USAID
FROM THE AMERICAN PEOPLE

DHS WORKING PAPERS

Non-use of Contraceptives among Married Women:

An Analysis of the 2018 Guinea Demographic and Health Survey

Bienvenu Salim Camara
Sidikiba Sidibe
Nafissatou Dioubate

2020 No. 165

DEMOGRAPHIC AND HEALTH SURVEYS

July 2020

DHS Working Paper No. 165

Non-use of Contraceptives among Married Women:

Analysis of the 2018 Guinea Demographic and Health Survey

Bienvenu Salim Camara[1]
Sidikiba Sidibe[1]
Nafissatou Dioubate[1]

ICF
Rockville, Maryland, USA

July 2020

[1] CEA-PCMT–Department of Public Health, Gamal Abdel Nasser University of Conakry, Conakry, Guinea

Corresponding author: Bienvenu Salim Camara, Yattayah, Commune of Ratoma, Conakry, Guinea; phone: +224 620830038; email: bienvenusalimcamara@gmail.com

Acknowledgments: The authors wish to thank the United States Agency for International Development (USAID) for funding this research through the Demographic Health Survey (DHS) Fellows Program, which is implemented by ICF. We are also grateful to the DHS Fellows Program facilitators for improving our knowledge and skills in analyzing and scientifically reporting DHS data. We give thanks to the reviewers, editors, and formatters of this paper for improving its quality. Finally, we would like to say thank you to the Department of Public Health of the Gamal Abdel Nasser University of Conakry for supporting our application and local activities for this program.

Editor: Diane Stoy
Document Production: Joan Wardell

This study was carried out with support provided by the United States Agency for International Development (USAID) through The DHS Program (#720-OAA-18C-00083). The views expressed are those of the authors and do not necessarily reflect the views of USAID or the United States Government.

The DHS Program assists countries worldwide in the collection and use of data to monitor and evaluate population, health, and nutrition programs. For additional information about The DHS Program, contact: DHS Program, ICF, 530 Gaither Road, Suite 500, Rockville, MD 20850, USA; phone: +01 301-572-0950; fax: +01 301-572-0999; fax: +01 301-407-6501; email: reports@dhsprogram.com; internet: www.dhsprogram.com.

Recommended citation:

Camara, Bienvenu Salim, Sidikiba Sidibe, and Nafissatou Dioubate. 2020. *Non-use of Contraceptives among Married Women: Analysis of the 2018 Guinea Demographic and Health Survey.* DHS Working Paper No. 165. Rockville, Maryland, USA: ICF.

CONTENTS

TABLES

FIGURES

ABSTRACT

In 2018, contraceptive prevalence in Guinea remained low at 11% (8% in the rural areas). This study aims to examine current contraceptive non-use among 1,076 married women in Guinea who have ever used any type of contraceptive method. The analyses included descriptive statistics, tests of association, a logistic regression, and a profile of women not currently using contraceptive methods among ever users. Of the sampled women, 454 (42%) were not using a contraceptive method. Three of five non-users made the decision about not using contraceptives. Reasons for non-use included infrequent sex (77%) and post-amenorrhea/breastfeeding (10.6%). The unmet need for family planning was 48%. Half of the women (51%) reported that they intended to use a family planning method at a later time. Factors associated with contraceptive non-use included living in the administrative regions of Boké (AOR: 2.71; 95% CI: 1.4–5.26) and Mamou (AOR: 3.59; 95% CI: 1.39–9.29); being age 25-29 (AOR: 2.84; 95% CI: 1.24–6.49), 30-34 (AOR: 3.09; 95% CI: 1.28–7.47), and 45-49 (AOR: 3.40; 95% CI: 1.18–9.77); having more than five living children (AOR: 0.44; 95% CI: 0.2–0.95); and the husband's desire for more children (AOR: 1.73; 95% CI: 1.1–2.71). Interventions that target ever users who are currently not using contraception could contribute to the resumption of contraceptive use among these women. Community family planning interventions such as male or couple sensitization or men's involvement in reproductive health decisions can improve community perceptions about contraception and women's rights for reproductive health.

Key words: Contraceptive users, non-use, married women, Guinea, DHS

1 INTRODUCTION

Unmet need for family planning (FP) is defined as the percentage of women who do not want to become pregnant but are not using contraception (The DHS Program 2012). In 2017, 24% of women of reproductive age in developing countries who wanted to avoid pregnancy did not use a modern contraceptive (Guttmacher 2017). The majority of women with an unmet need for FP live in sub-Saharan Africa (WHO 2020). This challenge not only affects their reproductive rights (Starrs et al. 2018), but also increases their risk of disease and death. Use of modern contraceptive methods is a key contributor to reducing maternal and child deaths through the prevention of unintended pregnancy and induced, unsafe abortion. Methods such as condoms also help to prevent the transmission of HIV and other sexually transmitted infections (WHO 2020). The use of modern contraceptive methods has been prioritized by the Sustainable Development Goals (SDGs) that focus on universal access to sexual and reproductive health (Dockalova et al. 2016).

Despite the repositioning efforts over recent years to increase modern contraceptive prevalence in Guinea, the contraceptive prevalence remains low in the country at 11%, and 8% in the rural areas (Institut National de la Statistique (INS) and ICF 2018). The repositioning efforts included strategies to improve the demand and provision of FP services. Strategies to increase demand have included information and sensitization campaigns on FP that used media and schools, and promotion of men's involvement in raising women's awareness of FP. Strategies that can improve the provision of services included integrating FP services into maternal health services (postpartum care, postabortion care, and vaccination services), training maternal health service providers, securing stocks of contraceptive methods in health facilities that include HIV management centers, and providing counseling services for adolescents (Ministère de la Santé Guinée 2013). In 2012, 22% of women in Guinea faced unmet FP need (The DHS Program 2012), which demonstrates the need for addressing the unmet need of FP and improving contraceptive prevalence in Guinea. Women who are not using contraceptives while they want to avoid pregnancy are at risk of unwanted pregnancy (Faúndes 2012; WHO 2020).

The 2018 Guinea DHS (GDHS) identified critical information about FP need that can guide actions to address unmet FP need in the country. Between 2012 and 2018 in Guinea, 66% of female contraceptive users discontinued contraception within the first 12 months of use. The major reason for discontinuation was the method's side effects (27%) and was not related to the desire for a child (Institut National de la Statistique (INS) and ICF 2018). Contraceptive discontinuation has been called the "leaking bucket phenomenon" according to Jain (2014), who called for FP programs to prioritize this concern in developing countries.

No previous study has focused on ever users who are not currently using FP in order to better understand the low utilization of contraceptive methods in Guinea. The present study therefore aims to examine current non-use of contraceptive methods among ever users in Guinea.

1.1 Research Questions

The research questions are:

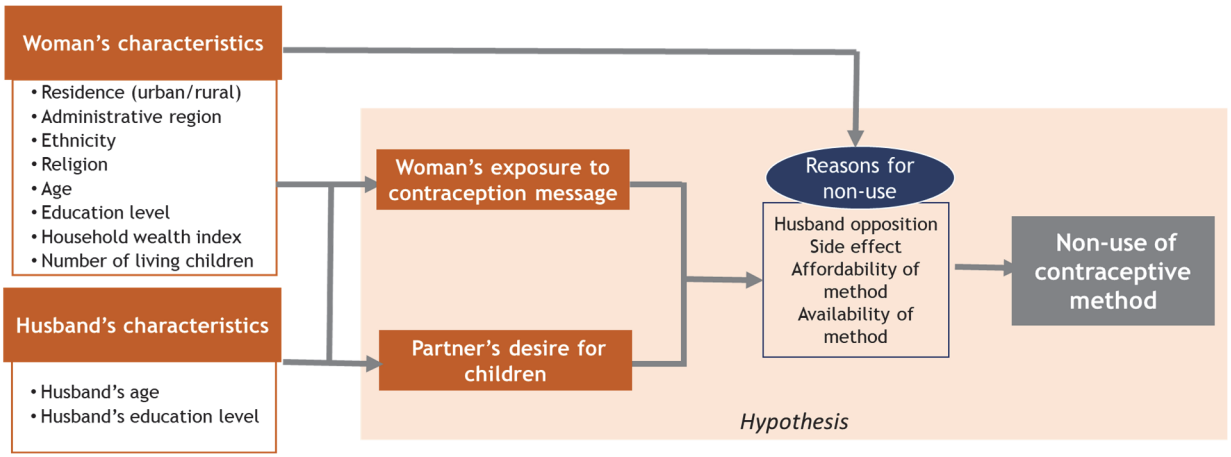
1. What is the profile of women age 15-49 who used contraception in the past but are not currently using contraceptive methods?

2. What are the factors associated with non-use of contraceptive methods (any and modern methods) among women age 15-49 who have ever used a contraceptive method?

1.2 Conceptual Framework

Analysis of factors associated with non-use of contraceptive among ever users in Guinea was guided by the conceptual framework below (Figure 1). The framework suggests that non-use of contraceptive methods among ever users in Guinea is influenced by primary factors such as ever users' sociodemographic characteristics and intermediate factors such as a woman's exposure to contraception messages through the media, her partner's desire for children, and perceived reasons for non-use. The sociodemographic characteristics of the woman and her husband include living in rural or urban area, religion, age, education, wealth index, and number of living children. These characteristics can directly influence reasons for non-use (intermediate factors) such as the husband's opposition, as well as affordability or availability of methods. Sociodemographic characteristics can also influence other reasons for non-use through two other intermediate factors such as the woman's exposure to contraceptive messages (which influences knowledge) and the partner's desire for more children. A woman's exposure to contraceptive messages can affect her ability to manage a method's side effects, while a partner's desire for more children can lead to his opposition to the woman's use of a contraceptive method.

Figure 1 Conceptual framework of contraceptive non-use among ever users, GDHS 2018

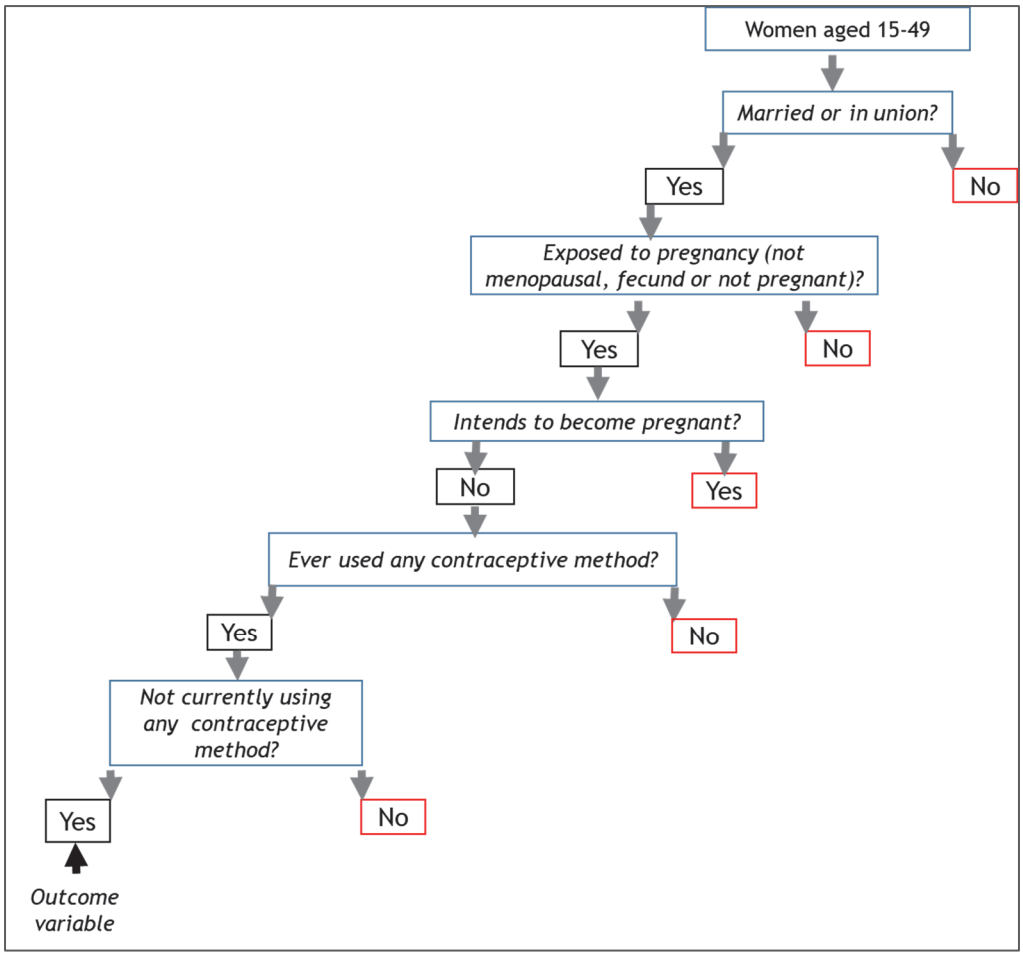


2 DATA AND METHODS

2.1 Data

We used the Guinea 2018 Demographic and Health Survey (GDHS) data, which were collected between March and June 2018. The GDHS is a cross-sectional, nationally representative household survey that used a multistage cluster strategy sampling (Institut National de la Statistique (INS) and ICF 2018). The GDHS includes questions on household and individual characteristics, and maternal and child health, as well as antenatal, delivery, and postpartum care. This study included 1,086 married women age 15-49 who were ever users of a contraceptive method. The study excluded pregnant women and those who intend to become pregnant. The flow chart for selection of the study population is shown in Figure 2**.** The data included sociodemographic characteristics and information on the contraceptive use such as exposure to FP messages, decision making for no contraceptive use, contraceptive need, and intention for future contraceptive use.

Figure 2 Flow chart for the study population selection and the definition of the outcome variable



2.2 Variables

2.2.1 Outcome variable

The outcome variable is non-use of contraceptive methods, among currently married women age 15-49, who have been exposed to pregnancy, have ever used a contraceptive method, and are not intending to become pregnant (Figure 2).

2.2.2 Independent variables

We identified the following explanatory variables of contraceptive non-use, based on their theoretical and empirical relevance: sociodemographic characteristics, residence (rural or urban), administrative region, ethnic group, religion, age, education, household wealth index group, husband/partner's education level, woman's exposure to FP messages through the media (if the woman heard about FP on the radio or television, if the woman read about FP in newspaper/magazine, or by test message on mobile phone), and the husband's desire for more children.

Additional descriptive variables were analyzed in the substudy population of ever users currently not using any contraceptive method: reasons for current non-use including who makes the decision for non-use and the intention for future contraceptive use.

2.3 Statistical Analysis

The study data were extracted from the 2018 GDHS dataset, cleaned, and analyzed with Stata 16 (StataCorp, College Station, TX, US). The analysis adjusted for the multistage sample design of the survey. Descriptive data were presented as proportions with 95% confidence intervals or means ±standard deviation. To identify the factors associated with non-use of contraceptives, the Pearson chi square test was used to compare contraceptive non-use across study variables in the bivariate analysis. Based on the conceptual framework, all variables that we considered as theoretically or empirically influential on contraceptive use were included in the logistic regression model. Unadjusted and adjusted odds ratios were derived, and differences were considered statistically significant at $p \leq 0.05$.

3 RESULTS

Characteristics of the Study Sample

Table 1 shows the background characteristics of the study population. A total of 1,086 married women who ever used contraceptives were included in our analysis. This included 436 women (40%) who were not currently using any contraceptive method. Of the total sample, more than half (56%) lived in rural areas, with most women residing in Nzérekoré and Kankan (both at 22%). The majority of ever users were reported to be Muslims (80%).

Most (62%) of the sampled women were age 25-39. Adolescents (age 15-19) and young women (age 20-24) represented 7.7% and 14.9%, respectively, among ever users. The majority of women (68.7%) and their husbands (64%) had no formal education. The married ever users had a high number of living children, with 27.7% of the women having five or more children and 34% having three or four children. While 40% of ever users did not know whether their husbands desired more children, 37% reported that their husbands desired more children. Less than half of women among ever users (54.5%) reported being exposed to FP messages through television, radio, newspapers, or mobile phone test messages within the few months before the survey.

Table 1 Sociodemographic characteristics of married women age 15-49 who ever used a contraceptive method, GDHS 2018

	Contraceptive ever users			
			95% CI	
Characteristics	n=1086	%	Lower	Upper
Residence area				
Urban	473	43.6	36.5	51.0
Rural	613	56.4	49.0	63.6
Administrative region				
Boké	68	6.3	4.7	8.2
Conakry	212	19.6	15.5	24.3
Faranah	104	9.5	7.6	11.7
Kankan	237	21.9	16.5	28.4
Kindia	137	12.7	10.2	15.6
Labé	51	4.6	3.6	6.0
Mamou	40	3.7	2.8	4.8
Nzérékoré	237	21.9	17.5	26.9
Ethnic group				
Soussou	256	23.6	19.0	28.9
Peulh	216	19.9	16.7	23.5
Malinke	377	34.8	28.8	41.2
Forestier	237	21.8	16.9	27.7
Religion				
Muslim	867	79.8	73.9	84.7
Christian and other	219	20.2	15.3	26.2
Age group				
15-19	84	7.7	5.7	10.3
20-24	161	14.9	12.5	17.6
25-29	235	21.7	19.1	24.5
30-34	234	21.6	19.0	24.4
35-39	203	18.7	16.2	21.6
40-44	97	8.9	7.2	10.9
45-49	71	6.5	5.0	8.4
Education level				
No education	746	68.7	64.2	72.8
Primary	113	10.4	8.3	13.0
Secondary	181	16.6	13.9	19.7
Higher	46	4.3	3.1	5.9
Wealth index group				
Poorest	127	11.7	9.1	14.8
Poorer	213	19.7	15.9	24.1
Middle	191	17.6	14.5	21.2
Richer	263	24.2	20.3	28.6
Richest	292	26.9	22.6	31.6
Number of living children				
0	86	8.0	5.8	10.9
1 to 2	328	30.2	27.3	33.3
3 to 4	371	34.1	31.1	37.3
5 or more	301	27.7	24.7	30.9
Expose to message				
Not exposed	598	55.1	49.6	60.4
Exposed	488	44.9	39.6	50.4
Husband/partner education level				
No education	674	63.7	59.6	67.6
Primary	64	6.1	4.6	8.1
Secondary	176	16.6	13.8	19.8
Higher	144	13.7	11.0	16.8
Husband desire for more children				
Both want same	225	20.9	17.6	24.6
Husband wants	398	37.0	32.8	41.3
Husband wants fewer	22	2.1	1.3	3.1
Don't know	433	40.1	36.5	43.9

Profile of Contraceptive Non-users

Overall, 436 (40%) of ever users were not currently using any FP method. Of this group, 60% lived in rural areas (Table 2). These women were predominantly from the Malinke ethnic group (40%), Muslim (86%), and with no formal education (73%). The age groups 25-29 and 30-34 were the most represented with 24% each. The majority of women had three or more living children (65%). The husbands or partners of most women (67%) had no formal education. Almost half (45%) of the women reported being exposed to FP messages through media, and a similar proportion (45%) said that their husband wanted more children.

Table 2 Profile of contraceptive ever users currently not using any method, GDHS 2018

Characteristics	Ever users currently not using any contraceptive		95% CI	
	n=436	%	Lower	Upper
Residence area				
Urban	174	40.0	32.8	47.6
Rural	262	60.0	52.4	67.2
Administrative region				
Boké	37	8.6	6.5	11.4
Conakry	73	16.9	13.1	21.4
Faranah	57	13.1	10.7	16.1
Kankan	102	23.3	18.8	28.5
Kindia	40	9.2	7.3	11.4
Labé	27	6.2	4.7	8.1
Mamou	26	5.9	4.6	7.5
Nzérékoré	74	17.0	13.8	20.7
Ethnic group				
Soussou	88	20.3	16.3	25.0
Peulh	104	23.8	20.0	28.1
Malinke	175	40.2	34.4	46.2
Forestier	69	15.7	11.6	21.0
Religion				
Muslim	377	86.4	81.1	90.4
Christian and other	59	13.6	9.7	18.9
Age group				
15-19	18	4.1	2.2	7.6
20-24	59	13.5	10.5	17.1
25-29	106	24.2	20.4	28.5
30-34	103	23.8	19.8	28.4
35-39	80	18.3	14.9	22.3
40-44	37	8.5	6.3	11.5
45-49	33	7.6	5.1	11.0
Education level				
No education	317	72.6	67.3	77.3
Primary	41	9.3	6.7	12.8
Secondary	59	13.6	10.2	18.0
Higher	19	4.5	2.9	6.8
Wealth index group				
Poorest	64	14.6	11.2	18.9
Poorer	89	20.5	15.9	26.0
Middle	81	18.7	14.5	23.8
Richer	91	20.8	16.6	25.6
Richest	111	25.4	20.3	31.4
Number of living children				
0	31	7.1	4.6	10.8
1 to 2	122	28.0	23.9	32.5
3 to 4	163	37.4	32.6	42.4
5 or more	120	27.5	23.1	32.4
Expose to message				
Not exposed	242	55.5	49.3	61.5
Exposed	194	44.5	38.5	50.7
Husband/partner education level				
No education	282	67.0	61.2	72.2
Primary	26	6.1	3.6	10.2
Secondary	58	13.9	10.6	18.0
Higher	55	13.0	9.2	17.9
Husband desire for more children				
Both want same	69	15.8	12.3	20.0
Husband wants	198	45.4	39.4	51.5
Husband wants fewer	8	1.8	0.9	3.4
Don't know	161	37.1	31.7	42.7

Decision Making for Non-use, FP Need, and Intention for Future Contraceptive Use

An estimated 60% of the non-users made the decision for not using contraceptives (Table 3); 21% said that the decision was primarily their husband/partner's decision, while 17% reported that the decision to not use a contraceptive was made jointly with their husband/partner.

The most common reason reported for not using a contraceptive method was infrequent sex (77%), followed by postpartum amenorrhea or breastfeeding (11%). Only 10 women (2%) reported side effects or inconvenience as the reason for non-use.

Unmet need for FP among married women ever users who are not currently using any contraceptive was estimated at 48%. With intention for future contraceptive use, approximately half (51%) of non-users reported that they intend to use a contraceptive method in the future, while 39% did not intend to do so.

Table 3 Decision maker for non-use, FP need, and intention for future use among currently married women not currently using any method (n=436)

	Number		95% CI	
Characteristics	**n=436**	**%**	**Lower**	**Upper**
Decision making for not using				
Mainly woman	262	60.0	54.5	65.4
Mainly husband, partner	91	21.0	16.8	25.8
Joint decision	75	17.1	13.5	21.5
Other	8	1.9	0.9	3.9
Reason				
No/infrequent sex	336	77.1	72.5	81.2
Postamenorrhea/breastfeeding	46	10.6	7.9	14.2
Fatalistic/religion	14	3.3	1.8	5.9
Opposition respondent/partner	24	5.5	3.7	8.1
Knows no source	1	0.2	0.0	1.7
Side effect/inconvenient/body	10	2.3	1.1	4.7
Access/cost	5	1.0	0.4	2.7
Need for contraception				
No unmet need	225	51.7	46.4	56.9
Unmet need	211	48.3	43.1	53.4
Intention to use				
Use later	221	50.7	44.9	56.4
Unsure about use	47	10.8	8.0	14.5
Does not intend to use	168	38.5	33.4	43.9

Factors Associated with Non-use of Contraceptive Methods

The bivariate analysis showed that factors associated with the non-use of contraceptive methods among married women (age 15-49) who have ever used any contraceptive method included the administrative region, ethnic group, religious affiliation, age, and husband's desire for more children (Table 4). Variables such as education levels, wealth index, number of living children, or exposure to FP messages were not associated with FP non-use.

Table 4 Bivariate analysis of factors associated with current non-use of contraceptive methods among women age 15-49 who have ever used contraceptive methods, GDHS 2018

	Ever users not currently using any contraceptive method			
	%	95% CI		
Characteristics	n=1,086	Lower	Upper	p-value
Type of residence area				0.140
Urban	36.8	31.1	43.0	
Rural	42.7	37.9	47.7	
Administrative region				<0.001***
Boké	55.2	45.4	64.7	
Conakry	34.6	25.4	45.2	
Faranah	55.4	45.0	65.3	
Kankan	42.8	37.3	48.5	
Kindia	29.1	19.5	40.9	
Labé	53.3	35.6	70.3	
Mamou	64.1	45.0	79.5	
Nzérékoré	31.2	24.0	39.3	
Ethnic group				<0.001***
Soussou	34.6	27.3	42.7	
Peulh	48.0	40.2	56.0	
Malinke	46.4	41.2	51.8	
Forestier	29.0	22.4	36.7	
Religion				<0.001***
Muslim	43.5	39.4	47.6	
Christian and other	27.1	20.4	35.1	
Age group at time of survey				
15-19	21.6	12.1	35.5	0.028*
20-24	36.4	29.0	44.5	
25-29	44.9	37.9	52.2	
30-34	44.3	37.4	51.4	
35-39	39.2	32.3	46.6	
40-44	38.3	28.4	49.3	
45-49	46.5	33.2	60.3	
Education level				0.146
No education	42.5	37.9	47.1	
Primary	35.9	27.0	46.9	
Secondary	32.9	25.7	41.1	
Higher	41.8	27.7	57.3	
Education husband level				0.433
No education	41.8	37.0	46.8	
Primary	40.0	26.0	55.9	
Secondary	33.3	25.7	42.0	
Higher	37.9	28.2	48.7	
Wealth index				0.099
Poorest	50.5	41.4	59.5	
Poorer	41.9	34.6	49.6	
Middle	42.7	34.3	51.6	
Richer	34.4	28.1	41.2	
Richest	37.9	30.9	45.6	
Number of living children				0.348
0	35.9	24.7	49.0	
1 to 2	37.2	31.6	43.2	
3 to 4	44.0	38.3	49.8	
5 or more	39.9	33.8	46.3	
Husband's desire				<0.001***
Both want same	30.5	23.2	38.9	
Husband wants more	49.7	43.9	55.6	
Husband wants fewer	34.7	18.4	55.7	
Don't know	37.4	32.1	43.0	
Expose to message				0.869
Not exposed	39.8	34.4	45.5	
Exposed	40.5	35.4	45.7	

*p<0.05; **p<0.01; ***p<0.001

In the multivariate logistic regression (Table 5), we found that living in the administrative regions of Boké and Mamou; being age 25-29, 30-34, or 45-49; having five or more living children; and the husband's desire for more children were associated with non-use of any contraceptive method among ever users.

Women who lived in Boké and Mamou had 2.7 and 3.6 times the odds, respectively, of not using contraceptive methods compared to those living in Conakry.

Compared with adolescents (age 15-19), women age 25-29, 30-34, and 45-49 had 2.8 times, 3.1 times, and 3.4 times the odds, respectively, of not using any contraceptive method. Women whose husbands desired more children had 1.7 times the odds of not using a contraceptive method compared to women who had the same desire as their husband. Women with five or more children had 56% lower odds of not using a contraceptive method compared to those with no living children.

Table 5 Logistic regression of factors associated with current non-use of contraceptive methods among women age 15-49 who have ever used contraceptive methods, GDHS 2018

	Ever users not currently using any contraceptive method			
		95% CI		
Characteristics	AOR	Lower	Upper	p-value
Type of residence area				
Urban	1	Ref		
Rural	0.78	0.42	1.43	0.422
Administrative region				
Conakry	1	Ref		
Boke	2.71	1.40	5.26	0.003*
Faranah	1.99	0.97	4.09	0.060
Kankan	1.14	0.59	2.21	0.693
Kindia	0.89	0.45	1.76	0.737
Labé	2.61	0.99	7.14	0.053
Mamou	3.59	1.38	9.29	0.009*
Nzérékoré	1.09	0.51	2.31	0.828
Ethnic group				
Soussou	1	Ref		
Peulh	1.04	0.60	1.81	0.876
Malinke	1.61	0.96	2.70	0.068
Forestier	1.58	0.54	4.65	0.406
Religion				
Muslim	1			
Christian and Other	0.41	0.13	1.25	0.116
Age group at time of survey				
15-19	1	Ref		
20-24	1.77	0.73	4.23	0.205
25-29	2.84	1.24	6.49	0.013*
30-34	3.09	1.28	7.47	0.012*
35-39	2.45	0.94	6.43	0.067
40-44	2.39	0.89	6.48	0.085
45-49	3.40	1.18	9.77	0.023*
Education level				
No education	0.94	0.45	1.97	0.860
Primary	0.82	0.37	1.84	0.635
Secondary	0.70	0.33	1.47	0.345
Higher	1			
Education husband level				
No education	1	Ref		
Primary	1.09	0.51	2.34	0.812
Secondary	0.91	0.55	1.51	0.714
Higher	1.22	0.70	2.15	0.478
Wealth index				
Poorest	1.56	0.69	3.52	0.286
Poorer	1.51	0.69	3.29	0.302
Middle	1.31	0.68	2.52	0.423
Richer	0.80	0.50	1.29	0.356
Richest	1	Ref		
Living children				
0	1	Ref		
1-2	0.60	0.31	1.16	0.127
3-4	0.57	0.28	1.17	0.125
5+	0.44	0.20	0.95	0.037*
Husband's desire				
Both want same	1	Ref		
Husband wants more	1.73	1.10	2.71	0.017*
Husband wants fewer	0.96	0.37	2.48	0.937
Don't know	1.10	0.71	1.71	0.660
Exposure to message				
Not exposed	1	Ref		
Exposed	1.16	0.81	1.65	0.418

*p<0.05; **p<0.01; ***p<0.001

4 DISCUSSION

This study is the first to examine non-use of contraceptives among ever-users in Guinea. The results show that 40% of women who ever used contraception are currently not using any contraceptive method. The majority of these women made the decision themselves not to use contraception. The primary reason reported for not using contraception was infrequent sex. However, nearly half of the sample of non-users reported having an unmet need for FP, and half said that they intend to use a contraceptive method in the future. Factors associated with non-use of contraceptive methods among Guinean married women ever users of a contraceptive method included living in the administrative regions of Boké and Mamou; being age 24-29, 30-34, or 45-49; having more than five living children; and the husband's desire for more children. These findings have important health policy and practice implications in Guinea for contraceptive coverage of women who are in need of FP.

First, a high proportion of married women ever users of contraceptives are not currently using any contraceptive method. This suggests that contraceptive coverage has not increased in Guinea, despite efforts from the health system such as sensitization campaigns on FP that use media and schools, integration of FP services into maternal health services (postpartum and postabortion care, vaccination services), training of maternal health services providers, and securing stocks of different contraceptive methods in health facilities. There may be an increase in the number of new contraceptive users in response to the efforts of the health system (Ministère de la Santé Guinée 2013). However, overall contraceptive use will not increase if ever users of contraceptives stop using contraceptives. This phenomenon in FP has been called the "leaking bucket phenomenon" by Jain, who reported that actions that target contraceptive ever users who are not currently using any contraceptive method would contribute to increased contraceptive prevalence (Jain 2014).

We found in our study that 48% of such women have FP unmet need, while 51% have the intention to use contraceptive in the future. In 2018, Camara et al. reported that 36% to 48% of women had unmet FP need in the rural district of Forécariah in Guinea (Camara et al. 2018). The same study reported that 54% of postpartum women intended to use a contraceptive nine months after giving birth. The findings from this study suggest that addressing unmet FP need is crucial to increasing the use of contraceptive methods among specific groups of women exposed to the risk of pregnancy. While a recent study in 78 countries showed that gender equality and education increase access to modern contraceptive methods (Slaymaker et al. 2020), it is important to note that adapted and targeted strategies according to specific categories of women could yield a more sustainable increase in the demand for contraceptives.

Second, we had hypothesized that the husband's desire for more children and a woman's exposure to FP messages through the media were predictors of contraceptive non-use among ever users in Guinea. We expected ever users whose husbands desire more children to be more likely not to use contraceptives, and that women exposed to FP messages through media were less likely not to use contraceptive methods. We found that a husband's desire for more children was positively associated with current non-use of contraceptive among ever users. However, exposure to FP messages through the media had no statistical influence on current non-use of contraceptives among ever users. A husband's influence on women's contraceptive use has been documented. Many studies have reported the desire for more children or the husband's opposition as reasons for unmet FP need in Africa (Adebowale and Palamuleni 2014; Camara et

al. 2018). In Africa, men are culturally viewed as the head of the family and control the decision for health-seeking behaviors that include choices about reproductive health (Barry 2017). Community-level FP interventions, such as male or couple sensitization or men's involvement in reproductive health, can improve perceptions in the community about contraception and women's rights for reproductive health. In addition, further research on why exposure to FP messages through the media appears to have no influence on current non-use of contraceptives among ever users is needed. It is possible that the way that messages are conveyed to sensitize women do not give women the opportunity to express their concerns or ask questions for better information on FP (Ministère de la Santé Guinée 2013).

We found that contraceptive ever users currently not using any method reported the reasons of non-use as infrequent sex, postpartum amenorrhea, breastfeeding, and partner's opposition. This was similar to findings from DHS surveys in 52 countries between 2005 and 2014 that reported that the most common reasons cited by married women for not using contraception included contraceptive side effects/health risks, having sex infrequently or not at all (24%), and breastfeeding and/or haven't resumed menstruation after a birth (20%) (Institut National de la Statistique (INS) and ICF 2018). Qualitative studies that further explore women's reasons for non-use of contraceptives would be helpful and could guide interventions and priorities to improve demand for and the supply of contraceptives.

In our findings, compared to adolescent married ever users age 15-19, married women age 25-29, 30-34 and 45-49 who were ever users had greater odds of not currently using a modern FP method. This finding corroborates the data from the Population Reference Bureau that found reasons for not using a FP method among married women varied according to age. Thus, fear of side effects and, to a lesser extent, opposition to use are generally greater concerns among women age 25 and over, while postpartum breastfeeding is often cited by women under age 25 as a reason for not using FP method (Population Reference Bureau 2019). Another reason for non-use of contraceptive methods in younger women is that more young couples want to have children as compared to older couples.

Our study has some limitations. First, the cross-sectional design does not allow for assessment of causal relationships between non-use of contraceptive and other factors. We analyzed the GDHS data, which is purely quantitative. It was not possible to conduct qualitative analysis to better understand the factors that influence non-use of contraceptives among ever users. However, this study has the potential for guiding policies and practices on contraceptive use since it is the first of its kind in Guinea, is representative of the whole country, and has statistical power from the large sample size.

5 CONCLUSIONS

This research showed that two women of every five ever users of contraceptives in Guinea are currently not using any contraceptive method. The majority of these women made a personal decision to not use a contraceptive method. The primary reason reported for not using contraceptives was infrequent sex. However, nearly 48% of the women reported an unmet need for family planning, and half said they intend to use a contraceptive method in the future. Factors associated with non-use of contraceptive methods among Guinean married women who were ever users of a contraceptive method included living in the administrative regions of Boké and Mamou, being age 20-24, 30-34, 35-39 or 45-49, having more than five living children, and the husband's desire for more children.

This study recommends interventions that focus on contraceptive ever users who are currently not using any contraceptive method and could aid in the resumption of contraceptive use among these women. Community-level FP interventions such as male or couple sensitization or men's involvement in reproductive health could improve community perceptions about contraception and women's rights for reproductive health. Further qualitative research is needed to better explore reasons for non-use of contraceptives among married women who were ever users of contraceptives in Guinea.

REFERENCES

Adebowale, S. A., and M. E. Palamuleni. 2014. "Determinants of Unmet Need for Modern Contraception and Reasons for Non-Use among Married Women in Rural Areas of Burkina Faso." *African Population Studies* 28 (1): 499-514. https://doi.org/10.11564/28-1-503.

Barry, A. A. B. 2017. "Interpreting the Health, Social, and Political Dimensions of the Ebola Crisis in Guinea." In *Understanding West Africa's Ebola Epidemic. Towards a Political Economy*, edited by Ibrahim Abdullah and Ismail Rashid, 70–84, London, UK: Zed Books.

Camara, B. S., A. Delamou, S. Sidibé, A. H. Béavogui, P. Bouedouno, M. M. Sylla, O. Yentema, and S. Kouanda. 2018. "Impact of an Antenatal Counseling on Use of Modern Family Planning Methods in the Postpartum in Rural Guinea." *African Journal of Reproductive Health* 22 (4): 16-25. https://doi.org/10.29063/ajrh2018/v22i4.2.

Dockalova, B., K. Lau, H. Barclay, and A. Marshall. 2016. Sustainable Development Goals and Family Planning 2020. London, The United Kingdom: International Planned Parenthood Federation. https://www.ippf.org/sites/default/files/2016-11/SDG%20and%20FP2020.pdf.

Faúndes, A. 2012. "Strategies for the Prevention of Unsafe Abortion." *International Journal of Gynecology and Obstetrics* 119 (51): S68-71. https://doi.org/10.1016/j.ijgo.2012.03.021.

Guttmacher Institute. 2017. "Adding It Up: Investing in Contraception and Maternal and Newborn Health." New York, NY, US: Guttmacher Institute. https://www.guttmacher.org/fact-sheet/adding-it-up-contraception-mnh-2017.

Igwegbe, O., O. Ugboaja, and N. Monago. 2009. "Prevalence and Determinants of Unmet Need for Family Planning in Nnewi, South-East Nigeria." *International Journal of Medicine and Medical Sciences* 1 (8): 325-329. https://academicjournals.org/article/article1379235729_Igwegbe%20et%20al.pdf.

Jain, A. K. 2014. "The Leaking Bucket Phenomenon in Family Planning." *Champions 4 Choice*. September 9, 2014. https://champions4choice.org/2014/09/the-leaking-bucket-phenomenon-in-family-planning/.

Jain, A. K., F. Obare, S. RamaRao, and I. Askew. 2013. "Reducing Unmet Need by Supporting Women with Met Need." *International Perspectives on Sexual and Reproductive Health* 39 (3): 133–41. https://www.guttmacher.org/sites/default/files/pdfs/pubs/journals/3913313.pdf.

Ministère de la Santé Guinée. 2013. "Plan d'action National de Repositionnement de la Planification Familiale en Guinée 2014-2018." https://www.healthpolicyproject.com/ns/docs/CIP_Guinea.pdf.

Population Reference Bureau. 2019. "Family Planning Data Sheet." Washington, DC, US: USAID, PACE and PRB. https://www.prb.org/fpdata/.

Slaymaker, E., R. H. Scott, M. J. Palmer, L. Palla, M. Marston, L. Gonsalves, L. Say, and K. Wellings. 2020. “Trends in Sexual Activity and Demand for and Use of Modern Contraceptive Methods in 74 Countries: A Retrospective Analysis of Nationally Representative Surveys.” *The Lancet Global Health* 8 (4): e567–79. https://doi.org/10.1016/S2214-109X(20)30060-7.

Starrs, A. M., A. C. Ezeh, G. Barker, A. Basu, J. T. Bertrand, R. Blum, A. M. Coll-Seck, et al. 2018. “Accelerate Progress—Sexual and Reproductive Health and Rights for All: Report of the Guttmacher-Lancet Commission.” *The Lancet* 391 (10140): 2642-2692. https://doi.org/10.1016/S0140-6736(18)30293-9.

The DHS Program. 2012. “Unmet Need for Family Planning.” Rockville, MD, US: The DHS Program. https://dhsprogram.com/topics/Unmet-Need.cfm.

Institut National de la Statistique (INS) and ICF. 2018. *Enquête Démographique et de Santé en Guinée 2018*. Conakry, Guinée, and Rockville, Maryland, USA : INS and ICF. https://dhsprogram.com/pubs/pdf/FR353/FR353.pdf.

World Health Organization. (WHO). 2020. “Family Planning/Contraception.” Geneva, Switzerland: WHO. https://www.who.int/news-room/fact-sheets/detail/family-planning-contraception.

World Health Organization. (WHO). 2020. “Preventing Unsafe Abortion.” Geneva, Switzerland: WHO. https://www.who.int/reproductivehealth/topics/unsafe_abortion/hrpwork/en/.