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Knowledge and the Associated Factors Toward Safe Abortion Among Undergraduate Students in Ogbomoso, Oyo State.

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Abstract

Background: Globally, unintended pregnancies and complications of unsafe induced abortions are important public health problems of the youths. Young women die from complications of unsafe abortion in developing countries. Therefore, this study assessed the knowledge and associated factors towards safe abortion among undergraduate students in Ogbomoso, Oyo State, Nigeria.

Methods: An institution-based cross-sectional study was conducted from June 1st, 2024 to July 30th, 2024, among undergraduate students of Ladoke Akintola University of Technology, Ogbomoso, Oyo State. Data were collected from 380 male and female students using self-administered questionnaires by a multistage sampling technique. Bivariable and multivariable logistic regression analyses were performed to identify association of dependent and independent variables using SPSS, version 20.

Results: A total of 380 respondents participated in this study. The mean age (\pm SD) of the study respondents was 20.22 \pm 2.284 years. One hundred and sixty-one respondents (42.4%) had a good knowledge on safe abortion, while 219 (57.6%) respondents had poor knowledge on safe abortion. The relationship between knowledge of safe abortion and the respondents' age, level in school and awareness of safe abortion were found to be statistically significant with p-values < 0.05.

Conclusion: There is lack of knowledge about safe abortion among undergraduate students in Ogbomoso, Oyo state. The findings highlight the urgent need for targeted educational interventions that will promote awareness and dispel misconceptions regarding sex education and sexuality while giving consideration to the stance and disposition of Nigerian law to abortion related issue.

Keywords: Abortion, Safe abortion, Abortion laws, Complications, Ogbomoso, Nigeria



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Introduction

Abortion is a delicate and controversial issue with reverent, noble and societal perspectives.^{1,2} Nigeria's abortion laws make it one of the most restrictive countries regarding abortion with a caveat that the only way to have an abortion in Nigeria is if having the child is going to put the mother's life in danger or if the fetus when born will not be compatible with life.^{3,4} Despite these prohibitive laws, abortion is still commonly done by untrained persons unhygienically in Nigeria.³ Because of these opposing laws in Nigeria, most abortions are considered illegal.⁴

Abortion is considered safe when it is performed in accordance with WHO guidelines and standards, performed by a trained person that is appropriate to the pregnancy duration. Such abortions can be done using tablets (medical abortion) or a simple outpatient procedure.⁵ In Nigeria, 22.9% of doctors in private practice routinely terminate unwanted pregnancies on request, with attendant high complications from the unsafe abortion⁶.

Evidence suggests that a number of women of reproductive age died daily because of complications arising from unsafe abortion throughout the world; the majority of this occurred in developing countries; many of them are young age, maybe in their teens, and are likely to have poor knowledge of safe abortion⁷.

Safe abortion is an essential component of reproductive health care, which entails a range of medical and related health services, including counseling, contraception, and referrals to other reproductive health care services as appropriate.^{8,9} However, access to safe abortion services continues to depend on several factors such as, women's awareness and knowledge of the abortion law and its restrictive nature in this part of the world, shortage of safe abortion services provision and sociocultural pressures^{10,11}. Reproductive health issues among adolescents and youth in Africa have been the subject of discussion. This is because they have a high level of premarital, often multiple, short-term sexual relationships. They do not use condom or use it inconsistently and are vulnerable to sexual violence and exploitation by older men.¹² Appropriate knowledge on sexuality (which should be a part of the education required to grow up healthily and reduce vulnerability to sexual exploitation and abuse), teenage pregnancy, unsafe abortion, transmission of HIV/AIDS and other sexually transmitted diseases is lacking among the adolescents¹³. Lack of information on these issues leaves them deficient in the will and skills required to

avoid high risk behaviors and/or management of their consequences.¹⁴ Akintayo et al in their study reported that 60.8% of female university undergraduates in Southwest Nigeria were currently sexually active. The mean age of sexual debut was 19.11 years. About 36% of those who were sexually exposed had more than one sexual partner.¹⁴ University youths hold an important position as role models to other youths which include adolescents¹⁵ and thus, their knowledge on what constitutes safe abortion and their plight even as it pertains to unwanted pregnancies could create an insight into the wider youth community.¹⁶

The risk of unplanned pregnancy and unsafe abortion is higher among undergraduates especially those who do not live within the campus and cohabit with the opposite sex. Also, availability of contraception services may be less available to unmarried women due to the cultural norms against premarital sexual activity. The current economic situation in Nigeria especially the inadequate financial support from parents and the hike in prices of basic commodities encourages alternate means of income some of which include; commercial sex work especially among the female undergraduates. This ultimately predisposes them to unplanned pregnancy and unsafe abortion. The absence of physical parental guidance increases the susceptibility of undergraduates to peer pressure influences and its associated adverse ramifications. The alarming poor knowledge of contraception and the societal stigma associated with the purchase of contraceptives, quite a few usually ends up with unwanted pregnancies and quite often faced with the predicament with dealing with the problems thereof. Previous studies have shown that there are variables associated with knowledge and attitude towards safe abortion. A study done in Ethiopia discovered that students found in the age group of 25 and above were 2.79 times more likely to have good knowledge of safe abortion than those in the age group of 18-19 (AOR = 2.79, 95% CI: 1.16, 7.29)¹⁷. The respondents who came from the urban area were 2.42 times more knowledgeable than those living in rural areas (AOR = 2.42, 95% CI: 1.26, 4.35)¹⁷.

Respondents with both parent literates were 3.18 times more likely to have good knowledge of safe abortion than their counterparts (AOR = 3.18, 95% CI: 1.32, 7.06)¹⁷. Students who ever heard about safe abortion were 4.36 times more likely to have good knowledge than those who did not hear about safe abortion (AOR = 4.36, 95% CI: 1.89, 10.83)¹⁷.

Students found in the age group of 25 and above were 6.58 times more likely to have a favorable attitude towards safe abortion than those in the age group of 18-19 (AOR = 6.58, 95% CI: 2.71, 11.21).

The reviews of knowledge and attitudes toward abortion among undergraduates in different Nigerian universities and Ethiopia demonstrate a wide range of perspectives¹⁷. Additionally, previous study has shown that age and academic levels significantly influence the knowledge and attitude of students towards abortion. Some students exhibited high knowledge levels regarding abortion methods and its associated complications¹⁷.

Due to restrictive nature of abortion law in our environment most studies have focused on the unsafe abortion practices among the undergraduates, documentation on their knowledge of safe abortion scanty if it is available. More importantly, Nigerian youth are leaving Nigeria in droves in search for greener pastures especially in European countries and other economically viable climes with liberal abortion laws which may allow them to take responsible decisions within the extant laws in their land of sojourn in respect to their sexual and reproductive health that might be at variance with what are acceptable and obtainable in their country homes. Hence, this study x-rayed the knowledge of safe abortion among the undergraduate with focus on both male and female students having known that the decision to seek abortion service can be initiated by either party and the respondents in this study were drawn from a university that is mainly non-residential.

This study assessed the knowledge and the associated factors towards safe abortion within the context of Nigeria's restrictive abortion laws among undergraduate students in Ogbomoso.

MATERIAL AND METHODS

Study Area: The study was carried out in Bowen University Teaching Hospital (BUTH), a medical institution annex of the College of Health Sciences of Bowen University, a private Christian university located in Iwo, Osun State, Nigeria.

Study Design: A descriptive cross-sectional study.

Study population: Male and female students of Ladoko Akintola University of Technology, Ogbomoso who were eligible and consented to take part in the study.

Sampling Technique: It involved multistage sampling techniques

Stage 1 – We obtained a list of all the faculties in the university excluding the Faculty of Medicine.

Stage 2 - Via random sampling, Faculty of Agricultural Sciences and Faculty of Engineering, Computing, Information and Technology were selected.

Stage 3 - The list of departments in the selected faculties were listed thereafter and via random sampling, Department of Agricultural Nutrition and Biotechnology was chosen from Faculty of Agricultural Sciences while Department of Chemical Engineering was selected from the Faculty of Engineering, Computing, Information and Technology.

Stage 3 – Subsequently convenient sampling was carried out by administration of the questionnaire among students in the selected departments until the calculated sample size was complete.

Sample Size Determination

The sample size was obtained using the Leslie Kish formula: Z^2pq/d^2

Where;

Z=standard normal deviate at 96% confident interval (1.96)

p= Proportion of students who practiced induced abortion in a study conducted at the university of Ibadan. =0.245 (24.5% of 450).¹⁸

Q= 1-p

d= margin of error to be tolerated by the study (5%) = (0.05x0.05)

Correction for non-response

N= n/1-10 % (0.9)

$n = (1.96 \times 1.96) \times 0.245 \times 0.755 / (0.05 \times 0.05)$

n= 284

By substituting the values in the formula n= 288

To address attrition, N was calculated as N=284/0.9

This leaves us with a sample size of 316 undergraduate students. However, 380 undergraduates were recruited for the study.

Data collection Method

A structured and pre-tested self-administrated questionnaire was used to obtain data from 380 respondents. The questionnaire was used to assess the knowledge and the associated factors towards safe abortion among undergraduates in Ogbomoso, Oyo state and the data collection instrument (questionnaire) was written in the English language.

The questionnaire was in two sections. The first section was the biodata which had 11 questions. The second section was used to assess respondent's knowledge of safe abortion with 9 questions. Each correct response '1'



and '0' for wrong response. Respondents were categorized based on their overall knowledge scores. The scoring system was developed and respondents with $\geq 70\%$ correct response indicated good knowledge however, value $< 70\%$ indicated poor knowledge.

Ethical Consideration

Ethical approval for the study was obtained from the Bowen University Teaching Hospital Health Research Ethics Committee. Consent was sought from the eligible males and females after a clear explanation of the study was given to them by the researchers. Participation was entirely voluntary, and confidentiality of information

received from respondents was assured as the questionnaire was made anonymous.

Data Analysis: The collected questionnaires were checked manually for its accuracy and completeness, then data was coded, labelled, categorized and entered to IBM SPSS version 25.0 software package for analysis. Descriptive statistics, diagrams, crosstab, Chi-square are adopted for the analysis, $P < 0.05$ was considered as significant. Bivariable and multivariable logistic regression analyses were performed to identify association of dependent and independent variables.

RESULTS

Table 1: Socio-demographic Characteristics

Variable	Frequency N= 380	Percent (%)
Age (Years)		
16-20	242	63.7
20-25	128	33.7
26-30	9	2.4
>30	1	0.3
Mean age \pmSD	20.22 \pm 2.284	
Gender		
Male	181	47.6
Female	199	52.4
Religion		
Christianity	274	72.1
Islam	104	27.4
Traditional	2	0.5
Marital Status		
Single, never in a relationship	154	40.5
Single, no current relationship	132	34.7
Single, in relationship	90	23.7
Married	4	1.1
Family Education		
Both illiterate	5	1.3
One literate, one illiterate	164	43.2
Both literate	211	55.5
Residence		
On-campus hostel	32	8.4
Off-campus	348	91.6
Ethnicity		
Yoruba	343	90.3
Igbo	21	5.4
Hausa	4	1.1
Others	12	3.2
Faculty		
Agricultural Sciences	198	52.1
Engineering & Technology	182	47.9
University Level		
100	101	26.6

Variable	Frequency N= 380	Percent (%)
200	99	26.1
300	111	29.2
400	34	8.9
500	35	9.2
Monthly Income		
<10000 naira	180	47.4
10000 – 30000 naira	116	30.5
31000 – 50000 naira	47	12.4
>50000 naira	37	9.7

Table 1 shows the sociodemographic characteristics of the 380 students of a tertiary institution in Ogbomoso, Oyo state who were the respondents in this study. The mean age (\pm SD) of the study participants was 20.22 ± 2.284 years with more than half of respondents (63.7%) being 16-20 years of age. Most of the respondents (52.4% & 72.1%) were of the female gender and of the Christian religion respectively. More than third (40.5%) of the respondents were single and never been in a relationship. Mor than half the respondents (55.5%) have both parents literate. Almost all the respondents (90.3%) were of the Yoruba ethnic group while the remaining (9.7%) of them were of other ethnicities. Three hundred and forty-eight (91.6%) respondents lived off-campus, and about third of the respondents (26.6%) were in their first year of school. Nearly half (47.4%) of the respondents had a monthly income <N10000 while 9.7% had a monthly income >N50000

Table 2: Respondent’s knowledge of safe abortion

Variable	Frequency N= 380	Percent (%)
Aware of safe abortion		
Yes	175	46.1
No	205	53.9
Aware of methods of safe abortion		
Yes	86	22.6
No	294	77.4
Correctly mentioned two methods of safe abortion		
Yes	14	3.7
No	366	96.3
Knew where safe abortion service is conducted		
Yes	244	64.2
No	136	35.8
Knew if safe abortion reduces the risk of women’s reproductive health problem		
Yes	237	62.4
No	143	37.6
Knew the preferable time to perform safe abortion		
In the first 3 months of pregnancy	135	35.5
3 rd -6 th month of pregnancy	102	26.8
In the last 3 months of pregnancy	16	4.2
At any time during pregnancy	127	33.5
Could tell if unsafe abortion is a major health problem today		
Yes	293	77.1
No	87	22.9
Aware of Nigerian abortion laws		
Yes	233	61.3

No	147	38.7
What situation makes abortion legal in Nigeria		
Not permitted for any reason	295	77.6
Case of rape or incest	77.6	6.3
Foetus not compatible with life	24	10.3
If pregnancy put mother's or foetus' life in danger	39	6.1
Physical/mental illness in mother	23	14.7
Pregnancy from extramarital affair	56	3.2
Overall knowledge on Safe Abortion		
Good	161	42.4
Poor	219	57.6

Table 2 showed that over fifty percent (53.9%) of the respondents were not aware of what safe abortion is all about and 35.5% of them knew the preferable time to perform safe abortion. One hundred and sixty-one respondents (42.4%) had a good knowledge on safe abortion, while 219 (57.6%) respondents had poor knowledge on safe abortion.

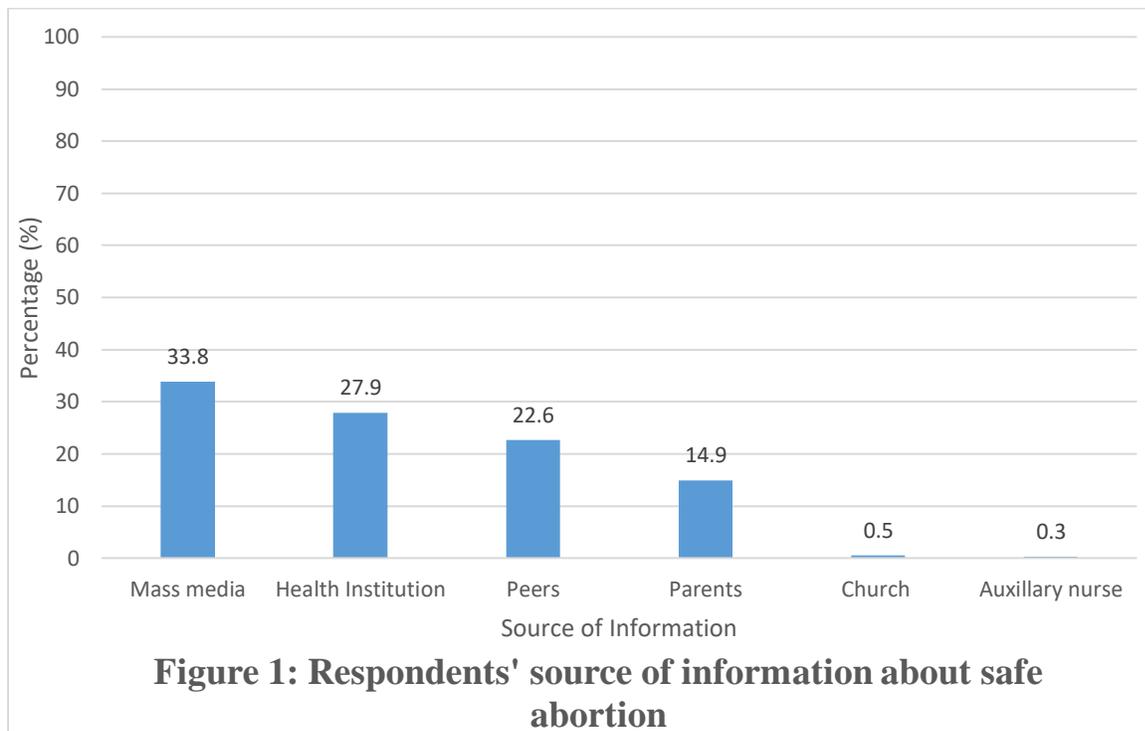


Figure 1 shows that majority (33.8%) of the respondents got their information about safe abortion solely from mass media, 27.9% of them got their information from health institutions while, the least source of information (0.3%) was from auxiliary nurses.

Table 3: Factors associated with knowledge of safe abortion among respondents

Variable	Knowledge on Safe Abortion		Total	χ^2	P-value	COR (95% CI)
	Good N= (42.4%)	161 Poor N= (57.6%) 219				
Age (Years)						
16-20	94 (38.8)	148 (61.2)	242	4.539	0.0047*	1
21-25	62 (48.4)	66 (51.6)	128			2.676(0.939 – 3.042)
26-30	5 (55.6)	4(44.4)	9			2.638(1.133 – 3.940)
>30	0 (0)	1 (100)	1			3.927(2.966 -3.363)
Marital Status						
Single, never in a relationship	56 (36.4)	98 (63.6)	154	5.605	0.282	1
Single, no current relationship	63 (47.7)	69 (52.3)	132			0.626 (0.390 – 1.005)
Single, in relationship	39 (43.3)	51 (56.7)	90			0.747 (0.440 – 1.270)
Married	3 (75.0)	1 (25.0)	4			0.190 (0.019 – 1.875)
Family Education						
Both illiterate	3 (60.0)	2 (40.0)	5	0.664	0.3021	1
One literate, one illiterate	4 (40.0)	6 (60.0)	10			1.250 (0.251 – 3.131)
Both literate	154 (42.2)	211 (57.8)	365			1.655 (0.339 – 4.448)
Residence						
On-campus hostel	10 (31.3)	22 (68.7)	32	1.769	0.187	1
Off-campus	151 (43.4)	197 (56.6)	348			0.593 (0.273 – 1.290)
University Level						
100	45 (37.2)	76 (62.8)	121	3.809	0.0225*	1
200	51 (45.9)	60 (54.1)	111			2.672 (0.397 – 1.137)
300	60 (43.8)	77 (56.2)	137			2.733 (0.444 – 1.210)
400	3 (50.0)	3 (50.0)	6			2.571 (2.111 – 3.954)
500	3 (60.0)	2 (40.0)	5			2.781 (2.061 – 3.368)
Monthly Income						
<10000 naira	76 (42.2)	104 (57.8)	180	1.391	0.824	1
10000 – 30000 naira	53 (45.7)	63 (54.3)	116			0.869 (0.543 – 1.390)
31000 – 50000 naira	19 (40.4)	28 (59.6)	47			1.077 (0.560 – 2.070)
>50000	13 (35.1)	24 (64.9)	37			1.349 (0.646 – 2.819)
Aware of Safe Abortion						
Yes	123 (60.0)	82 (40.0)	205	56.673	0.000*	5.408 (3.430 – 8.526)
No	38 (21.7)	137 (78.3)	175			1

Table 3 Showing the association between knowledge of safe abortion and some socio-demographic variables. The relationship between knowledge of safe abortion and the respondents' age, level in school and awareness of safe abortion were found to be statistically significant with p-values < 0.05. However, there was no statistically significance relationship between knowledge of safe abortion and the respondents' marital status, family education and respondents' monthly income etc.

DISCUSSION

From the study, the mean age group of the respondents was 20.22 ± 2.284 years which was comparable with the mean age of 21.8 years ($SD \pm 2.99$) reported in Gondar city among Ethiopians undergraduates by Mekonnen et al¹⁷. This suggests that a significant proportion of the respondents were in their early adulthood and prime of their age when they could be in college/university. Almost all the respondents were single and information about safe abortion was sourced mainly through the mass media and from health facilities.

This study revealed that less than half (42.4%) of the respondents had good overall knowledge on safe abortion which is far less than 68.4% of good knowledge in a study conducted in Gondar City, Ethiopia.¹⁷ and 62.3% reported among undergraduates in Nepal by Nirmala et al.¹⁹ This variation may be due to less restrictive abortion laws which provides greater opportunity for sex education at different levels of education with resultant differences in access to health information in different settings in the two countries stated above. In addition, most of the respondents in this study were first year students, whereas in their studies, there were more respondents in their third year and above. It is a fact that as the year of study increases, the level of knowledge of students about general life issues also increase.²⁰

Only 3.7% of students in this study could correctly mention two methods of safe abortion with the most mentioned method being Dilatation and Curettage (D&C). This is in tandem with a study in University of Calabar, Cross River state where majority of the participants mentioned D&C as the method of abortion.²¹ Dilatation and curettage is an obsolete procedure in abortion services significant proportion of the respondents stated is as the preferred method. A substantial body of research enumerates potential adverse events with D&C, including uterine perforations, subsequent preterm birth, and intrauterine adhesions. Given this, the World Health Organization (WHO) discourages D&C and strongly recommends use

of manual vacuum aspiration (MVA) as safer, less costly, and more accessible methods of abortion care.²² Moreover, more than 60% of the respondents were aware of the abortion laws in Nigeria. The circumstances that can warrant legitimate search for abortion services were poorly understood. This might be hinged on the restrictive nature of our abortion laws and the attention the society gives to abortion related discourse.

There were statistically significant relationships between age, university level and awareness of safe abortion among the respondents and knowledge of safe abortion. In the present study, students who were found in the age group of 21- 25 and above were 2.67 more likely to have adequate knowledge regarding safe abortion than those in the age group of 16-20. This finding is in tandem with a cross-sectional study conducted in Kampala, Uganda and Ethiopia.^{11,17} The possible explanation might be the fact that as age increases students' exposure to information regarding safe abortion could also increase.

The parents' education of the respondents was found not to be statistically significant in relation to the knowledge of safe abortion which might be due to restraints exhibited by parents in bringing up conversation with their children on issues that border on sex education and sexuality in general coupled with the prohibitive nature of the abortion laws in our society. Conversely, in a study done in Gondar city, North west Ethiopia,¹⁷ respondents with both parent literates were more than three times more likely to have good knowledge of safe abortion than their counterparts. Similarly, this finding was supported by studies done in Mekelle University, Northern Ethiopia²³ and the University of Buenos Aires, Argentina.²⁴ This may be because parents having higher educational background let their children know additional and important lessons besides the academic program and the liberal abortion laws in those environments.

This present study shows statistically significant association between knowledge of safe abortion and level of study among the respondents with those in 200 level are 2.6 more knowledgeable about safe abortion than those in 100 level similar finding was reported by Mekonnen et al.¹⁷

This study revealed that students who ever heard about safe abortion were more likely to have good knowledge than those who did not hear about safe abortion. This finding agrees with other studies conducted in Mizan-Tepi University, Ethiopia²⁵ and South Africa.²⁶ The explanation for this might be the students who have different information regarding health problems of unsafe abortion, could have increased awareness related to major obstacles for their education and other health-

related problems. Furthermore, students are becoming more accessed to different mass media and getting more information about the problem, which may have provided good knowledge regarding safe abortion. In addition, students who have more access to youth-friendly services could have increased awareness related to abortion, which can further increase their knowledge about safe abortion.

This study has some strengths; it assessed only non-health science students and both male and female students were recruited for the study unlike related studies published in reviewed journals where both health and non-health sciences students were considered which could have introduced bias into their findings and most focused only on the female folks.

Implications of the Findings of this Study

The study revealed that less than half of the respondents had good knowledge on safe abortion and more than 60% of the respondents were aware of the abortion laws in Nigeria, the justifiable reasons for legitimate search for abortion services were poorly understood by them. The study further revealed that various demographic variables like age, level of study and awareness of safe abortion were found to be associated with knowledge of safe abortion. These findings underscore the necessity for tailored strategies that transcend demographic boundaries. Information, education and communication programmes on youth reproductive health should be provided which can empower and equip the students with what constitutes safe abortion within the confine of restrictive abortion laws as provided in Nigeria's constitution, reduce unsafe abortion practices, and foster a positive reproductive health outlook.

Conclusion

This study revealed the stark reality of lack of knowledge about safe abortion among undergraduate students in Ogbomoso, Oyo state. The findings highlight the urgent need for targeted educational interventions that will promote awareness and dispel misconceptions regarding sex education and sexuality while giving consideration to the stance and disposition of Nigerian law to abortion related issues and moreso to reduce unwanted pregnancy vis a vis abstinence and use of contraceptives.

Declarations

Authors' Contribution: Temidayo Bobo designed the study, Olumuyiwa Ogunlaja and Tola Bakare supervised the data collection and analysed the data, Temidayo Bobo and Opeyemi Bobo completed the manuscript

draft and revision. All authors contributed to the drafting of the manuscript and approved the final version of the manuscript.

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