



PREVALENCE OF INDUCED ABORTION AND CONTRACEPTIVE USE AMONG UNIVERSITY STUDENTS IN A TERTIARY INSTITUTION IN NIGERIA

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ABSTRACT: *Abortion can be defined as the termination of a pregnancy after, accompanied by, resulting in, or closely followed by the death of the embryo or fetus. The main point made by the majority of the definitions of abortion upholds the fact that pregnancy is not wanted. Throughout the world, female students are exposed to the risk of unplanned pregnancies as a result of ineffective or non-use of contraceptives. This may result in failure to complete their education, inability to maintain gainful employment, and inability to make independent marital decisions. Young students' sexual activities are a communal, municipal, and public health concern.*

Objectives: The objective of this study was to determine the prevalence of induced abortion and contraceptive use amongst female undergraduate students of the University of Abuja. **Methodology:** The study was conducted at the University of Abuja in the Federal Capital Territory of Nigeria. A descriptive cross-sectional quantitative survey was used to assess the prevalence of induced abortion and contraceptive use amongst unmarried female undergraduate students, using a multistage sampling method. The sample size was calculated to be 289. The data was analyzed using Statistical Package for Social Sciences (SPSS) version 23, p-value of ≤ 0.05 was considered statistically significant at a 95% confidence level.

Results: A total of 325 questionnaires were shared and 318 were filled and adequately answered, giving a response rate of 97.8%. The mean age in this study was 21.8 ± 3.01 standard deviation. There was a prevalence of contraceptive use amongst the respondents in which more than half (165; 51.9%) of the respondents have practiced contraception at one point or the other in their reproductive years while 163 (48.1%) of the respondents said they did not practice any form of contraception. 90 (28.3%) of the respondents have had induced abortion at one point or the other while the remaining 228 (71.7%) have not. The majority (87; 52.7%) of the respondents who practice contraception have also had an induced abortion at one point or the other while about 78 (47.3%) of those who practice contraceptive use had no history of induced abortion. **Conclusion:** Remarkably, and in contrast to conventional understanding, these results showed that less contraception does not appear to be associated with a higher incidence of abortion. Similarly, more contraception does not appear to be protective against incurring a pregnancy. **Recommendation:** There should be frequent awareness campaigns and health education on the knowledge, attitude, and practice of contraception by the Students Union Government, school media and publicity team, and non-governmental and charitable organizations targeted on effective contraceptive practice as a means of preventing unintended pregnancies.

KEYWORDS: Induced Abortion, Contraceptive, University Students, Tertiary Institution, Nigeria



INTRODUCTION

Abortion can be defined as the termination of a pregnancy after, accompanied by, resulting in, or closely followed by the death of the embryo or fetus [1]. The main point made by the majority of the definitions of abortion upholds the fact that pregnancy is not wanted.

Throughout the world, female students are exposed to the risk of unplanned pregnancies as a result of ineffective or non-use of contraceptives [2]. This may result in failure to complete their education, inability to maintain gainful employment, and inability to make independent marital decisions. Young students' sexual activities are a communal, municipal, and public health concern [3]. These activities, especially pre-marital sexual activities, seem to be increasing among higher educational institution students in countries such as Asia and Africa, because of factors such as rapid urbanization and exposure to mass media [2].

The study intended to find the prevalence of abortion and contraceptive practice amongst unmarried female undergraduate students at the University of Abuja. The results can be used to improve the students' knowledge that would enable them to make informed decisions regarding contraception use and the prevention of unplanned pregnancies/abortion.

Rationale for the study

In Nigeria, unintended intercourse is the primary cause of unwanted pregnancies, and many women with unwanted pregnancies decide to end them by abortion [4]. Since abortion is illegal in the country (unless medically recommended to save a mother's life), many abortions are carried out clandestinely, and often in an unsafe environment [5].

Induced abortion is not only widespread in Nigeria but is also provided and practiced in several different settings, from traditional medical practitioners, herbalists, and private practicing clinicians to even modern pharmacists [5].

The consequence of low contraceptive use among Nigerian women leads to an estimated 1.5 million unplanned pregnancies every year, with half of these resulting in the decision to go for abortion [7].

It has also been noted that some women prefer to use abortion as a means of child-spacing instead of using modern contraception. The fear of future infertility may be the overriding factor in adolescents' decision to depend on abortion rather than the use of contraception.

Objectives

The specific objectives of this study were:

- To determine the prevalence of induced abortion and contraceptive use amongst female undergraduate students of the University of Abuja.

LITERATURE

Unexpected or unplanned pregnancy poses a serious public health challenge in women of reproductive age, especially in developing countries.



Globally, it has been estimated that of the 210 million pregnancies that occur annually worldwide, about 80 million (38%) are unplanned, and 46 million (22%) end in abortion [8].

In the developed nations, the abortion rate is estimated at 35 per 1000, with a relatively high rate of 16 per 1000 for safe abortions in countries where abortion is legalized: Cuba, Puerto Rico, Guadeloupe, Martinique, and Barbados [9]. The abortion rate is calculated from the number of abortions divided by the number of women in the age range of 15–45 years, multiplied by 1000. The annual number of unsafe abortions in the West Indies is estimated at 100 000 and the total number of abortions at 300 000 [9]. Hospital admissions as a result of unsafe abortions are estimated to be 3 to 16 per 1000 abortions with a high level of safe abortions in Cuba, reasonably safe provisions in some other islands, and a high rate of estimated hospital admissions of 10 per 1000 in the Dominican Republic as a result of unsafe abortions [9].

In developing countries, like Asia and Africa, more than 200 million women would like to delay their next pregnancy or even stop bearing children altogether, but many of them still rely on traditional and less effective methods of contraception or use no method at all [9]. Those who don't use any contraception method may lack access or face barriers to using contraception. These barriers include lack of awareness, lack of access, cultural factors, religion, opposition to use by partners or family members, and so on [9].

In Nigeria, unintended sexual intercourse is the main cause of unplanned pregnancies, and many women with unwanted pregnancies decide to end them by abortion [10]. Since abortion is illegal in Nigeria (unless medically recommended to save lots of a mother's life), many abortions are administered in an unsafe environment. The outcome of these clandestine abortions is grave and can be life-threatening, often leading to maternal mortality. Abortion is responsible for 20–40% of the deaths of women in Nigeria [11]. Many factors contribute to unwanted pregnancy in Nigeria and a very important factor is the low level of contraceptive use [12]. In addition, a desire to limit family size to enable the family to provide a better education for the children, the increased involvement of women in the workforce, and city life may be other factors leading to the desire of Nigerian women to have a predetermined number of children [12]. Contraceptive prevalence rates have correlated with maternal mortality and it has been shown that countries with low contraceptive prevalence rates are also countries with very high maternal mortality ratios [12].

METHODOLOGY

Study Area

The study was conducted at the University of Abuja in the Federal Capital Territory of Nigeria (FCT). The FCT is located in the center of the country and is made up of six (6) area councils among which is the Gwagwalada area council where the university is located. The population of the FCT according to the 2006 National Census was 1.4 million with a projected rise to 2.2 million by 2011 [13].

The University of Abuja is a tertiary institution within Abuja. It was established on January 1, 1988 (under Decree No. 110 of 1992 as amended) as a binary mode university with the accreditation to run conventional and distance literacy programs. Academic work began at the



university in 1990 with the matriculation of its colonist scholars. Despite having a worrying history, the university is known to have gotten significantly better and is now reportedly ranked amongst the top 10 universities in Nigeria by the National Universities Commission. The high rank could be owed to the university's move from its mini campus to its state-of-the-art site main campus [13].

The University of Abuja, Gwagwalada mini-campus is the very first campus in the University to be established at take-off time. Though the university is gradually moving to the permanent site, up till today, the campus still hosts four female hostels and three male hostels all accommodating close to six thousand scholars. The university has the following faculties: College of Health Sciences, Faculty of Arts, Faculty of Agriculture, Faculty of Education, Faculty of Engineering, Faculty of Law, Faculty of Science, Faculty of Social Sciences, Faculty of Management Sciences, Faculty of Veterinary Medicine, School of Post Graduate Studies and School of Remedial Studies [13].

Study Population

The target population for this study was the unmarried female undergraduate students for the 2017/2018 academic year at the university.

Study Design

A cross-sectional, descriptive, quantitative survey was used to assess the prevalence of induced abortion and contraceptive use amongst unmarried female undergraduate students. Basic ethical principles were also applied during the entire study, such as beneficence, respect for human dignity, and justice.

Sample Size Estimation

The sample size was calculated using the **Leslie-Kish formula**⁶³; $n = Z^2pq/d^2$

where n is the desired sample size,

Z is the standard normal deviation taken as 1.96,

P is prevalence is taken as 22% (0.22) from a similar study [8],

q = 1 – p (0.78), and

d is the degree of precision taken as 5% (0.05).

$$n = (1.96)^2 \times 0.22 \times 0.78 / (0.05)^2$$

$$= 3.8416 \times 0.22 \times 312$$

$$= \mathbf{263.6}$$

Add **10%** (26) for non-response = **289.6**

A target of 26 students was estimated to cater for non-responses and rounded up to the nearest 100, thus giving a sample size of **300** for this study.



Sampling Technique

The multistage sampling technique was used in this study. In the **first stage**, simple random sampling by balloting without replacement was used to select six (6) out of the ten (10) faculties in the university which include faculties of sciences, management sciences, art, law, social sciences, and agricultural sciences. In the **second stage**, clusters were the departments in each selected faculty (with each faculty having 7, 4, 7, 1, 4, and 1 department respectively). In the **third stage**, simple random sampling was used to select one cluster (department) from each faculty with more than one department thereby making a total of six (6) clusters. In the **fourth stage**, in each cluster, female students were stratified based on their level from 100 level to final year, and equal numbers of students were interviewed from each stratum until the sample size was reached.

Data Collection Instrument

A structured questionnaire was used as a data collection instrument which had questions about socio-demographic characteristics, the practice of contraception, the prevalence, and different methods used to induce abortion.

Quality Control

Validity and reliability were used to ensure quality control. Quality control was conducted during every stage of the study. Content and face validity was verified by the literature study, as well as by pilot testing the instrument previous to the study on women (married female undergraduate scholars) who were excluded from the actual study. Content validity of the research instrument was done by using standardized reproductive health tools as a guide at the preparation stage of the questionnaire and through consultation with reproductive health professionals. The instrument's reliability was ensured as a result of the very fact that the characteristics of the group for which it had been developed were known.

Inclusion and Exclusion Criteria

The inclusion criteria included all unmarried female undergraduate students of the University of Abuja during the study period (2017/2018 session) who volunteered and consented to participate in the study, while all married females were excluded from participating in the study.

Data Management and Analysis

The data was analyzed using Statistical Package for Social Sciences (SPSS) version 23, p-value of <0.05 was considered statistically significant at a 95% confidence level and 5% margin of error. Pearson's Chi-square test was applied to examine the association between variables.

Frequency tables were generated for all variables.

Ethical Consideration

Ethical clearance was obtained from the Health Research and Ethics Review Committee of the University of Abuja Teaching Hospital (UATH), Gwagwalada. Once the research proposal secured ethical clearance and approval from the board, verbal and written consent were obtained from the students before commencing with the distribution of the self-administered



questionnaires to the study participants. Respondents who were not comfortable continuing with the questionnaire were allowed to decline to participate.

RESULTS

A total of **325** questionnaires were shared and **318** were filled and adequately answered, giving a response rate of **97.8%**. The **mean age** in this study was **21.8 ± 3.01** standard deviation.

Socio-Demographic Characteristics

Table 1: Age characteristics of the respondents

Variables (n=318)	Frequency	Percentage
Age group in years		
17–20	130	40.9
21–24	147	46.2
25–28	31	9.7
29–38	10	3.1
Mean age ± SD		
(Range) 21.8 ± 3.01 (18-59)		

Table 1 above shows the socio-demographic characteristics of the respondents. All the respondents interviewed were females (100%) and were between 17 and 38 years. The age group with the highest frequency was 21–24 years (46.2%). About 310 (97.5%) were single while 18 (2.5) were separated. The majority of the respondents were Christians (76.4%) while (22.6%) were of the Islamic religion. The respondents belong to more than 40 ethnic groups from all over the country with Hausa, Igbo, and Yoruba accounting for 11.6%, 29.2%, and 37.7% respectively while other tribes accounted for 21.4% of the total respondents. The respondents were of equal proportion (16.7% each) in all the departments/faculties selected for the study cutting across all the levels of study (100–500) with the majority of the respondents being 200 level students (33.3%) followed by 300 level students (31.1%).

Prevalence of Induced Abortion and Contraceptive Use

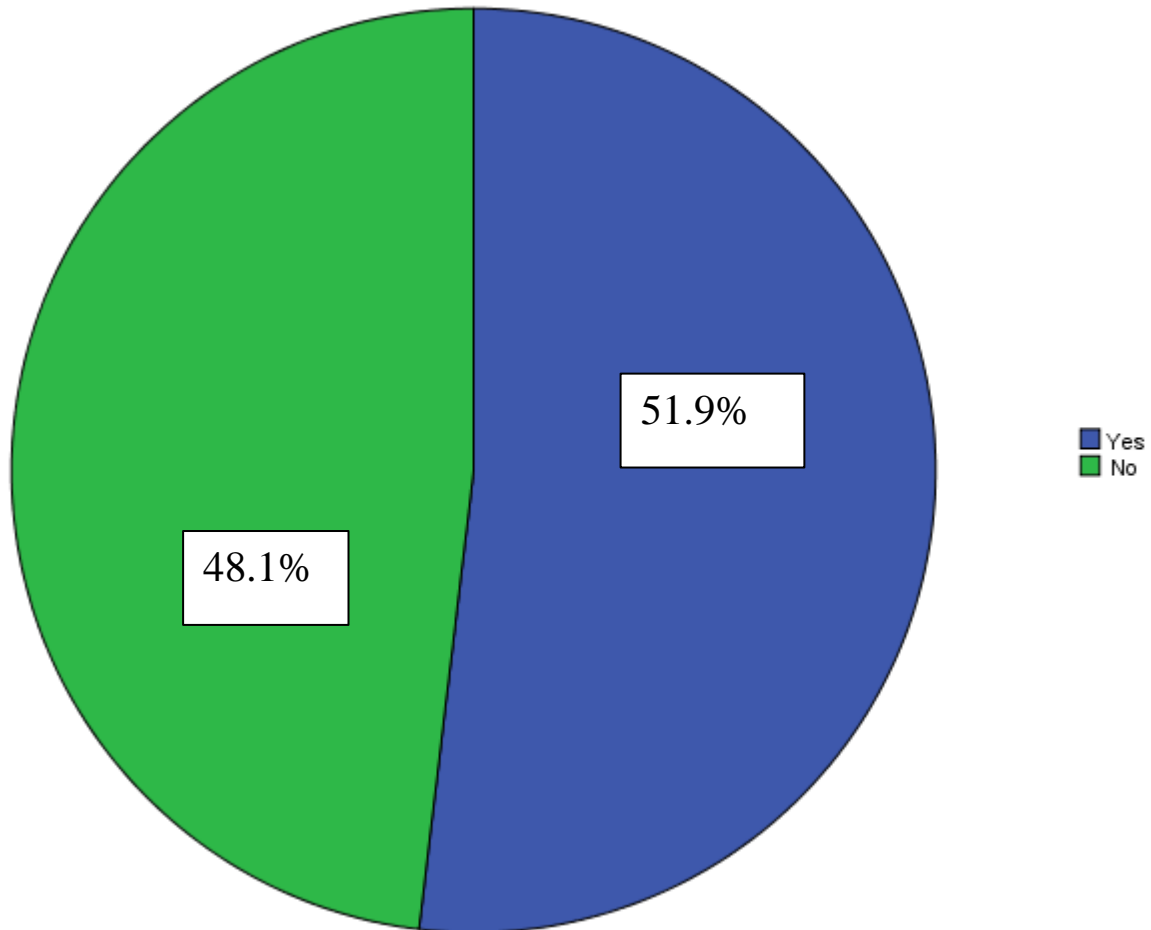


Fig 1: Prevalence of contraceptive use

Figure 1 above is a pie chart showing the prevalence of contraceptive use amongst the respondents in which more than half (165; 51.9%) of the respondents have practiced contraception at one point or the other in their reproductive years while 163 (48.1%) responded that they did not practice any form of contraception.

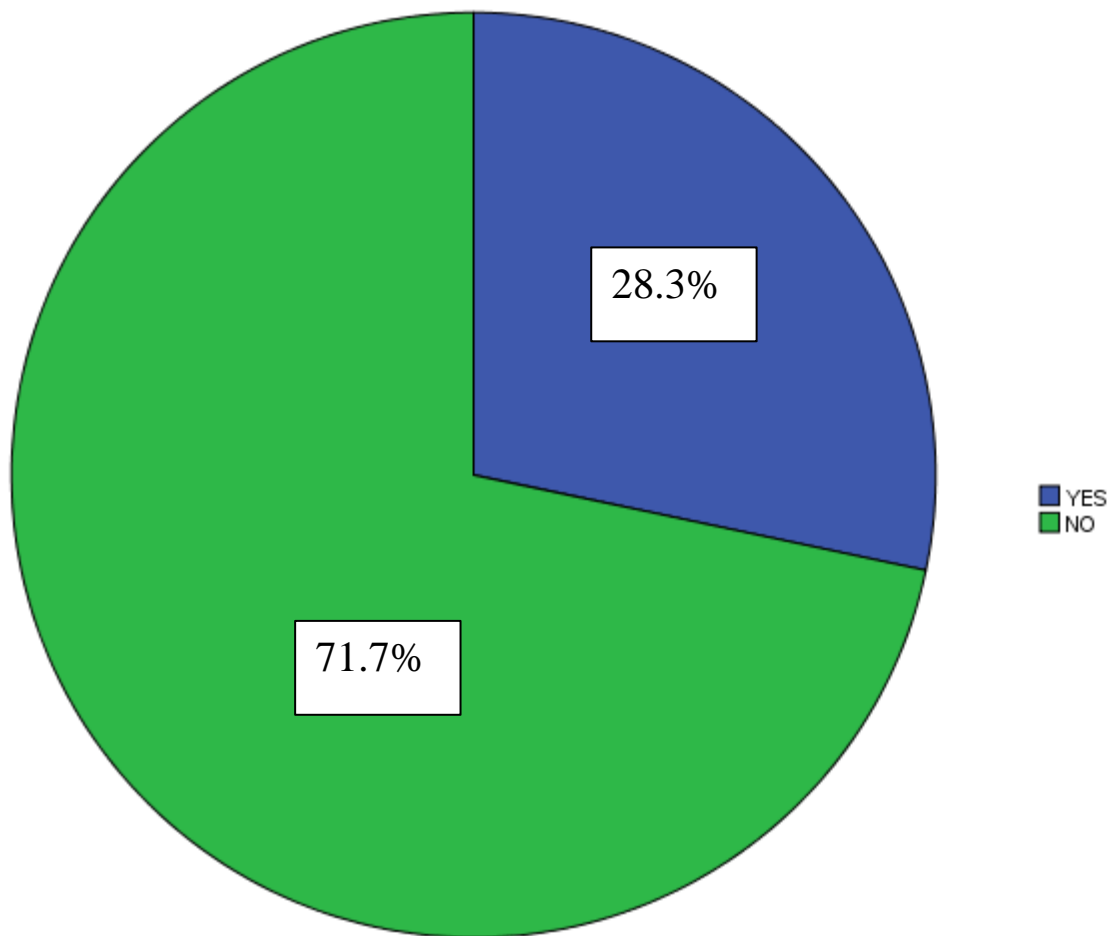


Fig 2: Prevalence of induced abortion

Figure 2 above is a pie chart showing the prevalence of induced abortion and this reveals that 90 (28.3%) of the respondents have had induced abortion at one point or the other while the remaining 228 (71.7%) have not.



Practice Of Contraception

Table 2: The contraceptive method used

Variables	Frequency	Percentage
Condom	87	52.7
Oral contraceptives	36	21.8
Rhythm method	13	7.9
Withdrawal	23	13.9
Vaginal douching	3	1.8
Intrauterine device	2	1.2
Norplant	1	0.6

Table 2 above shows that the most common method of contraception employed by the respondents is a condom (52.7%), followed by oral contraceptives at (21.8%) while the withdrawal method (13.9%) came in as the third commonest sort of contraception amongst the respondents.

Table 3: Frequency of contraceptive use

Variables	Frequency	Percentage
Always	34	10.7
Often	35	11.0
Sometimes	58	18.2
Occasionally	35	11.0
Never	156	49.1

Table 3 above shows the frequency of contraceptive use amongst the respondents.

About 18.2% said they often use contraceptives, 11.0% occasionally use contraception while 10.7% of the target population always use contraception. However, about 49.1% of the study population have never used any sort of contraception before.

**Table 4: Reason for not using contraception**

Variables	Frequency	Percentage
Thought that occasional sex could not lead to pregnancy?	3	1.9
Worried about the side effects	8	5.1
Thought contraceptive methods were inconvenient to buy	5	3.2
Thought the delight would be affected by methods	8	5.1
Didn't know how to use	3	1.9
Could not get it	2	1.3
My culture doesn't believe in it	67	42.9
It's against my faith	60	38.5

Table 4 above shows the various reasons why some of the respondents were not using contraception. 42.9% said their own culture does not believe in contraceptive practice, 38.5% of respondents said it is against their faith, about 5.1% said they were worried about the side effects, and a few thought that the delight of getting sexual intercourse will be influenced by contraception.

Table 5: Relationship between prevalence of contraceptive use and induced abortion

Variables	Induced Abortion		χ^2	P-value
	Yes (%)	No (%)		
Contraceptive use				
Yes	87 (52.7)	78 (47.3)		
No	3 (2.0)	150 (98.0)	100.828	0.000*

*** Significance at p-value < 0.05 CI= Confidence Interval of: 95% X^2 : Chi-square

Table 5 above shows the relationship between contraceptive use and induced abortion. Majority (87; 52.7%) of the respondents that practice contraception have also had an induced abortion at one point or the other while about 78 (47.3%) of those who practice contraceptive use have no history of induced abortion. Only 3 (2.0%) of those who did not practice contraception have had induced abortion while the majority 150 (98%) of the respondents were not using contraception and have not had any history of induced abortion. It therefore goes to show that induced abortion is commoner amongst respondents with the practice of contraception which reveals a statistically significant result between the variables.

**Table 6: Methods used to terminate last pregnancy**

Variables	Frequency	Percentage
D & C	14	15.6
Drugs	63	70.0
MVA	9	10.0
Others	4	4.4

Table 6 above shows that the most common method of induced abortion is drugs (70.0%), followed by dilatation and curettage (D&C) at 15.6%, while manual vacuum aspiration (MVA) came in third at 10.0%. Other measures not specified were at 4.4%.

Table 7: Where the termination of pregnancy was carried out

Variables	Frequency	Percentage
Home	12	13.3
Chemist	38	42.2
Area fertility clinic	15	16.7
Hospital	25	27.8

Table 7 above shows that the majority of the termination of pregnancy was done at a chemist's shop (42.2%), some did the termination of pregnancy at their area fertility clinic (16.7%) while others conducted it by themselves at home (13.3%). Only 27.8% of respondents had their termination of pregnancy done in the hospital.

DISCUSSION

The age distribution of respondents in this study ranges between ages 17 and 38 in which age group 21–24 shows the highest percentage of response with 46.2%, age group 17–20 with 40.9% followed by age group 25–28 with 9.7%. The **mean age** in this study was **21.8 ± 3.01 SD**.

The study reveals that 51.9% of the respondents have used contraceptives at one point or the other and this is similar to a study done amongst 15 to 24-years-old South African women which estimated that only 52.2% of sexually experienced women are using contraceptives [2]. This result also shows some level of correlations with several studies done across the six geopolitical zones in Nigeria which indicated that contraceptive knowledge and awareness, especially among female students aged 15 to 24 years, is very high [11]. However, this is quite higher than the result obtained from a study done by adekunle et al. [15], an evaluation of the policy and the specific targets of the Nigerian Population Policy (NPP) which estimated the contraceptive prevalence rate to be 11–13% in the year 2000 [13].

This study puts the prevalence of Induced Abortion for unintended pregnancy at 28.3% of the total estimated sample size of the study population. This is in agreement with a statistic that



revealed that, of the 210 million pregnancies that occur annually worldwide, about 80 million (38%) are unplanned, and 46 million (22%) end in abortion [8]. However, this result is on the high side when compared with a study done among Nigerian women of reproductive age where it was said that one in seven (14%) have tried to have an abortion, and one in ten (10%) have actually ended in an unwanted pregnancy, suggesting up to 760 000 induced abortion annually.

The majority (87; 52.7%) of the respondents that practiced contraception have also had an induced abortion at one point or the other while about 78 (47.3%) of those who practice contraceptive use have no history of induced abortion. Only 3 (2.0%) of those who do not practice contraception have had induced abortion while the majority 150 (98%) of the respondents were not using contraception and have not had any history of induced abortion. The relationship between contraceptive use and induced abortion in this study showed a statistically significant relationship at a p-value of 0.000 which revealed a high prevalence of induced abortion amongst respondents that have knowledge and practice of contraception.

This is in keeping with a study done in southwestern Nigeria which showed that despite the high association between education and usage rate of contraception, this same group also had a high association with abortion; it also agrees with similar findings from Lagos and other parts of the world, indicating that women who had used contraception are even more likely to have had an abortion than women who had not used contraception [10]. However, this is contradictory to a study done in Cuba by the Cuban government which showed a study of prevention of unintended pregnancies. The relation between contraception use and abortion showed a decline in abortion rates if contraceptive use rises in countries with stable fertility rates and in countries where fertility rates decline, contraceptive use rises parallel with abortion rates [18].

Methods Used to Induce Abortion

This study revealed that the most generally employed means of convinced revocation is via the use of medicines which is (70.0%) followed by Dilatation and Curettage (D&C) at 15.6%, while homemade vacuum aspiration is only about 10.0% of the study population. This is in line with the attestation that mifepristone or methotrexate in combination with misoprostol is used by general interpreters or in sanitarium conventions with good results. Misoprostol alone is substantially used under illegal circumstances by women without medical help. Although not the most effective system, the use of misoprostol lowered the complications of unsafe revocation. Although the use of medical abortion is increasing, surgical abortion is still extensively used, but the exploration of this content is scarcely mentioned [19].

CONCLUSION

Surprisingly, this study showed that students who had had an abortion had significantly higher use of contraceptives as compared to students who had never been pregnant. These results are paradoxical, as one would expect the opposite findings, that is, those students who had experienced an abortion would have reported a lower incidence of contraceptive use when compared to never pregnant respondents, suggesting that the pregnancy was the result of a lack of contraceptive protection, either routine or emergency.



Remarkably, and in contrast to conventional understanding, these results showed that less contraception does not appear to be associated with a higher incidence of abortion. Similarly, more contraception does not appear to be protective against incurring a pregnancy.

RECOMMENDATIONS

1. There should be frequent awareness campaigns and health education on the knowledge, attitude, and practice of contraception by the Students Union Government, school media and publicity team, and non-governmental and charitable organizations targeted on effective contraceptive practice as a means of preventing unintended pregnancies.
2. There should be more emphasis on the need for safe sex practices, contraceptive practices, and safe abortion practices by the school medical team or qualified health care professionals, as the case may be.

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Conflict of Interest

The authors declare no conflict of interest.

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