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The barriers to using modern contraceptive methods among rural young married women in Moshi Rural District, the Kilimanjaro region, Tanzania

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Abstract

The relationship between the rate of modern contraception and unintended pregnancy is complicated in Tanzania. Although the contraception rate has been slightly increased; the unintended pregnancy rate has remained at 22~24% since 1999. In addition, married women in rural areas use less modern contraceptive methods than those in urban areas. Young women are at a higher risk of mistimed and unintended pregnancy compared to older females. Various barriers to using contraceptive methods have been reported, including fear of side effects, lack of knowledge, misconception, accessibility of the methods, and limited health workers' skills. This study was aimed to invest the barriers to using modern contraceptive methods among rural young married. A qualitative study was carried out in Moshi rural district in northeast Tanzania between June 2019 and July 2019. 22 in-depth interviews (9 key informants and 13 young married women aged 19-34) were conducted. Thematic analysis was used and data transcripts were coded. As a result, all participants were familiar with modern contraceptive methods and experienced at least one of them. Fear of side effects and prefer inappropriate birth control methods especially superstitious methods were major barriers to use. Also, rumours and misleading concerns have arisen from peers and village members. Condoms were not used among them, and males and the elderly still perceived family planning negatively. Additionally, although long-term modern contraceptive methods have been increased and preferred, IUCD is inaccessible due to the lack of skilled workers and facilities. In conclusion, community-based reproductive education is required to increase awareness of safe and reliable modern contraceptive methods. And frequent outreach services of the field are essential to provide more contraception's benefits to the village members so that barriers to using contraception and unwanted pregnancy could be reduced in rural Tanzania. In order to do that, more interventions, such as NGOs and strengthened government systems of reproductive health, should be enhanced. *(Afr J Reprod Health 2021; 25[4]: 99-107).*

Keywords: Contraceptive methods, family planning, rural women, Tanzania

Résumé

La relation entre le taux de contraception moderne et les grossesses non désirées est compliquée en Tanzanie. Cependant, le taux de contraception a été légèrement augmenté; le taux de grossesses non désirées est toujours resté à 22~24% depuis 1999. De plus, les femmes mariées des zones rurales utilisent des méthodes contraceptives moins modernes que celles des zones urbaines. Les jeunes femmes courent un risque plus élevé de grossesses intempestives et non désirées par rapport aux femmes plus âgées. Divers obstacles à l'utilisation des méthodes contraceptives ont été signalés, notamment la peur des effets secondaires, le manque de connaissances, les idées fausses, l'accessibilité des méthodes et les compétences limitées des agents de santé. Cette étude visait à investir les obstacles à l'utilisation de méthodes contraceptives modernes chez les jeunes mariés en milieu rural. Une étude qualitative a été menée dans le district rural de Moshi, dans le nord-est de la Tanzanie, entre juin 2019 et juillet 2019. 22 entretiens approfondis (9 informateurs clés et 13 jeunes femmes mariées âgées de 19 à 34 ans) ont été menés. Une analyse thématique a été utilisée et les transcriptions des données ont été codées. En conséquence, tous les participants connaissaient les méthodes contraceptives modernes et en avaient expérimenté au moins une. La peur des effets secondaires et la préférence pour les méthodes contraceptives inappropriées, en particulier les méthodes superstitieuses, étaient un obstacle majeur à l'utilisation. Des rumeurs et des inquiétudes trompeuses ont également surgi par les pairs et les membres du village. Les préservatifs n'étaient pas utilisés parmi eux, et les hommes et les personnes âgées percevaient toujours la planification familiale de manière négative. De plus, bien que les méthodes contraceptives modernes à long terme aient été multipliées et préférées, le DIU est inaccessible en raison du manque de travailleurs qualifiés et d'installations. En conclusion, l'éducation reproductive à base communautaire est nécessaire pour accroître la sensibilisation aux méthodes contraceptives modernes sûres et fiables. Et des services de proximité fréquents sur le terrain sont essentiels pour fournir plus d'avantages de contraception aux membres du village afin que les obstacles à l'utilisation de la contraception et des grossesses non désirées puissent être réduits dans les zones rurales de la Tanzanie. Pour ce faire, davantage d'interventions, telles que les ONG et les systèmes gouvernementaux renforcés de santé reproductive, devraient être renforcées. *(Afr J Reprod Health 2021; 25[4]: 99-107).*

Mots-clés: Méthodes contraceptives, planification familiale, femmes rurales, Tanzanie

Introduction

High fertility rates and population growth has been indicated among most countries in sub-Saharan Africa (SSA)[1]. The fertility rate in Tanzania is one of the highest in the world, at 5.2 births per woman compared to the global average of 2.4[2]. Recently, the rate of contraceptive use has been increased in SSA by efforts to improve reproductive health between national and international intervention[3]. The contraceptive prevalence rate among married women in Tanzania accounted for 32% in 2016[4] and the estimated prevalence of contraceptive use among the reproductive age group in 2019 is 34.6, which is a low rate compared to Kenya (45.2%)[5.] Married women in rural areas use less modern contraceptive methods (31%) than those in urban areas (35%). The relationship between the rate of contraceptives and unintended pregnancy is complex in Tanzania. The contraception rate has been slightly increased, but the rate of unintended pregnancy has remained at 22~24% since 1999[4,6]. Using contraceptive methods is essential to improve the reproductive health of married women. Pregnancy and childbirth at intervals of less than two years from birth to the next pregnancy result in poor health outcomes between mothers and newborn babies, such as maternal anaemia and low birth weight[7,8]. More than half of females had met contraception method-related problems or its failure, and an effective method is still needed in order to avoid unintended pregnancy[9]. Unwanted pregnancies have been attributed to poor family planning, poor accessibility to contraception, lack of inter-partner communication, and religious belief[10]. The majority of contraceptive methods comprise injectables and pills and few women had experienced using condoms[11].

Various barriers to using contraceptive methods have been reported; These included fear of side effects, lack of knowledge, misconception, accessibility of the methods, and limited skills of health workers[12-15]. Moreover, myths also influence on the uptake of contraceptives and females complain of frequent stock-outs and financial challenges such as costs for wages and transportation in Kenya[16]. In SSA, gender roles and norms often target women, whereas men are the primary decision-makers for family size and partner contraception[17]. For married women, the husband's decision-making greatly influences contraceptive methods[12,18]. In addition, males in rural areas prefer having as many children as possible for the means of labour for agriculture and pastoralist practices[19]. Therefore, in Tanzania, where agriculture is a significant industry, men want more children for manpower and do not allow their partners to use contraception[20]. Additionally, females are reluctant to use contraceptives because the husbands believe contraception makes their spouse promiscuous and unfaithful[21]. It leads to violence or divorce if they use the contraceptive methods in secret. Nevertheless, fear of the side effects of contraception can have a greater impact than male-dominated decisions. In terms of the study among African men, they opposed contraception by their partners for fear of side effects[22]. On the other hand, Tanzania's fertility rate has declined slightly over the past decade[23]. The Tanzanian government has a goal to increase the number of contraceptive users by providing the accessibility of primary healthcare and free family planning services to all people. Thus, they established the plan to increase the use of modern contraceptive methods to 45% by 2020. Nevertheless, long-acting reversible contraceptive methods were inaccessible throughout the country and only 18% of health facilities are enabled to offer any modern contraceptive and only one staff has been trained in family planning in 24 months in Tanzania[23]. The literature also investigated the number of trained family planning providers in the Moshi rural district; two for long-term methods and five for short-term methods[24]. Females might not have sufficient knowledge of these services and they might be inaccessible for all, meaning some females depend on the traditional method of birth control. In addition, President Magufuli of Tanzania criticized the use of contraceptive methods in saying 'don't use the birth control'[25]. This might act as a barrier to contraception services due to fear of judgment.

Currently, married females aged more than 35 years have the highest use of contraception in Tanzania[4]. Young women are at a higher risk of mistimed and unintended pregnancy compared to older females[12]. Therefore, the study aims at exploring the barriers factors related to the uptake of modern contraception among rural young married women in the Moshi rural district in Tanzania. A qualitative study was set up to better understand the barriers to contraception uptake among young married women in rural Tanzania.

These findings may provide significant insight to develop reproductive programmes as well as to increase the uptake of modern contraception methods among rural young married couples in Tanzania.

Methods

The qualitative research design was established by interviews with key informants and young married women, and a documentary review of health facility records. It was conducted in the six villages of Moshi rural district, Tanzania. The research was undertaken over six weeks, from June to July 2019. Nine key informants and 13 young married women were interviewed, the age ranged from 19 to 34 years. The conducted six villages were Ghona, Killimatotoni, Kyomu, Himo, Chekereni, and Ni Janpanda.

Data collection

Overall, 22 semi-structured interviews were carried out, which included nine key informants and 13 young married women. Key informants were recruited by the Kilimanjaro Environment Development Association (KEDA). Semi-structured in-depth interviews were conducted with family planning providers of reproductive NGOs and different levels of health facilities such as hospitals, public health centres, and rural dispensaries. Married women were recruited via snowball sampling (i.e. referrals from people living in six villages) and through door-to-door approaches supported by KEDA. Interviews were carried out at the individual's home or location chosen by the participant to maximise their comfort. All interviews were conducted in Swahili by a local translator. A thematic interview guide was used for the married females' interviews. This was developed by interviews with key informants. And, the statistics of contraception use were collected and reviewed in the different levels of health centres (e.g., Himo outpatient department (OPD) and two rural dispensaries). The purpose of the documentary review was to familiarise with the context and develop potential themes in the interviews.

Data analysis

All interviews were transcribed and translated into English. I was familiarised with the data by re-reading the interview transcript and field notes by highlighting the patterns that identified the drivers and barriers to contraception uptake. Then, the thematic coding framework was applied to analyse all highlighted patterns, following which, the codes were generated and categorised. Codes were read and re-read to identify the potential themes. Themes were emerged by focusing on the side effect, perspectives, and barriers to modern contraception uptake. The whole process was conducted on Microsoft Word Office. NVivo 11, which is a qualitative analysis software, was also used for a double-check. By using both software and manual data analysis, the trustworthiness, credibility, and validity of the finding were improved.

Results

A total of 13 female participants were interviewed (Table 1). Most participants only have a primary school level education. Their occupations were housewife, housekeepers, small business, or farmers. The average age was 28.4 years old as well as the average number of children was 2.2 per woman. The religion was Christian (38.4%) followed by both Muslim (30.8%) and Catholic (30.8%). It presents the finding of the challenges and barriers to the accessibility of contraceptive methods among rural village married young women. Factors affecting the use of contraceptive methods were analysed/founded by interviewing on an individual level.

Fear of side effects

It was found that contraceptive side effects were attributed to restricting the number of chances for women to use contraception. First of all, most participants mentioned that they have experienced side effects of pills and injection. Bleeding, headache, weight loss, and dizziness were common contraceptive side effects among them. Weight gain also was cited by a few participants.

"I used injection, but I was high bleeding so I stopped it and I didn't use any conceptive methods anymore" **(F01, Ghona)**

"I did injection after giving birth. However, I was bleeding too much so I decided to use implant" **(F10, Killmatotoni)**

Moreover, the family planning service provider also had many consultations regarding the side effect of contraception. As she explained

Table 8: Participant characteristics

Participant Characteristics	N=13, n (%)
Age	Average = 28.4
Highest level of education	
Some primary	12 (92.3%)
Some secondary	1 (7.7%)
The number of children	Average= 2.2 per female
None	2 (15.4%)
One	2 (15.4%)
Two	6 (46.2%)
More two	3 (23%)
Religion	
Christian	5 (38.4%)
Catholic	4 (30.8%)
Muslim	4 (30.8%)

"Customers experienced some side effects, like changing hormones or bleeding. I advised them this is not correct; however, I told them they should not use that method for a long time." **(Key-03, Moshi Upendo Health Centre)**

On the other hand, it was notified that information of side effects has been exaggerated, so that some participants were perceived as being afraid of using them. An interviewee explained how she heard about side effects from peers or villagers, which made her scared.

"I am afraid of using family planning. I heard from my friend about some side effects of contraceptive methods like high bleeding and the doctor's wife did not use it. Even she did not use it, how I could use it?" **(F04, Ghona)**

"I heard about FP [family planning] through my neighbour. But she told me about the side effect of FP methods. She said that these make high blood pressure, high bleeding and lack of period," **(F05, Ni Janpanda)**

Additionally, it was identified that rumours had been influencing village women. This led to amplify their fear, do that they did not want to use it. They clearly explained the rumours, such as *'infertility' and 'changing hormones'*. Therefore, it is evident that most village women are likely to easily believe what others say even if it is incorrect. And it can be assumed that the role of acquaintances is very important to change the contraceptive perception into being positive and reliable.

Superstitious and unqualified contraceptive methods

Some participants noted that superstitions about contraceptive methods such as using knots and period blood are often used for birth control among them. They used to visit the traditional healer to do it. Interviewed participants described this unqualified contraception:

"I heard a traditional method for birth control. I wanted to try it. This is that someone went to the old man and gave him the clothes to make knots for the period that they don't want to have a baby. This can be five years or three years, so they make knots for the years that person wants and if the knotted cloths are lost, the woman cannot get a child anymore." **(F29, Ni Janpanda)**

"I met a traditional man. He used a special tree to provide birth control. He mixed the liquid from this tree and my period blood. And then he put this liquid into this special tree saying 'this lady doesn't need children for five years or not need child at all.' I believed that it was effective because I've not given birth since I did it." **(F08, Chekereni)**

In some cases, taking birth control pills which are uncertain is also used.

"Last year my husband's friend recommended to me to take the birth control pills which are from Arabia. I've taken this pill." **(F12, Ni Janpanda)**

Those who used uncertain contraceptive methods were asked about the reason why. The majority of reasons were due to side effects of contraceptive methods. Thus, women's fear regarding the side effects of contraception was additionally linked with superstitious and unclear contraceptive methods that were often used in contexts of village women. In addition, commonly their religion is Muslim, to which that contraception is possibly linked. Given the expansion of the contraceptive methods designed for village women, it could raise unwanted pregnancies in women.

Not using male condoms

Most participants expressed that their partners are unlikely to use the male condom. Many mentioned *"he does not use a condom"*. Their husbands believed that the condom makes for sexual dissatisfaction such as *"it is not sweet" or "insufficient sexual desire".* A nurse who is working as a family planning educator highlighted that the numbers of those using a male condom are very few in her area.

"Approximately 80% of men don't like to use condoms because males believe that it is not sweet." **(Key-06, Himo OPD)**

Participants also said that their partners believed myths or misconceptions of the uptake of male condom, which could result in dislike of it. They reported hearing *"condoms bring fungus infections".* Also, another cited the myth of using condoms leading to unfaithful relationships between married couples.

"According to him [my husband], he thought that using a condom is for sex-workers or the unfaithful. Therefore, he does not want to use condoms. A condom is a very uninviting thing to do between us." **(F13, Ni Janpanda)**

Moreover, it was found that males are afraid of taking off the condom. This is also evidence that they do not want to use condoms, but also, due to the sense of masculinity; they think that they are never infected by any diseases so that they do not often visit the hospital. It means that they do not have an opportunity to learn any reproductive health education which most people heard about from the dispensary or hospital. As a family planning educator mentioned *"Men who took condoms in our clinic were very few."* **(Key 08, Kyomu dispensary)**

Lack of men' engagement in family planning

Most married interviewees knew various contraceptive methods and they used one of them. This is because they had to take compulsory education of family planning after giving birth. Notably, it was found that nowadays government hospitals can only offer any neonatal services when a pregnant woman brings her partner. And women interviewed communicated on family planning with their husbands and then decided the contraceptive methods. *"My husband and I discussed with this [family planning methods] and decided which methods I should use"* **(F03, Ghona).**

However, despite family planning decision-making with husbands, a lack of knowledge regarding contraceptive methods remains among men. A married couple is likely to discuss the number of children they want. However, some husbands think that family planning is *'ridiculous' or 'harsh'*. Additionally, a family planning provider noted that males are still are short of family planning knowledge and acquisition because those are not their priority in the situation of labour. The director of a reproductive NGO for outreach family service mentioned.

"Most men concentrate on farming and do not focus on their health. They only focus on production. They are not interested to know about family planning methods. But, also, they used to go far away from their house to cultivate and they can stay for a month alone. They don't have a chance to learn the family planning." **(Key-02, UMATI)**

Persistent reference for large family

The majority of interviewed women considered that the desired family size is two or three children. Contraception was perceived as the major breakthrough to relieve the real concern for people who have low economic status, and most of the married participants have an experience of using contraceptive methods.

"Most people think their financial status, economic status is not good, so most people want to control the birth rate so they can support their children, like education, food, stuff like that." **(Key-02, UMATI)**

"They [village members in Moshi] want to arrange child spacing. Economic status is one of the factors to use family planning methods." **(Key-03, Moshi Upendo Health Centre)**

"6 children are very rare. Nowadays people don't want to have many children because people think their economic status and they think that having many children can't provide basic needs." **(Key 04, Ghona dispensary)**

However, the study found that the elderly such as mother-in-aw or grandparents want to have many children. They still believe that women are symbols of fecundity partly because of peasant traditions. They do not like their children or daughter-in-law to use any form of birth control in any circumstance. For instance, a married woman stated:

"My grandmother and mother-in-law don't like that I use family planning methods. Because they want to see many grandchildren. They thought that a large family is a benefit. Because they can help the farm activity in the short-time. You can do a big thing in theshorter time." **(F12, Ni Janpanda)**

In addition, often interviewed women answered that their mother in law used to say *'child is a gift from God*. It means that religion plays a strong part in their lives , which influenced their children or daughter-in-laws not to use contraceptive methods.

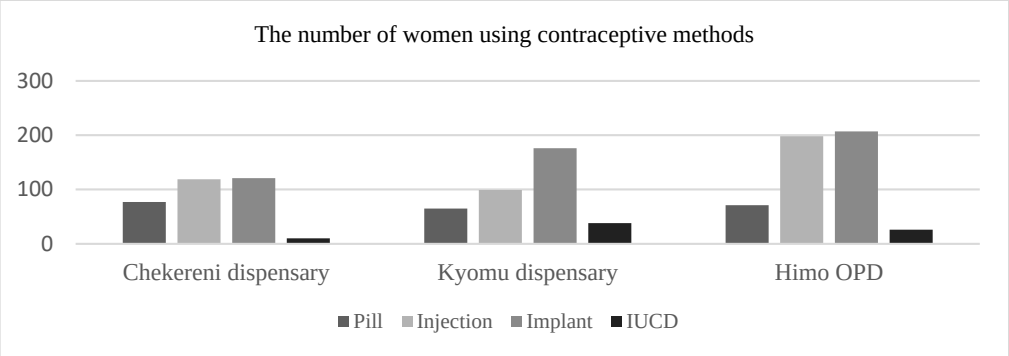

Figure 1: The number of women using contraceptive methods in Moshi rural district

Lack of accessibility IUCD

As the government and NGO in Moshi have started to recommend long-term family planning such as implant and Intrauterine device (IUCD) between village women. The number of people using an implant was slightly higher than short-term contraception such as pills and injection (Figure 1).

It was identified that the major reason for using an implant was that it could make a child gap for three or five years and it is able to avoid mistiming. In addition, people are starting to perceive the benefits of IUCD as the efforts by providing outreach services from local NGOs. However, the study found that accessibility of IUCD has not been available at any time. It founded that rural dispensaries can offer IUCD to village members only when NGOs such as UMATI or Marie stopes provide this service. And this method only can be provided in a referral hospital such as Himo hospital. The reason was lack of staff and lack of laboratory in the health centres and dispensary. A family planning provider stated:

"We don't provide IUCD because we don't have laboratory and medical doctor for doing it. So when people want it, we recommended them to go to Himo hospital" **(Key-03, Moshi Upendo Health Centre)**.

Discussion

Most participants are knowledgeable about modern contraceptive methods and they had experienced at least uptake of one of them. This is because they were educated in family planning education after childbirth, one of the government policies. Most participants perceived that family planning service has a positive impact on their lives. Implants, pills, and injections were founded as the most common contraceptive methods used by rural females in this study. Various factors of barriers to contraception methods were founded among participants. No one reported stopping due to the fear of judgement in public related to the words of President Magufuli of Tanzania. However, almost of them had experiences of contraceptive side effect such as bleeding, headache, weight gain/loss and dizziness, which is the key barrier to the uptake contraception methods similar to the literature, fear of side effects of contraceptive methods made them stop and change another contraception[12-15]. Village members and friends carried out as the main sources of contraceptive[27], their perception has a strong impact in changing one's decision to use or not, but it was also amplified of fear. Rumours (infertility and changing hormones) were propagated and exaggerated to community members. Moreover, this study remarkably revealed as a key finding that superstitious and inadequate birth control were used by some interviewed women. They have a strong belief in traditional healers and fear of modern contraception's side effects also made them choose superstitious and inadequate birth control. Thus, uncertain birth control could increase unintended pregnancy in women.

Moreover, all participants reported that their partners do not use a condom[11]. Their views were similar to the findings, such as unfaithful relationships, inhibiting sexual pleasure, and difficulties with condom disposal[21,26]. But this study revealed that the rumour (e.g., fungus infection) of using a condom was spreading in the rural Moshi district. Contrary to the studies[12,18], this study found that males are now favourable to utilising family planning, and they encourage their partners to use it. This is because government hospitals only can provide any neonatal services when pregnant

women bring their partners and educate them together. However, some of their husbands believe that family planning is absurd and they do not want to visit the hospital b because of making money so that they do not have the chance to learn reproductive health education. Similar to a recent study in Uganda[28], most young married women want to have a small family size to alleviate the pressure on their limited resources and finances. Nonetheless, the study found that old notions of Tanzanian fertility remain among the elderly such as grandparents or mother-in-law as they believe that many children are the symbol of manpower, which could support farm activities[19-20]. They also dominated religious beliefs, which were included to be factors of low use of contraceptives among their children or daughter-in-law.

The study also found that long-term methods were preferred rather than short-term methods as they believed in making the child-gap and in preventing the mistiming[11]. However, our results agree with the research[24] as founded that IUCD is inaccessible to the village members cause of the insufficient number of trained health workers and facilities. Particularly, rural village women can only use this contraceptive method with NGO intervention.

Ethical approval

This research was part of my master's degree dissertation so that the study procedure was approved by the University of Sheffield Geography Ethics Committee. Permission to conduct this study was obtained from the Moshi district office supported by the KEDA. For the initial step, study attendances were provided with information about this study objective, and oral informed consent was taken. Each of them was informed of their right to withdraw. Their confidentiality was maintained by ensuring that only the researcher and local translator were involved in the interview and all information was anonymised. The local female translator was essential to ask about contraceptive methods that most participants could be reluctant to discuss. The permission to audio-record was obtained as part of the informed consent from each attendance. All data were password-protected.

Limitation

Some limitations have been shown in this qualitative study. First of all, the study population consisted of only one district of Tanzania, which is not generalised to all young married females in Tanzania. In addition, the number of interviews was also relatively small so that it was limited to implement the in-depth analysis of the determinants of barriers using contraceptive methods. And, its barriers were not linked with the sociodemographic characteristic of village women so much. Hence, it remains a little limited to link education level or religions regarding the uptake of contraception methods. On the other hand, all interviews were carried out in Swahili and the local translator was interpreted, which might not preserve the original meaning of responses by participants.

Conclusion

This study used the qualitative method by interviewing young married females in rural Tanzania. Various barriers to uptake contraceptive methods were founded: These included fears of side effects, misconceived rumours, uncertain birth control, lack of male involvement, the stereotype of older people, and inaccessibility of using IUCD. Rumours and misleading concerns increased by peers and village members, and superstitious/inadequate birth control methods could raise the unintended pregnancy. These findings reinforce the need for 1) improving Tanzanian's perception of using modern contraceptive methods 2) providing the accessibility of using permanent contraception. Thus, frequent community-based reproductive education and outreach services among females and males are required to reduce the barriers to using contraceptives and unwanted pregnancy. More interventions such as NGOs and government systems of reproductive health should be enhanced.

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Contribution of authors

ML designed the research, conducted field work analysed data, and wrote the paper. This study was a part of a dissertation of masters degree of MPH in international development at the University of

Sheffield. Hence, the author's supervisor provided input and feedback during the research process. ML read and approved the final manuscript.

Competing interests

The authors declare that they have no competing interests.

References

1. Abraha TH, Teferra AS and Gelagay AA. Postpartum modern contraceptive use in northern Ethiopia: prevalence and associated factors. *Epidemiology and Health*, 2017; 39:e2017012.
2. United Nations. *World Fertility Report 2015*: https://www.un.org/en/development/desa/population/publications/pdf/fertility/wfr2015/worldFertilityReport2015.pdf. (accessed 19 August 2019).
3. Tsui AO, Brown W and Li Q. Contraceptive Practice in SubSaharan Africa. Population and Development Review. 2017; 43(Suppl 1), 166–191.
4. DHS. *Tanzania Demographic and Health Survey and Malaria Indicator Survey [TDHS], 2015/16.* https://dhsprogram.com/pubs/pdf/fr321/fr321.pdf. (accessed 16 August 2019).
5. United Nations, Department of Economic and Social Affairs, Population Division. Contraceptive Use by Method 2019: Data Booklet. 2019.
6. Izugbara C, Wekesah F, Tilahun T, Amo-Adjei J and Dimbuene ZT. Family Planning in East Africa: Trends and Dynamics. January 2018. [online] *African Population and Health Research Center (APHRC)* https://aphrc.org/wp-content/uploads/2019/07/Family-Planning-in-East-Africa-Report_January-2018.pdf(2018, accessed 19 August 2019).
7. Fall CH, Sachdev HS, Osmond C, Restrepo Mendez MC, Victora C, Martorell R, Stein AD, Sinha S, Tandon N, Adair L, Bas I, Norris S and Richter LM. Association between maternal age at childbirth and child and adult outcomes in the offspring: a prospective study in five low-income and middle-income countries (COHORTS collaboration). *Lancet Global Health*. 2015; 3(7):e366–e377
8. Patton GC, Sawyer SM, Santelli JS, Ross DA, Afifi R, Allen NB, Arora M, Azzopardi P, Baldwin W, Bonell C, Kakuma R, Kennedy E, Mahon J, McGovern T, Mokdad AH, Patel V, Petroni S, Reavley N, Taiwo K, Waldfogel J, Wickremarathne D, Barroso C, Bhutta Z, Fatusi AO, Mattoo A, Diers J, Fang J, Ferguson J, Ssewamala F and Viner RM. Our future: a Lancet commission on adolescent health and wellbeing. *The Lancet*. 2016; 387(10036), 2423–2478.
9. Castle S and Askew I. *Contraceptive Discontinuation: Reasons, Challenges, And Solutions. Family Planning 2020*. http://www.familyplanning2020.org/resources/contraceptivediscontinuation-reasons-challenges-and-solutions. (accessed 19 August 2019).
10. Khajehpour M & Simbar M, Jannesari S, Ramezani TF and Alavi MH. Health status of women with intended and unintended pregnancies. Public health. 2012; 127. 10.1016/j.puhe.2012.08.011.
11. Safari W, Urassa M, Mtenga B, Changalucha J, Beard J, Church K, Zaba B and Todd J. Contraceptive use and discontinuation among women in rural North-West Tanzania. *Contraception and Reproductive Medicine*. 2019; 4, 18. https://doi.org/10.1186/s40834-019-0100-6
12. Ochako R, Mbondo M, Aloo S, Kaimenyi S, Thompson R, Temmerman M and Kays M. Barriers to modern contraceptive methods uptake among young women in Kenya: a qualitative study. *BMC Public Health*. 2015;15, 118. https://doi.org/10.1186/s12889-015-1483-1
13. Carlson C, Plonczynski DJ and Yao P. The Impact of Personal Characteristics on Contraceptive Choices and Use Over 5 years. *SAGE Open Nursing*. 2016 2:2377960816680824.
14. Sedekia Y, Jones C, Nathan R, Schellenberg J and Marchant T. Using contraceptives to delay first birth: a qualitative study of individual, community and health provider perceptions in southern Tanzania. *BMC Public Health*. 2017; 17, 768. https://doi.org/10.1186/s12889-017-4759-9.
15. Tibaijuka L, Odongo R, Welikhe E, Mukisa W, Kugonza L, Busingye I, Nabukalu P, Ngonzi J, Asiimwe SB and Bajunirwe F. Factors influencing use of long-acting versus short-acting contraceptive methods among reproductive-age women in a resource limited setting. *BMC Women's Health*. 2017; 17(25). https://doi.org/10.1186/s12905-017-0382-2 PMID: 28376779
16. Wafula S, Obare F and Bellows B. Evaluating the Impact of Promoting Long Acting and Permanent Methods of Contraceptives on Utilization: Results from a Quasi Experimental Study in Kenya. *Population Association of America*. 2014.
17. Oyediran KA and Isiugo-abanihe UC. *Husband Wife Communication and Couple's Fertility Desires among the Yoruba of Nigeria*. 2002.
18. Marchant T, Mushi A, Nathan R, Mukasa O, Abdulla S, Lengeler C and Armstrong-Schellenberg J RM. Planning a Family: Priorities and Concerns in Rural Tanzania. *African Journal of Reproductive Health / La Revue Africaine De La Santé Reproductive*. 2004; 8(2), 111-123. doi:10.2307/3583185
19. Hollos M. The Cultural Construction of Childhood: Changing Conceptions Among the Pare of Northern Tanzania. *Childhood-a Global Journal of Child Research*, 9, 167-189. 10.1177/0907568202009002802. 2002.
20. Davidson A, Slavinski S, Komoto K and Rakeman J. Suspected female-to-male sexual transmission of Zika Virus—New York City. *Morbidity and Mortality Weekly Report*. 2016; 65(2), 716–717.
21. Schuler SR, Rottach E and Mukiri P. Gender norms and family planning decision-making in Tanzania: a qualitative study. *Journal of Public Health in Africa*. 2011; 2(2), 25.
22. Chipeta EK, Chimwaza W and Kalilani-Phiri L. Contraceptive knowledge, beliefs and attitudes in

rural Malawi: Misinformation, misbeliefs and misperceptions. *Malawi Medical Journal.* 2011; 22(2), 38–41.

23. Ministry of Health and Social Welfare (MoHSW). *Tanzania Service Provision Assessment Survey (TSPA) 2014–2015.*
24. Anasel MG. *Family planning programme implementation: Differences in Contraceptive Prevalence Rates across Local Government Authorities in Tanzania*. https://www.rug.nl/research/portal/files/40480908/Complete_thesis.pdf. (2017, accessed 28 July 2019).
25. Stephanie B. 'Don't use birth control,' Tanzania's President tells women in the country. CNN https://edition.cnn.com/2018/09/11/africa/tanzania-birth-control-magufuli-intl/index.html (2018, accessed 25 December 2020).
26. Ghule M, Raj A, Palaye P, Dasgupta A, Nair S, Saggurti N, Battala M and Balaiah D. Barriers to use contraceptive methods among rural young married couples in Maharashtra, India: Qualitative findings. *Asian Journal of Research in Social Sciences and Humanities*, 5(6), 18–33. https://doi.org/10.5958/2249-7315.2015.00132. 2015.
27. Sweya MN, Msuya SE, Mahande MJ and Manongi R. Contraceptive knowledge, sexual behavior, and factors associated with contraceptive use among female undergraduate university students in Kilimanjaro region in Tanzania. *Adolesc Health Med Ther*. 2016; 7, 109-115. DOI: 10.2147/AHMT.S108531
28. Chi PC, Bulage P, Urdal H and Sundby J. Perceptions of the effects of armed conflict on maternal and reproductive health services and outcomes in Burundi and Northern Uganda: a qualitative study. *BMC International Health and Human Rights*, 15(7). https://doi.org/10.1186/s12914-015-0045-z. 2015.