

Awareness, knowledge and contraceptive use among female students in University of Ilorin, Nigeria.

Ishaq Abdul¹, Aleakhu Imohagene¹, Lukman Omokanye¹, Kike Adesina¹, Michael Oguntoye² and Gbenga Popoola³.

¹Department of Obstetrics and Gynaecology, College of Health Sciences, University of Ilorin, Nigeria.

²Department of Epidemiology, Primary Healthcare Development Agency, Ilorin, Nigeria

³Department of Community Health, University of Ilorin Teaching Hospital, Ilorin, Nigeria.

Correspondence. Ishaq Abdul Email: abdula_dr@yahoo.com; +234 08037075430

Abstract

Background: *The success or failure of public health interventions and advocacies depend largely on the effectiveness of the methods used. Awareness and knowledge are two words that are often used interchangeably in the assessment of contraceptive usage as well as attitude and practice. This study sought to know if the difference between knowledge and awareness does affect usage of contraceptives with the intention of recommending the best option for an improved usage.*

Methods. *A cross sectional study design involving 151 female students of the University of Ilorin was conducted. Trained questionnaire administrators administered the structured questionnaire. The questionnaire was coded and analysed with Statistical Package for Social Sciences version 23, IBM Version. Data were analysed using descriptive and inferential statistics. Comparison of proportions at the bi-variate level was done using Chi-square test while stepwise model of binary logistic regression analysis was done at the multivariate level. Data obtained was also analyzed with EPI info 6.0 and Stata version 5.0 applying t-test, Chi Square and Fisher's exact test statistics. Selection of variables to be imputed into the model was carried out if they were significant at the bi-variate level. Adjusted odds ratio and 95% confidence interval were obtained to identify factors that were significantly predicting the use of contraception among respondents. The level of statistical significance was set at $p < 0.05$.*

Results. *The study showed that awareness did not have significant correlation ($p > 0.75$) with use of contraception despite its high level (91.4%) while knowledge had statistically significant correlation ($p = 0.005$). This was higher among those with good knowledge (68.1%) as compared to those with poor knowledge (43.3%). Islam was significantly associated with use of contraception compared to Christianity ($p = 0.044$). At multivariate level, only good knowledge of contraception remained a significant predictor of use of contraception. Students with good knowledge were three times more likely to use contraception as compared to those with poor knowledge ($OR = 2.411$).*

Conclusion. *Awareness was not found to be significantly associated with contraceptive usage as compared to knowledge. Researchers and public health practitioners need to take full advantage of this finding when promoting health care interventions such as family planning by focusing on educating the students rather than awareness promotion alone.*

Key words: *Awareness, Knowledge, Contraceptives, Females*

Introduction

Awareness and knowledge are two words that are often used interchangeably in the assessment of contraceptive usage. There is however a clear difference between awareness and knowledge. Awareness is knowing, perceiving or sensory patterns or being conscious of events, objects, thoughts, emotions.¹ Knowledge, however, is facts, information and skills acquired through experience or education.² Contraception has been identified as an effective means of combating the problem of unwanted pregnancy and unsafe abortion.³

In Nigeria, women aged 15-44 years obtain approximately 610,000 abortions yearly, at a rate of 25 abortions per 1,000 women with adolescents and young adults being disproportionately affected by the consequences of unsafe abortion.⁴ Maternal mortality and morbidity have been noted to be prevalent in sub-Saharan Africa and other resource-poor and underdeveloped nations of the world.⁵ Unplanned pregnancy and unsafe abortion are major contributors to these dismal health indices and are themselves direct consequences of failure or non-use of contraception.^{5,6} Unsafe abortion accounts for about 11% of maternal mortality worldwide and up to 40% in Nigeria,^{5,6} where contraceptive prevalence has been reported to be very low.^{7,8} The current prevalence rate for contraceptive use in Nigeria is approximately 11–13% and this rate is very low despite the high rate of sexual activity (the average age of sexual debut ranged 12-20 years).⁹ Knowledge, awareness and practice of contraception are also particularly important due to the soaring Sexually Transmitted Infections (STIs) and HIV/AIDS rates in this part of the world, most particularly in this environment.^{10,11} Data from the 2013 Nigeria Demographic and Health Survey (NDHS) shows that 28.3% of the

population of Nigeria are between the ages of 10-24 years.¹² It also shows that 85% of women and 91% of men aged 15-49 years are aware of at least one form of contraception, with the highest percentage of women (71%) aware of pills, while 91% of men aware of male condom.¹²

Thus, understanding of knowledge, attitude and practice of contraception is critical for countries like Nigeria and other developing countries with population policies aimed at reducing unwanted pregnancy. However, most studies did not look at awareness and knowledge separately or even define them before assessing their effects on the use of contraceptives.¹⁰⁻¹³ The present study will show the difference, if any, between the effects of awareness and knowledge on the use of contraceptives among students in the study area and information gathered would provide baseline data for further studies and for university authorities and university health service operators in formulating appropriate policies on reproductive healthcare of the students. Findings in this study can also be useful to other healthcare providers who wish to improve level of usage or acceptability of contraceptives among young population. The objective of the study is to assess and compare the awareness, knowledge and use of contraceptives among the study group.

Methodology

The study population consisted of students of the University of Ilorin located in North central Nigeria, aged 15–30 years. The study design was cross sectional and sample size of 151 (after adjusting for attrition at 20%) was determined using the Fishers formula.^{11,14} Prevalence rate of 91%, from a similar study was used in the calculation.¹⁵ For sampling technique, a staggered multistage systematic random sampling was done. The first stage was to

divide the students into five groups using their levels of studies viz. 100-500. The second stage was that the serial list of students in each level was stratified into 30 groups, while that of the 500 level students were stratified into 31 groups. The third stage was to select the first females in each stratified group for the study and the next female student was recruited if the selected female student did not consent to the study or agree to understand the meanings of awareness and knowledge and the difference between them.

Out of the 178 students recruited only 151 satisfied the inclusion criteria across the various faculties and were studied. The respondents were interviewed by trained administrators using a structured questionnaire with close ended questions which reduced variations to answers. Knowledge assessment focused on education instead of user experience since the definition of knowledge states that it can be acquired through either education or experience.² Knowledge acquired through training or via reading books or internet or by medical practitioners was acceptable. Respondents signed written informed consent before administered questionnaire. The pretest population consisted of select 25 unmarried university staff to assess which method was more reliable. Thereafter, it was edited to validate it making the assessment of awareness and knowledge completed before that of contraceptive use. Contraceptive knowledge was defined as good if the student knew at least one form of contraceptive methods, usage, side effect(s) and poor if she knows a method of contraception and either usage or side effect. Awareness was determined if they knew there are contraceptive methods, they did not have to know beyond the names of one or more methods and do not have to know usage or side effects specifically. The confidentiality of the

information was expressed in the introductory aspect of the questionnaire and ethical approval was obtained from the ethical committee of the university of Ilorin teaching hospital.

The questionnaire was coded and analysed with Statistical Package for Social Sciences (SPSS) version 23 (SPSS Inc, Chicago, IL, IBM Version). Data were analysed using descriptive and inferential statistics. Comparison of proportions at the bi-variate level was done using Chi-square test while stepwise model of binary logistic regression analysis was done at the multivariate level. Selection of variables to be imputed into the model was carried out if they were significant at the bi-variate level. Adjusted odds ratio and 95% confidence interval were obtained to identify factors that were significantly predicting the use of contraception among respondents. The level of statistical significance was set at $p < 0.05$.

Results

Table 1 shows the demographic characteristics of the respondents. The mean age of the students was 20.28 ± 2.20 years with most of the students (53.0%) aged 20-24 years. Christianity was the most practiced religion (55.0%) while nearly 74.6% of them were Yoruba. Participants aged less than 20 years who have used contraceptives were 47.7%, while those aged 20-24 years had 55.0% users and those aged 25-29 years had 33.35% users. Christianity, Islam and Traditional religion had 44%, 60% and 0% respectively with significantly higher users among the Muslims compared with the Christians ($p=0.044$). Yoruba, Hausa and Igbo had 50.5%, 50%, 60.0% users respectively. Age and ethnicity did not have significant effect on the use of contraception. Table 2 shows that the level of awareness of contraception among the students was quite high (91.4%) however

only 31.1% of them had good knowledge of contraception. A little above half of the students (51.0%) had ever used any form of contraception with condom as the most used method (46.4%) while implants were the list method (2.6%) used as shown in Figure 1. Most of the students with good knowledge of contraceptives (68.1%) used contraceptives as compared to 43.3% of those who had poor knowledge of contraceptives using contraceptives, and the difference was found statistically

significant ($p=0.005$). Thus, students with good knowledge were three times more likely to use contraception as compared with those with poor knowledge. In Table 3, good knowledge remained a significant predictor in the use of contraceptives. Students with good knowledge were three times more likely to use contraception as compared to those with poor knowledge (OR=2.411, 95% CI [1.113–5.221]).

Table 1: Relationship between socio demographic variable and use of contraception

Variable	Use of contraception			OR (95% CI)	χ^2	p-value
	Yes Freq. (%)	No Freq. (%)	Total			
Age (yrs)						
<20	31 (47.7)	34 (52.3)	65			
20-24	44 (55.0)	36 (45.0)	80	0.746 (0.387 – 1.438)	0.767	0.381
25-29	2 (33.3)	4 (66.7)	6	1.824 (0.312 – 10.661)	0.061 ^Y	0.805
Religion						
Christianity	37 (44.0)	47 (56.0)	84			
Islam	40 (60.6)	26 (39.4)	66	1.954 (1.015 – 3.763)	4.056	0.044*
Traditional	0 (0.0)	1 (100.0)	1	NA	0.780	0.377
Ethnicity						
Yoruba	53 (50.5)	52 (49.5)	105			
Hausa	10 (50.0)	10 (50.0)	20	1.019 (0.392 – 2.652)	0.002	0.969
Igbo	12 (60.0)	8 (40.0)	20	0.680 (0.257 – 1.798)	0.611	0.435
Others	2 (33.3)	4 (66.7)	6	2.039 (0.358 – 11.614)	0.667	0.414

χ^2 : Chi square test, Yates corrected, OR: Odds ratio; 95% CI: 95% Confidence Interval; *: p value < 0.05 (statistically significant). NA: Not available

Table 2: Awareness and knowledge correlated with use of contraceptives

Variable	Use of contraception			OR (95% CI)	χ^2	p-value
	Yes Freq. (%)	No Freq. (%)	Total			
Awareness						
Yes	71 (51.4)	67 (48.6)	138	1.236 (0.395 – 3.867)	0.133	0.715
No	6 (46.2)	7 (53.8)	13			
Knowledge						
Good	32 (68.1)	15 (31.9)	47	2.797 (1.354 – 5.779)	7.977	0.005*
Poor	45 (43.3)	59 (56.7)	104			

χ^2 : Chi square test, Yates corrected, OR: Odds ratio; 95% CI: 95% Confidence Interval; *: p value < 0.05 (statistically significant)

Table 3: Predictors of use of contraceptives among respondents using multivariate analysis

Variable	B	p value	Odds ratio	95% C.I.	
				Lower	Upper
Age	0.047	0.560	1.049	0.894	1.230
Ethnicity					
Yoruba	-0.029	0.956	0.971	0.342	2.759
Hausa	0.455	0.385	1.577	0.564	4.408
Igbo	-1.219	0.189	0.295	0.048	1.820
Others					
Religion					
Christianity	-0.633	0.086	0.531	0.258	1.095
Islam					
Aware of contraceptives	0.033	0.957	1.033	0.308	3.463
Good knowledge of contraceptive	0.880	0.026*	2.411	1.113	5.221

B: Coefficient of logistic regression;
REF: Reference category
R²: 0.113;
Predictive value: 60.7%

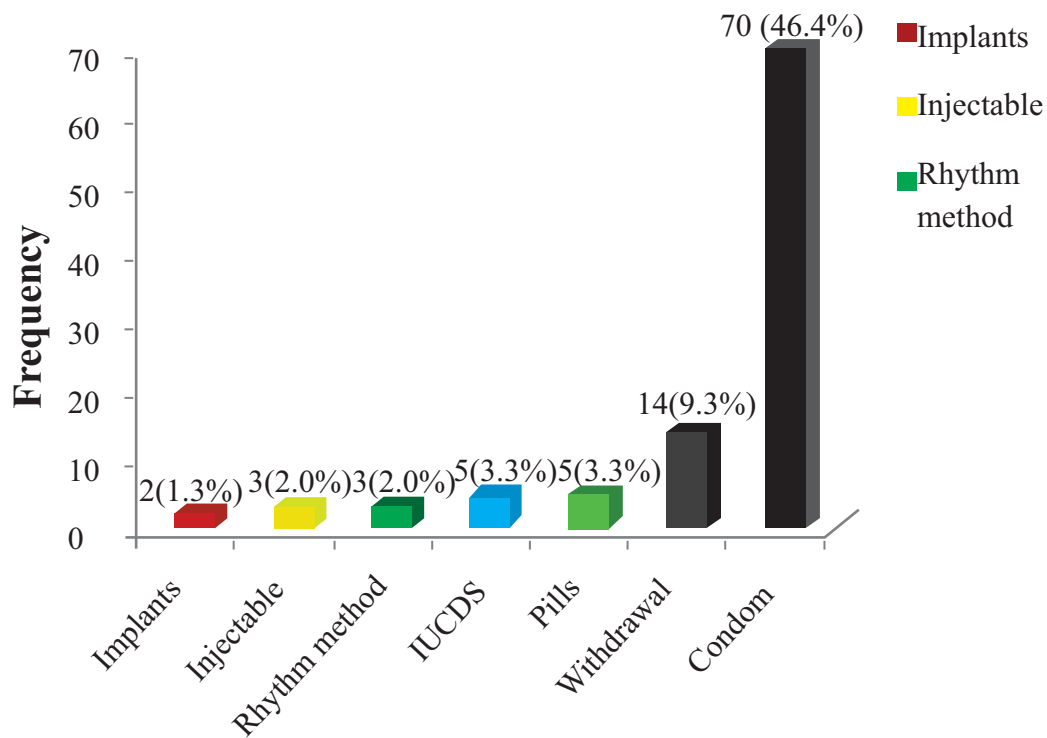


Fig.1 Forms of Contraceptives used

Discussion

The mean age (20.28 ± 2.20 yrs) in this study is similar to those done in Ilorin (20 years) and Botswana (21 yrs).^{16,17} Most University students in Nigeria are within the age bracket 17–25 yrs and are prone to reproductive health problems of unwanted pregnancies and abortions, STIs including HIV/AIDS.^{13,18} There were more Christian respondents, as was reported in a previous study on contraception among students of tertiary institutions in Ilorin.¹⁶

A higher percentage of respondents (91.4%) were aware of contraception but this did not translate to knowledge as only 31.1% of them had good knowledge of contraception. Report from similar study corroborates this finding of high awareness and low level of use of contraceptives and calls for concern among our Youths.¹⁷ This may be because most sources of contraceptive information are informal such as friends and relatives and not from health workers who are likely to be knowledgeable about issues of contraception.⁴ Fifty one percent of respondents had used a form of contraceptive with male condom as the most used. This finding is similar to other studies in Nigeria.^{16,20} This may be due to the massive campaigns by governmental and non-governmental agencies on the use of male condom in the prevention of HIV/AIDS in and outside of the campus.¹⁶ Perhaps the campaigns on the use of condoms focuses also on methods, complications and side effects as part of the sustained efforts to prevent HIV/AIDS.

In this study, age and tribe did not appear to have any significant effect on the contraceptive use among the students. This may be attributed to the undergraduates' environments that are comparable in its physical, psychological and social interactions, relationships and risks irrespective of type of institution.⁴ The use of contraceptives was found to be

significantly higher among the Muslims compared to the Christians ($p=0.044$). This finding was different from a similar study which showed higher use among Christians.^{4,16,21} However, the Muslims in this study might have consisted more of those who are married because of the higher ages of respondents in this study and are therefore likely to be more sexually active and would want to avoid getting pregnant during their education. The lesser use of effective methods of contraception among Catholics than Protestants, in low-fertility developed countries, has been attributed to Roman Catholic doctrine, which rejects the most effective birth control methods.¹² Perhaps, there were many Catholics among the Christian respondents also in this study.

A study done in Botswana showed that there was no significant association between awareness and contraceptive use as has been demonstrated in this study.¹⁷ However, it was seen in this study that students with good knowledge of contraception were three times more likely to use contraception as compared to those with poor knowledge, which was found to be statistically significant. This study showed that good knowledge of contraception gives confidence to use it and good knowledge of contraception remained a significant predictor of use of contraception after multivariate analysis.

Conclusion

This study showed that contraceptive awareness does not have any statistically significant effect on the level of contraceptive use, while the knowledge on contraceptive use did. It would be better to educate rather than create awareness for undergraduates in tertiary institutions in order to reduce the risk of unwanted pregnancies, unsafe abortions and sexually transmitted diseases. One other strategy is to strengthen the health care system by

introducing compulsory sexuality and family planning courses at first year by well-trained counselors beyond the usual awareness campaigns. Awareness usually focuses on providing information on what is available and its purpose. This cannot be compared with knowledge that provides deeper information and training on how to use a system including side effects, contra indications and complications among others. Education of any population is costly because it certainly requires more human and material resources as compared to awareness. Researches done on Knowledge, Attitude and Practice should clearly differentiate between awareness and knowledge.

References

1. Hornby AS. Oxford Advanced Learners Dictionary of Current English. Hey L, Holloway Suzanne (eds). 9th ed. Oxford: Oxford University Press; 2015; 91
2. Hornby AS. Oxford Advanced Learners Dictionary of Current English. Hey L, Holloway Suzanne (eds). 9th ed. Oxford: Oxford University Press; 2015; 866
3. Adewole IF, Oye-Adeniran BA, Iwere N, Oladokun A, Gbadegsin A, Babarinsa AI. Contraceptive usage among abortion seekers in Nigeria. *West Afr J Med*. 2002; 21(2): 112- 114.
4. Duru CB, Iwu AC, Diwe KA, Uwakwe KA, Merenu IA, Emerole CA, Oluoha UR. Sexual behavior, contraceptives knowledge and use among female undergraduates in tertiary institution in Imo State, Nigeria. *Amer J Med Sci Med*. 2015; 3(5): 61-66.
5. Maternal mortality in 2005. Estimates developed by WHO, UNICEF, UNFPA and the World Bank. www.who.int/whosis/mme-2005. Accessed 14/6/2016.
6. World Health Organization. Unsafe abortion. Global and regional estimates of the incidence of unsafe abortion and associated mortality in 2000. 4th ed. Geneva: WHO; 2004. http://whqlibdoc.who.int/publication_s/2004. Accessed 14/6/2016.
7. Oye-Adeniran BA, Adewole IF, Umoh AV, Oladokun A, Ghadegsin A, Ekanem EE, Yusuf B, Odeyemi KA, Iwere N, Mahmoud P. Community-based study of contraceptive behaviour in Nigeria. *Afr J Reprod Health*. 2006 Aug; 10(2): 90-104.
8. Oye-Adeniran BA, Adewole IF, Odeyemi KA, Ekanem EE, Umoh AV. Contraceptive prevalence among young women in Nigeria. *J ObstetGynaecol*. 2005; 25(2): 182-185.
9. Monjok E. Contraceptive practices in Nigeria: literature review and recommendation for future policy decision. *J Contraception*. 2010; 1: 9-22.
10. Arowojolu AO and Adekunle AO, Perception and practice of emergency contraception by post-secondary students in South West Nigeria, *Afr J Reproductive Health*. 2000; 4(1):56-65.
11. Okpani AOU, Okpani JU. Prospective study of the knowledge, awareness and practice of effective contraceptive use among female adolescents: a report from Port Harcourt, Nigeria. *Afr J of Reproductive Health*. 2000; 4(1): 40-47.
12. National Population Commission and ICF Macro National Population Commission and ICFMacro. Nigeria Demographic and Health Survey. Abuja, Nigeria; 2013; 3.3 – 3.5: 10–13
13. Ahmed ZD, Sule IB, Abolaji ML, Mohammed Y, Nguku P. Knowledge

- and utilization of contraceptive devices among unmarried undergraduate students of a tertiary institution in Kano State, Nigeria 2016. Pan African Medical Journal – ISSN: 1937- 8688 (www.panafrican-med-journal.com) Published in partnership with the African Field Epidemiology Network (AFENET). (www.afenet.net)
14. Charan J, Biswas T. How to Calculate Sample Size for Different Study Designs in Medical Research? Indian J Psycho Med. 2013; 35 (2):121–126.
 15. Ekine AA, West OC, Ibrahim IA, Ikeanyi E. Prospective study of knowledge, awareness and practice of effective contraceptive method among secondary and higher institution students in Rivers and Bayelsa State of Nigeria. J Den Med Sci. 2015; 14(2) 62-70.
 16. Abiodun OM, Balogun OR. Sexual activity and contraceptive use among young female students of tertiary educational institutions in Ilorin, Nigeria. Elsevier Contraception. 2009; 79: 146-149.
 17. Hoque ME, Ntsipe T, Mokgatle-Nthabu M. Awareness and practice of contraceptive use among university students in Botswana. Sahara J. 2014; 10(2): 83-88.
 18. Aluede O, Imhonde OH, Maliki EA, Alutu NGA. Assessing Nigerian University Students' knowledge about HIV/AIDS. J Soc Sci. 2005; 11(3): 207-213.
 19. Aigbiremolen AO, Duru CB, Abah SO, Abejegah C, Asalu OB, Oriafio B. Contraception among tertiary students: knowledge, use and behavior of female undergraduates in Edo State, Nigeria. Global J Med Resea. 2014; 14(2): 1-8.
 20. Amazigo U, Silva N, Kaufman J, Obikeze DS. Sexual activity and contraceptive knowledge and use among in school adolescents in Nigeria. Int Fam Plann Persp. 1997; 23: 28-33.
 21. Avong NH. Relationship between religion and use of modern contraceptives among the Atyap in Kaduna State, Nigeria. Resear Human Soc Sci. 2012; 2(8): 84-89.