	11.2	10.1	11.8
How many children to have – Secondary Decision								
Myself	65.9	56.4	62.8	41.6	10.0	11.2	10.4	12.4
Partner	24.0	23.1	23.7	49.1	85.4	78.6	83.3	80.9
Deciding whether to use a contraceptive method – Primary Decision								
Myself	44.7	64.0	51.0	77.4	61.7	70.1	64.2	64.8
Partner	44.5	29.0	39.4	19.6	25.8	16.6	23.0	29.6
Deciding whether to use a contraceptive method – Secondary Decision								
Myself	46.1	30.3	40.9	20.1	26.1	16.0	23.0	30.7
Partner	39.5	41.0	40.0	68.4	61.4	65.0	62.5	62.4
Going to the health center if you're ill – Primary Decision								
Myself	26.2	41.2	31.1	68.6	75.9	87.0	79.2	73.4
Partner	68.0	54.2	63.5	29.8	20.6	10.6	17.6	21.5

Going to the health center if you're ill – Secondary Decision								
Myself	69.5	55.5	64.9	29.8	20.6	10.6	17.6	23.4
Partner	21.3	26.9	23.1	60.3	74.7	79.5	76.1	70.7
Taking the child to the health center if he/she is ill – Primary Decision								
Myself	36.6	40.7	37.9	71.5	71.7	78.6	73.8	67.2
Partner	57.0	55.5	56.5	26.8	22.8	15.4	20.6	28.0
Taking the child to the health center if he/she is ill – Secondary Decision								
Myself	58.5	56.0	57.7	26.8	23.2	14.8	20.7	29.8
Partner	31.1	25.6	29.3	63.0	71.2	73.1	71.8	64.0

Note: Two responses—other relatives and not applicable—are not shown due to low values. Therefore, the percentages don't add to 100.

Women in the intervention counties reported low levels of primary decision-making related to **how many children to have**. Only 29% of women in Bong and 41% of women in Bomi reported they were the decider for this choice. Most women identified men as primary decision makers of family size, especially in Bong County (64%). Notably, men's responses reflect this dominance: about 85% in the intervention counties and 82% in the control county identified themselves as primary decision-makers for this important decision.

Results for the major decision of **whether to use contraceptives** varied substantially by county. In Bomi, 64% of women reported being the primary decision maker, compared to 44% of women in Bong, a substantial difference in perceived decision-making power. In Gbarpolu (control county), 77% of women saw themselves as the primary. The overall trend continues to show men as the dominant decision makers, even for contraceptive use. In both the intervention (64%) and control (64%) counties, men consider themselves the primary deciders of this major decision.

Women in the intervention counties showed low primary decision-making (31%) to **visit a health provider when ill**. The control county, Gbarpolu, showed that 68% of women reported being primary decision makers in this major decision. Most women in Bong and Bomi counties reported that their partners decide they should visit the health center. Most men in the intervention counties (79%) and in Gbarpolu (73%) stated they are the primary decision makers for visiting a health facility when unwell.

Only 37% of women in the intervention counties feel they can independently decide to **take their sick child to a health facility**, compared to 71% of women in the control county, a stark difference. A large proportion of the women in the intervention counties depend on their partners for making this major

decision. About 71% of men in Bong, 78% in Bomi, and 67% in Gbarpolu identified themselves as the primary decision makers.

Key findings are as follows:

- Couples' overall level of communication is open and frequent, but men retain most of the decision-making power for both minor and major household and family decisions. Women's overall primary decision-making is weak.
- Women in Gbarpolu county (the control) have higher levels of decision-making power than women in Bong and Bomi counties.
- Both Bong and Bomi are similar in women's decision-making power except for decisions related to how many children to have and using contraceptives. Women in Bong County are much less independent in decision-making than women in Bomi.

Gender Equitable Men (GEM) Scale

Gender inequity is a critical cross-cutting variable in behavioral research as equitable gender norms are associated with crucial health behaviors. The baseline study measured gender norms using the gender equitable men (GEM) scale, an extensively validated 24-item scale (Table 17) divided into four subdomains (violence, sexual relationships, reproductive health, and domestic chores and daily living).[4,5,6,7] Agreement with scale items indicates prevalence of inequitable norms. For example, if a woman agrees 80% with the statement, "There are times when a woman deserves to be beaten," it indicates high support (67–100) of gender inequity. If another woman agrees only 10% with the statement, it indicates low support for gender inequity.

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[7] Okigbo, C. C., Speizer, I. S., Domino, M. E., Curtis, S. L., Halpern, C. T., & Fotso, J. C. (2018). Gender norms and modern contraceptive use in urban Nigeria: A multilevel longitudinal study. *BMC Womens Health*, *18*(1), 178. https://doi.org/10.1186/s12905-018-0664-3

Table 17. GEM Scale Statements and Subscale Categories Used to Measure Discriminatory Gender Norms in Liberia

Subscale	GEM Statement
Sexual relationships	1. It is the man who decides what type of sex to have.
	2. Men are always ready to have sex.
	3. Men need sex more than women do.
	4. A man needs other women even if things with his wife are fine.
	5. You don't talk about sex, you just do it.
	6. It disgusts me when I see a man acting like a woman.
	7. A woman should not initiate sex.
	8. A woman who has sex before she marries does not deserve respect.
Reproductive health	9. Women who carry condoms on them are easy.
	10. Men should be outraged if their wives ask them to use a condom.
	11. It is a woman's responsibility to avoid getting pregnant.
	12. Only when a woman has a child is she a real woman.
	13. A real man produces a male child.
Domestic chores and daily life	14. Changing diapers, giving a bath, and feeding kids is the mother's responsibility.
	15. A woman's role is taking care of her home and family.
	16. The husband should decide to buy the major household items.
	17. A man should have the final word about decisions in his home.
	18. A woman should obey her husband in all things.
Violence	19. There are times when a woman deserves to be beaten.
	20. A woman should tolerate violence to keep her family together.
	21. It is alright for a man to beat his wife if she is unfaithful.
	22. A man can hit his wife if she won't have sex with him.
	23. If someone insults a man, he should defend his reputation with force if he has to.

| | 24) A man using violence against his wife is a private matter that shouldn't be discussed outside the couple. |

The Liberia Proportional Piling Scale (PPS)

The GEM scale is calculated by adding the scores using the proportional piling scale, for each sub domain, followed by a score for the overall scale. The proportional piling scale has been used in Liberia for several years because of its cultural relevance to the Liberian context and in this study because Liberians find it culturally easier to respond to questions about gender norms using this scale. As shown in Figure 1, respondents use 10 pebbles, each worth 10%, to show their agreement with a statement. Therefore, if five pebbles are selected, it indicates 50% agreement with the statement. In this survey, responses were divided into three categories: 0–33 indicated low support, 34–66 moderate support, and 67–100 strong support for inequitable gender norms.

Figure 1. *Liberian Proportional Piling Scale*

10 Pebbles

As previously mentioned, we categorized the 24 statements into four subscales and divided them into tertiles of low, medium, and high categories. We present the gender norms data by each of the four subscales and the overall GEM scale.

Gender Norms: Sexual Relationships Subscale

In the intervention counties and control county, 20% and 17% women showed strong support for inequitable sexual relationships, respectively. About 75% women overall indicated moderate support for inequitable sexual relationships. Only 3%–8% of women had high support for equitable sexual relationships. The men's data followed similar patterns, except that more men (27%–29%) supported inequitable norms related to sexual relationships. Figure 2 illustrates the results.

Figure 2. *Gender Inequitable Norms: Sexual Relationship Subscale*

Women (N = 2494)

Intervention counties
3.2
76.9
19.9

Control county
8.3
74.6
17.1

Low
Medium
High

Percent of respondents

Men (N = 1470)

Intervention counties
3.8
69.2
27.0

Control county
8.9
61.8
29.3

Low
Medium
High

Percent of respondents
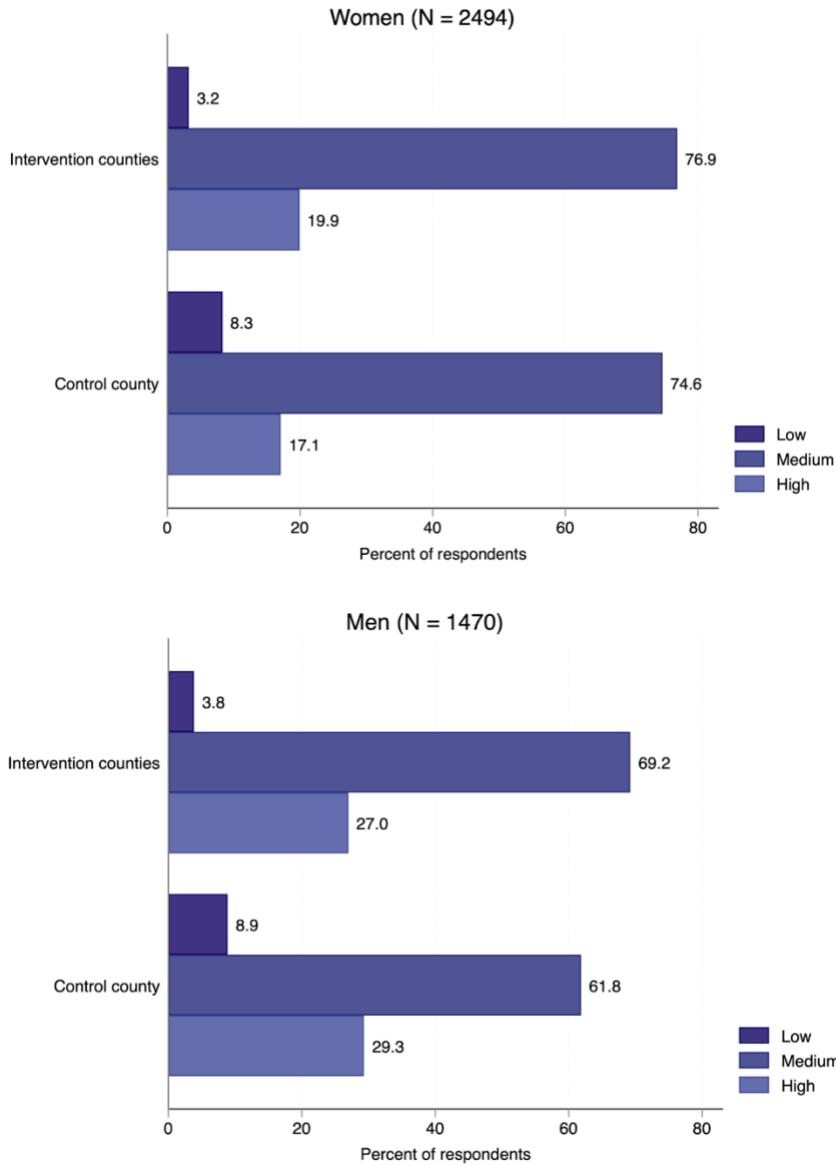
Gender Norms: Reproductive Health Subscale

Compared to the sexual relationship subscale, women showed much higher support of inequitable reproductive health norms in both the intervention (26%) and control (33%) counties. Only 4% of women in the intervention counties and 8% in the control county reported low support of inequitable reproductive health norms. Among men, 38% in the intervention counties and 53% in the control county indicated strong support for inequitable reproductive health norms. Only 5% of men in the intervention counties and 7% in the control county had low support for inequitable norms (see Figure 3).

Figure 3. *Gender Inequitable Norms: Reproductive Health Subscale*

Women (N = 2494)

Intervention counties — Low 4.1, Medium 69.1, High 26.8
Control county — Low 8.0, Medium 58.9, High 33.2

Men (N = 1470)

Intervention counties — Low 5.4, Medium 56.0, High 38.6
Control county — Low 7.3, Medium 39.5, High 53.2
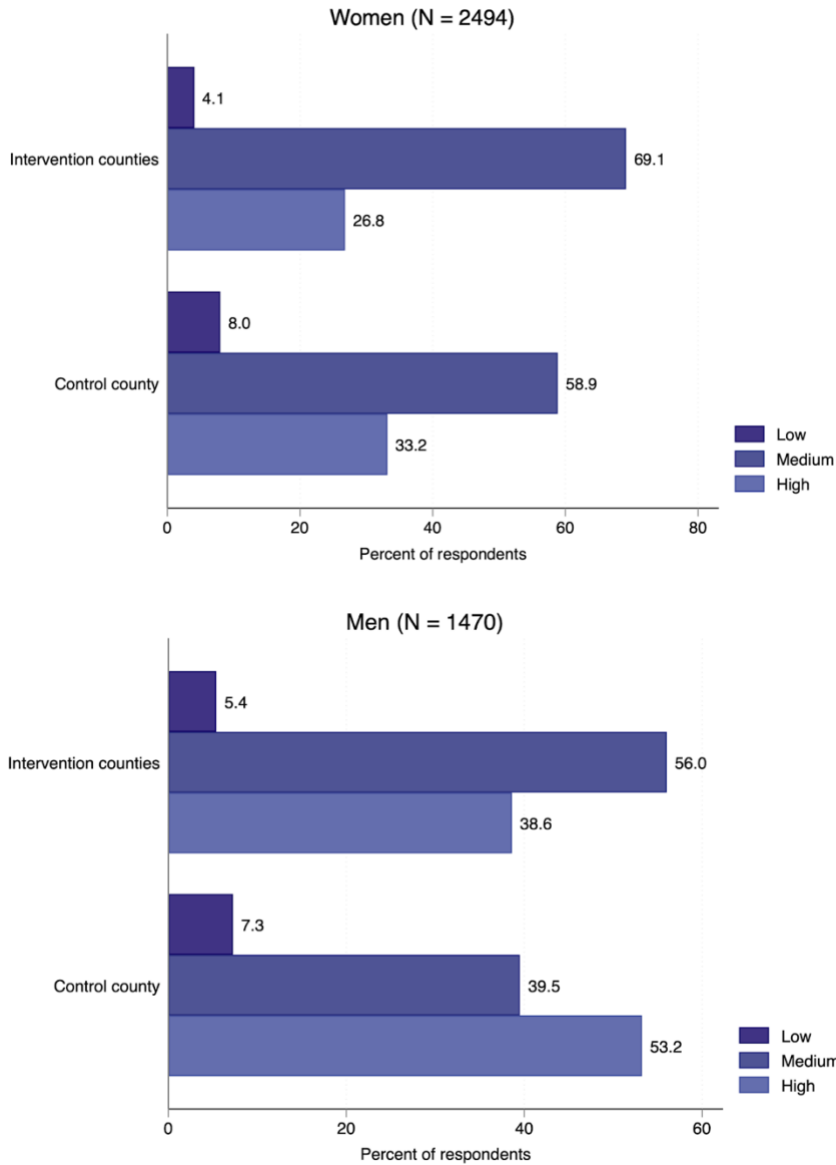
Gender Norms: Domestic Chores and Daily Life Subscale

The domestic chores and daily life subscale is primarily about gender norms in the household sphere. It includes decision-making, child rearing, and women's and men's roles within the household. The results of this subscale are stark and point toward a situation that requires a major shift in gender norms. Almost 84%–89% of women in the intervention and control counties show high support for inequitable gender norms within the household sphere (Figure 4). Similarly, 88%–90% of men also show very strong support for inequitable gender norms in the domestic domain. A notable feature of these results is that support for gender inequitable norms within the household is very high in both women and men.

Figure 4. *Gender Inequitable Norms: Domestic Chores and Daily Living*

Women (N = 2494)

Intervention counties	0.3 / 9.9 / 89.8
Control county	0.6 / 14.5 / 84.8

Legend: Low, Medium, High

Men (N = 1470)

Intervention counties	2.6 / 9.6 / 87.9
Control county	0.8 / 9.1 / 90.1

Legend: Low, Medium, High
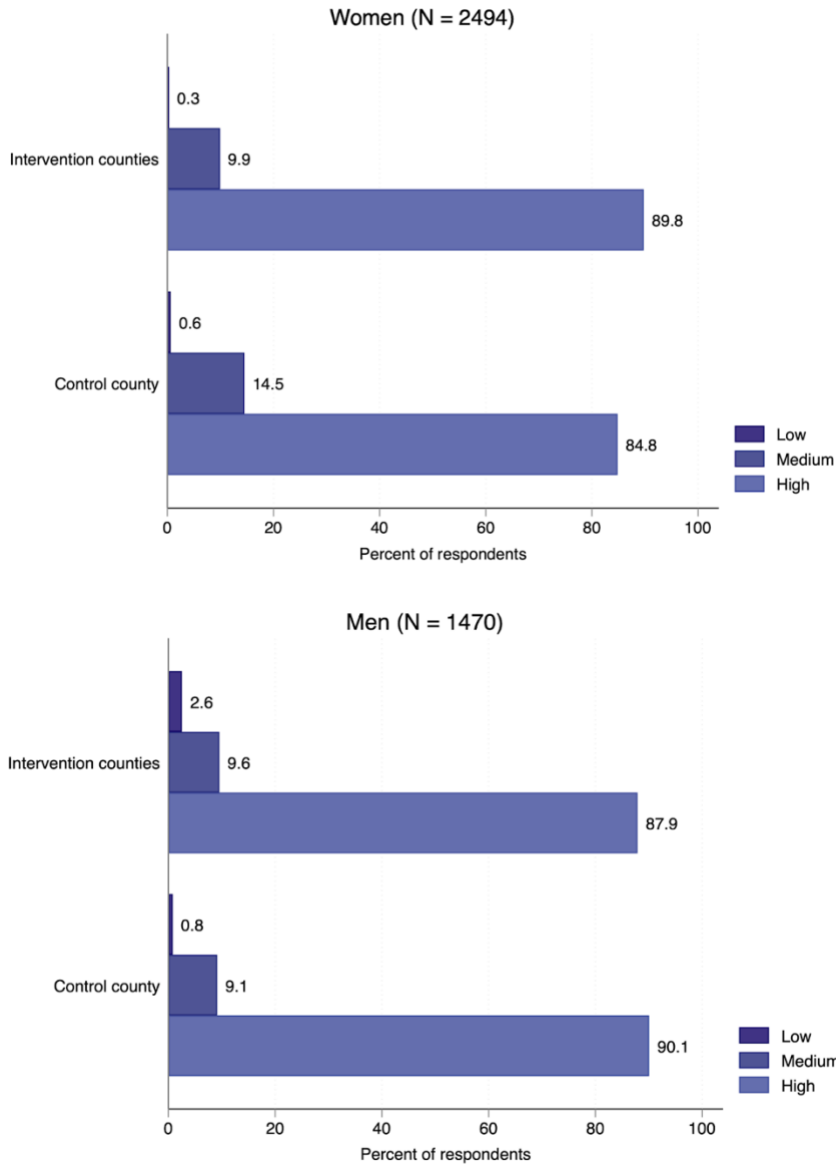
Gender Norms: Violence

The data for the violence subscale show a different trend from the domestic chores and daily life trends (see Figure 5). Both women (58%) and men (53%) in the intervention counties had low support for violence against women (Figure 5). In Gbarpolu, 52% of women and 52% of men had low support for violence against women. Still, 19%–22% of women indicated high support for the norm of violence, along with 15%–19% of men. Of the four subscales, the results for violence were the most gender equitable, and gender norm subscales related to the domestic sphere and to reproductive health were the least gender equitable.

Figure 5. *Gender Inequitable Norms in Liberia: Violence Subscale*

Women (N = 2494)

Intervention counties
- 58.4
- 19.1
- 22.5

Control county
- 52.8
- 27.9
- 19.3

Legend:
- 0 - 3 (Low)
- 4 - 6 (Medium)
- 7 - 10 (High)

Percent of respondents

Men (N = 1470)

Intervention counties
- 53.8
- 30.9
- 15.3

Control county
- 52.2
- 28.2
- 19.6

Legend:
- 0 - 3 (Low)
- 4 - 6 (Medium)
- 7 - 10 (High)

Percent of respondents
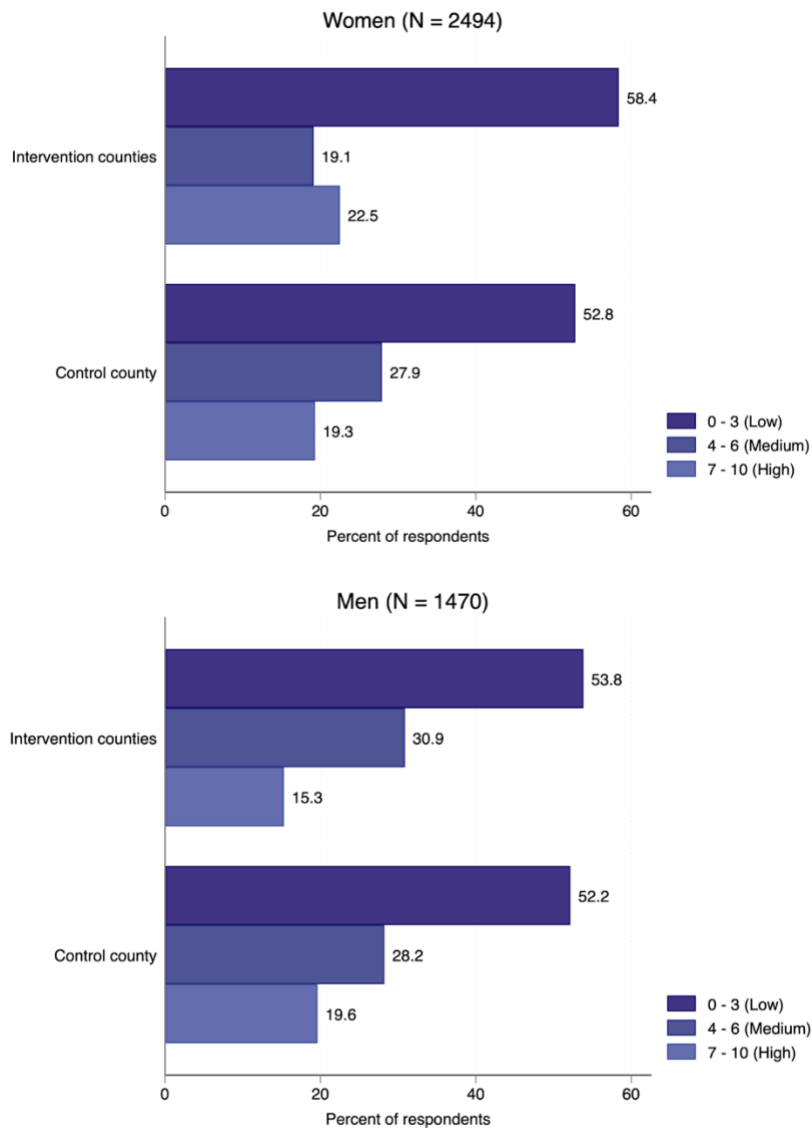
Key findings are as follows:

- Liberians endorse strong support of gender inequity in the household sphere.
- Liberians uphold the gender norm that women take care of child rearing and the house.
- Of the four GEM subscales, the reproductive health subscale is characterized by high support of inequitable norms by women and men in contraceptive use and childbearing.
- The partner violence subscale indicates low support of partner violence among both women and men, showing equitable norms vis a vis partner violence.
- The data show medium support of sexual relationship inequity.
- Overall, the evidence offers guidance on which aspects of gender-restrictive norms require heightened focus by the Breakthrough ACTION Liberia project.

Breakthrough ACTION Liberia: Baseline Report for Adolescents

Social Norms Around Partner Violence

Physical violence perpetuated by the partner was measured at the cluster level. Respondents were asked how many women out of 10 in their community face physical violence. Responses were divided into a low-violence cluster (0–3), moderate-violence cluster (4–6), and high-violence cluster (7–10). Table 18 summarizes the results.

Table 18. Social Norms Around Partner Violence

	Women				Men			
	Intervention			Control	Intervention			Control
	Bong N=1,253 %	**Bomi** N=614 %	**Total** N=1,867 %	**Gbarpolu** N=627 %	**Bong** N=766 %	**Bomi** N=329 %	**Total** N=1,095 %	**Gbarpolu** N=371 %
Q507: Social norm around physical violence in cluster	(1,253) %	(614) %	(1,867) %	(627) %	(767) %	(331) %	(1,098) %	(372) %
0–3 (low)	45.1	85.5	58.4	52.8	47.7	68.0	53.8	52.2
4–6 (medium)	24.0	9.1	19.1	27.9	35.2	20.9	30.9	28.2
7–10 (high)	30.9	5.4	22.5	19.3	17.1	11.2	15.3	19.6

Bong had the highest number of women (31%) living in a high-violence cluster, according to women. In comparison, only 5% of women in Bomi reported living in a high violence cluster, according to women. In Gbarpolu, the control county, 19% of women reported living in a high-violence cluster, according to women. The trends for men's reporting of violence against women clusters varied greatly from the women's estimates. About 17% of men in Bong said they live in a high-violence cluster for women, about half of what the women reported. Yet, men's estimate of high-violence clusters among women (11%) in Bomi County was double that of the women's estimate. Only Gbarpolu County had similar estimates among women and men (19%).

Reported levels of violence during pregnancy were much lower. About 8% of women in Bong County, 7% in Gbarpolu, and 1% in Bomi stated they lived in a high-violence cluster. Men reported lower levels of pregnancy-related physical violence. About 3% of men in Bong stated they live in a high-violence cluster (in pregnancy), 4% in Bomi %, and 5% in Gbarpolu %. Table 19 summarizes the results.

Table 19. Social Norms Around Partner Violence During Pregnancy

	Women				Men			
	Intervention Counties			Control	Intervention Counties			Control
	Bong N=1,253 %	Bomi N=614 %	Total N=1,867 %	Gbarpolu N=627 %	Bong N=766 %	Bomi N=329 %	Total N=1,095 %	Gbarpolu N=371 %
Q508: Social norm around physical violence during pregnancy in cluster	(1,253) %	(614) %	(1,867) %	(627) %	(767) %	(331) %	(1,098) %	(372) %
0–3 (low)	78.9	95.3	84.3	75.0	82.3	84.0	82.8	80.4
4–6 (medium)	12.5	3.1	9.4	18.0	14.3	11.2	13.4	14.0
7–10 (high)	8.6	1.6	6.3	7.0	3.4	4.8	3.8	5.7

Stress During Pregnancy

About 76% of women in Bong County report living in communities where 7–10 women experience high stress at home during pregnancy; 61% of women in Bomi claimed to live in communities where women experience high stress during pregnancy (see Table 20).

Table 20. Stress During Pregnancy

	Women			
	Intervention Counties			Control
	Bong N=1,253 %	Bomi N=614 %	Total N=1,867	Gbarpolu N=627 %

Q514: Stressful environment at home	(1,214)	(600)	(1,814)	(607)
	%	%	%	%
0–33 (low)	22.8	21.8	14.1	21.8
34–66 (medium)	15.8	26.4	14.4	26.4
67–100 (high)	76.5	61.3	71.5	51.9

Household Environment

Participants were asked to rate home environment stress and supportiveness during pregnancy. Questions were framed as asking about social norms: out of 10 pregnant women in your community, how many pregnant women face a stressful (or supportive and compassionate) environment at home? Table 21 summarizes the results.

Table 21. Household Support During Pregnancy

	Women				Men			
	Intervention			Control	Intervention			Control
	Bong N=1,253 %	Bomi N=614 %	Total N=1,867 %	Gbarpolu N=627 %	Bong N=766 %	Bomi N=329 %	Total N=1,095 %	Gbarpolu N=371 %
Q510: Workload during pregnancy in a typical day	(1,214) %	(600) %	(1,814) %	(607) %	(767) %	(331) %	(1,098) %	(372) %
Less than typical day	66.1	61.3	64.6	60.5	90.3	87.1	89.4	86.5
Same as typical day	17.8	27.0	20.8	26.7	7.6	8.6	7.8	7.7
More than typical day	16.1	11.7	14.6	12.9	2.1	4.3	2.7	5.8
Q511: Received general support during pregnancy	(1,214) %	(600) %	(1,814) %	(607) %	(767) %	(331) %	(1,098) %	(372) %
No	9.1	15.0	11.1	12.2	5.3	6.6	5.7	2.8
Yes	90.9	85.0	88.9	87.8	94.7	93.4	94.3	97.2
Q513: How much did your spouse help during this pregnancy	(1,214) %	(600) %	(1,814) %	(607) %	(767) %	(331) %	(1,098) %	(372) %

0–33 (low)	21.7	35.2	26.1	28.0	9.5	19.1	12.2	4.0
34–66 (medium)	18.9	28.5	22.1	25.5	25.1	24.9	25.0	13.8
67–100 (high)	59.5	36.3	51.8	46.5	65.4	56.0	62.8	82.2
Q515: Bounded norm: Supportive environment at home	(1,253) %	(614) %	(1,867) %	(627) %	(767) %	(331) %	(1,098) %	(372) %
0–33 (low)	46.9	49.5	47.8	48.2	43.9	42.6	45.5	44.1
34–66 (medium)	27.1	43.2	32.4	34.1	35.7	39.3	36.8	34.1
67–100 (high)	26.0	7.3	19.9	17.7	20.3	18.1	19.7	21.8

Women and men both reported that about half of women face low levels of support during pregnancy. Specifically, only 7% of women in Bomi said they live in a highly supportive cluster during pregnancy, compared with 26% in Bong and 17% in Gbarpolu. Men seemed to agree that the household environment provides low support to women in pregnancy. Men in intervention counties reported that 18%–20% of the women have a highly supportive home environment during pregnancy, compared to 21% of men in the control county, Gbarpolu, who said the same.

Key findings are as follows:

- Partner violence during pregnancy varied substantially across counties.
- Women in Bong County reported the highest communities of partner violence during pregnancy; Bomi County reported the lowest.
- Men reported fewer high-violence communities than women.
- Partner violence in pregnancy was lower than during the non-pregnancy periods, as reported by both women and men. Among the three counties, women in Bong County reported the most partner violence during pregnancy.
- Women reported high household level stress during pregnancy in both intervention counties.
- Women and men both reported that few women had a supportive household environment during pregnancy.

Factors Associated with FP Use

This chapter describes the univariate (frequency distribution) and bivariate analyses of factors that have been shown to be associated with FP use, as well as the results of a multivariate regression model for FP use among women based on main FP predictors and sociodemographic variables.

Univariate Analysis

Table 22 to Table 27 present the results for each survey question measuring contraceptive knowledge, ideational variables (perceived risk, self-efficacy, bounded descriptive social norms, attitudes, and couple communication), use of FP services, and perceived quality of FP services. The section on lifestyle included questions on gender norms, decision-making patterns, and household environment. All highlighted variables have been shown to influence FP decisions and use.

Knowledge of Contraceptive Methods

Two questions explored respondents' knowledge of contraceptives. The first question assessed unaided knowledge (spontaneous answers). Overall results indicate that the three most popular methods known to women were injectables (80%–90% mentioning this method), followed by the pill and implants (60%–80% knew about this method). In Gbarpolu, 7.5% of women listed the IUD as one of the main five methods they knew. In contrast, men had low overall knowledge levels. About 50%–60% of men mentioned the pill and injectables, followed by 40%–50% who mentioned implants. Condoms were one of the five main methods mentioned unprompted by men, but the percentages were low (around 20%).

A second question explored aided contraceptive knowledge by reading to them about the methods they did not mention in the first question. For 242 women who did not mention any method in the first question, the second question was not asked, which may represent a slight underestimate of their FP knowledge. The results for the second question (Table 23) indicate that most respondents recognized male condoms (60%–80%) and female condoms (40%–70%). Traditional FP methods, such as cycle beads, withdrawal, breastfeeding, and the calendar methods were also recognized more by women than by men. Men recognized injectables and implants only after these were read to them.

Table 22. Knowledge of FP Methods

	Women (ALL women n=2,494)				Men (ALL men n=1,470)			
	Intervention Counties			Control	Intervention Counties			Control
	Bong N=1253 %	Bomi N=614 %	Total N=1867 %	Gbarpolu N=627 %	Bong N=767 %	Bomi N=331 %	Total N=1098 %	Gbarpolu N=372 %
Which FP methods have you heard of? (Top 5 methods heard of)	(1253) %	(614) %	(1867) %	(627) %	(767) %	(331) %	(1098) %	(372) %
	Injectable 80.7	Injectable 83.7	Injectable 81.7	Injectable 90.9	Pill 60.0	Injectable 57.1	Pill 57.7	Pill 58.6
	Pill 64.3	Implant 75.1	Pill 66.5	Pill 80.2	Injectable 57.2	Pill 52.3	Injectable 57.2	Implant 50.3
	Implant 63.7	Pill 71.0	Implant 67.4	Implant 79.9	Implant 43.4	Implant 49.6	Implant 45.3	Injectable 42.7
	Don't know 13.0	Male condom 10.2	Don't know 11.7	Male condom 13.1	Don't know 19.2	Male condom 25.4	Don't know 20.9	Don't know 22.3
	Male condom 6.8	Don't know 9.0	Male condom 7.9	IUD 7.5	Male condom 18.8	Don't know 24.8	Male condom 20.8	Male condom 10.2
Have you heard about FP? (Top 5)	(1090) %	(559) %	(1649) %	(603) %	(767) %	(331) %	(1098) %	(372) %
	Male condom 66.6	Male condom 77.3	Male condom 70.2	Male condom 61.2	Male condom 72.0	Male condom 64.4	Male condom 69.7	Male condom 86.8
	Female condom 44.0	Female condom 41.0	Female condom 43.0	Female condom 60.5	Female condom 42.9	Female condom 33.2	Female condom 40.0	Female condom 70.2

	Breast-feeding 42.2	Calendar 40.6	Breast-feeding 39.3	Female sterilization 43.1	Implant 33.8	Implant 23.6	Implant 30.7	Withdrawal 57.0
	Cycle Bead 38.8	Withdrawal 37.6	Withdrawal 34.5	Withdrawal 41.8	Calendar 24.1	Pills 27.5	Pill 24.3	Calendar 56.7
	Female sterilization 35.6	Breast-feeding 33.6	Calendar 34.2	Male sterilization 37.5	Pill 23.0	Injectable 27.5	Injectable 23.3	Breastfeeding 47.0
Overall knowledge of FP methods (unprompted & prompted)	(1253) %	(614) %	(1867) %	(627) %	(767) %	(331) %	(1098) %	(372) %
Traditional	49.5	46.4	48.5	57.1	42.5	35.7	40.4	71.0
Non-LARC modern method	86.7	90.9	88.1	96.0	94.1	96.1	94.7	99.5
LARC	80.8	86.5	82.7	94.1	77.2	72.8	75.9	94.9
Have you seen an FP provider in the last 12 months?	(1253) %	(614) %	(1867) %	(627) %	(767) %	(331) %	(1,098) %	(372) %
No	63.9	68.4	65.4	68.1	65.6	79.8	69.9	73.9
Yes	36.2	31.6	34.7	31.9	34.4	20.2	30.2	26.1

Notes: Standard deviations are reported in brackets []; sample sizes are reported in parenthesis ().

Three aggregate indices of FP knowledge were developed: traditional methods, modern methods excluding LARCs, and LARCs. Table 18 shows that overall, women's **knowledge of modern methods** excluding LARCs was very high (87%–96%), and this knowledge is almost two times higher than their knowledge of traditional methods, which was around 50%. **Knowledge of traditional methods** seemed highest among women and men in Gbarpolu; 57% and 71%, respectively, knew at least one traditional method. Knowledge of these methods was slightly lower for residents in Bong and Bomi counties. More than 80% had high knowledge of implants. However, there was little to noknowledge of IUDs   , mentioned by only 7.5% in Gbarpolu and less than 2% in Bong and Bomi. On average**,** women knew seven (median = 6) out of 14 methods, and men knew five (mean = 4.8) (data not shown).

Social Norms and Behavioral Variables

Several questions explored social and behavioral variables among respondents. To answer the social norm questions, respondents were asked to use the analogy of 1 to 10 beans, "From 0 to 10 beans, how many beans do you feel/agree that …?" The results were aggregated at three risk levels: low (0–3), medium (4–6), and high (7–10).

Perceived Risk of Pregnancy

Slightly more women (50%–60%) than men (40%–50%) felt at high risk (7–10 beans) of having an unwanted pregnancy. Among women in Bong, 62.7% felt at high risk, compared to 48.7% in Bomi. Among men, about half of those in Bong reported feeling at high risk of an unwanted pregnancy, compared to one-third of men in Gbarpolu. In fact, more than one-third of male respondents reported feeling at low risk of having an unwanted pregnancy (0–3 beans). Table 23 summarizes the results.

Table 23. Perceived risk of pregnancy for women and men

	Women (N=2,494)				Men (N=1,470)			
	Intervention			Control	Intervention			Control
	Bong	Bomi	Total	Gbarpolu	Bong	Bomi	Total	Gbarpolu
	N=1253	N=614	N=1867	N=627	N=767	N=331	N=1098	N=372
	%	%	%	%	%	%	%	%
411: From 0 to 10 beans, how many beans do you feel at risk of having an belly you didn't plan on having?	(1,090) %	(559) %	(1,649) %	(603) %	(767) %	(331) %	(1,098) %	(372) %
0–3 (low)	23.6	36.7	28.0	27.0	32.9	39.9	35.0	43.3
4–6 (medium)	13.8	14.7	14.1	20.7	14.3	13.3	14.0	19.6
7–10 (high)	62.7	48.7	57.9	52.2	52.8	46.8	51.0	37.1

Note: Standard deviations are reported in brackets []; sample sizes are reported in parenthesis ().

FP Self-efficacy

Confidence about being able to use FP to avoid an unwanted pregnancy was very high among all respondents, between 60%–80% indicating very high confidence (67-100). Some men (10%–17%) reported frequently feeling low confidence (0–33) in avoiding pregnancy, which was higher than the response from women. Table 24 shows that low confidence rates were more than double among men, compared to that of women, across all counties.

Table 24. FP Self-efficacy

	Women (N=2,494)				Men (N=1,470)			
	Intervention			Control	Intervention			Control
	Bong N=1253 %	Bomi N=614 %	Total N=1867 %	Gbarpolu N=627 %	Bong N=767 %	Bomi N=331 %	Total N=1098 %	Gbarpolu N=372 %
412: From 0 to 10 beans, how many beans represent your confidence that you can use FP to avoid an unwanted pregnancy?	(1,090) %	(559) %	(1,649) %	(603) %	(767) %	(331) %	(1,098) %	(372) %
0–33 (low)	7.7	3.9	6.4	7.1	16.9	10.5	14.0	14.8
34–66 (medium)	15.0	10.6	13.5	16.9	20.5	10.5	15.7	15.8
67–100 (high)	77.3	85.5	80.1	76.0	62.5	79.0	70.4	69.5

Notes: Standard deviations are reported in brackets []; sample sizes are reported in parenthesis ().

Bounded Descriptive Social Norms Around FP

To assess perceptions of FP use (bounded descriptive norms), respondents were asked to guess how many people, from 0 to 10, in their community were using FP. The results suggest that more women than men perceived higher use of FP: 50%–70% of women indicated that 7–10 people were using FP in their communities, compared to only 30%–40% of men, and a similar proportion of men believed only 4–6 people in their community were using FP. The exception among men was in Gbarpolu, where 56% thought that many women (7-10 women out of 10) were using FP methods.   Table 25 summarizes the results.

Table 25. FP Bounded Descriptive Social Norms

	Women (N=2,494)				Men (N=1,470)			
	Intervention			Control	Intervention			Control
	Bong N=1253	Bomi N=614	Total N=1867	Gbarpolu N=627	Bong N=767	Bomi N=331	Total N=1098	Gbarpolu N=372

	%	%	%	%	%	%	%	%
427: From 0 to 10, how many women in your community do you think use FP methods?	(1,090) %	(559) %	(1,649) %	(603) %	(767) %	(331) %	(1,098) %	(372) %
0–3	9.1	15.2	11.2	17.9	13.2	26.9	17.3	13.4
4–6	22.6	34.5	26.6	26.7	42.0	42.9	42.3	30.4
7–10	68.4	50.3	62.2	55.4	44.9	30.2	40.4	56.2
428: From 0 to 10, how many women in your community do you think received FP advice during their most recent visit to a health care provider during the last six months?	(1,090) %	(559) %	(1,649) %	(603) %	(767) %	(331) %	(1,098) %	(372) %
0–3	20.2	18.3	19.5	26.7	15.5	25.4	18.5	10.8
4–6	39.5	48.3	42.5	44.9	38.5	35.7	37.6	20.7
7–10	40.3	33.5	38.0	28.4	46.0	39.0	43.9	68.6

Notes: Standard deviations are reported in brackets []; sample sizes are reported in parenthesis ().

Perceived Benefits and Expectations of FP Use

To explore FP attitudes, the survey included 13 statements reflecting perceived benefits and expectations of FP use, as well as FP decision-making and roles in FP decisions. To elicit answers to each statement, respondents were asked "From 0 to 10 beans, how many beans do you agree that …" The number of beans chosen reflected three levels of agreement: low (0–3 beans), medium (4–6 beans), and high (7–10 beans).

FP Attitudes

Table 26 summarizes the results of the six questions asking about **FP attitudes**. The highest levels of agreement were observed for the following four items:

- Use of modern FP methods will help make your and your family's lives better.
- Getting pregnant soon after giving birth can cause problems for women's health.
- Starting FP as soon as a baby is born will stop you from getting pregnant again too quickly.
- FP allows parents to have plenty of time to care for their family.

In contrast, respondents showed disagreement in their responses to these three statements:

- FP products can cause problems for your womb (answers were spread across the three levels of agreement in similar proportions of around 30%).
- FP methods can reduce women's appetite to have sex (more women and men disagreed with this statement, but the pattern was not clear across the three levels of agreement).

Table 26. FP Attitudes

	Women (ALL women n=2,494)				Men (ALL men n=1,470)			
	Intervention			Control	Intervention			Control
	Bong N=1253 %	Bomi N=614 %	Total N=1867 %	Gbarpolu N=627 %	Bong N=767 %	Bomi N=331 %	Total N=1098 %	Gbarpolu N=372 %
413: From 0 to 10 beans, how many beans do you agree that the use of modern FP methods will help make your and your family's lives better?	(1,090) %	(559) %	(1,649) %	(603) %	(767) %	(331) %	(1,098) %	(372) %
0–3	7.5	9.7	8.3	9.5	14.0	17.5	15.0	9.4
4–6	14.5	21.1	16.7	16.8	15.7	22.4	17.7	10.0
7–10	78.0	69.2	75.0	73.8	70.4	60.1	67.3	80.7
414: From 0 to 10 beans, how many beans do you agree that FP products can cause problems for your womb?	(1,090) %	(559) %	(1,649) %	(603) %	(767) %	(331) %	(1,098) %	(372) %
0–3	50.6	27.9	42.9	50.1	29.99	25.1	28.5	31.2
4–6	26.0	28.1	26.7	20.7	36.3	28.1	33.8	21.8
7–10	23.4	44.0	30.4	29.2	33.8	46.4	37.7	47.0
415: From 0 to 10 beans, how many beans do you agree that getting pregnant soon after giving birth can cause health problems for women?	(1,090) %	(559) %	(1,649) %	(603) %	(767) %	(331) %	(1,098) %	(372) %
0–3	10.5	6.1	9.0	16.3	12.5	20.5	14.9	13.7
4–6	15.5	20.8	17.3	23.7	15.9	20.2	17.2	14.0
7–10	74.0	73.2	73.7	60.0	71.6	59.2	67.9	72.3
416: From 0 to 10 beans, how many beans do you agree that starting FP as soon as a baby is born will stop you from getting pregnant again too quickly?	(1,090) %	(559) %	(1,649) %	(603) %	(767) %	(331) %	(1,098) %	(372) %
0–3	6.3	8.1	6.9	10.8	14.3	20.5	16.2	12.6
4–6	14.8	25.8	18.5	21.6	18.0	25.7	20.3	9.7
7–10	78.9	66.2	74.6	67.7	67.7	53.8	63.5	77.7

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	Women (ALL women n=2,494)				Men (ALL men n=1,470)			
	Intervention			Control	Intervention			Control
417: From 0 to 10 beans, how many beans do you agree that FP allows parents to have plenty of time to care for their family?	(1,090) %	(559) %	(1,649) %	(603) %	(767) %	(331) %	(1,098) %	(372) %
0–3	4.2	4.7	4.4	5.3	11.1	16.3	12.7	8.3
4–6	11.7	13.2	12.3	17.7	11.9	25.1	15.9	8.9
7–10	84.0	82.1	83.4	77.0	77.1	58.6	71.5	82.8
418: From 0 to 10 beans, how many beans do you agree that FP methods can reduce women's appetite to have sex?	(1,090) %	(559) %	(1,649) %	(603) %	(767) %	(331) %	(1,098) %	(372) %
0–3	48.8	53.9	56.0	55.9	52.9	36.0	47.8	39.8
4–6	36.7	19.2	27.8	19.2	29.3	39.3	32.3	23.7
7–10	14.5	26.9	16.2	26.9	17.7	24.8	19.9	36.6

Notes: Standard deviations are reported in brackets []; sample sizes are reported in parenthesis ().

FP Gender Norms

Seven statements reflecting gender norms showed wide overall differences in agreement levels between women and men, indicative of a gender gap in perceptions of these norms (Table 27). About 70% of women but only about 50% of men highly agreed that it is a woman's duty to avoid getting pregnant. Most women (70%–80%) disagreed that men should be angry if their partner asks them to use a condom, compared to only 50%–60% of men. Slightly more women (50%–70%) than men (40%–60%) disagreed that only a woman who has given birth is a real woman. The largest agreement gap between women and men was related to the perception that only a real man produces a boy child: 60%–70% of women disagreed, compared to only 35–60% of men. In contrast, responses were mixed on women suggesting the use of condoms the same way men do (around half of women and men indicated high levels of agreement, with the other half spread between low and medium agreement).

Table 27. FP Gender Norms

	Women (ALL women n=2,494)				Men (ALL men n=1,470)			
	Intervention			Control	Intervention			Control
	Bong N=1253	Bomi N=614	Total N=1867	Gbarpolu N=627	Bong N=767	Bomi N=331	Total N=1098	Gbarpolu N=372

	Women (ALL women n=2,494)				Men (ALL men n=1,470)			
	Intervention			Control	Intervention			Control
	%	%	%	%	%	%	%	%
419: From 0 to 10 beans, how many beans do you agree that it is a woman's duty to avoid getting pregnant?	(1,090) %	(559) %	(1,649) %	(603) %	(767) %	(331) %	(1,098) %	(372) %
0–3	13.5	8.9	12.0	13.8	24.1	26.0	24.7	26.9
4–6	15.7	15.2	15.5	20.2	25.2	22.1	24.2	19.1
7–10	70.8	75.9	72.5	66.0	50.7	52.0	51.1	54.0
420: From 0 to 10 beans, how many beans do you agree that a woman can suggest using a condom the same way men do?	(1,090) %	(559) %	(1,649) %	(603) %	(767) %	(331) %	(1,098) %	(372) %
0–3	19.6	18.8	19.4	18.6	27.6	30.8	28.6	16.7
4–6	29.8	34.9	31.5	26.0	23.3	25.7	24.0	15.6
7–10	50.6	46.3	49.1	55.4	49.0	43.5	47.4	67.7
421: From 0 to 10 beans, how many beans do you agree that a woman should feel okay to talk about FP with their spouse/partner?	(1,090) %	(559) %	(1,649) %	(603) %	(767) %	(331) %	(1,098) %	(372) %
0–3	10.0	13.1	11.0	10.6	15.5	19.0	16.6	8.1
4–6	18.2	19.9	18.7	20.2	16.8	23.3	18.8	10.0
7–10	71.8	67.1	70.2	69.2	67.7	57.7	64.7	82.0
422: From 0 to 10 beans, how many beans do you agree that a man and a	(1,090) %	(559) %	(1,649) %	(603) %	(767) %	(331) %	(1,098) %	(372) %

	Women (ALL women n=2,494)				Men (ALL men n=1,470)			
	Intervention			Control	Intervention			Control
woman should agree together on what type of FP method to use?								
0–3	10.1	17.2	12.5	11.3	12.0	17.8	13.8	7.3
4–6	16.6	19.0	17.4	20.1	11.5	23.0	14.9	7.8
7–10	73.3	63.9	70.1	68.7	76.5	59.2	71.3	85.0
424: From 0 to 10 beans, how many beans do you agree that men should be mad if their partner asks them to use a condom?	(1,090) %	(559) %	(1,649) %	(603) %	(767) %	(331) %	(1,098) %	(372) %
0–3	67.1	80.1	71.5	73.3	62.6	47.4	58.0	57.5
4–6	20.6	14.3	18.4	13.3	18.1	22.4	19.4	16.1
7–10	12.4	5.6	10.1	13.4	19.3	30.2	22.6	26.3
425. From 0 to 10 beans, how many beans do you agree that only women who have given birth are real women?	(1,090) %	(559) %	(1,649) %	(603) %	(767) %	(331) %	(1,098) %	(372) %
0–3	53.2	70.1	58.9	53.1	61.3	39.3	54.6	42.2
4–6	10.5	11.5	10.8	8.6	10.0	14.8	11.5	11.3
7–10	36.3	18.4	30.3	38.3	28.7	45.9	33.9	46.5
426. From 0 to 10 beans, how many beans do you agree that a real man produces a boy child?	(1,090) %	(559) %	(1,649) %	(603) %	(767) %	(331) %	(1,098) %	(372) %
0–3	62.2	73.5	66.0	63.4	63.4	35.1	54.8	39.5
4–6	10.9	14.5	12.1	8.0	12.3	19.6	14.5	8.9

	Women (ALL women n=2,494)				Men (ALL men n=1,470)			
	Intervention			Control	Intervention			Control
7–10	26.9	12.0	21.8	28.7	24.4	45.3	30.7	51.6

Notes: Standard deviations are reported in brackets []; sample sizes are reported in parenthesis ().

Principal components factor analysis[8] was conducted using these 13 statements to explore if they represented any underlying factors of FP attitudes. The results rendered two factors, one with eight of the 13 items indicative of benefits of FP use and FP decision-making among couples, and another with three items representing gender norms. These two attitudinal factors are used in the following section to assess their statistical correlation with FP use.

FP-related Couple Communication

The questionnaire explored how often in the last six months respondents talked to their spouse or partner about FP. The results indicate that overall, 58% of women almost never talked to their partner about FP, although this figure was slightly improved in Bomi, where 68% reported at least a low frequency of communication. About 13% of women indicated they talked sometimes, and almost one-third regularly discussed FP with their partner. Among men, a similar pattern emerged, except in Gbarpolu, where half of the men indicated a high frequency of FP talk with their partner and only one-third (35%) indicated they rarely talked about FP with their partner in the last six months (see Table 10).

Most respondents agreed on couples' FP communication levels. Except for men in Bomi, where about 50%–60% indicated high agreement with these statements, more than 60% and up to 80% of women in all counties and men in Bong and Gbarpolu had high agreement levels on the following statements:

- A woman should feel okay to talk about FP with their spouse or partner.
- A man and a woman should agree together on what type of FP method to use.

Use of FP Services and Perceived Quality of FP Services

The results on use of FP services indicate that only about one-third of women and men saw an FP provider in the last 12 months. Among those, most agreed that the provider gave them information about different types of FP methods and explained potential side effects and what they could do if they experienced problems or side effects. Table 28 summarizes the results.

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[8] "Factor analysis is a powerful data reduction technique that enables researchers to investigate concepts that cannot easily be measured directly. By boiling down a large number of variables into a handful of comprehensible underlying factors, factor analysis results in easy-to-understand, actionable data. By applying this method to your research, you can spot trends faster and see themes throughout your datasets, enabling you to learn what the data points have in common." (https://www.alchemer.com/resources/blog/factor-analysis/)

Table 28. FP Provider Experiences

	Women (N=2,494)				Men (N=1,470)			
	Intervention			Control	Intervention			Control
	Bong N=1253 %	Bomi N=614 %	Total N=1867 %	Gbarpolu N=627 %	Bong N=767 %	Bomi N=331 %	Total N=1098 %	Gbarpolu N=372 %
403: Have you seen any FP provider in the last 12 months?	(1253) %	(614) %	(1867) %	(627) %	(767) %	(331) %	(1,098) %	(372) %
No	63.9	68.4	65.4	68.1	65.6	79.8	69.9	73.9
Yes	36.2	31.6	34.7	31.9	34.4	20.2	30.2	26.1
404: Did the person that gave you the FP information tell you about the different types of FP including the ones that you already know about?	(1253) %	(614) %	(1867) %	(627) %	(767) %	(331) %	(1,098) %	(372) %
Don't know	0.2	0.2	0.2	0.0	1.0	0.3	0.8	0.3
Didn't see FP provider	63.9	68.4	65.4	68.1	65.6	79.8	69.9	73.9
No	9.0	6.4	8.1	5.4	9.8	7.9	9.2	8.1
Yes	27.0	25.1	26.4	26.5	23.6	12.1	20.1	17.7
405: Did the person that gave you the FP information tell you about the problem that you can have or that it may delay you from getting pregnant?	(1253) %	(614) %	(1867) %	(627) %	(767) %	(331) %	(1,098) %	(372) %
Don't know	0.2	0.3	0.2	0.0	0.9	0.3	0.7	0.0
Didn't see FP provider	63.9	68.4	65.4	68.1	65.6	79.8	69.9	73.9
No	5.4	3.4	4.7	4.2	8.0	7.9	7.9	6.2
Yes	30.7	27.9	29.7	27.8	25.6	12.1	21.5	19.9

	Women (N=2,494)				Men (N=1,470)			
	Intervention			Control	Intervention			Control
406: Did the person that give you the family planning information tell you what to do if you experience problems with FP?	(1253) %	(614) %	(1867) %	(627) %	(767) %	(331) %	(1,098) %	(372) %
Don't know	0.2	0.5	0.2	0.3	0.9	0.0	0.6	0.0
Didn't see FP provider	63.9	68.4	68.1	65.4	65.6	79.8	69.9	73.9
No	5.0	3.6	3.2	4.6	8.3	6.0	7.7	6.7
Yes	31.0	27.5	28.6	29.8	25.2	14.2	21.9	19.4
410: When did you first start using modern FP methods in months? (average months ago and SD)	29.0 [47.9]	16.9 [27.1]	25.0 [42.6]	34.0 [47.4]	21.1 [38.4]	12.9 [36.8]	18.6 [38.1]	22.7 [42.4]
429: Have you received any FP advice at your recent visit to see a health care provider in six months?	(1,090) %	(559) %	(1,649) %	(603) %	(767) %	(331) %	(1,098) %	(372) %
Yes	37.2	30.8	35.0	34.3	25.4	17.2	23.0	22.3
No	62.8	69.2	65.0	65.7	74.6	82.8	77.1	77.7
430: From 0 to 10 beans, how many beans do you agree that your provider talked on your important needs for this visit?	(405)	(172)	(577)	(207)	(195)	(57)	(252)	(83)
0–3	7.7	9.9	8.3	8.2	10.3	7.0	9.5	6.0
4–6	18.0	18.0	18.0	15.0	9.7	26.3	13.5	8.4
7–10	74.3	72.1	73.7	76.8	80.0	66.7	77.0	85.5
431: From 0 to 10 beans, how many	(405)	(172)	(577)	(207)	(195)	(57)	(252)	(83)

	Women (N=2,494)				Men (N=1,470)			
	Intervention			Control	Intervention			Control
beans do you agree that your provider answered all your concerns.	%	%	%	%	%	%	%	%
0–3	6.9	12.2	8.5	8.2	5.1	3.5	4.8	4.8
4–6	18.8	15.1	17.7	15.0	18.5	28.1	20.6	8.4
7–10	74.3	72.7	73.8	76.8	76.4	68.4	74.6	86.8
432: From 0 to 10 beans, how many beans do you agree that your provider gave you enough information.	(405) %	(172) %	(577) %	(207) %	(195) %	(57) %	(252) %	(83) %
0–3	6.7	11.1	8.0	6.3	5.1	1.8	4.4	2.4
4–6	14.3	16.3	14.9	15.9	13.3	22.8	15.5	14.5
7–10	79.0	72.7	77.1	77.8	81.5	75.4	80.2	83.1
433: From 0 to 10 beans, how many beans do you agree that your provider helped you make your own self choices about your health?	(405) %	(172) %	(577) %	(207) %	(195) %	(57) %	(252) %	(83) %
0–3	8.9	6.4	8.2	7.7	7.7	8.8	7.9	2.4
4–6	12.8	16.3	13.9	11.6	11.8	10.5	11.5	6.0
7–10	78.0	77.3	78.0	80.7	80.5	80.7	80.6	91.6

Notes: Standard deviations are reported in brackets []; sample sizes are reported in parenthesis ().

Gender-Equitable Men (GEM) Scale

The GEM Scale uses a set of statements developed to measure attitudes towards gender norms in intimate relationships. See Table 14 for a description of how this scale was adapted for women in the survey. Table 26 presents the results of the four subscales: partner violence, decision-making and gender norms in reproductive health, gender norms in sexual relationships, and gender norms in domestic chores and daily life. Higher values of the scale indicate more gender inequity.

The results indicate that women continue to experience some partner violence. Overall, about half reported a medium level of partner violence. About 65% women in Bomi reported low partner violence experience, compared to 38% women in Bong and 48% women in Gbarpolu. Gender norms about reproductive health and sexual relationships were inequitable across all counties. Among all women, 66.6% reported a medium level of inequitable gender norms related to reproductive health, and 76.3% reported a medium level of inequity in sexual relationships. High rates of inequity were observed for domestic chores and daily life, with about 90% of all women ranking this as high.

The questionnaire also included eight questions to assess who in the household (respondent, partner, or other) would be **most likely** to make various health and non-health related decisions, including three relevant to FP use: deciding how many children to have; deciding whether to use a contraceptive method; and going to the health center if ill.

The final multivariate analysis on contraceptive use was done using the women's data. Results in Table 29 show that for all three situations, women were not always the main decision maker. On the number of children to have, women in Bong seem to have the least say, compared to women in the other two counties. Only 29% of women in Bong indicated they are mostly to make this decision, compared to 56.8% of women in Gbarpolu. Regarding the use of contraception, women seem to have a bit more say, with 57.7% saying they are most likely to make this decision. This figure is highest in Gbarpolu (77.4%), followed by women in Bong (64%) and Bomi (44.7%). With respect to going to the health center if ill, most women in Gbarpolu can make such decisions for themselves (68.6%), but not in Bong, where less than one-third can make such decisions.

To assess social norms about the household environment during pregnancy, respondents were asked from 0 to 10 beans, how many women they thought experienced a stressful versus low-stress home environment during pregnancy. Overall, 47.9% of women thought that women experienced low-stress environments. However, regarding having a compassionate environment, the answers spread along the scale, with no clear pattern (e.g., one-fifth of women in Bomi said they did not know).

The survey also explored whether in the past six months, women had heard or seen any message related to FP. The results indicate that about one-third were exposed to FP messages, with women in Gbarpolu having the highest exposure (42.6%) and those in Bomi the lowest (30.1%).

Table 29. GEM Subscale: Decision-making, Household Environment, and Exposure to FP Messages, as Reported by Women

	County %			Total
	Bong	**Bomi**	**Gbarpolu**	**(n=2,494)**
Partner violence				
Low	37.9	64.7	48.2	47.1
Medium	55.2	34.5	48.0	48.3
High (more partner violence)	6.9	0.8	3.8	4.6
Reproductive health				

	County %			Total
	Bong	**Bomi**	**Gbarpolu**	**(n=2,494)**
Low	4.7	2.8	8.0	5.1
Medium	61.6	84.5	58.9	66.6
High	33.7	12.7	33.2	28.4
Sexual relationships				
Low	3.5	2.6	8.3	4.5
Medium	73.1	84.5	74.6	76.3
High	23.4	12.9	17.1	19.2
Domestic chores and daily life				
Low	0.4	0.2	0.6	0.4
Medium	10.5	8.6	14.5	11.1
High	89.1	91.2	84.9	88.5
Self is main decision maker				
Number of children to have	29.1	41.0	56.8	39.0
Whether to use contraception	44.7	64.0	77.4	57.7
Going to health center if ill	26.2	41.2	68.6	40.5
Stressful home environment				
Low	46.9	49.5	48.2	47.9
Medium	27.1	43.2	34.1	32.8
High	26.0	7.3	17.7	19.3
Supportive home environment				
Low	28.4	21.2	31.4	27.4
Medium	30.6	25.4	37.3	31.0
High	36.8	31.9	29.7	33.8

	County %			Total
	Bong	**Bomi**	**Gbarpolu**	**(n=2,494)**
Don't know	4.15	21.5	1.59	7.78
Exposed to FP messages in past six months	40.5	30.1	42.6	38.5

Bivariate Analysis (Women's Responses Only)

In this section, the results of the statistical associations (bivariate analysis) between FP use and each of the main FP predictors described in the previous section are explored. The results of the bivariate analysis of FP use and sociodemographic variables is also included. As standard practice for this analysis, aggregate measures, such as indices, are used instead of each individual variable measured in the questionnaire. The bivariate analysis results presented correspond only to the subsample of women respondents.

FP Use and Main Bivariate FP Predictors

Current use of any FP method among women is positively associated with the following main FP predictors:

1. Knowing traditional methods

2. Knowing more than six (median number) contraceptive methods

3. Perceived high risk of pregnancy

4. Being highly confident (high self-efficacy) in using FP

5. Having a high perceived norm about others using FP in their community

6. Having favorable FP attitudes (above the median)

7. Frequent communication with their partner about FP

8. Used FP services in the last 12 months

9. Ever received high-quality FP services

10. Perceiving inequitable norms on reproductive health

11. Primary decision-maker for FP use

12. Primary decision-maker about use of health services when ill

13. Primary decision-maker on number of children to have, FP use, and health services use

14.   Exposed to FP messages in the last six months

FP Use and Sociodemographic Variables

The results of the bivariate analysis of the sociodemographic variables indicate that FP use is positively associated with the following women's characteristics:

1.   Younger than 35 years of age

2.   Having some level of education

3.   Divorced, separated, or single rather than married or cohabitating

4.   Having given birth to four or fewer children (median number of children is 4)

5.   Low ranking on the vulnerability index

6.   Watches TV at least less than once a week

Table 30 summarizes the results for the FP cognitive and social predictors of FP use.

Table 30. Bivariate Statistical Analysis of FP Cognitive and Social Predictors with FP Use, as Reported by Women

FP predictor	Current FP user (n=2,124)	
	Any FP method (%)	Statistical significance
Knows traditional methods		
No	44.8	
Yes	50.5	p < .01
Knows non-LARC modern methods		
No	(very small #)	
Yes		
Knows LARC methods		
No	42.5	
Yes	48.3	n.s.
Knows more than 6 of 14 methods (median)		

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FP predictor	Current FP user (n=2,124)	
	Any FP method (%)	Statistical significance
No	45.6	
Yes	50.9	p< .05
Perceived risk of pregnancy		
Low	41.6	
Medium	39.8	
High	53.4	p<. 001
Self-efficacy to use FP		
Low	34.6	
Medium	35.5	
High	51.3	p<. 001
Perceived norms of FP use		
Low	42.4	
Medium	43.7	
High	51.0	p< .01
Favorable FP attitudes (above median)		
No	42.2	
Yes	52.9	p< .001
Frequency of couple communication about FP		
Low	30.6	
Medium	59.1	
High	67.4	p< .001
Used FP services in last 12 months		

FP predictor	Current FP user (n=2,124)	
	Any FP method (%)	Statistical significance
No	33.1	
Yes	72.4	p< .001
Overall FP services' quality (all three items)		
No	38.3	
Yes	74.6	p< .001
Used FP services and quality received		
Did not use FP in last 12 months	33.1	
Used and poor quality received	67.2	
Used and high quality received	74.6	p< .001
Norms on stressful environment		
Low (0–3 beans)	48.9	
Medium (4–6 beans)	45.6	
High (7–10 beans)	49.4	n.s.
Norms on compassionate environment		
Low	47.7	
Medium	49.3	
High	48.4	
Don't know	41.3	n.s

Table 31 summarizes the results for the analysis of gender equity, decision-making, media use, and exposure predictors of FP use.

Table 31. Bivariate Statistical Analysis of Gender Equity, Decision-making, Media Use, and Exposure Predictors with FP use, among Women

FP predictor	Current FP user (n=2,124)	
	Any FP method (%)	Statistical significance
GEM-Partner violence index		
Low	46.9	
Medium	48.8	
High	50.5	n.s.
GEM-Reproductive health index		
Low	41.7	
Medium	45.9	
High	53.7	p< .01
GEM-Sexual relationships index		
Low	47.2	
Medium	47.5	
High	50.1	n.s.
GEM-domestic chores/life index		
Low	55.6	
Medium	48.7	
High	47.8	n.s.
Decides number of children to have		
No	46.4	
Yes	50.5	n.s.
Decides whether to use FP		
No	43.8	

FP predictor	Current FP user (n=2,124)	
	Any FP method (%)	Statistical significance
Yes	50.8	p<.01
Decides going to health center if ill		
No	45.4	
Yes	51.7	p< .01
Number of three decisions		
None	44.0	
One	47.5	
Two	48.5	
All three	52.6	p< .05
Exposed to FP messages		
No	34.4	
Yes	66.7	p< .001
Listens to radio once per week or more		
No	46.3	
Yes	50.3	n.s.
Frequency of radio listening (terciles)		
Low	46.3	
Medium	48.9	
High	51.2	n.s.
Watches some TV (at least less than once a week)		
No	45.7	
Yes	52.4	p< .01

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FP predictor	Current FP user (n=2,124)	
	Any FP method (%)	Statistical significance
Has at least one cellphone in house		
No	45.6	
Yes	48.6	n.s.

Table 32 summarizes the results for the analysis of sociodemographic predictors of FP use.

Table 32. Bivariate Statistical Analysis of Sociodemographic Characteristics with FP Use, Among Women

Socio demographic characteristic	Current FP user (n=2,124)	
	Any FP method (%)	Statistical significance
Age category		
19–24	53.7	
25–34	52.1	
35–49	40.2	p< .001
Education level		
No education	44.2	
Some primary	49.7	
Some secondary or more	55.2	p< .01
Area of residence		
Rural	48.7	
Urban	45.2	n.s.
Religion		
Christian	48.3	
Muslim	45.8	

Trad/other	58.8	n.s.
Marital status		
Married	40.0	
Cohabitating	44.0	
Divorced/separated/single	57.5	p< .001
More than 4 children born		
No	50.5	
Yes	45.2	p< .05
Vulnerability index		
Low	58.6	
Medium	45.5	
High	48.7	p< .01
Standard of living index		
Low	46.9	
Medium	51.8	
High	58.3	n.s.
County of residence		
Bomi	46.7	
Bong	47.2	
Gbarpolu	50.5	n.s.

Multivariate Analysis (FP Use Among Women)

In this section, the results of the multivariate regression of FP use are presented (Tables 33 and 34). Different from the bivariate results, all main FP predictors and sociodemographic variables are included to assess the independent effect of each, after accounting for all other variables.

Table 33. Multivariate Regression of Sociodemographic Determinants of Modern FP Use, as Reported by Women

	Adjusted Odds Ratio	Std. Error	95% CI	P>z
Age group				
19–24	1.00			
25–34	0.97	0.14	(0.74, 1.27)	0.81
35–49	0.74	0.11	(0.55, 0.99)	0.04
Education level				
No formal education	1.00			
Primary	1.04	0.13	(0.82, 1.32)	0.76
Secondary or higher	1.02	0.17	(0.74, 1.40)	0.92
Residence				
Rural	1.00			
Urban	0.85	0.11	(0.66, 1.11)	0.24
Marital status				
Married	1.00			
Cohabitating	0.92	0.14	(0.69, 1.22)	0.56
Single	1.53	0.24	(1.12, 2.08)	0.01
Vulnerability index				
Low				
Moderate	0.58	0.11	(0.40, 0.84)	0.00
High	0.58	0.12	(0.39, 0.85)	0.01
County				
Bomi	1.00			
Bong	0.94	0.15	(0.69, 1.28)	0.70

Gbarpolu	1.26	0.21	(0.91, 1.75)	0.17
Constant	1.21	1.76	(0.07, 21.15)	0.90

Notes: Adjusted for social and behavioral factors; number of observations = 1991; LR chi2(31) = 576.38; Prob > chi2 = 0; Log likelihood = -1086.8697; Pseudo R2 = 0.2096.

Table 34. Multivariate Regression of Social, Cognitive, and Behavioral Determinants of FP Use, as Reported by Women

	Adjusted Odds Ratio	Std. Error	95% CI	P>z
Know traditional FP method	0.90	0.10	(0.71, 1.13)	0.35
Know modern FP method	0.99	1.05	(0.13, 7.86)	0.99
Know LARC method	0.73	0.18	(0.46, 1.17)	0.20
FP risk				
Low	1.00			
Medium	0.69	0.12	(0.49, 0.97)	0.03
High	1.06	0.14	(0.82, 1.38)	0.65
FP self-efficacy				
Low	1.00			
Medium	1.30	0.35	(0.76, 2.20)	0.34
High	1.99	0.49	(1.22, 3.23)	0.01
FP norms				
Low	1.00			
Medium	1.37	0.25	(0.96, 1.97)	0.09
High	1.19	0.20	(0.85, 1.66)	0.31
Favorable FP attitudes (above median)	0.98	0.12	(0.77, 1.24)	0.84

	Adjusted Odds Ratio	Std. Error	95% CI	P>z
FP couple communication				
Low	1.00			
Medium	3.24	0.49	(2.40, 4.37)	0.00
High	4.13	0.52	(3.22, 5.30)	0.00
Used FP services and quality received				
Did not use FP in last 12 months	1.00			
Used and poor quality received	3.53	0.62	(2.50, 4.99)	0.00
Used and high quality received	3.56	0.50	(2.70, 4.69)	0.00
GEM-domestic chores/life index				
Low	1.00			
Medium	0.25	0.24	(0.04, 1.65)	0.15
High	0.16	0.16	(0.02, 1.08)	0.06
# decisions about the following: children to have, whether to use FP, and going to health center if ill				
No decisions	1.00			
1 decision	1.34	0.20	(1.00, 1.81)	0.05
2 decisions	1.27	0.22	(0.90, 1.78)	0.17
3 decisions	1.59	0.23	(1.19, 2.12)	0.00

	Adjusted Odds Ratio	Std. Error	95% CI	P>z
Exposure to FP messaging	1.76	0.22	(1.38, 2.24)	0.00
Constant	1.21	1.76	(0.07, 21.15)	0.90

Notes: Adjusted for sociodemographic factors; number of observations = 1991; LR chi2(31) = 576.38; prob > chi2 = 0; log likelihood = -1086.8697; pseudo R2 = 0.2096.

Determinants of Current FP Use

The results of the regression of FP use (any method) on main FP predictors and sociodemographic variables indicate that, holding all else constant, women who currently use any method of contraception

- Are highly confident (have high self-efficacy) that they can use FP;
- Frequently talk with their partner about FP;
- Have used FP services in the last 12 months;
- Are the main decision-makers about the number of children to have, FP use, and using health services when ill;
- Have heard or seen FP messages in the last six months;
- Are younger than 35 years of age; and
- Are divorced, widowed, or single.

The strength of these predictors cannot be understated. For example, women who practice a medium level of couple communication with their partner are over three times (adjusted odds ratio: 3.24, P>z=0.00) more likely than those who practice low to no couple communication to be current FP users. Women who practice high levels of couple communication with their partners are over four times (adjusted odds ratio: 4.13, P>z=0.00) more likely to be a current FP user than those who practice low couple communication. Furthermore, seeing a provider is a significant predictor of current FP use; women who saw a provider in the last 12 months are 3.5 times more likely to currently use FP methods than women who did not (adjusted odds ratio: 3.53 and 3.56, P>z=0.00).

Women who had high self-efficacy for using FP to prevent pregnancy were two times more likely to be a current FP user (adjusted odds ratio: 1.99, P>z=0.01) than women who had low self-efficacy in this area, whereas women with medium self-efficacy were not significantly more or less likely to currently use FP methods than those with low self-efficacy. Regarding decision-making, women who were the main decider on all FP-related issues were 1.6 times more likely to be currently using FP (adjusted odds ratio: 1.59, P>z=0.00) than those who were not. Finally, women exposed to FP messaging in the past six months were 1.8 times (adjusted odds ratio: 1.76, P>z=0.0) more likely to currently be using a FP method than women who were not.

- Women who talk to their partner about FP were 3–4 times more likely than others to be current users of FP.

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- Women who saw a FP provider in the last 12 months were 3.5 times more likely than those who did not to be current FP users. This is true when women have high-quality service from providers and when the provider does not mention the different FP methods available, the potential side effects, or what to do if she experiences these side effects.
- Women with a high self-efficacy were 2 times more likely to use FP than those with low self-efficacy.
- Women who were the main deciders on all FP-related issues were 1.6 times more likely to use FP, compared to those who were not.
- Women who were exposed to FP messages were 1.8 times more likely than others to be current FP users.
- Women who faced moderate (adjusted odds ratio: 0.58, P>z= 0.00) and high levels (adjusted odds ratio: 0.58, P>z= 0.01) of vulnerability were less likely to use FP methods.

Factors Associated with LARC Use

Long-acting reversible contraceptive methods (LARCs) offer options to couples who want longer spacing between children, who want to delay or avoid having children without using permanent FP methods or continual short term FP methods. In this study, we explore the specific contraceptive use patterns of LARCs in three Liberian counties. Overall, only 8.5% of women in the survey indicated they are currently using a LARC method. About 7.3% of women in the intervention counties reported implant use, compared with 9.8% in the control county. Men's reporting of implants varied slightly from that of women, with 6.8% of men in the intervention counties and 11.5% of men in the control county reporting implant use by their partners. IUD use was almost non-existent in the counties surveyed, with only 0.5% reporting use in Bong, 0% in Bomi, and 2.6% in Gbarpolu. This chapter discusses the results of the bivariate and multivariate analyses of LARC use among women. Factors associated with LARC use at the bivariate level also are explained.

Figure 6 shows the combined use of implants and IUDs as reported by women and men; men were asked what type of contraceptives they or their partner use, so mention of LARCs implies their partner's actual use of these methods The control county, Gbarpolu, has slightly higher use of LARCs compared to the intervention counties, though overall use of LARCs is low.

Figure 6. *Overall use of LARCs (implants and IUDs)*
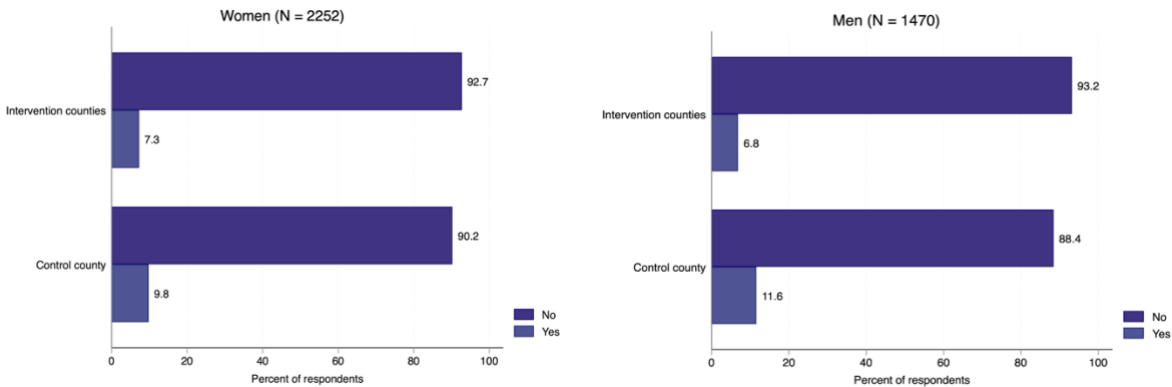
Factors Associated with LARCs at the Bivariate Level (Women's Data)

The four FP knowledge indicators explored in the study are knowledge of traditional methods, modern FP methods, LARCs, and more than six FP methods in general. Table 35 indicates that these four knowledge indicators are not associated significantly with current LARC use, nor are cognitive factors (e.g., perceived risk of pregnancy and self-efficacy) or favorable attitudes toward FP and social norms around FP. However, frequency of couple communication around FP is significantly associated with current LARC use, as reported by women. Both medium and high levels of FP communication between partners was significantly associated with LARC use at a bivariate level. Two factors related to FP services (use of FP services in the past 12 months and quality of FP service) were significantly linked with LARC use.

Table 35. Bivariate Statistical Analysis of FP Cognitive and Social Predictors of LARC use, as Reported by Women

FP predictor	Current FP user (n=2,124)	
	LARC method (%)	Statistical significance
Knows traditional methods		
No	7.8	
Yes	9.1	n.s.
Knows non-LARC modern methods		
No	(very small #)	
Yes		
Knows LARC methods		
No	3.5	
Yes	8.8	n.s. (p=.05)
Knows more than 6 of 14 methods/median		
No	7.5	
Yes	9.7	n.s.
Perceived risk of pregnancy		
Low	8.3	
Medium	6.3	
High	9.3	n.s.
Self-efficacy to use FP		
Low	5.2	
Medium	7.0	
High	9.1	n.s.
Bounded social norms of FP use		
Low	5.6	
Medium	9.4	
High	8.8	n.s.

Favorable FP attitudes (above median)		
No	8.0	
Yes	9.0	n.s.
Frequency of FP couple communication		
Low	5.8	
Medium	12.2	
High	11.4	p< .001
Used FP services in last 12 months		
No	6.5	
Yes	11.8	p< .001
Used FP services and quality received		
Did not use FP in last 12 months	6.5	
Used and poor quality received	11.3	
Used and high quality received	12.0	p< .001
Norms on stressful environment		
Low (0–3 beans)	9.0	
Medium (4–6 beans)	7.8	
High (7–10 beans)	8.5	n.s.
Norms on compassionate environment		
Low	10.2	
Medium	9.5	
High	7.1	
Don't know	5.3	n.s.

Table 36 describes gender equitable norms, decision-making, media exposure in relation to current use of LARCs. As shown, none of the four GEM subscales were associated with LARC use. Similarly, none of the decision-making variables (e.g., number of children, use of FP, seeing a health provider if unwell) were positively associated with LARC use. Notably, women who were exposed to FP messages in the past six months were significantly more likely to use LARCs than women with no such exposure. Exposure to mass media (radio or TV) was not significantly associated with LARC use.

Table 36. Bivariate Statistical Analysis of Gender Equity, Decision-making, and Media Exposure as Predictors of LARC use, as Reported by Women

FP predictor	Current FP user (n=2,124)	
	LARC method (%)	Statistical significance
GEM-Partner violence index		
Low	7.6	
Medium	9.8	
High	4.1	n.s.
GEM-Reproductive health index		
Low	14.6	
Medium	7.9	
High	9.0	n.s.
GEM-Sexual relationships index		
Low	10.1	
Medium	8.2	
High	9.3	n.s.
GEM-domestic chores/life index		
Low	11.1	
Medium	8.3	
High	8.5	n.s.
Decides number of children to have		

FP predictor	Current FP user (n=2,124)	
	LARC method (%)	Statistical significance
No	8.1	
Yes	9.2	n.s.
Decides whether to use FP		
No	8.2	
Yes	8.8	n.s.
Decides going to health center if ill		
No	8.8	
Yes	8.2	n.s.
Number of decisions made (out of 3)		
None	8.2	
One	8.0	
Two	10.3	
All three	8.3	n.s.
Exposed to FP messages		
No	7.0	
Yes	10.6	p < .01
Listens to radio once per week or more		
No	8.3	
Yes	8.7	n.s.
Frequency of radio listening (terciles)		
Low	8.3	
Medium	8.1	

	Current FP user (n=2,124)	
FP predictor	**LARC method** **(%)**	**Statistical significance**
High	9.9	n.s.
Watches some TV (at least less than once a week)		
No	8.2	
Yes	9.1	n.s.
Has at least one cellphone in house		
No	7.1	
Yes	8.9	n.s.

Contrary to the results found for FP use, few potential predictors were significant in the bivariate analysis for current use of a LARC method. As shown in Table 32, current use of a LARC method was positively associated with three main FP predictors:

1. Frequency of communication with partner about FP
2. Having used FP services in the last 12 months
3. Exposure to FP messages in the last six months

Table 37 describes the relationship between sociodemographic variables and current LARC use. The bivariate data analysis indicates that age was significantly related to LARC use. Women aged 35–49 years were less likely to use LARC methods. Education, urban/rural residence, religion, number of children, and marital status were not associated with LARC use, nor were the vulnerability and standard living indexes. This could be due to the fact that LARC use is so low overall, unlike other areas where LARC use is high enough that such differences are more apparent.The only other sociodemographic variable to be significantly associated with LARC use was county of residence: Bong and Gbarpolu counties had significantly higher LARC use than Bomi County.

Table 37. Bivariate Statistical Analysis of Sociodemographic Characteristics with Use of LARCs, as Reported by Women

	Current FP user (n=2,124)	
Sociodemographic characteristic	**LARC method** **(%)**	**Statistical significance**
Age category		
19–24	10.4	

Sociodemographic characteristic	Current FP user (n=2,124)	
	LARC method (%)	Statistical significance
25–34	9.3	
35–49	6.5	p< .05
Education level		
No education	8.0	
Some primary	9.5	
Some secondary or more	8.0	n.s.
Area of residence		
Rural	7.9	
Urban	10.6	n.s.
Religion		
Christian	8.7	
Muslim	6.3	
Trad/other	2.9	n.s.
Marital status		
Married	7.0	
Cohabitating	9.0	
Divorced/separated/single	8.8	n.s.
More than four children		
No	8.7	
Yes	8.5	n.s.
Vulnerability index		
Low	8.7	

Sociodemographic characteristic	Current FP user (n=2,124)	
	LARC method (%)	Statistical significance
Medium	8.2	
High	8.9	n.s.
Standard of living index		
Low	8.8	
Medium	7.6	
High	8.3	n.s.
County of residence		
Bomi	5.1	
Bong	9.2	
Gbarpolu	10.6	p< .01

Multivariate Analysis for Determinants of Current LARC Use

Determinants for current LARC use were identified by running a logistic regression model including sociodemographic, social, cognitive, and behavioral factors. The results of the multivariate model are presented in Tables 38 and 39. Table 38 shows the relationship between the sociodemographic variables and LARC use after adjusting for social, cognitive, and behavioral factors. Similarly, Table 39 shows the social, cognitive, and behavioral determinants of LARC use after adjusting for sociodemographic variables.

Sociodemographic Determinants of LARC Use

Table 38 indicates that young people (ages 19–24) were more likely to report using LARCs compared to those aged 25–49 years old. Education was not significantly associated with LARC use in the multivariate model. The data indicate that those living in urban areas were more likely to use LARCs, compared with respondents living in rural areas. Religion and marital status were non-significant in the multivariate model. However, respondents with four or more children were 1.8 times (95% CI 1.19, 2.91) more likely to use LARCs, compared with those with fewer children.

Table 38. Logistic Regression of Sociodemographic Determinants of Current LARC Use Among Women

	Adjusted Odds Ratio	Std. Error	95% CI	P>z
Age group				
19–24	1.00			
25–34	0.67	0.15	(0.43, 1.04)	0.07
35–49	0.45	0.13	(0.25, 0.78)	0.01**
Education level				
No formal education	1.00			
Primary	1.23	0.24	(0.83, 1.80)	0.30
Secondary or higher	0.86	0.24	(0.50, 1.49)	0.60
Residence				
Rural	1.00			
Urban	1.50	0.31	(1.00, 2.23)	0.05*
Religion				
Christian	1.00			
Muslim	0.88	0.27	(0.48, 1.59)	0.67
Marital status				
Married	1.00			
Cohabitating	1.05	0.27	(0.63, 1.74)	0.86
Single	1.26	0.35	(0.74, 2.16)	0.40
>4 children born	1.86	0.42	(1.19, 2.91)	0.01**
Vulnerability index				
Low	1.00			
Moderate	0.63	0.25	(0.29, 1.36)	0.24

High	0.46	0.20	(0.19, 1.10)	0.08
Standard of living index				
Low	1.00			
Moderate	0.64	0.20	(0.35, 1.17)	0.15
High	0.83	0.94	(0.09, 7.57)	0.87
County				
Bomi	1.00			
Bong	1.55	0.50	(0.82, 2.92)	0.18
Gbarpolu	2.23	0.72	(1.18, 4.21)	0.01**
Constant	0.16	0.30	(0.00, 5.86)	0.32

Notes: The model has been adjusted for all cognitive and socio-cultural factors. Number of observations = 1927; LR chi2(31) = 107.14; Prob > chi2 = 0; Log likelihood = -509.68991; Pseudo R2 = 0.0951

Social, Cognitive, and Behavioral Determinants of LARC Use

Unlike the modern contraceptive use model, the LARC model has fewer social, cognitive, and behavioral determinants. Knowledge of LARC methods is not associated with LARC use (Table 39). FP self-efficacy was not significantly associated with LARC use in this sample of women, indicating a low impact of these two crucial cognitive variables. As expected within the Liberian cultural context, FP social norms have a strong association with LARC use. We measured social norms by asking women if they lived in an area with low (0–3), medium (4–6), or high (7–10) clusters of FP use. The data indicate that women in medium- and high-FP-use clusters were more likely to use LARCs, compared with women in low-FP-use clusters. Women in medium-FP-use clusters were 2.7 (95% CI 0.53, 3.70) times more likely to use LARCs and those in high-use clusters were 2.2 (95% C 1.10, 4.37) times more likely to use LARCs.

FP-related communication and dialogue among couples was a significant predictor of LARC use. Women who reported a medium level of such discussion were 2 (95% CI 1.27, 3.30) times more likely to be LARC users than women who reported low communication on FP. Similarly, women who stated they have high communication on FP with their partners were 1.9 (95% CI 1.25, 2.85) times more likely to use a LARC method, compared to those with low communication on FP.

Table 39. Multivariate Regression of Social, Cognitive, and Behavioral Determinants of LARC Use Among Women

	Adjusted Odds Ratio	Std. Error	95% CI	P<0.05
Know LARC method	1.84	0.99	(0.64, 5.28)	0.26

FP self-efficacy				
Low	1.00			
Medium	1.40	0.69	(0.53, 3.70)	0.50
High	2.01	0.91	(0.82, 4.88)	0.13
FP social norms				
Low	1.00			
Medium	2.78	1.01	(1.37, 5.67)	0.01
High	2.20	0.77	(1.10, 4.37)	0.03
FP couple communication				
Low	1.00			
Medium	2.05	0.50	(1.27, 3.30)	0.00
High	1.89	0.40	(1.25, 2.85)	0.00
Used FP services and quality received				
Did not use FP in last 12 months	1.00			
Used and poor quality received	1.73	0.47	(1.01, 2.95)	0.05
Used and high quality received	1.89	0.42	(1.22, 2.93)	0.00
GEM-Reproductive health index				
Low inequity	1.00			
Medium inequity	0.47	0.17	(0.24, 0.95)	0.03
High inequity	0.44	0.17	(0.21, 0.94)	0.03
Norms on stressful environment				
Low (0–3 beans)	1.00			

Medium (4–6 beans)	0.74	0.16	(0.48, 1.13)	0.16
High (7–10 beans)	0.67	0.16	(0.42, 1.07)	0.09
Exposure to FP messages Yes	0.93	0.20	(0.62, 1.41)	0.75
Has at least one cellphone in house	1.49	0.36	(0.94, 2.38)	0.09
Constant	0.16	0.30	(0.00, 5.86)	0.32

Notes: The model has been adjusted for all the socio demographic factors and for three GEM sub scales, knowledge of modern methods, FP attitudes, radio and TV exposure. Number of observations = 1927; LR chi2(31) = 107.14; Prob > chi2 = 0; Log likelihood = -509.68991; Pseudo R2 = 0.0951

As in the FP use model, seeing an FP provider in the past 12 months was associated with LARC use, irrespective of the quality of counseling received. Women who reported receiving low-quality counseling were 1.7 (95% CI 1.01, 2.95) times more likely to use a LARC method, compared to those who did not visit an FP provider. Women who said they received high-quality counseling were 1.9 (95% CI 1.22, 2.93) times more likely to use a LARC method.

The baseline study measured gender norms using the GEM scale, which was further divided into four subscales. The 24 items of the GEM scale (Chapter 4) indicate low to high support of inequitable gender norms. As in the FP use model, the GEM scale for reproductive health was significant in predicting LARC use. Women who reported medium to high support of inequitable gender norms for reproductive health and FP were 26%–33% less likely to use a LARC method, compared with women reporting low support for inequitable gender norms.

Finally, a highly stressful home environment and exposure to an FP message were not significantly associated with LARC use in this population.

Key findings are as follows:

- In the multivariate regression analysis, we included FP predictors and sociodemographic variables to assess their independent effects on LARC use. The results indicate that other things being equal, women who currently use a LARC method are more likely to
    - Live in communities with high use of contraceptive methods (bounded descriptive norms);
    - Talk frequently to their partner about FP;
    - Have seen an FP provider in the last 12 months;
    - Support equitable gender norms related to reproductive health;
    - Be younger than 35 years of age;
    - Live in urban areas;
    - Have more than four children;

- As expected, not having knowledge of LARC methods was negatively associated with LARC use.
- As was the case for the FP use model, talking to partners about FP and seeing a FP provider in the last 12 months were strongly associated with LARC use.
- The effect of bounded descriptive social norms was highly significant. Women who thought others in their communities were using FP were **2–3 times more likely** to use LARCs, compared to those who did not perceive such use.
- Other significant predictors of LARC use among women were:
  - Living in urban areas (1.5 times more likely as those in rural areas to be a current LARC user)
  - Having more than four children (1.9 times more likely than those with fewer children to be a LARC users
  - Women in Gbarpolu are two times as likely as those who live in Bomi to be current users of LARCs

Audience Segmentation

Audience Segmentation for FP Non-users

Bivariate analyses were conducted to better understand what demographic and psychosocial factors are most relevant when creating FP messaging and interventions for married and single sexually active, female non-FP users. The results are summarized in Tables 40 to 42 and disaggregated by intervention (Bomi and Bong) and control (Gbarpolu) counties.

Table 40. Socio-demographic Factors Associated with FP Non-use in married women and single, sexually active women

Socio demographic characteristic	Married women				Single, sexually active women			
	Intervention group Current FP non-user (n=1154)		Control group Current FP non-user (n=386)		Intervention group Current FP non-user (n=607)		Control group Current FP non-user (n=190)	
	No FP method (%)	Statistical significance	No FP method (%)	Statistical significance	No FP method (%)	Statistical significance	No FP method (%)	Statistical significance
Age category								
19–24	57.0		52.6		38.1		29.6	
25–34	54.7		50.7		36.8		27.9	
35–49	62.0	n.s.	58.7	n.s.	50.3	p< .05	56.6	p< .01
Education level								
No education	59.3		59.7		43.8		43.2	
Some primary	59.1		51.2		39.5		26.8	
Some secondary or more	52.6	n.s.	41.8	p< .05	40.0	n.s.	38.2	n.s.
Area of residence								
Urban	60.2		62.0		42.0		41.7	
Rural	57.8	n.s.	52.4	n.s.	41.1	n.s.	35.6	n.s.
Religion								
Christian	57.6		53.3		41.9		37.2	

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Muslim	64.7		59.4		39.4		35.7	
Traditional or other	42.3	p< .10	0.0	n.s.	50.0	n.s.	0.0	n.s.
More than 4 children								
No	59		52.9		36.9		31.9	
Yes	56.5	n.s.	55.1	n.s.	47.6	p< .05	47.2	p<.10
Vulnerability index								
Low	46.7		43.3		30.1		37.5	
Medium	61.4		52.7		45.0		34.8	
High	56.4	p< .05	56.8	n.s.	37.7	p< .05	37.8	n.s.
Standard of living index								
Low	58.8		56.4		43.8		35.4	
Medium	56.0		48.2		34.8		47.8	
High	66.7	n.s.	0.0	n.s.	33.3	n.s.	0.0	n.s.
County of residence								
Bomi	63.1		--		41.8		--	
Bong	56.7	p< .10	--	--	40.9	n.s.	--	--

Findings displayed in Table 40 shows that those considered somewhat (61.4%) or most vulnerable (56.4%) were significantly more likely to be a non-FP user than those considered low vulnerability (46.7%); in fact, the vulnerability index was the most significant factor associated with current FP use among married women in the intervention counties (p<0.05). Finally, a significant difference was observed across the two intervention counties, with Bomi having significantly more non-FP users (63.1%) than Bong (56.7%). This finding is in stark contrast to the findings for the married women in Gbarpolu county, where current FP use significantly differed across education level only. The results suggest that in the intervention counties, FP messaging should be concentrated in Bomi County among Muslims and Christians, and most importantly, moderate to highly vulnerable groups.

Among single, sexually active women in the intervention counties, age, number of children, and vulnerability index were significantly associated with current FP use. Significantly more single, sexually active women aged 39–50 years did not use FP methods (50.3%), compared to other age groups; this finding is similar to that for the control county. Additionally, those with more than four children were significantly more likely to be non-FP users (47.6%) than those with 1–4 children (36.9%); again, this pattern is similar to that in the control group. Finally, those considered somewhat vulnerable were

significantly more likely to be a non-FP user (45%) than those considered most vulnerable (37.7%); the least vulnerable had the lowest percentage of non-FP users (30.1%). The results suggest that, in intervention counties, FP messaging and interventions might be most beneficial to those who are somewhat and most vulnerable, regardless of marital status. Among single, sexually active women in the intervention county, it might be beneficial to target older women with four or more children.

In sum, the sociodemographic factors of FP non-users in intervention counties were as follows:

- Regardless of marital status, the more economically vulnerable were less likely to use FP methods.
- For married women, those in Bomi County were less likely to use FP methods than those in Bong County.
- For single and sexually active women, those in the oldest age group (35-49) were less likely to use FP methods than the younger age groups.
- For single and sexually active women, those with more than four children were less likely to use FP methods than those with 1–4 children.

Table 41 shows that among married women in the intervention counties, reproductive health gender norms were significantly associated with FP use. Exposure to FP messages was even more significantly associated with FP use (p<0.001) than reproductive health gender norms (p<0.05). Not surprisingly, those not exposed to FP messages were significantly more likely to be a non-FP user (70.6%) than those exposed to FP messages (37.7%), similar to the control group. These analyses demonstrate the importance of FP message exposure to FP use and the importance of targeting those who have not been exposed to such messages. Furthermore, implementing FP messages and interventions around those in households where a relative is the primary FP decision maker could significantly increase current FP use.

Table 41. Reproductive Health Gender Norms Associated with FP Non-Use

| Lifestyle factors | Married women in Intervention Group | | | | Single, sexually active women | | | |
| | Intervention group Current FP non-user (n=1154) | | Control group Current FP non-user (n=386) | | Intervention group Current FP non-user (n=607) | | Control group Current FP non-user (n=190) | |
	No FP method (%)	Statistical significance	No FP method (%)	Statistical significance	No FP method (%)	Statistical significance	No FP method (%)	Statistical significance
Decides number of children to have								
Myself	58.5		55.5		38.5		33.1	
Partner	58.4		53.5		43.2		52.6	
Other relative	55.6	n.s.	33.3	n.s.	44	n.s.	27.3	p<.10
Decides whether to use FP								
Myself	57.9		51.5		35.6		36.9	
Partner	56.6	n.s.	59.1	n.s.	51.7	n.s.	34.8	n.s.
Decides going to health center if ill								
Myself	57.3		53.5		36.1		34.9	
Partner	58.6		54.7		46.2		42.4	
Other relative	66.7	n.s.	100.0	n.s.	40.7	p<.10	50.0	n.s.
Exposed to FP messages								
No	70.6		69.8		59.9		39.7	
Yes	37.7	p< .001	38.9	p<.001	21.3	p<.001	31.2	n.s.
Frequency of radio listening (terciles)								
Never	59.3		58.1		49.5		34.3	

Once a week or less	56.7		51.9		39.7		32.2	
More than once a week/everyday	59.1	n.s.	56.6	n.s.	34.6	p<.01	54.8	p<.10
Watches some TV (at least less than once a week)								
Never	59.9		56.8		46.5		32.4	
Once a week or less	52.1		47.1		43.3		36.5	
More than once a week/everyday	55.7	n.s.	57.5	n.s.	24.2	p<.001	56.0	p<.10
Number of cell phones in the house								
Zero cell phones	59.5		58.1		43.9		36.7	
One cell phone	58.7		56.8		39.6		29.9	
More than one cell phone	57.1	n.s.	50.3	n.s.	42.5	n.s.	45.6	n.s.
Use social media								
No	58.4		53.7		41.9		35.0	
Yes	58.3	n.s.	58.1	n.s.	36.5	n.s.	42.2	n.s.

The lifestyle factors associated with current FP use were notably different between sexually active single and married women. Exposure to FP messages was similarly associated with FP use among sexually active single women and married women. Finally, sexually active, single women who watch TV more than once a week or every day, who never listen to the radio, or who have a partner who is the primary decision-maker about whether to go to the health center if ill are the most likely to be non-FP users. The results suggest that FP messaging that includes a TV messaging component might be more effective in targeting single, sexually active, female non-FP users than FP messaging involving a radio messaging component.

In sum, lifestyle factors of FP non-users in intervention counties were as follows:

- Regardless of marital status, those who did not recall seeing any FP messages in the last six months were less likely to use FP methods than those who did.
- For single and sexually active women, those whose partner or other relative were primary FP decision makers were much less likely to use FP methods than those who were the primary FP decision makers themselves.
- For single and sexually active women, those whose partner or other relative were primary decision-makers around whether to visit a health center for illness were much less likely to use FP methods than those who were the primary decision makers themselves.
- For single and sexually active women, those who never listened to the radio were less likely to use FP methods than those who sometimes or always listened to the radio.

Table 42 shows that among both married and sexually active, single women in intervention counties, perceived risk of pregnancy, self-efficacy, bounded descriptive FP norms, frequency of couple communication, and using good-quality FP services were positively associated with FP use. For both female groups, those who had low or medium perceived risk of pregnancy, who reported low to medium self-efficacy to use FP, who believe few women in their community seek FP services and use FP methods, who have low or medium couple communication, and who have received no FP service or poor-quality FP services were more likely to currently not be using FP methods. Furthermore, sexually active, single women who did not know about traditional FP methods were significantly more likely to be non-FP users (50.6%) than those who did know (33.3%). As such, it could be beneficial to create messaging and interventions around increasing couple communication and FP self-efficacy, providing high-quality FP services, and increasing the perception that many women in the community participate in FP behaviors. Furthermore, raising awareness around pregnancy risk and contraceptive benefits beyond pregnancy prevention and raising knowledge of FP methods could improve FP use among those not currently using FP-methods.

Table 42. Psychosocial factors associated with LARC non- use among married and single, sexually active women in Liberia

FP psychosocial variables	Married women in intervention Group				Single, sexually active women			
	Intervention group Current LARC non-user (n=1154)		Control group Current LARC non-user (n=386)		Intervention group Current LARC non-user (n=607)		Control group Current LARC non-user (n=190)	
	No LARC method (%)	Statistical significance	No LARC method (%)	Statistical significance	No LARC method (%)	Statistical significance	No LARC method (%)	Statistical significance
Knows traditional methods								
No	59.4		62.6		50.6		32.32	
Yes	57.5	n.s.	50	p< .05	33.3	p<.001	41.9	n.s.
Knows non-LARC modern methods								
No	50.0		54.0		50.0		37.8	
Yes	58.4	n.s.	--	--	41.3	n.s.	--	--
Knows LARC methods								
No	61.6		71.4		42.3		40.0	
Yes	58.1	n.s.	53.9	n.s.	41.3	n.s.	36.7	n.s.
Perceived risk of pregnancy								
Low	64.7		58.6		47.4		42.8	
Medium	63.9		56.6		55.6		53.6	
High	53.5	p<.01	50.8	n.s.	35.8	p<.01	29.6	p< .05
Self-efficacy to use FP								
Low	70.2		66.7		65.0		42.9	

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FP psychosocial variables	Married women in intervention Group				Single, sexually active women			
	Intervention group Current LARC non-user (n=1154)		Control group Current LARC non-user (n=386)		Intervention group Current LARC non-user (n=607)		Control group Current LARC non-user (n=190)	
	No LARC method (%)	Statistical significance	No LARC method (%)	Statistical significance	No LARC method (%)	Statistical significance	No LARC method (%)	Statistical significance
Medium	70.2		57.6		59.7		58.3	
High	55.6	p<.001	52.3	n.s.	36.0	p<.001	32.7	p< .05
Bounded descriptive norms of FP use								
Below median	65.5		61.3		45.6		34.3	
Above median	53.6	p<.001	48.8	p<.05	37.7	p<.10	39.8	n.s.
Frequency of FP couple communication								
Low	76.1		71.2		55.1		55.7	
Medium	51.7		31.5		36.2		13.3	
High	36.1	p<.05	26.4	p<.001	29.5	p<.001	23.0	p<.001
Used FP services in last 12 months								
No	74.5		67.3		58.9		41.4	
Yes	29.6	p<.001	33.3	p<.001	20.4	p<.001	25.0	p< .05
Overall FP services' quality (all 3 items)								
No	32.5		36.7		28.1		28.6	

| FP psychosocial variables | Married women in intervention Group | | | | Single, sexually active women | | | |
| | Intervention group Current LARC non-user (n=1154) | | Control group Current LARC non-user (n=386) | | Intervention group Current LARC non-user (n=607) | | Control group Current LARC non-user (n=190) | |
	No LARC method (%)	Statistical significance	No LARC method (%)	Statistical significance	No LARC method (%)	Statistical significance	No LARC method (%)	Statistical significance
Yes	28	n.s.	32.4	n.s.	17.7	p<.10	23.7	n.s.
Used FP services and quality received								
Did not use FP in last 12 months	74.5		32.7		58.9		41.4	
Used and poor quality received	32.5		63.3		28.1		28.6	
Used and high quality received	28	p<.001	67.6	p<.001	17.7	p<.001	23.7	n.s.
Norms on stressful environment								
Low (0–3 beans)	56.8		58.1		46.3		41.2	
Medium (4–6 beans)	58.5		54.4		41.9		32.4	
High (7–10 beans)	59.2	n.s.	51.2	n.s.	36.8	n.s.	26.5	n.s.
Norms on compassionate environment								
Low	57.4		58.2		38.6		52.9	
Medium	62.9		50.4		44.4		27.9	
High	54.1	n.s.	51.4	n.s.	44.8	n.s.	19.1	n.s.

Psychosocial factors of FP non-users in intervention counties were as follows:

- Regardless of marital status, women who have lower self-efficacy are less likely to use FP methods than those with higher self-efficacy.
  - Regardless of marital status, women who perceive that few women in their community participate in FP behaviors are less likely to use FP methods than those who perceive that many women in their community do so.
  - Regardless of marital status, women who report lower couple communication with their partner are less likely to use FP methods than those who report higher couple communication.
  - Regardless of marital status, women who did not use FP services in the past 12 months are less likely to use FP methods than those who did use FP services in the past 12 months.
- For married women, those with a lower perceived risk of pregnancy are less likely to use FP methods than those with a higher perceived risk of pregnancy. This association is similar for single and sexually active women, although those with medium perceived risk of pregnancy are the least likely to use FP methods.

Audience Segmentation for Non-LARC Users

Findings displayed in Table 43 show that among married women in the intervention couunties, Christian (91.4%) and Muslim (94.6%) women were the most likely to be non-LARC users. A significantly higher percentage of respondents in Bomi (95.0%) were more likely to not use LARCs, compared to those in Bong (90.5%). This is in stark contrast to the control group, where area of residence was the only sociodemographic factor associated with LARC use—a much higher percentage of urban residents were non-LARC users (93.2%) than urban residents (84.5%). These findings suggest that increased LARC messaging and interventions in Bomi among Christian and Muslim women could target non-LARC users.

Table 43. Factors associated with LARC non-use among married and single, sexually active women in Liberia

LARC non-user	Married women				Single, sexually active women			
Socio demographic characteristic	Intervention group Current LARC non-user (n=1154)		Control group Current LARC non-user (n=)		Intervention group Current LARC non-user (n=607)		Control group Current LARC non-user (n=190)	
	No LARC method (%)	Statistical significance	No LARC method (%)	Statistical significance	No LARC method (%)	Statistical significance	No LARC method (%)	Statistical significance
Age category								
19–24	91.4		89.5		91.6		78.9	

25–34	91.2		91.2		90.8		85.2	
35–49	92.2	n.s.	93.0	n.s.	97.5	p< .05	90.6	n.s.
Education level								
No education	91.7		92.7		93.5		85.1	
Some primary	90.1		90.1		93.5		82.1	
Some secondary or more	95.5	n.s.	90.9	n.s.	91.7	n.s.	85.5	n.s.
Area of residence								
Urban	90.5		84.5		91.6		83.3	
Rural	92.0	n.s.	93.2	p< .05	93.5	n.s.	84.6	n.s.
Religion								
Christian	91.4		91.1		92.4		84.0	
Muslim	94.6		93.8		95.6		85.7	
Traditional/other	80.8	p< .05	100.0	n.s.	83.3	n.s.	100.0	n.s.
More than 4 children born								
No	92.7		92.6		91.6		81.5	
Yes	90.4	n.s.	90.4	n.s.	95.2	n.s.	86.8	n.s.
Vulnerability index								
Low	91.3		90.0		91.8		87.5	
Medium	91.6		88.5		94.4		83.3	
High	91.9	n.s.	93.7	n.s.	90.2	n.s.	84.7	n.s.
Standard of living index								
Low	91.3		92.1		92.9		83.9	
Medium	92.7		89.4		94.3		87.0	
High	100.0	n.s.	100.0	n.s.	66.7	n.s.	100.0	n.s.
County of residence								

Bomi	95.0		--	94.7		--	
Bong	90.5	p< .05	--	--	91.6	n.s.	--	--

Among sexually active, single women in the intervention group, the only sociodemographic factor significantly associated with FP use was age— older women were more likely than younger ones to be non-FP users. No significant associations between sociodemographic factors and FP use was observed in the control county.

In sum, sociodemographic factors of LARC non-users in intervention counties were as follows:

- For married women, those who are Muslim and Christian are less likely to use LARCs than those who practice traditional or other religions.
- For married women, those in Bomi County are less likely to use LARCs than those in Bong County.
- For single and sexually active women, those who are in the oldest age group (35–49) are less likely to use LARCs than the other younger age groups.

Table 44 shows that among married women in the intervention county, no lifestyle factors were significantly associated with LARC use. This finding contrasts with those for the control group, where women who were not the primary FP decision-makers and women who were not exposed to FP messages were more likely to not use LARCs. These findings suggest that LARC messaging and interventions that aim to increase gender equitable views around partner violence also could increase LARC use among married women in Bomi and Bong counties.

Table 44. The association between and LARCs non-use among married women and single, sexually active women in Liberia

	Married women in Intervention Group				Single, sexually active women			
	Intervention group Current LARC non-user (n=1154)		Control group Current LARC non-user (n=386)		Intervention group Current LARC non-user (n=607)		Control group Current LARC non-user (n=190)	
Lifestyle factors	No LARC method (%)	Statistical significance	No LARC method (%)	Statistical significance	No LARC method (%)	Statistical significance	No LARC method (%)	Statistical significance
Decides number of children to have								
Myself	89.4		92.7		94.1		84.6	
Partner	92.6		91.0		92.5		84.2	

| Lifestyle factors | Married women in Intervention Group | | | | Single, sexually active women | | | |
| | Intervention group Current LARC non-user (n=1154) | | Control group Current LARC non-user (n=386) | | Intervention group Current LARC non-user (n=607) | | Control group Current LARC non-user (n=190) | |
	No LARC method (%)	Statistical significance	No LARC method (%)	Statistical significance	No LARC method (%)	Statistical significance	No LARC method (%)	Statistical significance
Other relative	88.9	n.s.	66.7	n.s.	92	n.s.	81.8	n.s.
Decides whether to use FP								
Myself	91.6		89.6		94.0		86.0	
Partner	91.1		96.6		91.9		78.3	
Other relative	100.0	n.s.	100.0	p<.10	92.0	n.s.	60.0	n.s.
Decides going to health center if ill								
Myself	92.5		92.1		93.8		85.6	
Partner	91.3		90.5		92.4		81.8	
Other relative	91.7	n.s.	100.0	n.s.	93.2	n.s.	66.7	n.s.
Exposed to FP messages								
No	92.4		94.5		95.3		86.8	
Yes	90.4	n.s.	88.6	p<.05	90.7	p<.05	79.7	n.s.
Frequency of radio listening (terciles)								
Never	90.7		93.2		93.9		82.1	
Once a week or less	92.0		91.4		93.9		81.6	
More than once a week/everyday	92.2	n.s.	90.4	n.s.	91.8	n.s.	96.8	n.s.

Lifestyle factors	Married women in Intervention Group				Single, sexually active women			
	Intervention group Current LARC non-user (n=1154)		Control group Current LARC non-user (n=386)		Intervention group Current LARC non-user (n=607)		Control group Current LARC non-user (n=190)	
	No LARC method (%)	Statistical significance	No LARC method (%)	Statistical significance	No LARC method (%)	Statistical significance	No LARC method (%)	Statistical significance
Watches some TV (at least less than once a week)								
Never	91.9		92.3		93.0		84.3	
Once a week or less	89.0		92.3		86.7		82.7	
More than once a week/everyday	91.7	n.s.	88.8	n.s.	95.0	n.s.	88.0	n.s.
Number of cell phones in the house								
Zero cell phones	93.8		91.9		92.7		86.7	
One cell phone	91.5		91.1		94		85.1	
More than one cell phone	90.4	n.s.	91.8	n.s.	91.8	n.s.	82.4	n.s.
Use social media								
No	92.0		91.0		93.0		84.3	
Yes	86.7	n.s.	95.3	n.s.	94.2	n.s.	84.4	n.s.

Among sexually active, single women in the intervention county, those with more inequitable gender norms around reproductive health and sexual relationships were slightly more likely to be non-LARC users than those with more equitable gender norms around these areas. Furthermore, significantly more women who had not been exposed to FP messages (95.3%) were non-LARC users, compared to those who had been exposed to FP messages (90.7%). These differences are in stark contrast to the control county, where no significant associations were found between lifestyle factors and LARC use. These findings suggest that LARC messaging and interventions that aims to increase gender equitable

views around reproductive health and sexual relationships also could increase LARC use among sexually active, single women in Bomi and Bong counties. Additionally, adjusting FP messaging to target people who have not previously seen such messages could be beneficial to increasing LARC use.

In sum, the lifestyle factor of LARC non-users in intervention counties was as follows: for single and sexually active women, those who had not seen FP messaging in the past six months were less likely to use LARCs than those who had seen such messages.

Interestingly, among both married and sexually active, single women in the intervention counties, those who knew about non-LARC modern methods were significantly more likely to be non-LARC users than those who did not know non-LARC modern methods. However, among married women, significantly more women who did not know about LARC methods were more likely to be a non-LARC user (97.3%) than those who did know LARC methods (91.2%). This finding suggests that among married women, knowledge of LARC-specific modern methods might be more important to LARC uptake than knowledge of other methods. In fact, knowledge of non-LARC modern methods might provide more FP method options for women besides LARCs, thus decreasing LARC use. This can be seen in Table 45.

Table 45. The association between FP psychosocial and LARCs non-use among married women and single, sexually active women in Liberia

LARC non-user	Married women in Intervention Group				Single, sexually active women			
FP psychosocial variable	Intervention group Current LARCs non-user (n=1154)		Control group Current LARCs non-user (n=386)		Intervention group Current LARCs non-user (n=607)		Control group Current LARCs non-user (n=190)	
	No FP method (%)	Statistical significance	No FP method (%)	Statistical significance	No FP method (%)	Statistical significance	No FP method (%)	Statistical significance
Knows traditional methods								
No	92.1		92.2		95.2		83.8	
Yes	91.3	n.s.	91.2	n.s.	91.3	p<.10	84.9	n.s.
Knows non-LARC modern methods								
No	50.0		91.5		50.0		84.3	
Yes	91.7	p< .05	--	--	93.3	p< .05	--	--

LARC non-user	Married women in Intervention Group				Single, sexually active women			
FP psychosocial variable	Intervention group Current LARCs non-user (n=1154)		Control group Current LARCs non-user (n=386)		Intervention group Current LARCs non-user (n=607)		Control group Current LARCs non-user (n=190)	
	No FP method (%)	Statistical significance	No FP method (%)	Statistical significance	No FP method (%)	Statistical significance	No FP method (%)	Statistical significance
Knows LARC methods								
No	97.3		100.0		92.3		100.0	
Yes	91.2	p<.10	91.4	n.s.	93.2	n.s.	83.9	n.s.
Perceived risk of pregnancy								
Low	91.7		93.9		91.0		87.7	
Medium	95.1		92.8		93.1		89.3	
High	90.7	n.s.	89.7	n.s.	94.0	n.s.	81.5	n.s.
Self-efficacy to use FP								
Low	96.5		100.0		95.0		78.6	
Medium	92.4		95.5		91.7		91.7	
High	91.2	n.s.	89.9	n.s.	93.2	n.s.	83.7	n.s.
Social norms of FP use								
Below median	91.3		91.9		94.0		86.3	
Above median	91.9	n.s.	91.3	n.s.	92.4	n.s.	81.9	n.s.
Frequency of FP couple communication								

LARC non-user	Married women in Intervention Group				Single, sexually active women			
	Intervention group Current LARCs non-user (n=1154)		Control group Current LARCs non-user (n=386)		Intervention group Current LARCs non-user (n=607)		Control group Current LARCs non-user (n=190)	
FP psychosocial variable	No FP method (%)	Statistical significance	No FP method (%)	Statistical significance	No FP method (%)	Statistical significance	No FP method (%)	Statistical significance
Low	95.2		94.6		93.9		86.1	
Medium	89.5		83.3		89.7		83.3	
High	87.5	n.s.	89.0	p< .05	93.2	n.s.	82.7	n.s.
Used FP services in last 12 months								
No	94.3		93.8		94.9		85.0	
Yes	87.0	p<.001	87.9	p< .05	91.0	p<.10	82.7	n.s.
Overall FP services' quality (all 3 items)								
No	88.1		86.7		90.6		85.7	
Yes	86.4	n.s.	88.3	n.s.	91.2	n.s.	81.6	n.s.
Used FP services and quality received								
Did not use FP in last 12 months	94.3		93.8		94.9		85.0	
Used and poor quality received	88.1		86.7		90.6		85.7	

LARC non-user	Married women in Intervention Group				Single, sexually active women			
	Intervention group Current LARCs non-user (n=1154)		Control group Current LARCs non-user (n=386)		Intervention group Current LARCs non-user (n=607)		Control group Current LARCs non-user (n=190)	
FP psychosocial variable	No FP method (%)	Statistical significance	No FP method (%)	Statistical significance	No FP method (%)	Statistical significance	No FP method (%)	Statistical significance
Used and high quality received	86.4	$p<.001$	88.3	n.s.	91.2	n.s.	81.6	n.s.
Norms on stressful environment								
Low (0–3 beans)	87.7		92.5		92.6		41.0	
Medium (4–6 beans)	91.3		92.5		92.6		34.6	
High (7–10 beans)	94.5	$P<.05$	89.8	n.s.	94.1	n.s.	24.4	n.s.
Norms on compassionate environment								
Low	90.6		92.4		93.4		50.0	
Medium	93.8		91.3		92.1		30.1	
High	90.9	n.s.	90.0	n.s.	93.8	n.s.	19.9	n.s.

Among married women and sexually active single women in the intervention counties, those who did not use FP services in the past 12 months were more likely to be non-LARC users than those who did, suggesting the FP services provide something unique that can encourage LARC use among both married and sexually active single women. Increasing accessibility and uptake of such services could increase LARC use.

Among married women in the intervention counties, those who perceived that a more stressful home environment is common for pregnant women in their community were significantly more likely to not use LARCs than those who perceived pregnant women in their community to have a low-stress home environment. This finding suggests that improving norms around household stress for pregnant women could increase LARC use. Among the control group, only frequency of couple communication and use of FP services in the last 12 months were significantly associated with LARC use.

Furthermore, sexually active, single women who did not know about traditional FP methods were significantly more likely to be non-LARC users (95.2%) than those who did know about traditional methods (91.3%). As such, it could be beneficial to create LARC-related messaging and interventions around increasing knowledge and awareness of FP methods.

In sum, psychosocial factors of LARC non-users in intervention counties were as follows:

- Regardless of marital status, women who know about non-LARC modern FP methods are less likely to use LARC methods, which could be explained by increased knowledge of other modern methods used besides LARCs.
- Regardless of marital status, women who have not used FP services in the past 12 months are less likely to use LARCs than those who have.
- Among married women, those who do not know any LARC methods are less likely to use LARCs than those who do know LARC methods.
- Among married women, those who perceive that more women in their community deal with a stressful environment are less likely to use LARCs than those who do not perceive this.
- Those living in Gbarpolu are twice as likely than others to be a current LARC non-user.

Conclusions and Recommendations

Synthesis of FP and LARC Survey Findings

The baseline survey conducted in August–September 2021 found a contraceptive prevalence rate of 47% in Bong and Bomi counties and 51% in Gbarpolu among sexually active women. he 2019 Liberia Demographic and Health Survey indicates a similar contraceptive prevalence rate of 46% among sexually active single women overall.

This report focuses primarily on current contraceptive with a more in-depth examination of LARC use in the three counties. The exploration of LARC use in the baseline study was included because of the importance and effectiveness of LARCs in preventing unplanned pregnancy. LARCs allow couples to determine long-term spacing of their children.[9] This chapter provides a synthesis of the findings related to FP and LARC use in the three counties studied.

An interesting finding of the study is that two factors driving contraceptive use were common to overall FP use as well as more specific LARC use: couple communication and visiting an FP provider within the last 12 months. This finding implies that the SBC strategy to promote overall contraceptive and specific LARC use should focus on promoting dialogue between couples on these methods and encouraging women and men to visit FP providers. The literature indicates a relationship between couple communication about FP use and contraceptive use.[10,11] The results of this study also indicate the importance of couples discussing their FP goals and options.

Finding that FP provider visits are good predictors of actual FP use has important implications for FP programs in Liberia. SBC strategies should promote linkages between couples and FP providers. Data also indicate that FP providers with good counseling skills can persuade people to adopt contraceptives. A third action area for the SBC program thus is to improve the counseling skills of FP providers.

Bounded social norms around FP use were significant at a bivariate level for FP use and at a multivariate level for LARC use. Social norms influence the communities or clusters that a person lives in, and clusters with higher FP use tend to have higher LARC use. Social normative influence in SBC programs implies that the emphasis should shift from individual appeals for behavior change to a more collective, social appeal highlighting the role of the community in approving FP and LARC use.

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[9] Bahamondes, L., Fernandes, A., Monteiro, I., & Bahamondes, M. V. (2020). Long-acting reversible contraceptive (LARC) methods. *Best Practice & Research Clinical Obstetrics & Gynecology*, *66,* 28–40. https://doi.org/10.1016/j.bpobgyn.2019.12.002

[10] Berhane, A., Biadgilign, S., Amberbir, A., Morankar, S., Berhane, A., & Deribe, K. (2011). Men's knowledge and spousal communication about modern methods in Ethiopia. *African Journal of Reproductive Health*, *15*(4), 24–32.

[11] Bawah, A. A. (2002). Spousal communication and behavior in Navrongo: A longitudinal assessment. *Studies in Family Planning, 33*(2), 185–194. https://doi.org/10.1111/j.1728-4465.2002.00185.x

Using a social normative approach requires a strategic shift from an individual focus to a social focus. Collective social norms can be depicted in several ways: (a) showing (or speaking) on behalf of a collective instead of an individual; (b) demonstrating approval from key trusted and influential persons in the community; (c) engaging couples in the community who have adopted FP; (d) showing actual community members who are LARC adopters in various media; and (e) asking the community to share FP and LARC messages with neighbors, family, and friends.

In addition, women who supported equitable gender norms in reproductive health are more likely to use LARCs. Promoting gender equitable norms in the context of FP indicates that women with more equitable outlooks regarding gender norms are more likely to have FP decision-making power and choices. Women with high self-efficacy are also more likely to make decisions related to contraceptive use. Women younger than 35 years are more likely to use FP methods, as are women who have been exposed to an FP message in the past six months.

Recommendations

FP and LARC Use

The report provides an in-depth assessment of the key determinants of FP and LARC use in three counties in Liberia. Interestingly, most predictors of FP and LARC use are amenable to change through SBC interventions. The observed determinants and recommendations can be incorporated into FP programs at the county level to increase FP and LARC use in the communities. However, for overall FP uptake to increase, the supply side must be organized such that health facilities are equipped with commodities and trained personnel. All the recommendations are based on the data or are suggestions for action based on the data.

Objectives 1 and 2. To identify key determinants of modern FP and LARC use

1. FP programs should consistently use FP SBC approaches that encourage and normalize discussions around FP and establish LARC use as a norm among women of all ages who want long term contraceptive options. Every FP message should end with an action point, such as "please share this message with your partner, family, and friends."
2. FP programs should actively promote visits to an FP provider and build linkages with FP providers and the community to ensure women know what methods are available and where to get them, and to establish FP use as a norm in the community.
3. It is essential to provide high-quality counseling skills to FP providers to ensure they provide comprehensive FP information according to clients' FP goals and needs, treat clients with respect, and raise awareness and demand for LARCs.
4. FP programs could promote should emphasize LARCS, promoting LARCs among women and couples who have less than four children, and among both married and sexually active single women.
5. As FP programs promote use of FP, it is imperative to also promote couple communication around FP and LARCs, to empower women to communicate with their partner and make joint decisions on contraceptive use and desired number of children.

Other supply side recommendations derived from the baseline data include:

1. Train FP providers to provide LARC services (both IUD and implants) as currently there are few FP providers trained to proficiency to provide LARC.
2. Promote strong advocacy efforts to ensure that as demand is raised, products are consistently available.

LARC Use

The data indicate that overall use of LARCs is very low in the three counties. Further research is required to understand the supply side of the two LARC methods, implants and IUDs. LARC promotion will work best in a context where service delivery is available and of good quality.

Benchmarks for Evaluation

Objective 3. To set benchmarks for evaluating the impact of FP and LARC services

The baseline study provides benchmarks for both married and single women. These benchmarks will provide the baseline status of the FP and LARC use indicator. We will assess the impact of the Breakthrough Action Liberia program against the contraceptive and LARC use prevalence described in this report.

Intermediary Factors Related to FP and LARC Use

Objective 4. To assess the role of gender equitable norms, social norms, couple communication in the adoption of FP behaviors

This report has demonstrated the role of several intermediary social factors linked to contraceptive and LARC use, including gender norms, social norms related to FP use, couple communication, and women led decision-making:

1. Couple/partner communication on FP should be actively promoted.

2. Programs focusing on equitable gender norms within the household sphere and reproductive health are specifically required to increase uptake of FP services.

3. Women-led decision-making related to contraceptive use should be actively promoted.

Selected Audiences for FP Promotion

Objective 5. To identify selected audiences for FP and LARC promotion

The following audiences have been identified for FP promotion campaigns:

1. Married couples (their contraceptive use is much lower than use among single women)
2. Couples (promote gender-equitable norms among women and men).
3. Community and family-level leaders (to encourage approval of the norm of child spacing and FP methods, including LARC use).
4. Women older than 35 years (they are less likely to use contraceptives than younger women)
5. Men who partner women of reproductive age should be prioritized as a major audience group for equitable decision making and for promoting equitable gender norms.

Breakthrough ACTION Liberia: Baseline Report for Adolescents