

An Investigation of the Knowledge, Attitudes and Use of Contraceptives by Youth Development Female Students at the University of Venda

Raymond Nanga Raselekoane*, Rachel Chinyakata and Leah Gwatimba

*Institute of Gender and Youth Studies, University of Venda, Thohoyandou,
Private Bag X5050, Limpopo, 0950, South Africa
E-mail: *<Raymond.raselekoane@univen.ac.za>*

KEYWORDS Health. HIV/AIDS. Unwanted Pregnancy

ABSTRACT Young people around the globe are faced with the precipitous escalation of HIV/AIDS and unintended pregnancies. The aim of this study was to investigate the knowledge, attitudes and use of contraception by Youth Development female students at the University of Venda's. The Statistical Package for the Social Sciences (SPSS) was used for the descriptive analysis of the data. University of Venda's Youth Development female students displayed varying degrees of knowledge of contraceptives as well as the significance of contraceptives for their health and well-being. Surprisingly, over sixty-five percent of the respondents had a negative attitude towards contraception because of the side effects of contraceptives. Religion, culture, partners and families also perpetuated female students' negative attitudes towards contraceptives. Intensified sex education and health promotion campaigns should be a priority at the University of Venda in order to address female students' common misconceptions and negative attitudes towards contraceptives.

INTRODUCTION

Young people around the globe are faced with multitudes of challenges and amongst them are the unrelenting HIV/AIDS scourge and unintended teenage pregnancies. This situation is mainly attributed to misconceptions and negative attitudes, including other impediments to contraception. What is even more disturbing is the fact that even university students are found to be part of the huge number of people with misconceptions and negative attitudes towards contraception. This is disconcerting because students at institutions of higher learning are generally expected to have knowledge that enables them to see the light and be able to lead the way for others in all spheres of life.

The rampant HIV/AIDS pandemic, unintended teenage pregnancies and other sexually transmitted infections compromise young people's health and well-being. The consequences of these health maladies are too ghastly to contemplate as governments all over the world are battling to cope with the ever escalating health budget. There is an estimated 225 million women globally who have unmet contraceptive needs (Sedgh et al. 2016). Contraceptive use in Sub-

Saharan Africa remains low even though the use of contraception has improved in many parts of the world (Protogerou et al. 2017). Sub Saharan Africa continues to be the region with the highest fertility rates and the highest unintended pregnancy rates (Sedgh et al. 2012; Singh et al. 2017). There is a need for the contraceptive needs of women to be met in order to prevent unintended pregnancies, abortions and maternal and infants deaths (Aviisah et al. 2017).

In South Africa, there is a moderate rate of contraception compared to other Sub-Saharan countries, with some women who are sexually active using contraceptives and others not (The Joint United Nations Programme on HIV/AIDS (UNAIDS) 2012); United Nations Department of Economic and Social Affairs (UNDESA) Population Division 2015). According to Skosana (2014) about two-thirds of sexually active women in South Africa use contraception. South Africa is one of the many countries with contraceptive pills available to those in need of them without prescription (South Africa Department of Health 2006). Despite the availability of contraceptives almost 90,000 abortions occurred during the 2013 to 2014 financial year in government clinics and hospitals in South Africa. This

was due to contraception challenges (Skosana 2014; Guttmacher Institute 2017). This shows that despite the availability of contraceptives in South Africa, there are some barriers which hinder women from using contraceptives. According to United Nations Fund for Population Activities (UNFPA) (2014), unintended pregnancy remains a challenge in South Africa. This challenge may be attributed to the negative attitudes to contraceptives or lack of awareness of the value of contraception. Young people, including those at tertiary institutions, continue to engage in unprotected sex. This gives rise to many health risks such as unintended pregnancies, HIV/AIDS, STIs, and abortion related morbidity and mortality.

South Africa has the highest number HIV infections with around 7.1 million people living with the virus. This is the country with the largest number of people with the virus living in a single country in the world (World Health Organization (WHO) 2017). Female students are at more risk of being infected with HIV. According to the Higher Education South Africa Sector Study (2010), female students have a much higher HIV prevalence rate (4.7%) compared to male students with a prevalence of 1.5 percent. This might be attributed to the common barriers to contraception such as lack of knowledge and access to contraception and negative attitudes towards contraception. In another study, about half of the female respondents were consistently using condoms over a period of 2 months compared to almost three quarters of the male respondents (Hoffman et al. 2017). This puts female students at more risk of unwanted pregnancies and sexually transmitted infections. Therefore, there is a need for the intensification of the promotion of contraceptive use in South Africa, solely to arrest the ever escalating rates of HIV/AIDS infections, STIs, unintended pregnancies and other health risks.

Young people may not consistently use contraceptives because of the little and or incorrect information that they have. According to a study by Okanlawon et al. (2010) on the knowledge and attitudes of refugee youths in Nigeria, forty-nine percent of all respondents had misperceptions about the safety of contraceptives due to little and incorrect information about contraceptives. Okanlawon et al. (2010) argue that the refugee youths believed that contraceptives are dangerous and are composed of chemicals that

endanger the reproductive system. Any information they received often reinforced common misperceptions of modern contraceptives. The myths associated with contraception make young people unwilling to use contraception. Societal myths have to be addressed through education in order for the rate of contraception to increase among young people.

Studies have also indicated that knowledge in relation to contraceptive use is also limited amongst tertiary students. According to Abiodun et al. (2017) in a study among college students in Nigeria, about 64.3 percent of all the respondents indicated that they were aware of that emergency contraceptives existed prior to the survey. However, slightly over half of the respondents (50.4%) had poor knowledge on emergency contraception. This study shows that even if university students have heard about contraception they still lack sufficient knowledge on how they can use contraceptives and how contraceptives work. Another study conducted in Ethiopia found that knowledge on contraception was very low. As a result, there was a very high percentage (73.8%) of unwanted pregnancies and 43.3 percent of these resulted in abortion (Nibabe and Mgutshini 2014). Without the knowledge on where and how to access contraceptives linked with the knowledge on how to use them young people end up engaging in unprotected sex. Unprotected sex consequently leads to unwanted pregnancy which often ends up in abortions which puts the lives of young women in danger.

The knowledge and attitudes of young people at tertiary institutions towards contraception, including other barriers towards contraception continue to be a challenge in South African universities. This is evidenced by the study on contraception attitudes and perceptions of South African students which was conducted by the University of KwaZulu-Natal which proved that forty percent of all the respondents believed that women who use contraceptives are promiscuous (Department of Health South Africa 2008). According to a study on the knowledge, practices, and attitudes of emergency contraception among female university students at KwaZulu-Natal University (Hoque and Ghuman 2012), more than half of the respondents (53.2%) reported to have had sex prior to the study, and among them, 35.8 percent never used any contraceptive methods. More than half (51.1%) of

the pregnancies were unwanted and 22.2 percent had induced abortions. This highlights the seriousness of the problem of disregard of contraception by some young people at tertiary institutions in South Africa.

Female students at tertiary institutions also have negative attitudes towards contraception. According to a study on female students' awareness, use and barriers to family planning in Lesotho, about 26.6 percent of the respondents thought it caused cancer and 20.3 percent thought it promoted promiscuity. Some respondents said that contraceptives decrease sexual pleasure and are also unreliable (Ankitage 2011). This study simply reveals the fact that most young people in Lesotho have a negative attitude towards contraception. In another study on contraceptive knowledge, sexual behavior and factors associated with contraception among female undergraduate students in Kilimanjaro region, Tanzania, contraceptive knowledge was indicated to be very high (98.3%). Despite the sufficient knowledge of contraception, contraceptive use by the sexually active female students was low (Sweya et al. 2016). This might be due to the negative attitudes and misconceptions that the female students have towards contraception.

Women also have negative attitudes towards contraception as they believe that contraception affects their sexual spontaneity. Methods that require preparation, application or adjustment are less preferred by women because they disturb the natural course of sex, for example, the barrier methods such as the condom, diaphragm and the cervical cap (Higgins and Hirsch 2008). According to a study conducted by Fennell (2014), condoms were reported to be interfering with the respondents' sexual pleasure. Therefore, the respondents did not like to use them. Such a belief and the subsequent action by the respondents, undoubtedly, compromised their health and well-being. This study aimed at investigating knowledge, attitudes and use of contraceptives by University of Venda Youth Development female students towards contraceptives. This was to raise an alarm at the likely impact of lack of knowledge and negative attitude towards conception on the health and well-being of the female students at the University of Venda.

Objectives

The objectives of this study are:

- ♦ To investigate the knowledge of Youth Development female students at the University of Venda regarding contraceptives.
- ♦ To explore the use of contraceptives by Youth Development female students at the University of Venda.
- ♦ To investigate the attitudes of Youth Development female students towards contraceptives at the University of Venda.

METHODOLOGY

Quantitative approach was used in this study. This is a numerical measurement of specific aspects of a phenomenon being investigated (De Vos et al. 2011). This research approach was used to get a wider description of the knowledge, attitudes and use of contraceptives by the Youth Development female students at the University of Venda.

A survey research design was used to guide this study. The descriptive survey was used because of its ability to collect information from large samples. The use of a survey also made it easier for the researchers to collect data from many participants in a short period of time.

The study took place at the University of Venda (UNIVEN) which is located in Thohoyandou, Limpopo Province in South Africa. The population of the study was 340 registered Youth Development undergraduate female students at the University of Venda whose ages ranged from 18 and 24 years. The sample for this study consisted of 60 Youth Development female students, who were either using or not using contraceptives, was selected.

Probability stratified random sampling method was used to select the respondents. The population was divided into four categories or groups, namely, first, second, third and fourth year students. This was done to ensure proportional representation of Youth Development undergraduate female students at all levels.

In this paper, the data was collected from a sample of sixty (60) female students on their knowledge, attitudes and use of contraceptives. This was done in order to make the findings valid and reliable since with qualitative research, at least ten percent of the population should be selected. From each level of study, fifteen (15) undergraduate female students were randomly selected until the required number was reached.

The data was collected through the use of a survey questionnaire. The questionnaire contained closed-ended questions which were

structured. The research questionnaire was piloted using five female students with the same characteristics as those who were to be included in the study in order to validate its appropriateness to the study. After the pilot study, all the difficult, ambiguous questions were modified and refined. The questionnaires were administered to the Youth Development female students at University of Venda randomly. The data was analyzed descriptively using SPSS data analysis tool. Codes were assigned to the responses which were entered into the computer using the Microsoft excel. The data was imported to SPSS for analysis.

To ensure that the study is ethical, informed consent, confidentiality, anonymity and voluntary participation were applied. Informed consent was ensured by giving the participants all information about the study and its purpose after the respondents agreed to participate voluntarily. In addition, information and names of the respondents was kept confidential and were only used for the purpose of the study. The respondents were also informed that they could pull out of the study whenever they felt uncomfortable.

RESULTS

About 31.7 percent (n=19), 26.6 percent (n=16) and 41.7 percent (n=25) of the respondents were between the ages of 18-20, 21-22 and 23-24 years respectively. Almost all the respondents were single (90%, n=54), 8.3 percent (n=5) of the respondents were married and 1.7 percent (n=1) were divorced. The overwhelming majority (98.3%, n=59) of the respondents were Christians with only 1.7 percent (n=1) of the respondents following the African religion. Table 1 shows the biographical characteristics of the respondents.

Table 1: Demographic characteristics of the respondents

<i>Variable</i>	<i>Frequency</i>	<i>Percentage (%)</i>
<i>Age of Respondents</i>		
18-20 years	19	31.7
21-22 years	16	26.6
23-24 years	25	41.7
<i>Marital Status</i>		
Single	54	90.0
Married	5	8.3
Divorced	1	1.7
<i>Religion</i>		
Christian	59	98.3
African Traditional	1	1.7

According to the data collected and analyzed, 91.7 percent (n=55) were aware of the availability of contraceptives whereas only 8.3 percent (n=5) were not. About 61.7 percent (n=37) of the respondents knew the correct way of using contraceptives whereas 38.3 percent (n=23) did not know the correct way to use contraceptives. About sixty percent (n=36) of the respondents were confident in educating someone about contraception while about forty percent (n=24) were not confident in educating someone. Most of the respondents (65%, n=39) said they first became aware about contraceptives at high school whereas less than one-third (35%, n=21) began to know about contraception at primary school. The majority of the respondents (83.3% n=50) pointed out that contraception was associated with some benefits which include the prevention of pregnancy and STIs. Only 16.7 percent (n=10) pointed out that there were no benefits related to contraception. The majority of the respondents (81.7%, n=49) stated that there were some negative effects associated with using contraceptives. About twenty-five percent (n=15) believed that contraceptives lead to the decrease of sexual pleasure, 21.7 percent (n=13) indicated that contraceptives increase promiscuity. On the other hand, 16.7 percent (n=10) and 18.3 percent (n=11) of the respondents indicated that contraceptives cause cancer and weight gain respectively as indicated in Table 2.

This study indicated that over than half of the respondents (58.3% n=35) were using contraceptives. The majority of the respondents (71.7%, n=43) used contraceptives to prevent pregnancy and only 28.3 percent (n=17) used contraceptives to prevent STIs (Table 3). Less than half of the respondents (41.7%, n=25) were not using contraceptives. About forty-eight percent (n=12) of these respondents who were not using contraceptives were not using them because they were not sexually active, twenty-four percent (n=6) because they were scared of the side effects of contraceptives, twenty percent (n=5) because of the religious influence, four percent (n=1) because of the partner's influence and another four percent (n=1) because they wanted to fall pregnant as indicated in Table 3.

About sixty-five percent (n=39) of the respondents preferred to use condom as a method of contraception, five percent (n=3) preferred to use the hormonal contraceptive pill, ten percent (n=6) preferred to use the injectable contra-

Table 2: Respondents' knowledge on contraception, benefits and negative effects

Variable		Frequency	Percentage (%)
Awareness about Contraception	Yes	55	91.7
	No	5	8.3
Knowledge on the Correct Way of Contraception	Yes	37	61.7
	No	23	38.3
Confidence in Educating Someone about Contraceptives	Yes	36	60
	No	24	40
Level of First Knowledge on Contraception	Primary school	16	26.7
	Secondary school	39	65
	Tertiary	5	8.3
Benefits of Contraception	Yes	50	83.3
	No	10	17.7
Negative Effects Associated with Contraception Specific Negative Effects	Yes	49	81.7
	Decrease sexual pleasure	15	25
	Increase promiscuity	13	27.1
	Cause cancer	10	61.7
	Weight gain	11	18.3

ception, five percent (n=3) preferred using implants, 33.3 percent (n=20) preferred to use the morning after pill and 11.7 percent (n=7) did not prefer to use any contraceptive method. No female student preferred to use the diaphragm and the intrauterine device as a contraceptive method.

The overwhelming majority of the respondents (83.3%, n=50) believed that contraceptives were not always reliable. Only 16.7 percent (n=10) believed that contraceptives were reliable. Over half of the respondents (65%, n=39) indicated that they do not like to use contraceptives due to the misconceptions, stigma and side effects associated with the use of contraceptives and only thirty-five percent (n=21) liked using contraceptives as indicated in Table 3.

Table 4 shows that 76.7 percent (n=46) of the respondents cited religion as a barrier to contraceptive use and about 66.7 percent (n=40) of the respondents indicated that their culture made it difficult for them to use contraceptives. About twenty-five percent (n=15) of the respondents

Table 4: Barriers to contraception

Variable	Frequency	Percentage (%)
<i>Barriers to Contraception</i>		
Religion	46	76.7
Culture	40	66.7
Family and partner	15	25
Attitudes of health care providers	27	45

Table 3: Contraceptive use, reliability and preferred method

Variable		Frequency	Percentage (%)
Respondents Using Contraceptives	Yes	35	58.3
	No	25	41.7
Reasons for Using Contraception	Pregnancy prevention	43	71.7
	STIs prevention	17	28.3
Reasons for Not Using Contraception	Not sexually active	25	48
	Fear of side effects	6	24
	Religious influence	5	20
	Partner's influence	1	4
	Desire to get pregnant	1	5
Are Contraceptives Always Reliable	Yes	10	16.7
	No	50	83.3
Preferred Contraceptive Method	Condom	39	65
	Hormonal contraceptive pill	3	5
	Injectable contraceptive	6	10
	Implant	3	5
	Morning after pill	2	3.3
	Do not prefer any	7	11.7

indicated that their partners were barriers to contraception. About forty-five percent of the respondents indicated that the unfriendliness of the health professionals serves as a barrier to contraceptive.

DISCUSSION

The study revealed that the level of knowledge on contraceptives was high among the respondents. Most respondents knew the correct way of using contraceptives and were confident in educating someone about contraception. The level of confidence of some respondents in educating someone else about contraception indicates that some female students have adequate knowledge on contraception. High schools are an important source of information about contraception as revealed by the study that most students started knowing about contraception at high school. This was similar to a study by Ankitage (2011) where almost three quarters (71.2%) of the respondents started knowing about family planning during their high school years. This might be due to the fact that young people start becoming sexually active at the high school stage. Therefore, information on contraception becomes more necessary and this information starts to be prioritized in high schools. This also shows the important role played by high schools as indicated by the National Integrated School Health Policy of South Africa in providing and promoting sexual and reproductive health education among the youth (Chersich et al. 2017). This is fundamental in promoting safe sex among young people.

The study showed condoms as the most commonly known and used contraceptive method. This correlates with a study conducted in Uganda where condoms were the most commonly used contraceptives (Nsubuga et al. 2016). This may be due to the accessibility and availability of condoms and their two-pronged purpose of the prevention of STIs and pregnancy. This may imply that the respondents prefer to use condoms because condoms can protect them from both STIs and pregnancy. The other reason may be the easy accessibility, availability and affordability of condoms. The students can even get condoms in certain public places around campus free of charge and without consulting the campus health staff.

The respondents also cited a number of negative effects of contraception. Contraceptives were believed to cause cancer, increase promiscuity and to decrease sexual pleasure. This is corroborated by the study done by Okanlawon et al. (2010) in which respondents stated that contraceptives decrease sexual pleasure. The fact that some young people still have misconceptions about contraception is of great concern. This is because a sizable may still be reluctant to use contraceptives due to their perceived negative effects.

According to this study, more than half of the respondents who were using contraceptives were using them mainly to prevent pregnancy. This indicates that some female students are more concerned with the risk of falling pregnant than the risk of contracting STIs. Other studies also confirmed that most people used contraceptives to prevent pregnancy than being concerned about the risk of STIs (Guttmacher Institute 2013; Hoffman et al. 2017). Therefore, this means that most University of Venda female students are more concerned about falling pregnant than contracting STIs. This might be because the female students are still concentrating on their studies so they do not want to fall pregnant and have children. This is because they are not yet financially stable to take the responsibility of having children and some of them may see having children a destruction to their academic journey.

The majority of the respondents believed that contraceptives were not always reliable. This might be due to the common contraceptive failures whereby some people get pregnant despite the fact that they were using contraceptives. This correlates with the study by Chersich et al. (2017) in which a quarter of the women reported to being pregnant regardless of them using a some contraceptives. This made the respondents have negative attitudes towards contraception. The unreliability of contraception may be attributed to the lack of proper knowledge on the correct way to utilize those contraceptives. In addition over half of the respondents indicated that they do not like to use contraceptives due to the misconceptions and the stigma associated with contraception. This is worrying because this still compromises the health and well-being of young women.

Religion, culture, partner's influence and the attitude of health care providers were barriers to contraception as indicated in this study. These

barriers significantly contribute to female students' negative attitude towards contraception. This is supported by the study conducted in Uganda which showed that some women were less likely to use contraceptives because of the socio-cultural barriers (Mehra et al. 2012). Linked to the above, religion also affects the usage of contraceptives among young people. The Catholic Church and the Zion Christian Church (ZCC) in South Africa are well-known for their 'no sex before marriage' doctrine. This doctrine is aimed at discouraging any use of contraceptives as this would allow young people to have sex before marriage. This ends up compromising young people's sexual and reproductive health as they may be tempted to engage in sexual intercourse without using contraceptives. In addition some of the churches discourage the use of contraceptives because they believe that they hinder the natural process of procreation. For example, in a study conducted in Uganda, states that the Adventists discouraged the use of contraceptives, therefore, this had a negative effect on their use by the members (Nsubuga et al. 2016). Belonging to a religion which discourages the use of contraception does not necessarily mean that the members will not engaging in sexual intercourse. This will consequently lead to unwanted or unintended pregnancies and STIs.

This study shows that the negative attitudes towards contraception by University of Venda female students are mainly attributed to misconception about the unreliability of contraceptives, religion, culture, influence of partners and families as well as the unfriendliness of the some of the healthcare professionals. As long as this situation persists, female students at the University of Venda will remain vulnerable to HIV/AIDS, sexually transmitted infections and unintended pregnancies.

CONCLUSION

From the findings of the study, it can be concluded that most female students are adequately knowledgeable about contraceptives and their significance in maintaining and promoting young women's health and well-being. Although female students' knowledge was adequate, the study revealed that most female students harbor negative attitudes towards contraceptives. Furthermore, contraceptives were regarded as unreliable. Most female students did not like to use

contraceptives due to misconceptions and stigma associated with them. Lastly, religion, culture, partners or families and the unfriendliness of some health care providers hindered the respondents from effectively using contraception.

RECOMMENDATIONS

The study showed that the students had negative attitudes towards contraception, therefore, there is need for more research and modification on the specific types of contraceptives in order to eliminate the side effects. There is also a need for education on the importance of contraceptives and in order for the cultures, religion, partners, families and health care providers to support the use of contraceptives.

ACKNOWLEDGMENTS

The authors of this paper are deeply indebted to the University of Venda Ethics Committee for granting permission to conduct the study and female students at the University of Venda for agreeing participate in this study.

REFERENCES

- Abiodun OA, Sotunsa J, Jagun O, Faturoti B, Ani F, John I, Taiwo A, Taiwo O 2017. Prevention of unintended pregnancies in Nigeria: The effect of socio-demographic characteristic on the knowledge and use of emergency contraceptives among female university students. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 4(3): 755-764.
- Ankitage LO 2011. Awareness, use of and barriers to family planning services among female university students in Lesotho. *South African Journal of Obstetrics and Gynecology*, 17(3): 72-78.
- Aviisah MA, Norman ID, Enuameh Y 2017. Facilitators and barriers to modern contraception use among reproductive-aged women living in sub-Saharan Africa: A qualitative systematic review protocol. *JB I Database of Systematic Reviews and Implementation Reports*, 15(9): 2229-2233.
- Chersich MF, Wabiri N, Risher K, Shisana O, Celen-tano D, Rehle T, Evans M, Rees H 2017. Contraception coverage and methods used among women in South Africa: A national household survey. *SAMJ: South African Medical Journal*, 107(4): 307-314.
- Department of Health South Africa 2006. *Preliminary Report on the 2003 Demographic and Health Survey*. Pretoria, South Africa: Department of Health.
- Department of Health South Africa 2008. *South African Demographic and Health Survey*. From <<http://www.DOH.gov.za/facts/index.htm>> (Retrieved on 18 April 2015).

- De Vos AS, Strydom H, Fouche CB, Delport CSL 2011. *Research at Grassroots*. 4th Edition. Pretoria: Van Schaik Publishers.
- Fennell J 2014. And isn't that the point? Pleasure and contraceptive decisions. *Contraception*, 89(4): 264-270.
- Guttmacher Institute 2013. *Contraceptive Use in the United States*: New York: Allan Guttmacher Institute.
- Guttmacher Institute 2017. *Abortion in Africa: Fact Sheet*. New York: Allan Guttmacher Institute.
- Higgins JA, Hirsh JS 2008. Pleasure, power and inequality: Incorporating sexuality into research on contraceptive use. *American Journal of Public Health*, 98(10): 1803-1813.
- Higher Education Sector Study 2010. HIV Prevalence and Related Factors. South Africa, 2008-2009. Pretoria, South Africa: Higher Education HIV and AIDS. From <<http://hivhealthclearinghouse.unesco.org/library/documents/hiv-prevalence-and-related-factors-higher-education-sector-study-south-africa-2008>> (Retrieved on 20 March 2013).
- Hoffman S, Levasseur M, Mantell JE, Beksinska M, Mabude Z, Ngoloyi C, Kelvin EA, Exner T, Leu CS, Pillay L, Smit JA 2017. Sexual and reproductive health risk behaviours among South African university students: Results from a representative campus-wide survey. *African Journal of AIDS Research*, 16(1): 1-10.
- Hoque ME, Ghuman S 2012. Knowledge, practices and attitudes of emergency contraception among female university students in KwaZulu Natal, South Africa. *HIV/AIDS: An Open Access Journal*, 9(1): 15-19.
- Mehra D, Agardh A, Petterson KO, Ostregren P 2012. Non-usage of contraception: Determinants among Ugandan university students. *Global Health Action*, 5: 18599.
- Nibabe WT, Mgutshini T 2014. Emergency contraception amongst female college students - knowledge, attitude and practice. *African Journal of Primary Health Care Family Medicine*, 6(1): 538-544.
- Nsubuga H, Sekandi JN, Sempeera H, Makumbi FE 2016. Contraceptive use, knowledge, attitude, perceptions and sexual behavior among female university students in Uganda: A cross sectional survey. *BMC Women's Health*, 16(6): 1-1.
- Okanlawon K, Revees M, Agbaje OP 2010. Contraceptive use: Knowledge and attitudes of refugee youth in refugee camp Nigeria. *African Journal of Reproductive Health*, 14(4): 1-7.
- Protogerou C, Hagger MS, Johnson BT 2017. An Integrated Theory of Condom Use for Young People in Sub-Saharan Africa: A Meta-analysis. From <https://scholar.google.co.za/scholar?hl=en&as_sdt=0%2C5&q=Protogerou+C%2C+Hagger+MS%2C+Johnson+BT+2017.+An+integrated+theory+of+condom+use+for+young+people+in+Sub-Saharan+Africa%3A+A+meta-analysis.&btnG=>> (Retrieved on 30 November 2017).
- Sedgh G, Singh S, Hossain R 2012. Intended and unintended pregnancies worldwide in 2002 and recent trends. *Studies in Family Planning*, 45(3): 301-314.
- Sedgh G, Ashford LS, Hussain R 2016. *Unmet Need for Contraception in Developing Countries: Examine Women's Reasons for Not Using a Method*. New York: The Guttmacher Institute.
- Singh S, Bankole A, Darroch JE 2017. The impact of contraceptive use and abortion on fertility in Sub Saharan Africa: Estimates for 2003-2014. *Population and Development Review*, 43(1): 141-165.
- Skosana I 2014. Contraceptives: South Africans are Still Out of the Loop. Mail and Guardian. From <http://mg.co.za/article/2014-05016_contraceptives_south_africans_are_still_out_of_the_loop> (Retrieved on 16 June 2015).
- Sweya MN, Msuya SE, Mahande MJ, Manongi R 2016. Contraceptive knowledge, sexual behavior, and factors associated with contraceptive use among female undergraduate university students in Kilimanjaro region in Tanzania. *Adolescent Health, Medicine and Therapeutics*, 7: 109.
- UNDESA, Population Division 2015. *Trends in Contraceptive Use Worldwide 2015*. New York: United Nations.
- UNFPA 2014. South Africa Sexual and Reproductive Health: Fertility Planning. From <countryoffice.unfpa.org/southafrica/2011/11/24/4255/reproductive_health_and_hiv> (Retrieved on 10 February 2015).
- UNAIDS 2012. *World AIDS Day Report 2012*. New York: United Nations.
- WHO 2017. Number of People (All Ages) Living with HIV Estimates by Country. From <<http://apps.who.int/gho/data/?theme=main&vid=22100>> (Retrieved on 30 November 2017).

Paper received for publication on April 2016
Paper accepted for publication on December 2016