

# *"I don't know how to explain it"* Narratives on contraceptives among young men and women in Kwale County, Kenya

Jefferson Mwaisaka (✉ [jeffmwaisaka@gmail.com](mailto:jeffmwaisaka@gmail.com))

International Centre for Reproductive Health Kenya <https://orcid.org/0000-0002-1415-5893>

Lianne Gonsalves

World Health Organization

Mary Thiongo

International Centre for Reproductive Health Kenya

Michael Waithaka

International Centre for Reproductive Health Kenya

Hellen Sidha

National Council for Populations and Development, Kenya

Alfred Agwanda

University of Nairobi

Carol Mukiira

African Institute for Development Policy

Peter Gichangi

Technical University of Mombasa

---

## Research article

**Keywords:** Modern contraceptives, young men and women, Kenya

**Posted Date:** January 16th, 2020

**DOI:** <https://doi.org/10.21203/rs.2.21058/v1>

**License:**  This work is licensed under a Creative Commons Attribution 4.0 International License. [Read Full License](#)

---

**Version of Record:** A version of this preprint was published at BMC Public Health on November 11th, 2020. See the published version at <https://doi.org/10.1186/s12889-020-09849-1>.

# Abstract

## Background

Myths and misconceptions around modern contraceptives have been associated with low contraceptive uptake. Nearly all the research on the link between contraceptives' misconceptions and low contraceptive prevalence comes mostly from women with little focus on men. This qualitative study therefore sought to explore and understand both young men's and young women's knowledge of modern contraception and to identify key concerns regarding modern pregnancy prevention methods.

## Methods

We used focus group discussions (FGD) with vignette and writing activities to explore key myths and misconceptions around the use of contraceptives. Six FGDs (three for young men and three for young women) were conducted with a total of 28 young women and 30 young men from Kwale County, Kenya. We included 10 discussants aged 18-24 per FGD, one FGD had 8 participants.

## Results

Both men and women participants reported basic awareness of contraceptives. A mixture of biological and social misconceptions around contraception were discussed, they included jeopardizing future fertility, prolonged menstrual bleeding, problems conceiving, birth defects, promiscuity, against religion and perceived to be un-African including denying couples their sexual freedom. Compared to female respondents in the study, men appeared to be strong believers of the perceived socio-cultural effects of contraceptives. Results are presented under three key themes namely (i) Awareness of contraception (ii) Myths and misconceptions around contraception and (iii) Males' contraceptive narratives.

## Conclusions

Improved sexual and reproductive health (SRH) literacy to address contraceptives' fears through appropriate and gender specific interventions to reach out to young men and women with factual SRH information may contribute to increased uptake of SRH services including modern contraceptive methods.

## Introduction

Unmet need for modern contraceptives in sub-Saharan Africa (SSA) is high, with an estimated 53 million (60%) of 89 million women in need of contraceptives (1). In Kenya, in particular, young people below the age of 25 constitute approximately 66% of the country's population, and often experience some of the poorest sexual and reproductive health (SRH) outcomes (2). The Kenya Demographic and Health Survey (KDHS) of 2014 indicated that 18% of adolescent girls aged 15–19 were already mothers or were pregnant with their first child (3). Childbearing was reported to begin early in Kenya with almost one quarter of women giving birth by age 18 and approximately half by age 20 (3). Contraceptive prevalence rate among sexually active unmarried girls aged 15–19 years in Kenya is 49% and 64% among those aged 20–24 years (2,3). Moreover, the recent KDHS established that 12% of young women and 21% of young men aged between 15–24 years had their sexual debut before age 15, while 47% of young women and 55% of young men between the ages of 18–24 years had their first sexual intercourse before their 18th birthday (3). The low prevalence rates of modern contraceptives coupled with early sexual debut increases the potential for unintended pregnancies among young women.

Young women in SSA and Kenya, in particular, are often deterred from using modern contraceptives because of: limited access to contraceptive services; poor quality of available services; limited choice of methods; fear of side-effects; cultural or religious disapprovals; users' and providers' bias and gender-based barriers (4,5). Additionally, myths and misconceptions about the suitability of certain methods to particular audiences, such as views by individuals and some healthcare providers that long-acting methods are unsuitable for younger women, contribute to non-use, discontinuation and low uptake of these methods by young women (6).

Increasing the level of contraceptive use, especially the use of long-acting reversible methods, can have significant impact on unplanned pregnancies largely affecting young women (7). Moreover, addressing contraceptive knowledge gaps and misperceptions can have a significant contribution towards improved contraceptive uptake among young women(4). A multivariate analysis examining associations between modern contraceptive uptake and belief in myths for individuals and communities in Kenya, Nigeria and Senegal found a negative association between belief in myths and contraceptive use in all the three countries. Kenya was found to have the highest proportion of men and women agreeing with family planning myths (8). Similar concerns around long-term fertility impairment and dangers of prolonged use have been observed in both urban and rural Kenya (9).

Despite prior research on contraceptive uptake associating male partner's knowledge and attitudes towards modern contraceptives with women's contraceptive use (10), the majority of studies in Kenya and more broadly focus on women's perspectives (11). Few studies have captured the contraceptive narratives from young men and women in SSA and Kenya in particular. Therefore, this qualitative study sought to explore and understand both young men's and women's knowledge of modern contraception and to identify key concerns regarding the use of contraceptives.

## Materials And Methods

### *Study design and setting*

This is a qualitative study involving young people (men and women) aged 18-24 conducted in a peri-urban region of Ukunda in Kwale County, Kenya utilizing focus group discussion. Ukunda town is the largest and the most diverse region in the Southern Coast of Kenya in terms of culture, mixed ethnicities and language. These FGDs were conducted as part of a larger randomized controlled trial (12), whose primary aim was to assess the ability of a digital health intervention to dispel young people's myths and misconceptions related to family planning. The aim of these FGDs was to identify key myths and misconceptions to include in the primary outcome measure.

### *Study procedures*

Purposive sampling was used to select study participants residing in the study area. Resident enumerators in the larger digital health study were used to recruit study participants. Eligibility was based on age ranging 18-24 years for both sexes, literacy levels (able to read and write) and being a resident of Kwale County. Three interviewers, (note taker, moderator and one doing the additional writing activities) were trained to facilitate the discussions and FGD activities; they were provided with semi-structured interview guides.

We conducted six FGDs (three for young men, three for young women) with 28 young women and 30 young men from Kwale County. We included an average of 10 discussants aged 18-24 per FGD. The discussions were held at the community social halls in Kwale County and were facilitated by moderators of the same sex. Our FGDs were dynamic, with vignette and writing activities to explore individual's and groups' key myths and misconceptions around the use of contraceptives. Young people were asked to share what they knew about contraception with the following prompt:

*Tell me what "contraceptive" means or what you understand by "contraceptive"*

An additional activity asked participants to react first individually, and then as a group, to the following vignette:

**Vignette:** *Omar and his partner Mwanakombo are talking about using family planning, but they are nervous about what they have heard from friends. What are some of the things they may have heard which could make them nervous?*

After the moderator read the above vignette, participants wrote their responses on large cards – an anonymous, individual activity. A second data collector gathered participants' contributions and laid out the responses (grouping similar contributions) for the participants' review. Each FGD group was then asked to discuss and select the most common concerns that young people in their community agreed with.

A semi-structured discussion guide was used, allowing the phrasing and focus of the questions on each topic and method mentioned by participants to be tailored depending on the group. All discussions were held in Swahili, and all proceedings were audio recorded, with the participants' consent.

### **Data management and analysis**

The discussions were transcribed verbatim, translated into English, coded and analyzed thematically using NVivo version 12. Two researchers (JM and CM) read through all the six transcripts independently and held a session to discuss and agree on overarching themes. A set of predefined codes reflecting the discussion guide as well as emerging issues was used in coding the qualitative data. This was followed by a thematic coding framework in assessing the transcripts. Our analysis followed a pattern of association on the key preset themes focusing on knowledge and misperceptions around contraceptives.

Myths and misconceptions in this study are defined as widespread beliefs about the effects and purpose of contraceptives that are not supported by any scientific evidence (6). Awareness on the other hand referred to one's ability to identify (name) contraceptives without necessarily understanding how the contraceptive works. Our analysis and findings are presented in accordance with the Consolidated Criteria for Reporting Qualitative Research (COREQ) (13).

### **Ethical considerations**

Ethical clearance was obtained from World Health Organization Institutional Review Board (Protocol WHO A65892 core) and the Kenyatta National Hospital-University of Nairobi Ethics and Review Committee (KNH ERC P550/09/2014). All participants gave written informed consent to participate in the study.

## Results

**Table 1:** Sociodemographic characteristics of study participants, by sex (N=58)

Age range in years	Youth Males n (%)			Youth Females n (%)		
	18-19	20-24	All (18-24)	18-19	20-24	All (18-24)
-	-	30 (100%)	30 (100%)	8 (29%)	20 (71%)	28 (100%)
<b>Highest school level</b>						
Primary incomplete	-	1 (3.3)	1 (3.3)		2 (10.0)	2 (7.1)
Primary complete	-	1 (3.3)	1 (3.3)	3 (37.5)	4 (20.0)	7 (25.0)
Secondary incomplete	-	5 (16.7)	5 (16.7)	1 (12.5)	2 (10.0)	3 (10.7)
Secondary complete	-	17(56.7)	17(56.7)	3 (37.5)	5 (25.0)	8 (28.6)
Tertiary/college	-	6 (20.0)	6 (20.0)	1 (12.5)	7 (35.0)	8 (28.6)
<b>Relationship status</b>						
Single	-	20 (66.7)	20 (66.7)	7 (87.5)	6 (30.0)	13 (46.4)
Dating/Friends with benefits	-	8 (26.7)	8 (26.7)	1 (12.5)	12 (60.0)	13 (46.4)
Married/Engaged	-	2 (6.6)	2 (6.6)		2 (10.0)	2 (7.2)
<b>Religion</b>						
Muslim	-	30 (100)	30 (100)	7 (87.5)	16 (80.0)	23 (82.1)
Christian	-	-		1 (12.5)	4 (20.0)	5 (17.9)

Among youth participants (Table 1), males were more likely to complete their secondary education compared to females (56.7% and 28.6% respectively). When disaggregated by age and sex groupings, the proportion of females in dating relationships was relatively high compared to their male counterparts (46.4% and 26.7% respectively). There were more Muslim female participants (82.1%) than Christians (17.9); by contrast, all male participants were Muslims.

Results are presented under three key themes: (i) Awareness of contraception (ii) Myths and misconceptions around contraception and (iii) Males' contraceptive narratives.

### Awareness of contraception

When asked to explain what they understood by contraceptives, both males and females reported awareness of contraceptives, with some providing a combination of descriptions and/or listing of the methods. Injections and the intrauterine device (IUD or the 'coil', as it was called by respondents in the study) were the most frequently identified contraceptives. Other methods mentioned included condoms, withdrawal and rhythm method of birth control. It was clear that young people knew or had heard about contraceptive methods, but had minimal knowledge on how they actually worked.

*There are injections that you can use, I don't know how to explain it to you. There are injections when one uses, it will just help you to family plan* (Respondent 4, young women FGD 001)

*There is something I have heard but I'm not familiar ... with a coil, when you get to a hospital, you get the coil ... they put coil to women* (Respondent 9, young men, FGD 003)

Participants also explained their perceived duration of effectiveness of methods like the injection and implant.

*To add more on the injection, there is an injection that someone can have for three months and there is the implant ... which is put here (shows her arm) for five years* (Respondent 6, young women, FGD 001)

### Myths and misconceptions around contraception

Male and female participants shared several myths and misconceptions around contraception. Some respondents mentioned that the use of contraceptives jeopardized future fertility and could lead to serious health complications such as prolonged menstrual bleeding, problems conceiving, and birth defects.

*People say that when you get the injection and if it does not work well for you, you bleed. You will bleed until you cannot get pregnant again and give birth. You will just be bleeding and bleeding, there are people who bleed for two months because of those injections. And immediately when the medicine effect disappears from their body, she stops bleeding.* (Respondent 1, young women, FGD 001)

*If for example you want to use the-after-three-months injection they say that if you use it often, then time comes and you want to stop using it and you want to get pregnant, you may wait for ten good years and you will not get a baby. Because ... I don't know it makes the egg to get lost and it becomes weak that is what it means by destroying the womb.* (Respondent 6, young women, FGD 001)

*When they have used contraceptive to prevent them from getting pregnant, if a man and a woman, maybe in some years to come they will have stopped using them and they now want to have children, some of them (children) will be born with abnormalities, not as usual children but deformed and underweight.* (Respondent 9, young men, FGD 001)

Participants also reported fears that IUDs could be pushed inward during sexual intercourse and damage the women's reproductive organs.

*I heard about the coil, that coil is inserted here in the womb, the time you are having sex with that person and he pushes it inside already he would have messed up everything, it will force you to remove it.* (Respondent 4, young women, FGD 001)

### **Men's contraceptives narratives**

Men in the study had their own strong concerns about adverse socio-cultural effects of contraceptives. Several of these related to sexual relations between couples and sexual desire. Some reported that contraceptives contribute to decreased sexual desires among women, 'forcing' men into infidelity.

*Other negative effect is that, it breaks marriages because those drugs lower women's sexual feelings, so if you (as a man) were used to like four sex rounds a week, this will reduce to two times, it will be a must for you to go outside you will not agree.* (Respondent 4, young men, FGD 002)

Somewhat counterintuitively, contraceptives were also perceived to contribute to infidelity on the part of *women*. As a result, male respondents worried about the effect of contraception on the trust in a relationship.

*We have trusted one another, and the wife takes those contraceptives and prevented herself from pregnancy, there will be no trust between us because one (wife) knows that she can have sex with anyone from outside and not getting pregnant, so I will not trust her* (Respondent 2, young men, FGD 001)

*In short it means untrustworthiness because you cannot get pregnant, ... so maybe you will be having sex with someone or feel free to have sex anyhow and thereby infecting your partner with sexual diseases* (Respondent 2, young men, FGD 002)

Interestingly, male participants also perceived that contraceptive methods deny couples their sexual freedom and regarded them as an unnecessary burden. Respondents were concerned about the implied prerequisite of always attaching contraception to sex, perceiving their sexual lives to be 'enslaved' to contraception thereby taking away the pleasure of having sex.

*I see it as slavery using them, because it will be you and your wife at home and the time you do the marriage act (sex) you will be wearing trust (condom) and then using drugs every time you cannot skip, if you skip it will be a problem, when you say that you are leaving them (family planning pills) also it is a problem. Again, every time you will be going to the hospital or going to the chemist and take drugs, as in a burden, something like that.* (Respondent 4, young men, FGD 001)

Among additional socio-cultural concerns, young men in the study also expressed beliefs that it was against 'African' traditions to NOT want children.

*First of all, in Africa, Many Africans perceive contraceptives as un-African ... In the African communities, children are important ...if someone avoids getting a child ..., the first year no child, second year no child ... husband will now start to worry ... And due to that the woman will be divorced* (Respondent 6, young men FGD 003)

Finally, young men confused abortion and pregnancy prevention methods, with some participants mentioning that contraceptives could also be used to terminate pregnancies.

*Contraceptives are things which prevent one from getting pregnant or if one wants to abort when she has been impregnated by a man* (Respondent 2, young men FGD 001)

This confusion resulted in some participants feeling contraceptives were a 'curse'.

*You can say it is a curse because it is like doing murder, you will have killed, you can get a curse from God because you are not allowed to kill another for any mistake* (Respondent 3, young men, FGD 003)

## Discussion

Most respondents (both men and women) in the FGDs were aware of contraceptives. Nonetheless, findings from this study confirmed that awareness does not translate to accurate knowledge of contraception and how it works. We also identified key myths and misconception that young men and women have against modern methods of contraception. Finally, we described specific socio-cultural perceptions exhibited by men respondents in the study, which could influence their and their partners' acceptance and use of contraceptives.

Uncertainties about side effects play a key role in young people's disapproval of the effectiveness of modern contraceptives in Kenya (4). Unsubstantiated fears about contraceptive safety can lead women to either forgo contraceptive use, opt for less effective methods or even use effective methods incorrectly hence further jeopardizing their overall health (6). Consistent to these findings is a qualitative study on barriers to modern contraceptive uptake among young women in Nyanza, Coast and Central regions of Kenya which established that myths and misconceptions were the major barriers to contraceptive uptake and that individual's beliefs about the effectiveness of contraceptives were dependent on social approval by their peers (4). The negative perceived effects of modern contraceptives will ultimately contribute to the low uptake if information about modern contraceptive methods continue to be misrepresented (14).

Misperception around future fertility later in life seem to create fear in both young men and women. Prevalence of such myths and misconceptions have also been demonstrated to be existing among young men and women in other studies and national surveys (3,6,10,14–16). These studies and national surveys established that the perceived interference with future fertility was the main barrier to modern contraceptive uptake among young women. Determining the actual magnitude effect of contraceptive myths and misperceptions remains a daunting task, as most quantitative studies fail to distinguish women's concern about documented side effects from unsubstantiated fears about adverse health effects (6).

Few studies have also attempted to quantify the factors contributing to modern contraceptive use among sexually active men (11). Partner conflict arising from the use of modern methods perpetuating promiscuity was also a perceived negative effect of contraception mostly mentioned by young men in the study. The resulting effect, as stated by young men, were disagreements within marriages and a possible spike in sexually transmitted infections. This was tied to a perception that because women no longer need to worry about pregnancy - the only perceived evidence of a sexual act for women – they would be inclined towards promiscuity.

The fact that these concerns were held by male participants underscores the importance of engaging men in addressing low contraceptive uptake. In Kenya, male partners' opposition was identified as one of the key factors contributing to contraceptives discontinuation tendencies (5). Similarly, in an analysis of 2005-2009 Demographic Health Survey data from 21 African countries, it was established that gender norms and gender inequalities in the community were among the potential contributors to uptake or non-use of contraceptives (14,17). Men therefore need to be adequately involved and informed about contraceptives and their effects, as they remain important decision makers in contraceptive use (11).

As such, a critical strategy to reduce misinformation and increase uptake of contraception among young women is to increase avenues where young women *and young men* can get credible SRH information. Both national and county governments in Kenya and other SSA countries need to provide technical support and supervise the implementation of youth-friendly service interventions in public health facilities. For SRH services to be effective to young people, there is need for high quality reproductive health products, information and services, increased points of accessing SRH services for young people as well as provision of continuous health education, including comprehensive sexuality education, to help them win the war against societal taboos associated with SRH seeking behaviours (14,18).

Policy makers should therefore push and advocate for the design of programs and interventions targeting young people, particularly young men with SRH information. For young men in particular, this entails going where they already gather, including: youth camps in churches and mosques, or popular media programs targeting young men in Kenya like 'Man Enough' and 'Man Talk'. Using these as information dissemination channels, can contribute to helping young men to understand their SRH roles and be well informed for them to act both individually and collectively to empower their female partners while improving their own SRH behavior.

Moreover, SRH communication programmes should focus on changing contraceptive norms among adolescent boys and girls before misperceptions set in (6). In addition to early comprehensive sexuality education, one solution to reach young men and women, as determined by several studies, is via direct client communication using a digital health interventions (19–23). The focus for effective media

should be on providing correct information as opposed to negating the myth while keeping the information simple with a compelling explanation to replace the existing myths and misconceptions (6).

## Study Limitations

This study had certain limitations. Young people were purposively sampled, which may limit the generalizability of these findings. Additionally, young people may have felt uncomfortable sharing their views on contraception, particularly if they were not confident in their knowledge. Moreover, they may have been uncomfortable or embarrassed to share myths and misconceptions, particularly if they felt unsure as to whether these were shared. We attempted to mitigate these by providing opportunities for participants to make individual contributions to the discussion. In addition, the use of vignettes allowed participants to place any myths/misconception on a fictional third party.

## Conclusion

This study contributes to the larger literature on young people's myths and misconceptions preventing them from using modern contraceptives. Overall, these findings are consistent with other studies in SSA in that with improved SRH literacy, increased uptake of SRH services including modern contraceptive methods might be realized. Additionally, efforts to address SRH myths and misperceptions need to employ multifaceted approaches at both individual and community levels. Moreover, appropriate and gender-specific interventions to reach out to young men with factual SRH information aimed at dispelling contraception fears need to be developed.

## Abbreviations

ARMADILLO Adolescent/Youth Reproductive Mobile Access and Delivery Initiatives for Love and Life Outcomes

FGDs Focus Group Discussions

KDHS Kenya Demographic and Health Survey

SRH Sexual and Reproductive Health

SSA Sub Saharan Africa

## Declarations

### Ethics approval and consent to participate

Ethical clearance was obtained from World Health Organization Institutional Review Board (Protocol WHO A65892 core) and the Kenyatta National Hospital-University of Nairobi Ethics and Review Committee (KNH ERC P550/09/2014). All participants were aged above 18 years and they gave written informed consent to participate in the study.

### Consent for publication

Not applicable

### Availability of data and materials

The datasets used and analyzed in this study are available from the corresponding author upon request

### Competing interests

The authors declare that they have no competing interests.

### Funding

This work was supported by the UNDP/UNFPA/UNICEF/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction (HRP)

### Authors contribution

MJ, GL, GP conceptualized the study. MJ, GL, GP, TM oversaw data collection. MJ took part in data analysis, MJ, GL, GP drafted the manuscript. TM, MC, WM, SH, OA, GP, MJ, GL provided critical input in the development and revision of the manuscript. All authors read and

approved the final manuscript.

## Acknowledgement

We acknowledge Winnie Wangari for her work as a research assistant during the study implementation. We appreciate Nelly Marete for her technical advice and support during the writing of the manuscript.

## References

1. Darroch, Singh. Trends in contraceptive need and use in developing countries in 2003, 2008, and 2012: an analysis of national surveys. *Lancet* [Internet]. 2013;18(381):1756–62. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/23683642>
2. Ministry of Health Kenya. National Guidelines for Provision of Adolescent and Youth Friendly Services in Kenya [Internet]. Ministry of Health, Kenya. Nairobi; 2016. Available from: <https://faces.ucsf.edu/sites/faces.ucsf.edu/files/YouthGuidelines2016.pdf>
3. Kenya National Bureau of Statistics. Kenya Demographic and Health Survey 2014 [Internet]. Nairobi; 2015. Available from: <https://dhsprogram.com/pubs/pdf/fr308/fr308.pdf>
4. Ochako R, Mbondo M, Aloo S, Kaimenyi S, Thompson R, Temmerman M, et al. Barriers to modern contraceptive methods uptake among young women in Kenya: A qualitative study. *BMC Public Health* [Internet]. 2015;15(118). Available from: <https://bmcpublihealth.biomedcentral.com/track/pdf/10.1186/s12889-015-1483-1>
5. Burke HM, Ambasa-Shisanya C. Qualitative contraceptives among users and salient reference groups in Kenya. *Afr J Reprod Health* [Internet]. 2011;15(2):67–78. Available from: [https://www.researchgate.net/publication/224970280\\_Qualitative\\_contraceptives\\_among\\_users\\_and\\_salient\\_reference\\_groups\\_in\\_Kenya](https://www.researchgate.net/publication/224970280_Qualitative_contraceptives_among_users_and_salient_reference_groups_in_Kenya)
6. PATH. Outlook on reproductive health: Countering myths and misperceptions about contraceptives [Internet]. Seattle; 2015. Available from: [https://path.azureedge.net/media/documents/RH\\_outlook\\_myths\\_mis\\_june\\_2015.pdf](https://path.azureedge.net/media/documents/RH_outlook_myths_mis_june_2015.pdf)
7. Singh S, Bankole A, Darroch J. The Impact of Contraceptive Use and Abortion on Fertility in sub-Saharan Africa: Estimates for 2003–2014. *Popul DEV Rev* [Internet]. 2017;May(43):141–65. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6034699/pdf/nihms957971.pdf>
8. Gueye A, Speizer IS, Corroon M, Okigbo CC. Belief in Family Planning Myths at the Individual And Community Levels and Modern Contraceptive Use in Urban Africa. *Int Perspect Sex Reprod Health* [Internet]. 2015;41(4):191–9. Available from: [https://www.guttmacher.org/sites/default/files/article\\_files/4119115.pdf](https://www.guttmacher.org/sites/default/files/article_files/4119115.pdf)
9. Machiyama K, Huda FA, Ahmmed F, Odwe G, Obare F, Mumah JN, et al. Women ' s attitudes and beliefs towards specific contraceptive methods in Bangladesh and Kenya. *Reprod Health* [Internet]. 2018;15(75). Available from: <https://reproductive-health-journal.biomedcentral.com/articles/10.1186/s12978-018-0514-7>
10. Thummalachetty N, Mathur S, Mullinax M, Decosta K, Nakyanjo N, Lutalo T, et al. Contraceptive knowledge, perceptions, and concerns among men in Uganda. *BMC Public Health* [Internet]. 2017;17(792). Available from: <https://www.ncbi.nlm.nih.gov/pubmed/29017539>
11. Ochako R, Temmerman M, Mbondo M, Askew I. Determinants of modern contraceptive use among sexually active men in Kenya. *Reprod Health* [Internet]. 2017;14(56). Available from: <https://reproductive-health-journal.biomedcentral.com/articles/10.1186/s12978-017-0316-3>
12. Gonsalves L, Hindin MJ, Bayer A, Carcamo CP, Gichangi P, Habib N, et al. Protocol of an open, three-arm, individually randomized trial assessing the effect of delivering sexual and reproductive health information to young people (aged 13-24) in Kenya and Peru via mobile phones: Adolescent/youth reproductive mobile access and d. *Reprod Health*. 2018;15(1):1–12.
13. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research: A 32-item checklist for interviews and focus groups. *Int J Qual Heal Care* [Internet]. 2007;19(6):349–57. Available from: <https://academic.oup.com/intqhc/article/19/6/349/1791966>
14. Gueye A, Speizer IS, Corroon M, Okigbo CC. Belief in Family Planning Myths at the Individual And Community Levels and Modern Contraceptive Use in Urban Africa. *Int Perspect Sex Reprod Heal* [Internet]. 2015;41(4):191–9. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4858446/pdf/nihms780304.pdf>
15. National Council for Population and Development. 2015 Kenya National Adolescents And Youth Survey (NAYS) [Internet]. Nairobi; 2017. Available from: <http://www.ncpd.go.ke/wp-content/uploads/2016/11/2015-National-Adolescents-and-Youth-Survey-Preliminary-Report.pdf>
16. Endriyas M, Eshete A, Mekonnen E, Misganaw T, Shiferaw M. Where we should focus? Myths and misconceptions of long acting contraceptives in southern nations, nationalities and People's region, Ethiopia: Qualitative study. *BMC Pregnancy Childbirth* [Internet]. 2018;18(1):1–6. Available from: <https://bmcpregnancychildbirth.biomedcentral.com/track/pdf/10.1186/s12884-018-1731-3>

17. Elfstrom KM, Stephenson R. The role of place in shaping contraceptive use among women in Africa. PLoS One [Internet]. 2012;7(7):e40670. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3399881/pdf/pone.0040670.pdf>
18. Reproductive Health Supplies Coalition. Young People and Contraceptive Access [Internet]. Brussels; 2017. Available from: [https://www.rhsupplies.org/fileadmin/uploads/rhsc/Uploads/Other/Young\\_People\\_and\\_Contraceptive\\_Access\\_-\\_An\\_advocacy\\_and\\_communications\\_handbook.pdf](https://www.rhsupplies.org/fileadmin/uploads/rhsc/Uploads/Other/Young_People_and_Contraceptive_Access_-_An_advocacy_and_communications_handbook.pdf)
19. Oerther SE, Manjrekar P, Oerther DB. Utilizing mobile health technology at the bottom of the pyramid. Procedia Eng [Internet]. 2014;78:143–8. Available from: <http://dx.doi.org/10.1016/j.proeng.2014.07.050>
20. Wesolowski A, Eagle N, Noor AM, Snow RW, Buckee CO. Heterogeneous mobile phone ownership and usage patterns in Kenya. PLoS One [Internet]. 2012;7(4). Available from: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0035319>
21. Ippoliti N. Mobile Phone Programs For Adolescent And Youth Sexual And Reproductive Health In Low- And Middle- Income Countries [Internet]. 2017. Available from: <https://www.k4health.org/sites/default/files/youth-mhealth-srh-brief-2.pdf>
22. Varshney U. Mobile health: Four emerging themes of research. Decis Support Syst [Internet]. 2014;66:20–35. Available from: <http://dx.doi.org/10.1016/j.dss.2014.06.001>
23. L'Engle KL, Vahdat HL, Ndakidemi E, Lasway C, Zan T. Evaluating feasibility, reach and potential impact of a text message family planning information service in Tanzania. Contraception [Internet]. 2013;87(2):251–6. Available from: <http://dx.doi.org/10.1016/j.contraception.2012.07.009>
24. Denno DM, Hoopes AJ, Chandra-Mouli V. Effective strategies to provide adolescent sexual and reproductive health services and to increase demand and community support. J Adolesc Heal [Internet]. 2015;56(1):S22–41. Available from: <https://www.sciencedirect.com/science/article/pii/S1054139X14004248>