Beliefs and misconceptions about contraception and condom use among adolescents in south-east Nigeria

CURRENT STATUS: UNDER REVIEW

Reproductive Health  BMC

Chinyere Ojiugo Mbachu
University of Nigeria Faculty of Medical Sciences

Ifunanya Clara Agu  ifreda198@gmail.com
Health Policy Research Group, College of Medicine, University of Nigeria
Corresponding Author
ORCiD: 0000-0001-9048-064X

Chinonso Obayi
University of Nigeria Faculty of Medical Sciences

Irene Eze
Ebonyi State University

Nkoli Ezumah
University of Nigeria

Obinna Onwujekwe
University of Nigeria

DOI: 10.21203/rs.2.18742/v1

SUBJECT AREAS  Sexual & Reproductive Medicine

KEYWORDS  Misconceptions, Contraceptives, Condom, Adolescent, Sexual behaviors
Abstract

Background: Misconceptions about the usefulness of condoms and other contraceptives in preventing unwanted teenage pregnancies and sexually-transmitted infections (STIs) among unmarried adolescents, still expose many adolescents to the risk of both conditions due to certain misconceptions. This study explored beliefs and misconceptions about condoms and other contraceptives among adolescents in Ebonyi state, south-east Nigeria.

Method: A qualitative study was undertaken in six local government areas in Ebonyi state, southeast Nigeria. Data was collected within a period of one month from in and out-of-school adolescents aged 13 to 18 years using twelve focus group discussions (FGD). The data was analyzed using the thematic framework approach.

Result: Majority of the adolescents were knowledgeable about methods of contraception, how they are used and their modes of action. They were also knowledgeable about the dual effects of condoms for prevention of pregnancy and STIs. However, some misconceptions that were expressed by some adolescents were that pregnancy could be prevented by the use of i) hard drugs, ii) laxatives, iii) white chlorine, and iv) boiled alcoholic beverages. Condoms were described by some adolescent boys as reusable. Condoms were also perceived by some adolescents to reduce sexual pleasure, and this opinion was mostly held by boys. Coitus interruptus (withdrawal method) was therefore considered more preferable than condoms for prevention of pregnancy.

Conclusion: Although majority adolescents have knowledge about contraception and condom use, some misconceptions still persist. These misconceptions put many adolescents at increased risk for pregnancy and STIs which are detrimental to their
health and wellbeing. Concerted efforts should be made through educational and behavior change interventions in schools and within communities to debunk persisting misconceptions about contraception, and properly educate adolescents on safe sex practices. Keywords: Misconceptions, Contraceptives, Condom, Adolescent, Sexual behaviors

plain english summary

Adolescents engage in unprotected sexual intercourse and other risky sexual behaviors because of some mistaken beliefs and wrong impressions about how to prevent unwanted pregnancy. These risky sexual behaviors predispose adolescents to sexually transmitted infections, unsafe abortion and other reproductive health problems.

In this qualitative study, we explored some of these mistaken beliefs about condoms and other methods of preventing pregnancy. During focus group discussions, adolescents identified modern contraceptive methods, and described their modes of action and how they are used. They also discussed their contraceptive preferences and perceived effects of condoms on sexual pleasure.

Although some of these adolescents were able to correctly mention various types of contraceptives and their modes of action, there were numerous wrong impressions. Hard drugs, laxatives, white chlorine and boiled alcoholic beverage were listed as emergency contraceptive methods. Emergency pills were perceived to work by flushing away spermatozoa from a girl’s system after sexual intercourse. Male condoms were perceived to be potentially dangerous because they cou

Adolescents engage in unprotected sexual intercourse and other risky sexual behaviors because of some mistaken beliefs and wrong impressions about how to
prevent unwanted pregnancy. These risky sexual behaviors predispose adolescents to sexually transmitted infections, unsafe abortion and other reproductive health problems.

In this qualitative study, we explored some of these mistaken beliefs about condoms and other methods of preventing pregnancy. During focus group discussions, adolescents identified modern contraceptive methods, and described their modes of action and how they are used. They also discussed their contraceptive preferences and perceived effects of condoms on sexual pleasure.

Although some of these adolescents were able to correctly mention various types of contraceptives and their modes of action, there were numerous wrong impressions. Hard drugs, laxatives, white chlorine and boiled alcoholic beverage were listed as emergency contraceptive methods. Emergency pills were perceived to work by flushing away spermatozoa from a girl’s system after sexual intercourse. Male condoms were perceived to be potentially dangerous because they could break and enter into the body of the female sexual partner. Some adolescent boys had the notion that particular brands of male condoms could be washed and reused. Notions about condom use and sexual pleasure varied for girls and boys. Some adolescent girls perceived that condom use during sex increases sexual pleasure because of the assurance of being protected from STIs and pregnancy. Adolescent boys were of the opinion that condoms interfere with the pleasure of direct ‘flesh to flesh’ contact during sex. There was a general belief that contraceptive use in early age reduces fertility prospects for boys and girls.

Mistaken beliefs about methods of preventing pregnancy persist among adolescents, and this raises concerns about the quality of information they receive. Concerted efforts should be made to debunk these wrong beliefs and properly educate
adolescents on safe sex practices.

Id break and enter into the body of the female sexual partner. Some adolescent boys had the notion that particular brands of male condoms could be washed and reused. Notions about condom use and sexual pleasure varied for girls and boys. Some adolescent girls perceived that condom use during sex increases sexual pleasure because of the assurance of being protected from STIs and pregnancy. Adolescent boys were of the opinion that condoms interfere with the pleasure of direct ‘flesh to flesh’ contact during sex. There was a general belief that contraceptive use in early age reduces fertility prospects for boys and girls. Mistaken beliefs about methods of preventing pregnancy persist among adolescents, and this raises concerns about the quality of information they receive. Concerted efforts should be made to debunk these wrong beliefs and properly educate adolescents on safe sex practices.

Background

Adolescence is a transitional period characterized mostly by significant changes in psychosocial, sexual development, and physical growth [1]. At this phase of human development, many tend to develop an increased interest in experiences and behaviors that are associated with adulthood, such as starting new relationship with the opposite sex, engaging in sexual activity and other risky behaviors [2]. Many adolescents tend to experiment and indulge in some risky sexual behaviors primarily due to the feeling of independence as well as poor access to adequate and appropriate information about sexual and reproductive health [3, 4]. Risky behaviors such as unprotected sexual activities among adolescents is a major public health concern. Literature reveals that majority of adolescents engage in sexual
activity between the ages of 12 to 19 and most of them achieve sexual debut by 16 years [5, 6].

A considerable proportion of adolescents in sub-Saharan Africa engage in sexual activities in their middle teenage years [7]. Regional estimates from developing countries confirm that sexual debut in West African Countries mostly occurs during adolescent period [8]. This early sexual exposure predisposes many adolescents to unprotected sexual intercourse and increases the likelihood of unintended pregnancies, unsafe abortions and STIs.

Unplanned pregnancies among adolescents contributes significantly to maternal morbidity and mortality in this age group [9]. Millions of adolescent girls in Africa experience unwanted pregnancies annually and about 60% of these pregnancies are terminated through unsafe abortions [10, 11]. West Africa has the highest proportion of adolescent pregnancies when compared to other sub-regions in sub-Saharan Africa [8].

In Nigeria, the proportion of adolescents who have begun childbearing increases with age, from 2% at 15 years to 37% at 19 years [12]. Early pregnancies, both planned and unplanned, among adolescents constitutes a serious problem.

Unplanned pregnancies among adolescents are not only detrimental to their health but also obstructs their socioeconomic development. Most victims of unplanned pregnancy are at a higher risk of educational disruption, early marriage with more children at shorter intervals, future unemployment leading to low income and poor living standards. Whereas, adolescents who do not experience unplanned pregnancy are more likely to further their education, become involved in the country’s workforce and have healthier life [9].

Poor knowledge and inconsistent/incorrect use of contraceptives contribute to high
rate of unplanned pregnancies [13, 14]. Global, regional and national reports reveal that adolescents have the lowest contraceptive prevalence rate when disaggregated by age [15]. However, regional variations exist as 93% of adolescents in a developed country reported using modern contraceptives in their last sexual encounter compared to 48.7% of adolescents in a developing country [16, 17]. The latter figure corresponds with findings from studies in Nigeria that reported low contraceptive prevalence rates among young people [18, 19].

Misconceptions about contraception and contraceptive methods is a contributing factor to non-use of contraceptives among adolescents and young unmarried people. Some authors have reported misconceptions about side effects and health problems associated with contraceptive methods, as well as negative stereotypes about contraceptive users [20, 21]. Condom for instance, has been proven to effectively protect against pregnancy and sexually transmitted infections, including HIV [22]. However, there are misperceptions about how it is used and its effects on fertility and sexual pleasure, which have contributed to inconsistent use of condoms in sexual partnerships.

This paper provides new and useful information from a study which explored in-depth the notions and misconceptions about contraception and condom use among adolescents in south-east Nigeria. Most research on misconceptions about contraception and condom use have focused more on married adults (couples) and unmarried youths [18, 23, 24]. Given that misinformation could be easily spread among young people especially adolescents, through social media, peers in school and community, it is important to explore the fallacies about contraceptives among adolescents. The knowledge that this paper provides will be invaluable in planning suitable interventions to address any knowledge gaps among adolescents.
methods

Study area and design: The qualitative cross-sectional study was undertaken in six communities in Ebonyi State, which is located in south-east Nigeria. The state has an estimated population of 6,268,003 inhabitants, with over 40% under the age of 15 years [25]. The NDHS report shows that maternal mortality rate among girls aged 15-19 is 30.5%; and 9.6% of girls in this age group have already begun child bearing [26]. Six communities were purposively selected from six local government areas (LGAs) to ensure geographic and geopolitical spread in terms of place of residence (urban and rural) and senatorial zones. From each senatorial zone, we purposively selected 2 LGAs that were listed as having the highest rates of unwanted teenage pregnancies and abortions in the State. One community was selected from each LGA.

Study population and sampling: The study population comprised of in-school and out-of-school unmarried adolescents aged between 13 and 18. In each community, adolescents were purposively selected from secondary schools, trade centers and skill-acquisition centers. They were invited to participate in the focus group discussions (FGDs). Two FGDs were conducted in each community (giving a total of twelve) and participants ranged from 8 to 13 in number.

Data collection: Data was collected using a pre-tested focus group discussion guide. The discussion guide was developed a team of qualitative research experts. A stakeholder engagement meeting was held in Ebonyi state prior to the commencement of the research project and a relationship was established with the participants who attended meeting. The data were collected for a period of one month, in the month of October, 2018. In each community, one FGD was conducted
for boys and one for girls.

The FGDs were conducted by experienced researchers in qualitative study in either English or Igbo language (the local language), depending on participants’ preferences. All participants were informed of the study objectives before commencement of interviews. All interviews were audio recorded with the permission of participants. Hand-written notes were also taken.

Data analysis: All audio files were transcribed in the language of interview verbatim, and translated to English language for those conducted in Igbo. Transcripts were edited in Microsoft Word and compared with hand-written notes to affirm accuracy. Each transcript was anonymised using unique codes developed by the research team and data were analysed using thematic framework approach.

The most comprehensive FGD transcript was selected and given to two independent researchers for detailed review and coding. Sub-themes relating to perception of contraception and contraceptive methods were generated and these formed the initial coding framework. The initial coding framework was then tested on two new transcripts, and subsequently refined to form the final framework. The final coding framework was then applied to all 12 transcripts, including the ones that were used for testing. The themes in the final framework are shown in table 1. The findings were presented after the analysis to key stakeholders in Ebonyi state for validation of synthesized data through a workshop.

**Table 1: Thematic coding framework for analyzing beliefs and perceptions about contraceptives**
Beliefs and misconceptions about types of contraceptives

Majority of adolescents were knowledgeable of various type of contraceptives and they correctly identified condoms, emergency and daily pills, implant, injection, withdrawal method, spermicide, intrauterine devices (IUD), sterilization and tubal ligation as modern methods of contraception. A few of them also mentioned total and periodic abstinence as contraceptive methods, and one person mentioned abortion as a method of contraception.

Nevertheless, there were numerous misconceptions about methods of contraception. Adolescents mentioned use of hard drugs, laxatives, white chlorine and boiled alcoholic beverage as emergency contraceptive methods. Some of the adolescents who had these misconceptions also described how these methods are used and their modes of action. For instance, with respect to boiled alcoholic beverages, their assumption was that absorption of alcoholic beverage through the intestine and into the bloodstream facilitates flushing of spermatozoa in urine from a girl who has just had sexual intercourse.

The following quotes highlight some correct notions and misconceptions about contraceptive methods. Some of these quotes also show the co-existence of correct and incorrect notions in the same individual.

“When we use condom is when a boy wants to have sexual intercourse with a girl, to
prevent them from contracting any disease or for the girl not to become pregnant.

Condom has advantages and disadvantages. If you don’t want to get pregnant after having sex you can take Andrew’s liver salt (laxative) and white chlorine Some people take drugs also” (Female Adolescent - ADABF_R1)

“Condom will help the boy that when he wants to release sperm, he will release it inside the condom. For those who do not use condoms, when the boy releases immediately inside the girl’s body, she should take Andrew’s liver salt (laxative) and urinate immediately, it will neutralize the sperm in the girl’s body” (Male Adolescent - ADABM)

“Some make use of hard drugs before sexual intercourse to prevent pregnancy. Pills are also used by the girls after having sexual intercourse” (Male Adolescent - ADAFM)

“Some girls prevent pregnancy by using small stout (alcoholic beverage). They boil the small stout and drink it hot, and it will flush away the pregnancy. The hot small stout will wash away the sperm from her womb, then she will urinate it out. Some normally use abortion to prevent pregnancy” (Male Adolescent - ADEZM)

“If you want to prevent pregnancy after sleeping with a man and you discover that you are pregnant, there is a drug the nurse normally gives” (Female Adolescent - ADABF_R4)

Beliefs and misconceptions about modes of action of contraceptive methods

Some adolescents were able to identify the modes of action of contraceptive methods while some were misinformed about their modes of action. Emergency pills were perceived to work by flushing away spermatozoa from a girl’s system after
sexual intercourse, before fertilization takes place. Injectable hormonal contraceptives were perceived to work through blocking the uterus from getting impregnated. The following quotes highlight these misconceptions,

“....after having sex, the sperm that has been released by the male will wait for some hours before fertilization can take place. So after sex, she will take the pills and the pills will flush away the sperm” (Male Adolescent – ADAFM)

“For injections, if you inject the family planning drug, it will flow inside your body and go to block your womb so you cannot be impregnated by a man.....” (Male Adolescent – ADEZM)

With respect to condoms, although most adolescents preferred it due to dual protection from pregnancy and STIs, male condoms were perceived to be potentially dangerous and life-threatening because they could break and enter into the body of the female sexual partner.

“...Condom is not good; when you use it, if care is not taken it will enter the body of the girl and it will make that person to die” (Female Adolescent – ADIKF_R10)

Beliefs and misconceptions about condom use

Many adolescents appeared to know that although not a hundred percent full proof, consistent use of condoms during sexual intercourse protects from unwanted pregnancy and STIs. However, there were some misconceptions about reusability of condoms and effect of condom use on sexual pleasure during intercourse

**Beliefs about reusability of condoms**

Misconceptions about reusability of condoms were found to prevail among male adolescents compared to females. Some adolescent boys had the notion that particular brands of male condoms could be washed and reused for up to two or three times before disposal.
“The use of condom can prevent pregnancy and diseases. It can be washed and used two times” (Male Adolescent – ADIZM_R3)

“We have soft condom that will not harm you and the person you're having sex with. That is the one you can use two or three times; after using it you wash it” (Male Adolescent – ADIZM_R12)

Beliefs about condom use and sexual pleasure

Notions about condom use and sexual pleasure appeared to vary for girls and boys. Some adolescent girls perceived that condom use during sex increases sexual pleasure because the assurance of being protected from STIs and pregnancy makes them better relaxed for pleasurable sex.

“The use of condom does not reduce pleasure, it improves pleasure because one feels protected.” (Female Adolescent – ADIZF)

“Use of condom makes it pleasurable because one feels relaxed with it. The sex is enjoyable because both parties know they are safe from contracting disease and the girl getting pregnant” (Female Adolescent – ADABF)

Adolescent boys had a different view from the girls. Although some of them recognized that condoms are useful for preventing pregnancy, they were of the opinion that it is more enjoyable having sexual intercourse without condoms because condoms interfere with the pleasure of direct ‘flesh to flesh’ contact.

“It (sex) is better flesh to flesh but the boy must be alert, he should make sure that he withdraws when he is about to release sperm.” (Male Adolescent – ADAFM_R9)

“They (sexual partners) don't like using condoms because they won't enjoy it (sex).” (Male Adolescent – ADEZM)

“It is very good to use flesh to flesh because using condom during sex might not be sweet, but it is advisable to use condom to avoid bringing shame to parents” (Male

13
Beliefs and misconceptions about contraceptive use and future fertility

Adolescents expressed their perceptions of how contraceptive use in adolescence affects fertility in future for both girls and boys. There was a general notion that contraceptive use in adolescence reduces fertility prospects for both sexes. Some were of the opinion that some girls who use contraceptives will be unable to get pregnant when they eventually get married and need to have children. Similarly, adolescent boys who use condoms were perceived to lose lots of spermatozoa and would be unable to impregnate a women in future. For the above reasons, some respondents stated that adolescents should not use contraceptives. Some supporting quotes are highlighted below,

“It is not advisable for adolescents to use contraceptives because some women cannot get pregnant these days, and it is the type of contraceptive used in the past that led to their infertility” (Male Adolescent – ADAFM_R7)

“...Condom is not good because boys lose the sperm, and when they are mature and married and want to impregnate their wives it will not function again” (Female Adolescent – ADIKF_R10)

discussion

This findings indicate although some adolescents had basic knowledge of methods of contraception, misconceptions still persist about types, modes of action and use of contraceptives. These findings underscore the need to provide adolescents with comprehensive and correct information on reproductive health through reliable sources such as schools, youth-friendly health centers and traditional/conventional
media.

Their misconceptions about types of contraceptives reflect that there are gaps in knowledge which could be attributed to inaccurate sources of information. This finding corresponds with a Nigerian study by Envuladu et al which reported similar local/traditional methods used by women to prevent pregnancy [27]. Similarly, although majority of young people have basic knowledge about contraceptives, it has been reported that only a few have in-depth untainted knowledge about contraceptives [28].

Adolescents described the use of contraceptives in adolescence as a contributory factor to high rates of infertility among married couples. Similar studies corroborate misconceptions about association of contraceptives with impotency in males, damage in females’ wombs and increased health problems [21, 29, 30]. On the contrary, it has been reported that the use of the different concoctions as pregnancy prevention methods during adolescent period could possibly be related to infertility because proper use of modern contraceptives like condom is not associated with infertility as perceived among these adolescents [31]. Perceptions about condom breakage and slippage into the female’s genitals during sexual intercourse as a factor that contributes to infertility and mortality resonated among adolescents. Although errors arising from condom use such as slippage during sex, late application or early removal have reportedly been identified in studies [32,33], breakage and slippage during sexual intercourse rarely occur except when condoms are incorrectly used [34]. When condoms are incorrectly used only about 2% of them slip or break during sexual intercourse [34]. Among those who engage in sexual intercourse, consistent and correct use of condom remains the effective method of preventing most STIs like HIV [22].
Even though some adolescents had good knowledge about frequency of condom use and emphasized that it is not hundred percent full proof, some still had some misconceptions with respect to its reusability and effects on sexual pleasure. In describing condom use among sexual partnerships, the notion expressed by some adolescents is that condoms could be washed and reused, and this view was found to prevail among adolescent males. This corresponds with findings from a study among male college students where 1.4% of them reportedly reused condoms for sexual intercourse [35]. Errors arising from reuse of condoms have been repeatedly reported [32, 33]. Washing and reusing condom compromises its physical integrity/reliability and adolescents need to be educated about this. With respect to perceived effects of condoms on sexual pleasure, gender differences were also observed. Whereas adolescent boys opined that using condoms during sexual intercourse interferes with sexual pleasure, girls mentioned that it promotes sexual satisfaction and reduces the fear of unknown consequences of unprotected sexual intercourse. Correspondingly, another study conducted among male student population of a West African University revealed that approximately forty percent of respondents perceived condom use during sexual intercourse as interrupting sexual pleasure [24]. These notions about condoms interfering with sexual pleasure have been associated with low condom use and increased likelihood of adolescents to engage in unprotected sexual intercourse [36, 37]. The misconception that use of condom reduces sexual pleasure may perhaps be an important characteristic of masculinity which is worth exploring [24, 38]. Addressing misconceptions about condom reusability of condoms should take center stage in SRH interventions targeting adolescent boys. There is also a need to explore in-depth how gender and masculinity influence perceptions of sexual pleasure associated with barrier
contraceptive methods.

A study limitation is the fact that such a qualitative research method is limited in its ability to produce generalizable findings. However, this study has highlighted various notions and misconceptions about contraceptives whose magnitude could be considered for quantitative measurement when designing questionnaires on sexual and reproductive health for adolescents. Given that misinformation could be easily spread among young people especially adolescents, through social media, peers in school and community, it would be important to estimate the magnitude of these notions among adolescents.

conclusions

Most adolescents appear to have some basic knowledge about types of contraceptives. However, this knowledge is tainted by misconceptions about types and modes of action of contraceptives, and reusability of condoms. Beliefs about effects of condoms on sexual pleasure were seen to vary by sex/gender. The persistence of misconceptions about contraceptives among adolescents raises concerns about the quality of information being disseminated about contraceptives and the potential influence of this on adolescents’ sexual behaviors and reproductive choices.

Concerted efforts should be made through educational and behavior change interventions in schools and within communities to debunk persisting misconceptions about contraception, and properly educate adolescents on safe sex practices. This is to ensure that misconceptions are debunked and adolescents have access to correct and complete information for making healthy choices with respect to their sexual and reproductive behaviors. There is also a need to strengthen key
messaging in media as well as engagement in more ‘misconception-busting’
information about contraceptives.

declarations

List of abbreviations
STI – Sexually Transmitted Infections
WHO – World Health Organization
IDRC - International Development Research Centre
IUD – Intrauterine Devices
FGDs - Focus Group Discussions
LGAs – Local Government Areas

Ethics approval and consent to participate
The project protocol was submitted to the Health Research Ethics Committee of
University of Nigeria Teaching Hospital Enugu and the Research and Ethics
Committee of Ebonyi State Ministry of Health. Ethical approval was secured from
both committees before entry into the study site. The participants were informed of
the research purpose, the rights of participants and measures that will be taken by
the research to protect them and their data. Informed written consent was obtained
from parents/guardians of adolescents who participated in focus group discussions.
Additionally, written consent was obtained from adolescents having assured them of
voluntary participation and confidentiality.

Consent for publication
Not applicable

Availability of data and materials
Additional data from the research project could be made available by the
corresponding author on reasonable request.

Competing interests
The authors declare that there is no competing interest

Funding
The research project which led to the results included in this manuscript received funding from IDRC MENA+WA implementation research project on maternal and child health (IDRC grant number: 108677). The funder did not participate in designing the study, collecting and analyzing data, or writing and reviewing the manuscript. The views presented in this manuscript do not necessarily represent the funders’ views and exclusively belong to the authors.

Authors’ contributions
CM, NE and OO conceptualized and designed the study protocol and data collection instruments. CM, IA, and IE were involved in data collection. All authors participated in data analysis. CM and IA wrote the first draft of the manuscript. All authors reviewed and approved the final version for journal submission.

Acknowledgements
We thank all the study respondents for their willingness to take part in the research.

Authors’ information
Chinyere Ojiugo Mbachu (MBBS; MPH); *Ifunanya Clara Agu (MSc- Health promotion and communication); Chinonso Obayi (BSc); Irene Eze (MBBS, MPH); Nkoli Ezumah (PhD-Sociology); Obinna Onwujekwe (MBBS, PhD- Health economics)

References
1. Brand S, Kirov R: *Sleep and its importance in adolescence and in common adolescent somatic and psychiatric conditions*. *International journal of general medicine* 2011, 4:425-442.

2. Kothari MT, Wang S, Head SK, Abderrahim N: 2012. *Trends in Adolescent Reproductive and Sexual Behaviours*. *DHS Comparative Reports* 2012, 29 Calverton.

3. Kar SK, Choudhury A, Singh AP: *Understanding normal development of adolescent sexuality: A bumpy ride*. *Journal of human reproductive sciences* 2015, 8(2): 70-74.

4. Kirby DB: *The impact of abstinence and comprehensive sex and STD/HIV education programs on adolescent sexual behavior*. *Sexuality Research & Social Policy* 2008, 5(3):18-27.

5. Olugbenga-Bello IA, Adebimpe OW, Akande OR, Oke OS: *Health risk behaviors and sexual initiation among in-school adolescents in rural communities in southwestern Nigeria*. *International Journal of Adolescent Medicine and Health* 2014, 26(4):1-8.

6. Skrzeczkowska A, Heimrath J, Surdyka J, Jerzy Z: *Knowledge of contraceptive methods among adolescents/young adults*. *Pol J Public Health* 2015, 125(3):144-148.

7. Bhatasara S, Chevo T, Changadeya T: *An Exploratory Study of Male Adolescent Sexuality in Zimbabwe: The Case of Adolescents in Kuwadzana Extension, Harare*. *Journal of Anthropology*

8. MacQuarrie KLD, Mallick L, Allen C: *Sexual and Reproductive Health in Early and Later Adolescence: DHS Data on Youth Age 10-19*. *Rockville*
9. Advancing Partners & Communities (APC): Preventing Unintended and Unplanned Pregnancy among In-school Youth: An Acceptability and Feasibility Assessment. Agency for International Development (USAID)

10. Idowu A, Aremu OA, Fehitola FO, Popoola GO: Knowledge, attitude and practice of contraception by female junior secondary school students in an urban community of Oyo-state, South west, Nigeria. Int J Reprod Contracept Obstet Gynecol 2017, 6:4759-65.

11. World Health Organization (WHO): Unsafe Abortion: global and regional estimates of the incidence of unsafe abortion and associated mortality in 2003. Geneva: World Health Organization

12. National Population Commission and ICF Macro: Nigeria Demographic and Health Survey In. Edited by National Population Comission. Abuja; 2019.

13. Pazol K, Lauren B, Zapata LB, Tregear SJ, Mautone-Smith N, Gavin LE: Impact of Contraceptive Education on Contraceptive Knowledge and Decision Making: A Systematic Review. Am J Prev Med 2015, 49(201):S46-S56.

14. UN: United Nations and Department of Economic and Social Affairs-Population Division, World Contraceptive use. 2011; http://www.un.org/esa/population/publications/contraceptive2011/wallchart_front.pdf

15. UNFPA: Facing the facts, Adolescent girls and contraception. United Nations Population Fund 2015. https://www.unfpa.org/sites/default/files/resource-pdf/UNFPA_Adolescent_brochure.pdf

16. Martinez G, Copen CE, Abma JC: Teenagers in the United States: sexual activity, contraceptive use, and childbearing. 2006-2010 National Survey
of Family Growth, Vital and Health Statistics 23(31).

17. Tarkang EE: **Perceived family support regarding condom use and condom use among secondary school female students in Limbe urban city of Cameroon.** *BMC public health* 2014, 1(173):14.

18. Fagbamigbe FA, Adebowale SA, Olaniyan AF: **A Comparative Analysis of Condom Use among Unmarried Youths in Rural Community in Nigeria.** *Public Health Research* 2011, 1(1):8-16.

19. Adebiyi AO, Asuzu MC: **Condom use amongst out of school youths in a local government area in Nigeria.** *African health sciences* 2009, 9(2):92-97.

20. Adongo BP, Tabong PT-NP, Azongo BT, Phillips FJ, Sheff CM, Stone EA, Tapsoba P: **A comparative quality study of misconceptions associated with contraceptive use in southern and northern Ghana.** *Public Health* 2004, 2:137.

21. Gueye A, Speizer SI, Corroon M, Okigbo CC: **Belief in Family Planning Myths at the Individual And Community Levels and Modern Contraceptive Use in Urban Africa.** *International Perspectives on Sexual and Reproductive Health* 2015, 41(4):191-199.

22. Holmes KK, Levine R, Weaver M: **Effectiveness of condoms in preventing sexually transmitted infections.** *Public Health Reviews* 2004, 82(6):454.

23. Tiwari P: **Myths and misconceptions regarding contraception in the urban poor community in Jamshedpur, India.** *International journal of reproduction, contraception, obstetrics and gynecology* 2018, 7(9):3659-3663.

24. Fiaveh DY: **Condom Myths and Misconceptions: The Male Perspective.** *Global Journal of Medical research* 2012, 12(5).

25. USAID: **Nigeria Population and Development Ebonyi State.** In.: Health
Policy Plus (HP+) Project Nigeria 2017.

26. National Population Commission and ICF Macro: Nigeria Demographic and Health Survey 2013. In. Edited by National Population Commission. Abuja, Nigeria and Rockville, MD; 2013.

27. Envuladu AE, Anke VDK, Zwanikken P, Zoakah IA: Sexual and Reproductive Health Challenges of Adolescent Males and Females in some Communities of Plateau State Nigeria. International Journal of Psychology and Behavioral Sciences 2017, 7(2):55-60.

28. Restless Development Sierra Leone: Understanding the Barriers to Young People’s Access to Sexual Reproductive Health Services in Sierra Leone. A Youth-led Research Study 2012, 16 Off Byrne Lane Aberdeen Ferry Road Freetown, Sierra Leone: s.n.

29. Nishtar N, Sami N, Faruqi A, Khowaja S: Myths and fallacies about male contraceptive methods: a qualitative study amongst married youth in slums of Karachi, Pakistan. Global journal of health science 2013, 5(2):84.

30. Ankomah A, Anyanti J, Oladosu M: Myths, misinformation, and communication about family planning and contraceptive use in Nigeria. Open Access Journal of Contraception 2011, 2(1):95-105.

31. Jackson H, Harare, Raj R: Myths, Misconceptions and fears: Addressing condom use barriers. International Planned Parenthood Federation 2003.

32. Lang, DL, Salazar LF, Diclemente RJ, Markosyan K, Darbinyan N: Predictors of condom errors among sex workers in Armenia. Int J STD AIDS 2011, 22:126-30.

33. Crosby AR, Milhausen RR, Sanders AS, Graham AC, Yarber LW: Condoms are More Effective When Applied by Males: A Study of Young Black Males in the United States. Ann Epidemiol 2014, 24(11):868-870.
34. Young DR: *Myths and facts about male condoms: Delivering sexual and reproductive healthcare around the world, fighting for sexual rights.* International Planned Parenthood Federation (IPPF) 2019.

35. Crosby AR, Sanders AS, Yarber LW, Graham AC, Dodge B: *Condom Use Errors and Problems Among College Men.* Sex Transm 2002, 29(9):552-557.

36. Brown LK, DiClemente R, Crosby R, Fernandez MI, Pugatch D, Cohn S, Lescano C, Royal S, Murphy JR, Silver B, Schlenger WE, Project Shield Study Group: *Project Shield Study Group. Condom use among high-risk adolescents: anticipation of partner disapproval and less pleasure associated with not using condoms.* Public Health Rep 2008, 123(5):601-607.

37. Essien JE, Mgbere O, Monjok E, Eknog E, Abughosh S, Holstad MM: *Predictors of frequency of condom use and attitudes among sexually active female military personnel in Nigeria.* HIV/AIDS - Research and Palliative Care 2010, 77-88.

38. Fiaveh D: *Male Perspective on Condom.* 2011; Saarbrucken,Germany: Lambert Academic Publishin. https://www.amazon.com/MALE-PERSPECTIVES-CONDOM-USE-IMPLICATIONS/dp/3844309411