

Non-use of Contraceptive Methods Among Married: Analysis of the 2018 Guinea Demographic and Health Survey

Sidikiba Sidibe (✉ layesidikiba@gmail.com)

Universite Gamal Abdel Nasser de Conakry <https://orcid.org/0000-0002-7905-9042>

Biennu Salim Camara

Maférinya National Center for Learning and Research in Rural Health: Centre National de Formation et de Recherche en Sante Rurale de Maferinyah

Nafissatou Dioubaté

Centre National de Formation et de Recherche en Santé Rurale de Maférinyah: Centre National de Formation et de Recherche en Sante Rurale de Maferinyah

Fassou Mathias Grovogui

Centre National de Formation et de Recherche en Santé Rurale de Maférinyah: Centre National de Formation et de Recherche en Sante Rurale de Maferinyah

Alexandre Delamou

Universite Gamal Abdel Nasser de Conakry

Seni Kouanda

IASP: Institut Africain de Sante Publique

Research article

Keywords: Contraceptive users, Non-use, Married women, Guinea, GDHS

Posted Date: October 1st, 2020

DOI: <https://doi.org/10.21203/rs.3.rs-80086/v1>

License:  This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Abstract

Background: Modern contraceptive prevalence in Guinea was low in 2018. This study aimed to examine current modern contraceptive non-use among 1086 married women in Guinea who have used a contraceptive method.

Methods: We used the dataset of the 2018 Guinea Demographic and Health Survey (GDHS). The analysis included descriptive statistics, tests of association, and logistic regression of women who are not currently using modern contraceptive methods among ever users.

Results: Among the sampled women, 454 (42%) did not use modern contraceptive methods. Three out of five non-users made the decision to not use contraceptives. The factors associated with modern contraceptive non-use included living in the administrative regions of Boké (adjusted odds ratio [AOR]: 2.87; 95% confidence interval [CI]: 1.46–5.56) and Mamou (AOR: 3.56; 95% CI: 1.38–9.19); age 25–29 years (AOR: 2.80; 95% CI: 1.25–6.30), 30–34 years (AOR: 3.10; 95% CI: 1.31–7.38), and 45–49 years (AOR: 3.49; 95% CI: 1.22–10.00); and husband's desire for more children (AOR: 1.58; 95% CI: 1.02–2.46).

Conclusions: Interventions that focus on contraceptive non-users among ever users who are currently not using any modern contraceptive method could lead to the resumption of modern contraceptive use among these women. Furthermore, community-level family planning interventions such as male or couple sensitisation or men's involvement in reproductive issues could improve community perception about contraception and women's rights for reproductive health.

Background

The unmet need for family planning (FP) is defined as the proportion of women who do not want to become pregnant but are not using contraception [1]. In 2019, among the 1.9 billion women in the reproductive age group (15–49 years) worldwide, 270 million have an unmet need for contraception [2, 3]. According to the Sustainable Development Goals (SDGs), the global proportion of women with the need for FP satisfied by modern methods was 75.7% in 2019; however, less than half of the need for FP was met in Central and Western Africa [2]. In 2017, 24% of women of reproductive age in developing countries who wanted to avoid pregnancy did not use a modern contraceptive method [4, 5]. The majority of women with an unmet need for FP live in sub-Saharan Africa [4–6]. This challenge not only affects their reproductive right [7] but also increases their risk of disease and death. The use of modern contraceptive methods is a key contributor in the reduction of maternal and child deaths through the prevention of unintended pregnancies and induced unsafe abortions [8]. Modern contraceptive methods such as condoms also help prevent the transmission of HIV and other sexually transmitted infections [6]. The use of modern contraceptive methods has been prioritised by the SDGs that focus on universal access to sexual and reproductive health [9]. This shows that FP remains challenging in Africa, where almost 21.6 million unplanned pregnancies occur each year and where almost 38% of these pregnancies are terminated in abortion [10]. In this context, non-use of FP methods remains the main factor that favours

unwanted pregnancies [11]. Several studies have reported associations between FP use and sociodemographic characteristics of women such as educational levels and socio-economic status [12–17]. Other studies indicated that the reasons for the non-use of FP include male partner disapproval of contraception, misconceptions of contraceptive side effects, difficulties in accessing the FP method, and the desire to have a child [11, 12, 16, 18].

Despite the recent repositioning efforts to increase modern contraceptive prevalence in Guinea, the prevalence of modern contraceptive remains low in the country, at 11% and 8% in the rural areas [19]. The repositioning efforts included strategies for improving the demand and provision of FP services. Strategies for increasing demand include information and sensitisation campaigns on FP using media and schools and promotion of men's involvement in raising women's awareness of FP. Strategies that can improve the provision of services include integrating FP services into maternal health services (post-partum care, post-abortion care, and vaccination services), providing training to maternal health service providers, securing stocks of contraceptive methods in health facilities that include HIV management centres, and providing counselling services to adolescents [20].

In 2018, 22% of women in Guinea faced an unmet FP need [19]. This finding emphasizes the need to address the unmet need for FP and improve contraceptive prevalence in Guinea. Women who do not use contraceptive methods while they want to avoid pregnancy are at risk of unwanted pregnancy [6, 8, 21].

The 2018 Guinea Demographic and Health Survey (GDHS) identified critical information about the need for FP that can guide actions to address unmet FP needs in the country. During 2012–2018 in Guinea, 66% of female contraceptive users discontinued contraception within the first 12 months of use [19]. The major reason for discontinuation was the method's side effects (27%) and the desire to have a child [19]. Jain coined the term 'leaking bucket phenomenon' for contraceptive discontinuation and called for FP programmes to prioritise this concern in developing countries [22].

Given the high fertility rate (4.8 children per woman) and high maternal and child mortality (550 deaths per 100,000 births and 44 deaths per 1,000 live births, respectively) in Guinea [23], additional interventions will be needed to reach the SDGs for FP by 2030. Thus, one of the strategies would be to continue efforts to improve the use of modern FP methods among women of reproductive age.

With regard to these contrasting findings and the limited number of studies on the subject, more research is needed to shed light on strategies for improving the use of FP among women of childbearing age, particularly those who are already users of contraceptive methods. One of the major challenges in the National Strategic Plan for Reproductive, Maternal, and Adolescent Health for the 2016–2020 period is the strengthening of high-impact interventions, particularly in increasing modern contraceptive use among women of reproductive age. Therefore, it is important to understand the factors associated with the use of modern contraceptives, particularly in women who have already used at least one contraceptive method. This study makes it possible to determine the factors associated with FP among married women of reproductive age who have already used a contraceptive method. This information

would then allow the orientation of health policies and programmes in a way that better supports the repositioning plan for the FP effort in Guinea.

This study aimed to examine the factors associated with the current non-use of contraceptive methods among 15- to 49-year-old women who have used a contraceptive method in Guinea.

Conceptual framework

The analysis of factors associated with the non-use of contraceptives among contraceptive ever users in Guinea was guided by the conceptual framework (Fig 1). The framework suggests that the non-use of contraceptive methods among ever users in Guinea is influenced by primary factors such as the 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 areas, religion, age, education, wealth index, and number of living children. These characteristics can directly influence the reasons for non-use (intermediate factors), such as the husband's opposition and the 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.

Methods

Data and population

We used data from the 2018 GDHS, which were collected between March and June 2018. The GDHS is a cross-sectional, nationally representative household survey that uses multistage cluster strategy sampling. The GDHS includes questions on household and individual characteristics, maternal and child health, antenatal, delivery, and FP use. The current study included 1086 married women aged 15–49 years old who were ever users of a contraceptive method. The study excluded pregnant women and those who intended to become pregnant. Figure 2 shows the flowchart for the selection of the study population. The data included sociodemographic characteristics and information on contraceptive use, such as exposure to FP messages, decision making for no contraceptive use, contraceptive need, and intention for future contraceptive use.

Variables

Outcome variable

The outcome variable is the non-use of the modern contraceptive method among currently married women aged 15–49 years old who have been pregnant and have used a contraceptive method but are not intending to become pregnant (Fig. 2) and are sexually active. We assigned '1' to the variable if the woman is not currently using any contraceptive method and '0' if the woman is currently using a modern contraceptive method.

Independent variables

We identified the following explanatory variables of contraceptive non-use on the basis of 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, women's exposure to FP messages through the media (if the woman heard about FP on the radio or television or if the woman read about FP in a newspaper/magazine or in a text message on a mobile phone), and the husband's desire for more children.

Statistical analysis

The study data were extracted from the 2018 GDHS dataset and were cleaned and analysed with Stata 16 (StataCorp, College Station, TX, USA). The analysis was adjusted for the multistage sample design of the survey. Descriptive data were presented as proportions with 95% confidence intervals or means \pm standard deviations. To identify the factors associated with the non-use of contraceptives, Pearson's chi-square test was used to compare contraceptive non-use across study variables in bivariate analysis. By using the conceptual framework, all variables that we considered 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 $p \leq 0.05$.

Results

Characteristics of the study sample

Table 1 shows the background characteristics of our study population. Overall, 1086 married women who have used contraceptives were included in our analysis. This included 436 (40%) women who were not currently using any contraceptive method. Among the total sample, more than half (56.4%) of them lived in rural areas. Most women from our sample resided in Nzérékoré and Kankan (both at 22%). The majority of ever users are Muslims (80%).

Most of the sampled women (62%) were 25–39 years old. Adolescents (15–19 years old) and young women (20–24 years old) represented 7.7% and 14.9% of the sample population, respectively. The majority of women (68.7%) and their husbands (64%) had no formal education level. 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. Although 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 the women (54.5%) reported being exposed to FP messages through television, radio, newspapers, or mobile phone text messages within a few months before the survey.

Factors Associated With The Non-use Of Contraceptive Methods

Bivariate analysis showed that the factors associated with the non-use of contraceptive methods among married women (15–49 years old) who have used a modern contraceptive method included the administrative region, ethnic group, religious affiliation, age, and husband's desire for more children (Table 2). Variables such as education level, wealth index, number of living children, or exposure to FP messages were not associated with FP non-use.

In the multivariate logistic regression (Table 3), we found that the following factors were associated with the non-use of any contraceptive method among ever users: living in the administrative regions of Boké and Mamou; age 25–29, 30–34, or 45–49 years old; having 5 or more living children; and husband's desire for more children. Women living in Boké and Mamou, respectively, had 2.9 and 3.6 times higher odds of not using any modern contraceptive method, respectively, than those living in Conakry. Compared with adolescents aged 15–19 years old, women aged 25–29, 30–34, and 45–49 years old had 2.8-, 3.1-, and 3.5-times odds of not using any modern contraceptive method, respectively. Women whose husbands desired more children had 1.58-times odds of not using any modern contraceptive method compared with women who had the same desire as their husbands'.

Discussion

This study is the first to examine the non-use of contraceptives among ever users in the Guinean context. It showed that 41.8% of women who have used contraceptives are currently not using any modern contraceptive method. The factors associated with the non-use of any modern contraceptive methods among married Guinean women who are ever users of a contraceptive method included living in the administrative regions of Boké and Mamou; age of 24–29, 30–34, or 45–49 years old; and husband's desire for more children. These findings have very important health policy and practice implications in Guinea regarding the contraceptive coverage of women who need FP.

First, a high proportion of married women ever users of contraceptives are not currently using any modern contraceptive method. This phenomenon discloses why, among other reasons, contraceptive coverage hardly increases in Guinea despite efforts from the health system to increase modern contraceptives, such as sensitisation campaigns on FP that use media and schools, integration of FP services into maternal health services (post-partum and post-abortion care and vaccination services), training of maternal health services providers, and securing of stocks of different contraceptive methods in health facilities. Nevertheless, there may be some increase in the number of new contraceptive users in response to the efforts of the health system [24].

However, overall contraceptive use will not increase if the 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 [25].

We found that 48% of such women have an unmet FP need, whereas 51% have the intention to use contraceptives in the future. This means that interventions focusing on this group could lead to the resumption of contraceptive use among these women. In 2018, Camara et al. reported that 36–48% of women had an unmet FP need in the rural district of Forécariah in Guinea [26]. The same study reported that 54% of postpartum women intended to use a contraceptive method 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 who are exposed to the risk of pregnancy. Although a recent study in 78 countries showed that gender equality and education increase access to modern contraceptive methods [27], it is important to note that adapted and targeted strategies according to the specific categories of women could yield a more sustainable increase in the demand for contraceptives.

Second, we hypothesised 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 who have husbands who desire more children to be more likely to not use any modern contraceptive method and that women exposed to FP messages through the media were less likely to not use contraceptive methods. We found that a husband's desire for more children was positively associated with the current non-use of contraceptives among ever users. However, exposure to FP messages through the media had no significant influence on the current non-use of contraceptives among ever users. The husband's influence on women's contraceptive use has been documented. Many studies have reported the desire for more children or husband opposition as the reasons for the unmet FP need in Africa [26, 28]. In Africa, men are culturally viewed as the head of the family and control the decision for health-seeking behaviours, including the choice about reproductive health [29]. Men's desire for more children might be influenced by some social considerations in Guinea, as in many African countries. Indeed, according to some cultures, the more a man has children, the more he shows his masculinity which is a social power [30]. Community-level FP interventions, such as male or couple sensitisation or men's involvement in reproductive health, can improve the perception of the community on contraception and women's rights for reproductive health.

In addition, further research is needed on why exposure to FP messages through the media appears to have no influence on the current non-use of contraceptives among ever users. It is possible that the way the messages are conveyed does not give women the opportunity to express their concerns or ask questions for better information on FP [20].

We also found that women whose husbands wanted more children had a higher odds ratio to not currently use the FP method than women who had the same desire for more children as that of their husbands. As a major constraint, this finding could be explained by the husband's rejection of FP use among married ever users. A similar finding was reported by Igwegbe et al. in Nigeria in 2009, where more

than one-third (36.8%) stated that husbands' disapproval was a major constraint for using the FP method [23].

In our findings, compared with adolescent married ever users aged 15–19 years old, married women aged 25–29, 30–34, and 45–49 years old 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, which revealed that the reasons for not using the FP method among married individuals varied according to age. Thus, fear of side effects and, to a lesser extent, opposition to use is generally greater concerns among women aged 25 and over, whereas postpartum breastfeeding is often cited by women under age 25 as a reason for not using the FP method [32]. Another reason for the non-use of contraceptive methods in younger women is that young couples want to have more children compared with older couples. The findings from DHS surveys in 52 countries during 2005–2014 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 have not resumed menstruation after birth (20%) [33]. Qualitative studies that further explore women's reasons for the non-use of contraceptives would be helpful and could guide interventions and priorities to improve the demand and supply of contraceptives.

Lastly, we found that the administrative regions of Boké and Mamou, and the *Soussou* and *Peulh* ethnical groups were autonomously associated with non-use of contraceptive methods. We recommend further research (qualitative and primary quantitative data) to better understand the reasons why been from these administrative regions and ethnical groups influence use of contraceptive methods.

Our study has some limitations. First, the cross-sectional design does not allow for the assessment of causal relationships between the non-use of contraceptives and other factors. We analysed the GDHS data, which is purely quantitative. It was not possible to conduct qualitative analysis to better understand the factors that influence the non-use of contraceptives among ever users. However, this study has the potential to guide policies and practices on contraceptive use because it is the first of its kind in Guinea, is representative of the whole country, and has statistical power because of the large sample size. These findings directly supports the need to focus on the promotion of sexual and reproductive rights for married women who stop using contraceptive methods because of their husbands' desire for more children. The study also recommends policies to prioritize further research (qualitative) to understand local and contextual reasons which negatively influence contraceptive use among married women in the country.

Conclusions

This research showed that two women out 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 factors associated with the non-use of contraceptive methods among married Guinean women who were ever users of a contraceptive method included living in the

administrative regions of Boké and Mamou; age of 20–24, 30–34, 35–39, or 45–49 years old; having more than 5 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 sensitisation or men’s involvement in reproductive health, could improve community perceptions on contraception and women’s rights for reproductive health. Further qualitative research is needed to better explore the reasons for the non-use of contraceptives among married women who were ever users of contraceptives in Guinea. Further research (i.e. qualitative research) is needed to better explore the reasons for the non-use of contraceptives among married women who are ever users of contraceptives in Guinea

Abbreviations

AOR: Adjusted Odds Ratio

CI: Confidence Interval

GDHS: Guinea Demographic and Health Survey

DHS: Demographic and Health Survey

FP: Family Planning

Declarations

Ethics approval and consent to participate

Since we used publicly available data, ethical approval was not needed. But to access and use the data set permission was obtained from major demographic and health survey through the online request from [https:// www.dhsprogram.com](https://www.dhsprogram.com).

Consent for publication

Not applicable.

Availability of data and materials

All result based data were found in the manuscript and the datasets used and/or analysed during the current study are available on <https://dhsprogram.com/data/available-datasets.cfm>

Competing interests

All authors declare that they have no competing interests.

Funding

The authors received no specific funding for this work.

Author Contributions

SS, BSC and ND designed the study and developed the study protocol. SS, BSC and ND designed the analysis plan. BSC, SS, and ND performed the data analyses, interpreted results, and drafted the manuscript with inputs from AD, FMG and SK. All authors critically revised and approved the final manuscript.

Acknowledgments

The authors are grateful to the DHS Fellows program facilitators for improving our knowledge and skills in analysing and scientifically reporting the DHS data. We would also like to thank the Department of Public Health of Gamal Abdel Nasser University of Conakry of Guinea and the African Institute of Public Health (IASP), University St Thomas d'Aquin, Ougadougou, Burkina Faso.

References

1. Bradley SEK, Croft TN. Croft, Fishel JD, Westoff CF. Revising Unmet Need for Family Planning. DHS Analytical Studies No. 25. Calverton, Maryland, USA: ICF International. 2012 [Internet]. Available from: <https://dhsprogram.com/pubs/pdf/AS25/AS25%5B12June2012%5D.pdf>
2. Kantorová V, Wheldon MC, Ueffing P, Dasgupta ANZ. Estimating progress towards meeting women's contraceptive needs in 185 countries: A Bayesian hierarchical modelling study. Drake AL, editor. PLOS Med. 2020 Feb 18;17(2):e1003026.
3. Family Planning and the 2030 Agenda for Sustainable Development (Data Booklet) [Internet]. United Nations; 2019 [cited 2020 Jun 29]. Available from: http://www.un-ilibrary.org/population-and-demography/family-planning-and-the-2030-agenda-for-sustainable-development-data-booklet_e154e49d-en
4. Darroch JE, Sully E. Adding It Up: Investing in Contraception and Maternal and Newborn Health, 2017 [Internet]. Guttmacher Institute. 2017 [cited 2020 Jun 28]. Available from: <https://www.guttmacher.org/fact-sheet/adding-it-up-contraception-mnh-2017>
5. World Health Organization 2019. Contraception. Evidence Brief. Contraception enables people to make informed choices about their sexual and reproductive health. WHO/RHR/19.18. [Internet]. 2019. Available from: <https://apps.who.int/iris/bitstream/handle/10665/329884/WHO-RHR-19.18-eng.pdf?ua=1>
6. WHO. 2020. "Family Planning/Contraception." WHO. 2020. [Internet]. Available from: <https://www.who.int/news-room/fact-sheets/detail/family-planning-contraception>

7. Starrs AM, Ezeh AC, Barker G, Basu A, Bertrand JT, Blum R, et al. Accelerate progress—sexual and reproductive health and rights for all: report of the Guttmacher–Lancet Commission. *The Lancet*. 2018;391(10140):2642–2692.
8. WHO 2020. Preventing unsafe abortion [Internet]. WHO. World Health Organization; [cited 2020 Jun 28]. Available from: https://www.who.int/reproductivehealth/topics/unsafe_abortion/hrpwork/en/
9. Dockalova, Barbara, Katie Lau, Heather Barclay, and Alison Marshall. “Sustainable Development Goals and Family Planning 2020.” [Internet]. London.; 2016. Available from: <https://www.ippf.org/sites/default/files/2016-11/SDG%20and%20FP2020.pdf>
10. Singh S, Remez L, Sedgh G, Kwok L, Onda TSingh. Abortion Worldwide 2017: Uneven Progress and Unequal Access [Internet]. Guttmacher Institute. 2018 [cited 2020 Jul 7]. Available from: <https://www.guttmacher.org/report/abortion-worldwide-2017>
11. Sedgh G, Bearak J, Singh S, Bankole A, Popinchalk A, Ganatra B, et al. Abortion incidence between 1990 and 2014: Global, regional, and subregional levels and trends. *Lancet Lond Engl*. 2016 Jul 16;388(10041):258–267.
12. Lakew Y, Reda AA, Tamene H, Benedict S, Deribe K. Geographical variation and factors influencing modern contraceptive use among married women in Ethiopia: Evidence from a national population based survey. *Reprod Health*. 2013 Sep 26;10:52.
13. Hounton S, Barros AJD, Amouzou A, Shiferaw S, Maïga A, Akinyemi A, et al. Patterns and trends of contraceptive use among sexually active adolescents in Burkina Faso, Ethiopia, and Nigeria: Evidence from cross-sectional studies. *Glob Health Action*. 2015;8:29737.
14. Johnson OE. Determinants of modern contraceptive uptake among Nigerian women: Evidence from the National Demographic and Health Survey. *Afr J Reprod Health*. 2017 Sep;21(3):89–95.
15. Medhanyie AA, Desta A, Alemayehu M, Gebrehiwot T, Abraha TA, Abrha A, et al. Factors associated with contraceptive use in Tigray, North Ethiopia. *Reprod Health*. 2017 Feb 23;14(1):27.
16. Blackstone SR, Nwaozuru U, Iwelunmor J. Factors Influencing contraceptive use in Sub-Saharan Africa: A systematic review. *Int Q Community Health Educ*. 2017 Jan;37(2):79–91.
17. Mandiwa C, Namondwe B, Makwinja A, Zamawe C. Factors associated with contraceptive use among young women in Malawi: Analysis of the 2015–16 Malawi demographic and health survey data. *Contracept Reprod Med* [Internet]. 2018 Sep 20 [cited 2020 Jul 7];3. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6146597/>
18. Eliason S, Awoonor-Williams JK, Eliason C, Novignon J, Nonvignon J, Aikins M. Determinants of modern family planning use among women of reproductive age in the Nkwanta district of Ghana: A case–control study. *Reprod Health*. 2014 Dec;11(1):65.
19. Institut National de la Statistique, ICF. Guinea Demographic and Health Survey (EDS V) 2016-18 [Internet]. Conakry, Guinea: INS/Guinea and ICF; 2019. Available from: <http://dhsprogram.com/pubs/pdf/FR353/FR353.pdf>
20. Ministère de la Santé et de l’Hygiène Publique. Direction Nationale de la Santé Familiale et de la Nutrition. Plan d’action national de repositionnement de la planification familiale en Guinée 2014-

- 2018.
21. Faúndes A. Strategies for the prevention of unsafe abortion. *Int J Gynecol Obstet*. 2012 Oct;119:S68–S71.
 22. Jain AK, Obare F, RamaRao S, Askew I. Reducing unmet need by supporting women with met need. *Int Perspect Sex Reprod Health*. 2013 Sep;39(03):133–141.
 23. Institut National de la Statistique de Guinée. Ministère du Plan et de la coopération Internationale; Union Européenne. *Annuaire Statistique 2016* [Intern] Guinee; [Internet]. 2017. Available from: http://www.stat-guinee.org/images/Publications/INS/annuelles/INS_annuaire_2016.pdf
 24. WHO-RHR-19.18-eng.pdf [Internet]. [cited 2020 Jul 2]. Available from: <https://apps.who.int/iris/bitstream/handle/10665/329884/WHO-RHR-19.18-eng.pdf?ua=1>
 25. Jain, AK. The Leaking Bucket Phenomenon in family planning | champions4 choice [Internet]. 2014 [cited 2020 Jun 28]. Available from: <https://champions4choice.org/2014/09/the-leaking-bucket-phenomenon-in-family-planning/>
 26. Camara BS, Delamou A, Sidibé S, Béavogui AH, Sylla MM, Yentema O, et al. Impact of an antenatal counseling on use of modern family planning methods in the postpartum in rural Guinea. *Afr J Reprod Health*. 2018 Dec;22(4):16–25.
 27. Slaymaker E, Scott RH, Palmer MJ, Palla L, Marston M, Gonsalves L, et al. Trends in sexual activity and demand for and use of modern contraceptive methods in 74 countries: a retrospective analysis of nationally representative surveys. *Lancet Glob Health*. 2020 Apr;8(4):e567–e579.
 28. Adebawale SA, Palamuleni ME. Determinants of unmet need for modern contraception and reasons for non-use among married women in rural areas of Burkina Faso. *Afr Popul Stud*. 2014 Apr 29;28(1):499.
 29. Barry AAB. “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, Zed Books,. London; 2017. pp. 70–84
 30. Hörbst V. Male perspectives on infertility and assisted reproductive technologies (ART) in sub-Saharan contexts. FVV in OBGYN 2010; Monograph: 2227.
 31. Igwegbe O, Ugboaja O, Monago N. Prevalence and determinants of unmet need for family planning in Nnewi, south-east Nigeria. *Int J Med Med Sci*. 2009;1(8):325–9.
 32. PRB 2019 Family Planning Data Sheet. 2019;1–17. [cited 2020 Jun 28]. Available from: <https://www.prb.org/wp-content/uploads/2019/03/fp-data-sheet-2019.pdf%0Ahttps://www.prb.org/international/geography/south-africa>
 33. Sedgh G, Ashford LS, Hussain R. Unmet need for contraception in developing Countries: Examining women’s reasons for not using a method [Internet]. Guttmacher Institute. 2016 [cited 2020 Jul 20]. Available from: <https://www.guttmacher.org/report/unmet-need-for-contraception-in-developing-countries>.

Figures

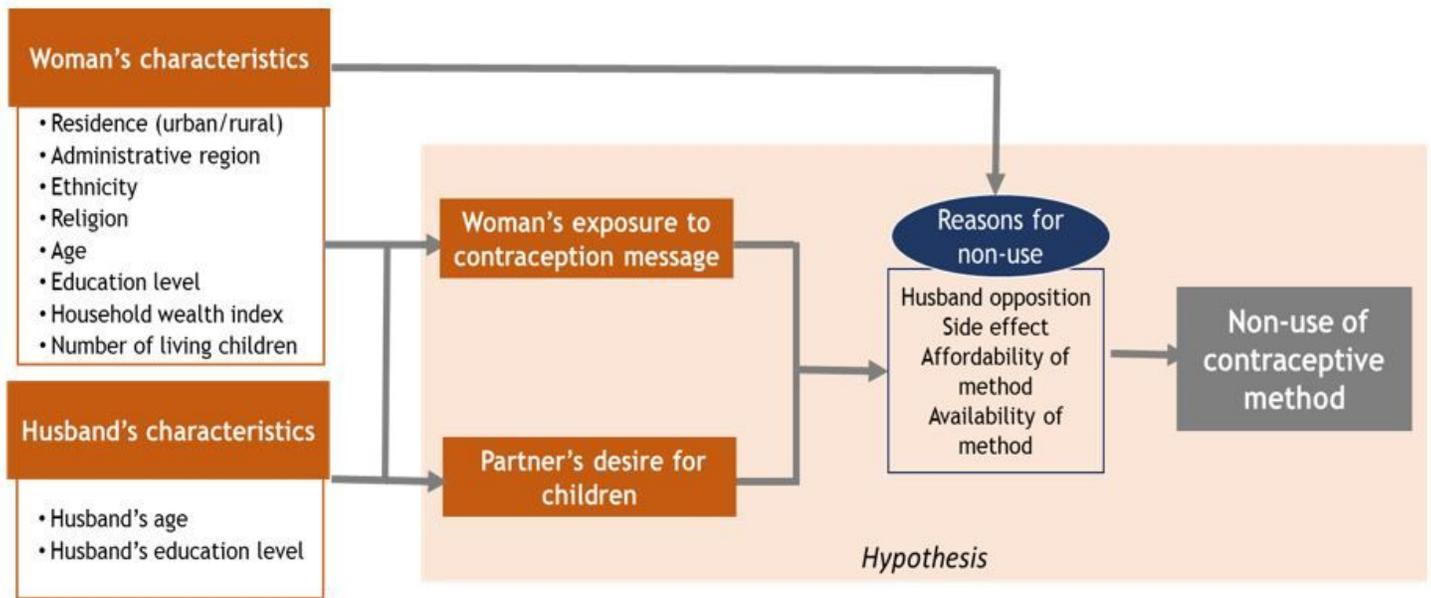


Figure 1

Conceptual framework of contraceptive nonuse among ever users in Guinea, 2018.

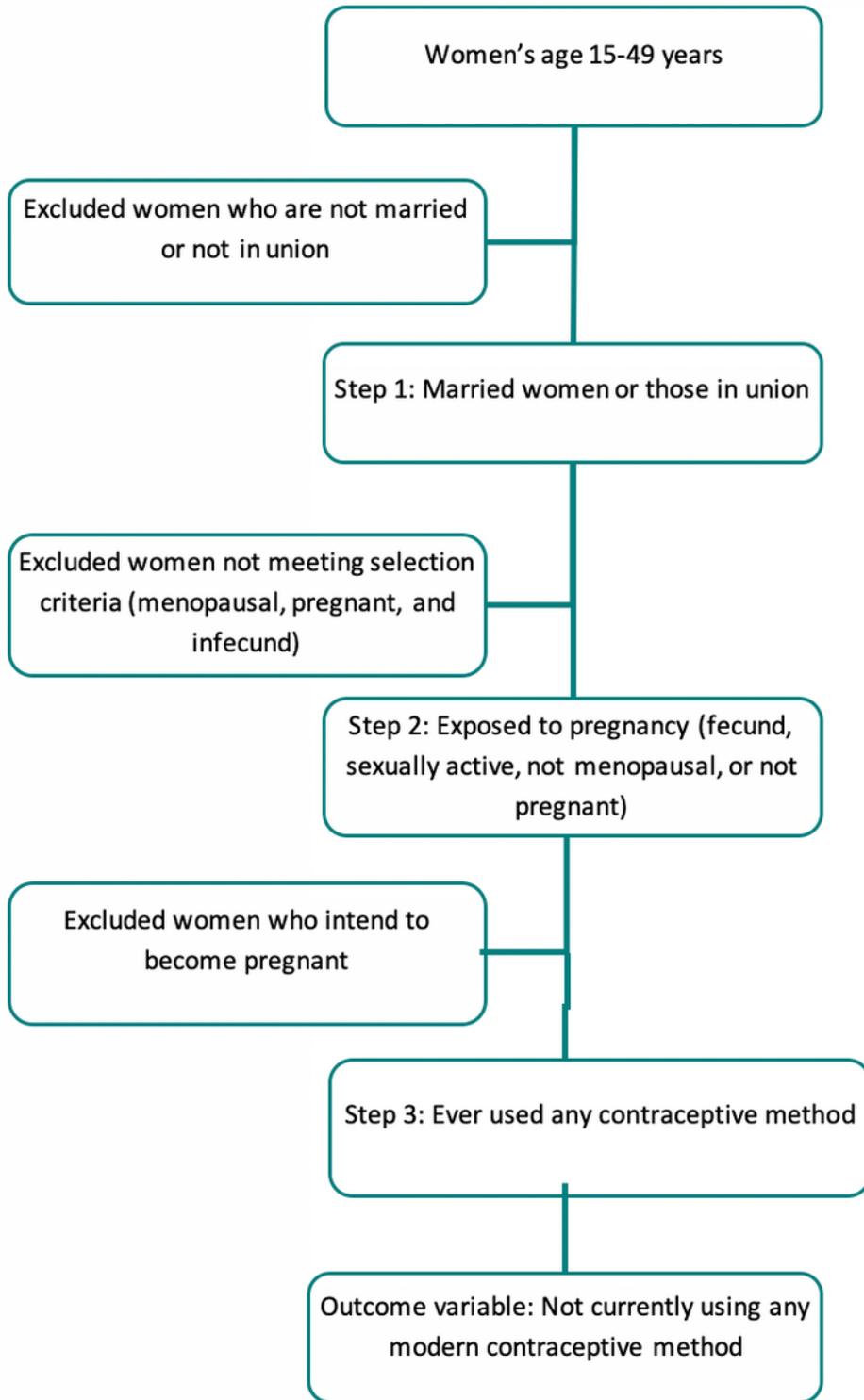


Figure 2

Flowchart of study population selection and definition of the outcome variable.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [Additionalfile1Table1.docx](#)
- [Additionalfile2Table2.docx](#)
- [Additionalfile3Table3.docx](#)