

Knowledge, Attitudes and Practices Regarding Unsafe Abortion Among Female Undergraduates of Osun State University (Osogbo Main Campus)

¹Ibrahim M.A, ²Oladipo U.T, ²Tajudeen W.A, ²Akintunde N.O, ²Bello S.O, ²Adebayo N.A, ²Ayanjo TA, ²Tijani K.A.

¹Department of Community Medicine, College of Health Sciences, Osun State University, Osogbo, ²Department of Public Health, College of Health Sciences, Osun State University, Osogbo

Corresponding Author: Tajudeen Waliu Adesegun; tajudeenwaliu85@gmail.com

ARTICLE INFO

Article History

Received: September 6, 2024

Accepted: February 20, 2025

Published: March 30, 2025

Corresponding Author:

Tajudeen Waliu Adesegun

Technical Information

How to Cite: Ibrahim M. A. Knowledge, Attitudes and Practice on Unsafe Abortions Among Female Undergraduates of Osun State University, Osogbo Main Campus: SLJM 2025; Vol 2(1) pp 39-46. <https://doi.org/10.69524/15b88v15>

Editor-in-Chief: Prof. Kehinde S. Oluwadiya, University of Sierra Leone Teaching Hospitals Complex, Freetown, Sierra Leone.

Copyright: © 2024, Ibrahim M. A. et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

Funding: No funding was received for this study.

Ethical Consideration

Conflict of interest: The authors declare they have no conflicts of interest that are directly or indirectly related to the research.

ABSTRACT

Background: Millions of unsafe abortions are performed every year, undergraduates with unintended pregnancies may result in unsafe abortions to prevent related stigma and may result in related complications such as bleeding and even death. This study aims to assess the knowledge, attitude and practice of unsafe abortion among female undergraduate students of Osun State University.

Methods: This study was a cross-sectional descriptive study conducted among 250 undergraduates at Osun State University's main campus selected using multistage sampling techniques. Data were collected using a pre-tested self-administered questionnaire designed in line with study objectives and analysed using IBM SPSS version 23.0. Data analysis included univariate using frequency distributions and bivariate analysis employing chi-square tests to examine the association between variables. Findings were presented using charts and tables with the statistical significance set at $p < 0.05$.

Result: The findings of this study revealed that 96.0% of the respondents had good knowledge of unsafe abortion, while 60.4% held unsupportive attitudes towards unsafe abortion. Only 13.2% had undergone an unsafe abortion, primarily among those engaging in frequent unprotected sexual intercourse and those with multiple sexual partners. Common reasons for unsafe abortion included academic commitments and contraceptive failure. Religious affiliation and marital status significantly influenced attitudes towards unsafe abortion.

Conclusions: Given that most unsafe abortions result from unprotected sex and contraceptive failure, integrating comprehensive reproductive health services and counselling within university health facilities is recommended.

Key words: Knowledge, Attitude, Practice, Unsafe abortion, Undergraduates

1. INTRODUCTION

Induced abortion is the deliberate termination of a pregnancy before the fetus can live independently; it may be elective or spontaneous (based on a woman's personal choice) or therapeutic (to preserve the health or save the life of a pregnant woman). Unsafe abortion has been defined by the World Health Organization (WHO) as a procedure for terminating an unwanted pregnancy that is performed by someone lacking the necessary skills, in an environment lacking minimal medical standards, or both.¹ Unsafe abortion is a significant public health issue, often leading to complications such as severe haemorrhage, sepsis, chronic pelvic inflammatory disease, infertility, ectopic pregnancy, and maternal mortality.² It is performed as a result of factors such as restrictive laws, unavailability or lack of affordable and safe abortion services.³ About one in five pregnancies worldwide end in abortion.¹ Unsafe abortion accounts for approximately 4.7-13.2% of maternal deaths globally and can result in long-term consequences for women who survive it, additionally, it can contribute to social stigma and discrimination against women who seek or undergo the procedure.^{3,4}

There is a dearth of information on the incidence of abortion, basically because abortion is illegal in a number of countries, especially in developing countries including Nigeria.¹ Abortion is regarded as a sensitive and controversial issue with religious, moral, cultural, and political dimensions.¹ Regard-

less of its legal status, abortion is still in practice and nearly half of all abortions are performed by unprofessional practitioners in unhealthy conditions,¹ and it can be regarded as an indicator of unplanned pregnancy especially when performed in adolescents.¹

The practice of abortion performed under unhealthy conditions claims the lives of tens of thousands of women around the world every year, leaving many women with chronic health problems that drain the resources of public healthcare institutions.⁵ It has been estimated that about 46 million abortions are performed each year.¹ Abortion is illegal in Nigeria and it carries a heavy jail sentence of up to 14 years' imprisonment unless it is performed to save the life of the pregnant woman.¹ Unsafe abortions are one of the reasons for Nigeria's high maternal mortality rate: At 575 deaths per 100,000 live births, it is one of the world's highest.¹ According to conservative estimates, more than 3,000 women die annually in Nigeria as a result of unsafe abortion.¹

The predominantly Christian and Muslim population in Nigeria discourages premarital sex and abortion, compounding the secrecy surrounding abortion procedures.; those who want to procure it go to places where no one will recognize them, and want it done as quickly as possible to avoid stigmatization and mockery. Of the women obtaining abortions, the majority (85%) were younger than 25 years.¹ Most undergraduates and adolescents who have unwanted pregnancies employ the service of unprofessional and they may later end up with several complications.^{6,7} The high number of adolescents who are sexually active but not using contraceptives has resulted in a high proportion of students ending up with unwanted pregnancies in which scenario they will have limited choices of where to terminate the pregnancy.⁸

Unsafe abortion is an issue of public health importance among young women including undergraduate students.⁵ Unsafe abortion can occur as a result of inadequate knowledge about reproductive health and contraception, undergraduates students may particularly face additional barriers to accessing safe abortion services due to factors such as limited personal finances, lack of transportation and fear of judgment from family and peers.³ In Nigeria, many women are unable to access safe abortion services for unwanted pregnancies on account of the restrictive laws among other factors. It is now widely accepted that restrictive abortion laws do not reduce the incidence of unsafe abortions but rather drive it to the background and increase morbidity and mortality,⁹ However, it is evident that women who live in countries where abortion has been legalized still patronize unskilled persons for termination of unplanned pregnancies due to other reasons like religion and social issues.⁹

In many cases, young women do not have sufficient knowledge about reproductive health and contraception, which can lead to unsafe abortion practices.¹⁰ Lack of access to safe and affordable abortion services can also contribute to the incidence of unsafe abortions.¹¹ Studies have shown that many undergraduate students lack adequate knowledge about reproductive health and contraception and may engage in unsafe abortion practices as a result. Some students may not feel comfortable discussing these issues with their peers or family members, leading them to make unsafe choices. This is particularly true for those who do not have health insurance or who do not live near a healthcare facility that provides abortion services.^{5,10} In the western province, a little above half (53.3%) of the undergraduates were found to have good knowledge of abortion.¹² Studies from northwest Ethiopia show

that 43.3% of students from Gondar City and 68.4% of students from female private colleges have good knowledge about safe abortion.¹³

Attitudes towards unsafe abortion among undergraduates vary greatly, influenced by personal beliefs, religious views, cultural backgrounds, and access to accurate information, Unsafe abortion is often associated with shame and social stigma, deterring individuals from seeking appropriate healthcare.¹ Despite the stigma, some undergraduates are aware of the dangers associated with unsafe abortion and support access to safe alternatives and they may have good knowledge and have a negative attitude towards safe abortion.³ More than half of female students had favourable attitudes towards safe abortion in northwest Ethiopia¹³ while another study reported a significant proportion of unfavourable attitudes towards safe abortion.¹³ Over half (56.3%) of Nigerian undergraduates had a negative perspective on abortion legalisation, with good knowledge of abortion found in about two-thirds (62.2%) of the participants.¹⁴ Another Nigerian study reported that the majority of students in Niger Delta University have a good knowledge of contraceptives, but their use is lower (61.5%) due to factors like embarrassment, lack of proper knowledge, fear of side effects, and partner disapproval.¹⁵

Undergraduates represent a specific demographic group within the youth population. Studying their knowledge, attitudes, and practices regarding unsafe abortions is important as it provides insights into the reproductive health behaviours of a group that is often at higher risk due to various factors, including limited experience and access to comprehensive sexual and reproductive health education^{1,2}. Understanding the knowledge, attitudes, and practices among undergraduate female students is crucial for addressing public health concerns. This research can contribute valuable insights to inform policies and interventions aimed at reducing the incidence of unsafe abortions. This study therefore aimed to assess the knowledge, attitude, and practice surrounding abortion and the factors associated with it among undergraduate female students of Osun State University Main Campus Osogbo, Osun State, Nigeria.

2. METHODOLOGY

2.1 Study Area and Sampling

The study population comprised all undergraduate students at Osun State University's main campus, Osogbo. A cross-sectional study design was employed with 230 students selected using a multistage sampling technique. The university runs a multi-campus system, which consists of six campuses located in six geopolitical zones of the state namely: Osogbo (main campus –

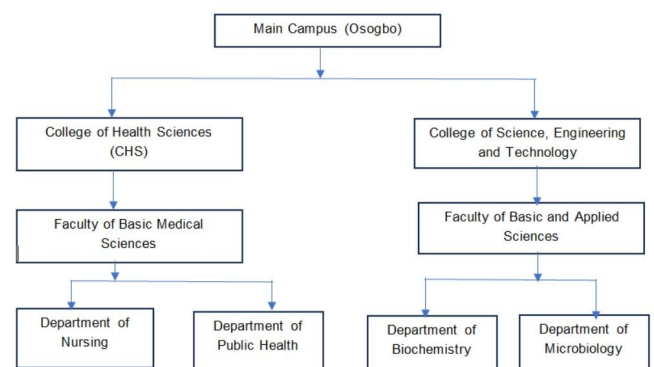


Figure 1: Flow Chart Showing the Sampling Technique

Science, Engineering and Technology (SET) and College Of Health Sciences (CHS)), Okuku – College of Management and Social Sciences, Ikire – College of Humanities and Culture, Ejigbo – College of Agriculture and Centre for Pre-Degree Studies (Sciences), Ifetedo – college of law, centre for Entrepreneurial Studies; Centre for Pre-degree(Sciences) and Ipetu- Ijesha – College of Education. The sample size was determined using Leslie Fischer's formula¹⁶ with a prevalence of 83.3%², being the proportion of the undergraduates with good knowledge from a previous study carried out at the University of Ibadan.² A minimum sample size of 214 was obtained and 250 was obtained after adjusting for a non-response rate of 15%. The respondents were selected using a multistage sampling technique. One was selected out of the two available colleges on the main campus. The two colleges (SET and CHS) in the main campus (Osogbo) were purposively selected. One faculty was selected from each college (the Faculty of Basic Medical Sciences from the College of Health Sciences (CHS) and the Faculty of Basic and Applied Sciences from the College of Science, Engineering and Technology (SET). Nursing and Public Health Departments were selected from the Faculty of Basic Medical Sciences while Biochemistry and Microbiology Departments were selected from the Faculty of Basic and Applied Sciences using simple random sampling (balloting method.) (Figure 1). The selection of students was done through a proportionate allocation based on sampling size (Table 1). The study included consenting full-time female undergraduates attending the main campus of the Osun State University. Participants were excluded if they declined to give consent, were part-time students, or were on academic leave during the study period.

2.2 Study Instruments and Measurement of Variables

Data was collected by the researchers with pretested, semi-structured, self-administered questionnaires. The questionnaire was developed by the researchers based on a comprehensive review of relevant literature,^{2,13,17-19} and pretested at Obafemi Awolowo University, Ile-Ife Osun state. Related questions to knowledge and attitude were scored accordingly. Individuals with correct information on knowledge and attitude were awarded 1 while those with incorrect information were scored 0. The maximum obtainable score for the knowledge section was 10; zero to five (0-5) was categorized as 'poor knowledge' while 6-10 was categorized as 'good knowledge'. The maximum obtainable score for the attitude section was 9, and 0-4 was categorized as 'supportive attitude' while 5-9 was categorized as "non-supportive attitude".²⁰ Respondents who said 'Yes' to ever having an abortion before were taken to have practised abortion while respondents who said 'No' were taken to have not practised abortion. Additionally, by examining both the history of abortion and the specific methods used, we were able to identify respondents who had engaged in unsafe abortion, as opposed to just abortion in general.

2.3 Ethical Considerations

Ethical clearance was obtained from the Health Research and Ethics Committee of the College of Health Sciences, Osun State University (UNIOSUNHREC 2020/PBH/006). Respondents were informed of the study purpose and verbal permission was sought and obtained from individual participants prior to data collection

2.4 Data Analysis

Data was analysed with IBM SPSS Statistics version 23.0. Univariate and bivariate analyses were conducted and presented in

charts and frequency tables. Chi-square was used to determine the association between categorical variables with the level of significance taken as p-value <0.05.

2.5 Data Availability Statement

The data of this study is openly available on the OSF repository at https://osf.io/tmb2d/?view_only=408c2b872fda409b912a05df3266ff19

3. RESULT

A total of 270 questionnaires were distributed, with 258 returned, yielding a 95.6% response rate. Of these, 250 (96.9% of the returned questionnaires) were found suitable for analysis, while eight questionnaires were excluded due to substantial missing data (more than 20% of items unanswered). To address the issue of missing data in the included questionnaires, we employed a multiple imputation technique for cases where less than 20% of items were missing to maximize the use of available data while minimizing potential bias.

Table 1: Proportional Allocation of the Sample Across the Selected Departments.

Department	100 Level	200 Level	300 Level	400 Level	500 Level	Total
Nursing	21	22	5	12	10	70
Public Health	21	22	5	12	-	60
Biochemistry	21	22	5	12	-	60
Microbiology	21	22	5	12	-	60
Total	84	88	20	48	10	250

The majority (61.4%) of the students were between the ages of 15 and 20 years, with another 36.0% falling within the 21–25-year age range. A smaller group, representing 2.4%, was aged between 26 and 30 years, giving a mean age of 20 ± 3 years. Academically, 45.2% of the respondents were enrolled in the Health Sciences, while the remaining 54.8% were from the College of Science, Engineering, and Technology. Most participants identified as Christian (64.8%), while 35.2% were Muslim. The overwhelming majority of

Table 2: Socio-demographic Characteristics of the Respondents (n=250)

Variables	Frequency	Percentage
Age (Mean +SD = 20 ± 3)		
15 – 20	154	61.5
21-25	90	36.0
26-30	6	2.5
Religion		
Christianity	162	64.8
Islam	88	35.2
Ethnicity		
Yoruba	234	93.6
Hausa	2	0.8
Igbo	5	2.0
Others (Edo, Epira, Fulani etc)	9	3.6
Marital Status		
Single	236	94.4
Married	9	3.6
Engaged	5	2.6
College		
Health Sciences	113	45.2
Science, Engineering and Technology	137	54.8
Level		
100	84	33.6
200	86	34.4
300	20	8.0
400	50	20.0
500	10	4.0

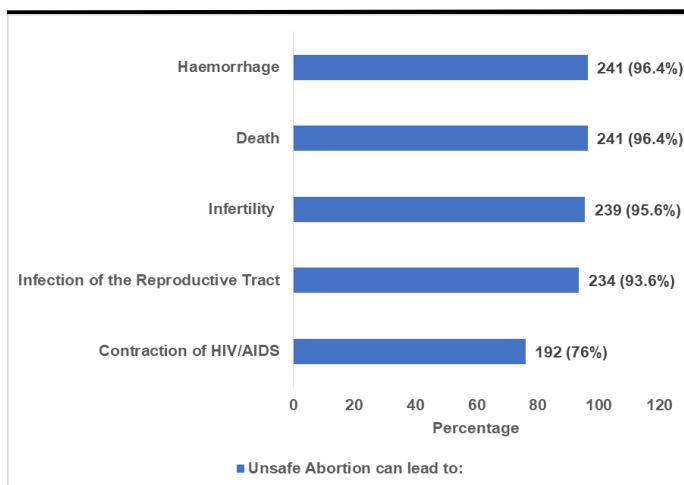


Figure 2: Respondents' Knowledge of Unsafe Abortion-Related Complications

Table 3: Practices of Unsafe Abortion (n=33)

Statement	Frequency	Percentage
If Yes What Material was Used to Terminate the Pregnancy		
Abortion Inducing Drug	17	51.5
Local Herb	12	36.4
Plastic Tube	4	12.1
Reason For Unsafe Abortion		
Still in School	21	63.6
Unmarried (single)	7	21.2
Disagreement with Husband	3	9.1
High Cost of Raising Children	2	6.1

levels of the respondents were also diverse, with approximately one-third (33.6%) in the 100 level, 34.4% in 200 level, 8.0% in 300 level, 20.0% in 400 level, and 4.0% in 500 level, providing a comprehensive cross-section of undergraduate students across multiple years of study (Table 1).

The respondents had a high level of knowledge regarding unsafe abortion, with the vast majority (96.0%) showing a good knowledge of the topic. Only a small fraction (4.0%) of the participants exhibited poor knowledge of unsafe abortion.

The majority of respondents demonstrated substantial knowledge

respondents (93.6%) were of Yoruba ethnicity, with smaller representations from other ethnic groups. Regarding marital status, nearly all of the participants (94.4%) were single, 3.6% were married, and 2.6% were in other relationship statuses. The academic

Table 4: Factors Associated with the Unsafe Abortion

Variables	Ever had an unsafe abortion?		Chi-square	Statistics Differential	P-value
	Yes (%) n=33	No (%) n=217			
Age					
15-20	17 (11.0)	137 (89.0)	3.428	2	0.144
21-25	14 (15.6)	76 (84.4)			
26-30	2 (33.3)	4 (66.7)			
Religion					
Christianity	18 (11.1%)	144 (88.9)	1.753	1	0.186
Islam	15 (17.0%)	73 (83.0%)			
Ethnicity					
Yoruba	32 (13.7)	202 (86.3)	3.472	3	0.271
Hausa	1 (50.0)	1(50.0)			
Igbo	0 (0.0)	5 (100.0)			
Others	0 (0.0)	9 (100.0)			
Marital Status					
Single	28(11.9)	208(88.1)	7.045	2	0.022
Married	4(44.4)	5(55.6)			
Engaged	1(20.0)	4 (80.0)			
College					
Health Sciences	12(10.6%)	101(89.4)	1.198	1	0.274
Science Engineering and Technology	21(15.3%)	116(84.7)			
Level					
100	7(8.3)	77(91.7)	3.245	4	0.518
200	12(14.0)	74(86.0)			
300	3(15.0)	17(85.0)			
400	9(18.0)	41(82.0)			
500	2(20.0)	8(80.0)			
Engaged in Frequent Sexual Intercourse					
Yes	9 (37.5)	15 (62.5)	11.437	1	<0.001*
No	24 (10.6)	202 (89.4)			
Enjoy Unprotected Sex (Sex Without a Condom)					
Yes	23 (32.4)	48 (67.6)	31.886	1	<0.001
No	10 (5.6)	169 (94.4)			
Number of Sexual Partners					
One	23 (14.6)	134 (85.4)	34.513	4	<0.001
Two	2 (40.0)	3 (60.0)			
Three	1 (100.0)	0 (0.0)			
Many	7 (41.2)	10 (58.8)			
Zero	0 (0.0)	70 (100.0)			

Table 5: Association Between Respondents' Attitude Towards Unsafe Abortion and their Sociodemographic Characteristics.

Variable	Attitude		Differential	Statistics Chi-square	P-value
	Supportive (n=99)	Non-Supportive (n=151)			
Age					
15-20	65 (42.2%)	89 (57.6%)	2	2.081	0.353
21-25	33 (36.7%)	57 (63.3%)			
26-30	1 (16.7%)	5 (83.3%)			
Religion					
Christianity	56 (34.6%)	106 (65.4%)	1	4.872	0.027
Islam	43 (48.9%)	45 (51.1%)			
Ethnicity					
Yoruba	93 (39.7%)	141 (60.3%)	3	2.590	0.464
Hausa	0 (0.0%)	2 (100.0%)			
Igbo	1 (20.0%)	4 (80.0%)			
Others	5 (55.6%)	4 (44.4%)			
Marital Status					
Single	94 (39.8%)	142 (60.2%)	2	0.258	1.000
Married	3 (33.3%)	6 (66.7%)			
Engaged	2 (40.0%)	3 (60.0%)			
College					
Health Sciences	39 (34.5%)	74 (65.5%)	1	2.231	0.135
Science, Engineering and technology	60 (43.8%)	77 (56.2%)			
Level					
100	33 (39.3%)	51 (60.7%)	4	9.032	0.060
200	43 (50.0%)	43 (50.0%)			
300	4 (20.0%)	16 (80.0%)			
400	15 (30.0%)	35 (70.0%)			
500	99 (39.6%)	6 (60.0%)			

of the complications associated with unsafe abortion. Nearly all participants (96.4%) recognized that unsafe abortion could lead to haemorrhage and death, while 95.6% were aware of the potential for future infertility. Additionally, 93.6% understood the risk of reproductive tract infections, and 76.0% acknowledged the possibility of contracting HIV/AIDS as a result of unsafe abortion (Figure 1). The respondents' attitudes toward unsafe abortion revealed that a majority (60.4%) held non-supportive views, indicating they did not favour the practice. In contrast, 39.6% of the participants expressed a supportive attitude toward unsafe abortion. Furthermore, only 13.2% of the respondents reported having undergone unsafe abortions, while the majority had not engaged in such practices.

Among the 13.2% of respondents who had undergone unsafe abortions, just over half (51.5%) reported using abortion-inducing drugs, while 36.4% resorted to the use of local herbs. The most common reason for choosing unsafe abortion, cited by 63.3% of respondents, was the fact that they were still in school. Additionally, a little above one-fifth (21.2%) indicated they sought unsafe abortions because they were unmarried, while 6.1% claimed the high cost of raising children as their reason (Table 3).

Concerning the factors associated with unsafe abortion, A notable difference was observed in marital status, where 44.4% of married respondents had a history of unsafe abortion compared to only 11.9% of single respondents, a statistically significant association ($p=0.022$) (Table 3). The data also showed that the proportion of respondents who had undergone unsafe abortions increased with their academic level, with 20.0% of those at 500 level reporting unsafe abortions, followed by 18.0% at 400 level, 15.0% at 300 level, 14.0% at 200 level, and 8.3% in 100 level, although this trend was not statistically significant. Other factors associated significantly with unsafe abortion were frequent sexual intercourse and having multiple sexual partners (Table 4).

The respondents' attitudes toward unsafe abortion were significantly associated with their religious affiliations. Nearly half (48.9%) of Muslim respondents held supportive attitudes toward unsafe abortion, compared to 34.6% of Christian respondents, the association was found to be statistically significant ($p=0.027$). Although not statistically significant, the majority (65.5%) of respondents from the College of Health Sciences (CHS) had non-supportive attitudes toward unsafe abortion, while 56.2% of those from the College of Science, Engineering, and Technology (SET) also held non-supportive attitudes (Table 5).

4. DISCUSSION

This study was conducted among female undergraduate students of the Osun State University, Osogbo Main Campus and it is aimed to assess the Knowledge, Attitude and Practice of unsafe abortion. This study revealed that the majority of the respondents were between the ages of 15 and 20 years, which is similar to a study by Prakirti et al (2014) conducted at the Asian College for Advanced Studies, Lalitpur, Nepal that reported that 27.6% were 20-24 years²¹. However, this study is in contrast to a similar study done by²² at the Department of Obstetrics and Gynaecology, RNT Medical College, Udaipur, Rajasthan, India which reported 56.0% of their respondents to be between 26 to 30 years old. The concentration of the respondents in that age range could be attributed to the fact that undergraduates. The majority of the respondents of the respondents were single this is expected because undergraduates are more likely to be unmarried. More than one-third of the respondents were from 100 and 200 levels. This could be attributed to the methodological differences and characteristics of the study participants. The majority of the respondents in this study were from the Yoruba ethnic group (93.6%) this is higher than the findings from a study carried out in Lagos in which the majority of the respondents were also of the Yoruba ethnic group (68.4%).

This is not surprising, as the study was carried out in south-western Nigeria, which is dominated by the Yoruba ethnic group.

In this study, the majority of the respondents had good knowledge of unsafe abortion which was higher than a study¹² which was conducted at the University of Colombo and Kelaniya, Sri Lanka that reported 54% of good knowledge of unsafe abortion. This study was also higher than that of another study carried out by¹⁸ Mizan-Tepi and Jissmma University Ethiopia which revealed only 9.1% as the proportion of good knowledge of unsafe abortion. The higher knowledge among the respondents could be as a result of sex education, undergraduates in some cases, may have received comprehensive sex education leading to more knowledge on sexual practices and reproductive health. Similarly, undergraduates often share information and experiences with their peers.²³ This peer influence could contribute to a higher knowledge of unsafe abortion in the undergraduate community.

Two-thirds of the respondents (76.0%) knew that it was possible to contract human immunodeficiency virus infection/acquired immune deficiency syndrome (HIV/AIDS) during unsafe abortion which was a little higher than the respondents (54.8%) in the study carried out by¹ in two public senior secondary schools in Lagos Mainland Local Government Area, Lagos State. More than four-fifths (96.4%) in this study knew that abortion could lead to death, and this is in tandem with the finding of the study carried out by (Abiola et al., 2016) in Lagos where 96.6% knew death was a possible complication. This knowledge is likely to be taught to the undergraduates during their learning and through peer influence and knowledge sharing. This study showed that the participants were aware of at least one type of complication related to unsafe abortion. The most commonly cited complications include bleeding (96.4%), infection (93.6%) and infertility (95.6%). This finding was nearly coherent with a finding by²⁴ obtained in Yebu secondary school Jimma zone, Southwest Ethiopia, where most (94.9%) of participants knew at least one complication of an induced abortion.

More than half of the respondents do not support unsafe abortion as the findings revealed that three-fifths have an unsupportive attitude, this proportion is high compared to Ghimire et al., (2021) study on safe abortion among undergraduates where almost half (49.7%) have a positive attitude³. But it is lower than that of Abiola et al., (2016) where the majority (99.2%) of the students have a negative attitude towards safe abortion.¹ The higher unsupportive attitude towards unsafe abortion could be attributed to the higher educational background of the respondents, undergraduates are likely to have conservative views on abortion and strong opposition to unsafe abortion as a result of exposure to information through education.²⁵

According to this study's findings, there was a significant relationship between the religion of the respondents and their level of attitudes as a little above three-fifths of the Christian respondents had a non-supportive attitude toward Unsafe Abortion than respondents who practice Islam (51.1%). This is evident in Alvargonzález (2017) study that affirmed that religious affiliation influences students' attitudes towards abortion.²⁶

The study revealed only 13.2% of the respondents have had an unsafe abortion which is lower compared to the Abah et al., (2020) study where 57.1% have had an abortion¹⁹. Also similar to another study conducted among female undergraduates at the University of Ibadan which reported a 51.0% prevalence of abortion. This

finding is much lower compared to the proportion of young ladies in Edo state Nigeria¹⁷. Only a few of the undergraduates (13.2%) have practised unsafe abortion, which could mean that the majority of the respondents understood the harmful effects of Unsafe Abortion and did not encourage the practice. The proportion of unsafe abortions among this study participants could be attributed to restrictive access to safe abortion in Nigeria, this may push some students towards unsafe abortion due to lack of alternatives²⁷. Furthermore, there was a significant relationship between the marital status of the respondents and the respondents who have had an abortion. Respondents who were single engaged in unsafe abortion more than respondents who were married and engaged.¹⁷

Respondents who engaged in frequent sexual intercourse, unprotected sex and those who had multiple sexual partners were found to have had unsafe abortions in the past, and this was statically significant ($p < 0.001$). This is evident as those who engaged in unprotected sex and had multiple sexual partners are more likely to have unintended and may result in unsafe abortion²⁸. In many instances, adolescents terminate pregnancies for various reasons including fear of expulsion from school, denial by spouse and failed contraception^{10,12}. Due to restrictive abortion regulations in Nigeria, undergraduates may resort to unsafe abortion methods to avoid stigma, manage their fears, and continue their education uninterrupted¹⁰. This is especially significant, as the most common reason given by respondents in this study for terminating unwanted pregnancies was that they were still in school and feared they might not be able to complete their education.

4.1 Conclusion

This study revealed that female undergraduates at Osun State University had comprehensive knowledge of unsafe abortion with the majority exhibiting a good understanding of the practices and its associated complications. The findings show that three-fifths of the respondents held non-supportive attitudes toward unsafe abortion while religious affiliation was the main factor influencing these attitudes. The prevalence of unsafe abortion was less than one-fifth, with educational concerns being the primary motivating factor because most claimed to have had unsafe abortions in order to continue their studentship. Significant associations were found between unsafe abortion practices and other factors such as having multiple sexual partners and engagement in unprotected sex.

While the overall findings indicate relatively high knowledge levels and predominantly non-supportive attitudes toward unsafe abortion, the presence of supportive attitudes among 39.6% of respondents and the existing practice of unsafe abortion warrants attention. This underscores the need for updated reproductive health interventions within the university settings. Future initiatives should target the strengthening of reproductive health education that addresses the special challenges of female undergraduates.

Study Strengths and Limitations

This study demonstrates important strength in its examination of abortion knowledge and practices among female undergraduates in a Nigerian university setting which provides insights that can inform the reproductive health education and services within the university system. However, the generalizability of the study findings to the broader population of female undergraduates is constrained by the modest sample size employed and the use of non-

probability recruitment strategies. These methodological choices, while practical for the study context, may limit the broader applicability of the findings. Further study should expand on this by conducting systematic research on abortion knowledge and practices across multiple campuses of UNIOSUN and other tertiary institutions.

Study Limitations

The possible limitations of this research study stem from the delicate nature of the topic, and there exists a chance that participants might either conceal the truth or be unable to remember particular details. Nevertheless, they were urged to provide honest answers before the data collection. Additionally, the sampling method may have led to an overrepresentation of students with prior knowledge about abortion, potentially inflating observed knowledge, attitudes, and practices. Future studies should consider a more representative sample across diverse academic backgrounds to enhance generalizability and reduce bias from students in health-related fields.

Acknowledgements

The authors of this study expressed their gratitude towards the Osun State University Miss Fagbamigbe Abiola from the Damien Foundation, Mr. Folorunso Flourish from UNIOSUN, and all those who took part in the study and the authorities that granted permission for the conduct of this study.

Conflict of Interest: The Authors declare no conflict of interest

Source of Funding: None declared

Contributor Roles:

Ibrahim MA: Conceptualization, Data Curation, Methodology, Validation, Project Administration. Supervision, Resources, Writing of original draft

Oladipo UT: Conceptualization, Data Curation, Formal Analysis, Writing- Review & Editing

Tajudeen WA: Data Curation, Methodology, Formal Analysis, Writing of original draft, Supervision

Akintunde NO: Resources, Writing- Original draft

Bello SO: Data Curation, Methodology, Writing of Original draft

Adebayo NO: Data Curation, Methodology, Resources, Writing of original draft

Ayanjo TA: Data Curation, Investigation, Resources, Writing- Review & Editing

Tijani KA: Investigation, Validation, Resources, Writing- Review & Editing

REFERENCE

1. Abiola AH, Oke O, Balogun M, Olatona F, Adegbesan-Omilabu M. Knowledge, attitude, and practice of abortion among female students of two public senior secondary schools in Lagos Mainland Local Government Area, Lagos State. Vol. 13, Journal of Clinical Sciences. 2016. p. 82.
2. Cadmus E., OwoAje E. Knowledge about Complications and Practice Abortion among Female Undergraduates in the University of Ibadan, Nigeria. Ann Ibadan Postgrad Med. 2011;9(1):19–23.
3. Ghimire N, Nepal M, Shrestha N. Knowledge and Attitude towards Safe Abortion among Undergraduate Students in Jana Bhawana Campus, Lalitpur, Nepal. Int J Heal Sci Res. 2021;11(5):269–77.
4. World Health Organization. Preventing Unsafe Abortion: Evidence Brief. World Heal Organ [Internet]. 2019;(4):2. Available from: <https://iris.who.int/bitstream/handle/10665/329887/WHO-RHR-19.21-eng.pdf>
5. Del Carmen Saeteros Hernández R, Ortiz Zayas E, María Saeteros Hernández A, Cecilia Mejía Paredes M. Dialogue of Knowledge on Unplanned Pregnancies and Abortions in Ecuadorian University Students. ESPOCH Congr Ecuadorian J STEAM [Internet]. 2022 Jun 29;264–85. Available from: <https://knepublishing.com/index.php/epoch/article/view/11398>
6. Isah AD, Adewole N, Agida ET, Omonua KI, Wong JYY, Gold EB, et al. Unwanted pregnancy and induced abortion among female undergraduates in University of Ibadan, Nigeria. Am Fam Physician. 2017;08(4):725–36.
7. Puji H, Bening J, Esty Y. The Impacts of Unplanned Pregnancy on Adolescence: A Literature Review. Nurse Holist Care. 2022;2(2):54–9.
8. Filipović T, Puharić Z, Puharić D, Gašić M. Attitudes and Knowledge of Students on Sexuality in Three Secondary Schools. Croat Nurs J [Internet]. 2020 Dec 11;4(2):157–64. Available from: <http://cnj.hr/plugins/themes/responsive/templates/issue/vol4n2/002.html>
9. Akpanekpo EI, Umoessien ED, Frank EI. Unsafe Abortion and Maternal Mortality in Nigeria: A Review. Pan-African J Med. 2017;1(2).
10. Aigbiremolen A, Duru C, Abah S, Abejegah C, Asalu O, Oriaifo B. Contraception among tertiary students: Knowledge, use, and behaviour of female undergraduates in Edo State, Nigeria. Glob J Med Res. 2014;14(2).
11. Kebede MT, Middelthon AL, Hilden PK. Negotiating the social and medical dangers of abortion in Addis Ababa: An exploration of young, unmarried women's abortion-seeking journeys. Health Care Women Int. 2018;39(2):186–207.
12. Perera U, Abeysena C. Knowledge and attitudes on contraceptives among undergraduates in the state universities of the Western Province. J Coll Community Physicians Sri Lanka. 2019;25(2):72.
13. Mekonnen BD, Wubneh CA. Knowledge, Attitude, and Associated Factors towards Safe Abortion among Private College Female Students in Gondar City, Northwest Ethiopia: A Cross-Sectional Study. Adv Prev Med. 2020;2020:1–8.
14. Fehintola FO, Ajibola I, Olowookere SA, Akande YR, Komolafe T, Eledah E, et al. Legalisation of Abortion in a Poor-resource Setting: Nigerian Undergraduates' Perspectives. Niger Postgr Med J 2023;3040-5. 2018;30(January):40–5.
15. Imawaigha OJ, Patricia TE. Knowledge of the Use of Contraceptive among College of Health Sciences Students of Niger Delta University, Amassoma Bayelsa State, Nigeria. Int J Sci Healthc Res. 2021;6(2):459–65.

16. Charan J, Biswas T. How to calculate sample size for different study designs in medical research? *Indian J Psychol Med.* 2013;35(2):121–6.
17. Tijani IO, Christopher CA, Pauline EE, Neba FF, Mojeed OM. Burden of Unsafe Abortion Among Young Ladies in Edo State, South-South Nigeria. *Orient J Med.* 2020;18(1):87–96.
18. Rahel Y, Deriba A, Asrat M. Knowledge, Attitude and Practice towards Induced Abortion and Associated Factors among Female students in Yebu Secondary School, Jimma zone, South West Ethiopia. *Glob J Reprod Med.* 2018;5(2):555659.
19. Abah MG, Bassey EE, Edu EB, Ovie OD. Unsafe abortion among secondary school girls in a local authority in South-South Nigeria. *Int J Reprod Contraception, Obstet Gynecol.* 2020;9(9):3547.
20. Streiner DL, Norman GR, Cairney J. *Health Measurement Scales: A Practical Guide to Their Development and Use* [Internet]. 5th ed. Vol. 1. New York: Oxford University Press; 2015. Available from: <https://academic.oup.com/book/24920>
21. Prakriti K, Keshab S, Hom NC. Knowledge and Practice of Abortion among Women in Nepal. *E-Journal Heal Soc Sci* [Internet]. 2014;3(1):ISSN 2244-0240. Available from: <https://sites.google.com/site/asiapacificjournalofhss/>
22. Bamniya A, Verma S. The study of knowledge, attitude and practice about abortion and technology at the tertiary centre in the region of Mewar, Rajasthan, India. *Int J Reprod Contracept Obs Gynecol.* 2018;7(8):3320-4.
23. Gess A, Li S, Zhou S, Doak S. Peer Knowledge Sharing Outside the Undergraduate STEM Classroom. *New Dir Teach Phys Sci.* 2017;12(12):1–20.
24. Meleko A, Yaekob R. Knowledge, Attitude and Practice towards Induced Abortion and Associated Factors among Female students in Yebu Secondary School, Jimma zone, South West Ethiopia. July. *Glob J Reprod Med.* 2018;5(2).
25. Brooks C, Weber N. Liberalization, education, and rights and tolerance attitudes. *Soc Sci Res* [Internet]. 2022 Jan;101:102620. Available from: <https://linkinghub.elsevier.com/retrieve/pii/S0049089X21000971>
26. Alvargonzález D. Knowledge and attitudes about abortion among undergraduate students. *Psicothema.* 2017;29(4):520–6.
27. Akande OW, Adenuga AT, Ejidike IC, Olufosoye AA. Unsafe abortion practices and the law in Nigeria: time for change. *Sex Reprod Heal Matters* [Internet]. 2020 Jan 1;28(1):1758445. Available from: <https://www.tandfonline.com/doi/full/10.1080/26410397.2020.1758445>
28. Envaladu E, Anke V, Zwanikken P, Zoakah A. Sexual and Reproductive Health Challenges of Adolescent Males and Females in some Communities of Plateau State Nigeria. *Int J Psychol Behav Sci.* 2017;7:55–60.