

ORIGINAL ARTICLE

Burden of Unsafe Abortion Among Young Ladies in Edo State, South-South Nigeria

Tijani IA OSENI^{1,2}

Christopher C

AFFUSIM^{1,2}Pauline E EROMON^{1,2}Neba F FUH²Mojeed O MOMOH³

¹Department of Family
Medicine
Ambrose Alli University
Ekpoma Edo State, NIGERIA

²Department of Family
Medicine
Irrua Specialist Teaching
Hospital
Irrua Edo State, NIGERIA

³Department of Obstetrics &
Gynaecology
Irrua Specialist Teaching
Hospital
Irrua Edo State, NIGERIA

Author for Correspondence

Dr Tijani IA OSENI

¹Department of Family
Medicine

Ambrose Alli University
Ekpoma Edo State, NIGERIA

Phone: +234 803 628 1897

Email:

tijanioseni@aauekpoma.edu.ng

tijanioseni@yahoo.com

Received: June 8th, 2020Accepted: June 29th, 2020

DISCLOSURE

The authors disclose no conflict of interest. and nil external funding.

ABSTRACT

Background: Unsafe abortion is a preventable cause of maternal mortality. It is common among the teenagers and young females mainly due to a combination of socio-economic vulnerability, teenage pregnancy, and inadequate access to healthcare services. This research was done to highlight some of the burdens of unsafe abortion among our very young females.

Methods: This was a cross-sectional study. A total of 423 young sexually active females aged 15-29 years, who consented to join in the study were recruited from 4 communities (2 urban and 2 rural) in Edo state of Nigeria using multistage sampling technique. Information were obtained from them using a pre-tested semi-structured interviewer administered questionnaire. Data were analysed using Epi Info 3.5.4 Statistical software.

Results: Participants were between 17-29 years, mostly from low socio-economic class, and also students with tertiary level of education. The mean age of sexual debut was 19 years, with majority (70.2%) having multiple sexual partners, and 77.1% not using any form of contraceptive. Majority of the respondents (67.4%) have had abortions. About 75.4% of the respondents had had unsafe abortions. The relationship between abortion and the following were statistically significant: increasing age, not married, socio-economic status, and reproductive tract infection.

Conclusion: Unsafe abortion was found in this study to be high among adolescents and young women in Edo State, South-South Nigeria. Factors like socioeconomic vulnerability, teenage pregnancy, and inadequate access to healthcare services combine to leave large numbers of women at risk of unsafe abortion and abortion-related death.

Keywords: Abortion, Maternal, Mortality, Adolescents, Healthcare

INTRODUCTION

Abortion is the termination of a human pregnancy, most often performed during the first 28 weeks of pregnancy. It is a neglected

healthcare problem in Africa.¹ Abortion is said to be safe when the procedure is done by a licensed health care professional. It

becomes unsafe when the procedure of pregnancy termination is done either by persons lacking the necessary skills or in an environment that does not conform to minimal medical standards or both.² Unsafe abortion is widespread and is one of the leading cause of maternal morbidity and mortality.^{1,3,4,5} Maternal mortality from unsafe abortion in Africa is the highest in the world.^{2,3} One in one hundred and fifty women die from unsafe abortion.² It could lead to significant complications such as ruptured uterus, haemorrhage and sepsis.^{3,4} Complications from unsafe abortion accounted for 41.4% of all gynaecological admissions in a tertiary hospital in south-eastern Nigeria.⁵ About 99% of abortions in Sub-Saharan Africa (SSA) are unsafe.² Factors responsible for unsafe abortion in SSA include restrictive abortion law, poverty, social inequality, poor quality of health services and low level of awareness.²

Adolescents and young ladies resort to clandestine methods of termination of pregnancy (due to the above factors), which predispose them to post-abortal complications.¹ World Health Organization (WHO) defines young people as individuals in the 10 - 24 age group, and adolescents as a sub group of young people covering the age range 10 - 19 years.⁶ Adolescents can be further subdivided into younger adolescents (10 to 14 years), and older adolescents (15 to 19 years).⁷ Half of the women in SSA give birth before the age of 20 with attendant high morbidity and mortality.^{7,8}

Africa has an estimated six million unsafe abortions and 220,000 abortion-related deaths annually.⁷ One quarter of these abortions and deaths occur in women aged 15 to 19 years.^{7,8} Babies born to adolescent mothers are also at increased risk of being

poor, having low academic performance and being unemployed later in life.⁷ The reason why adolescents terminate pregnancies include; incest or sexual abuse, contraceptive failure, fear of upsetting parents or bringing shame to the family, fear of expulsion from the family home, school or jobs, fear of difficulty in finding a marriage partner, lack of financial means to care for a child, desire to complete education or achieve other goals, dislike for the man responsible for the pregnancy.^{9,10,11}

Abortion in Nigeria is highly restricted by law, it is only permitted when the continuation of pregnancy constitutes threat to the woman's health.^{12,13} Contrary to its intended purpose, restrictive abortion laws have not prevented abortion in Nigeria; instead the laws have criminalized the practice of abortion and driven it underground, making it unsafe for women.¹⁴ Abortion related deaths are seen to be more frequent in countries with more restrictive abortion laws (34 deaths per 100,000 childbirths), than in countries with less restrictive laws (1 or fewer per 100,000 childbirths).¹⁵

Official statistics on the prevalence of abortion in Nigeria do not exist because of the severe restriction. Unofficially, one in 10 Nigerian women of childbearing age say that they have had an abortion. Among women who have had an abortion, four in 10 have had at least two. According to a 1996 study, that was based on a nationally representative sample of 672 health facilities that were considered potential providers of abortions or post-abortion care, about 610,000 abortions occurred each year in Nigeria.¹⁶ With the country's growing population, the annual number of abortions is estimated to have increased to 760,000

abortions by 2006.¹⁶ Another study done in Nigeria, estimates that 50% of the Nigerian women who die from unsafe abortion each year are adolescents, and abortion complications are responsible for 72% of all deaths among teenagers.⁹

Consequently, this study was conducted to highlight the burden of unsafe abortion among adolescents and young women in Edo State, South-South Nigeria.

METHODOLOGY

This was a cross-sectional study in which 423 young sexually active ladies aged 15 to 29 years, who consented to participate in the study, were recruited from 4 communities in Edo State using multistage sampling technique. These communities were 2 urban (Benin and Auchi), and 2 rural (Igarra and Irrua). The 4 communities were selected through simple random sampling from the 18 local government areas in the state. Benin is the state capital and is located in Edo South Senatorial district. Auchi is the second largest city in the state after Benin and is located in Edo North Senatorial District. Igarra and Irrua are rural communities located in Edo North and Edo Central Senatorial districts respectively.

A simple random sampling technique was used to select 4 wards from each town. A simple random sampling method was also used to select 5 streets from each ward. A systematic sampling technique was then used to select 5 houses in each street. In each house, a household was selected by simple random sampling if there were more than one household in a house that met the criteria. Where no household met the criteria in a house, the next house was used. This was done until the required 423 respondents were recruited for the study.

A pretested, semi structured, and interviewer administered questionnaire was used to obtain information from study participants, through the aid of trained research assistants in all the study locations. Information collected included sociodemographic characteristics, sexual characteristics, and pregnancy related characteristics including contraceptive use.

Out of the 440 questionnaires administered (110 per study location), 423 were correctly filled and used for the study. These were broken down as follows: 107 respondents were recruited from Benin, 107 from Auchi, 106 from Igarra and 103 from Irrua, making 423 respondents.

Written informed consent was obtained from study participants, after the procedure was explained to them, and ethical clearance was obtained from the Research and Ethics department of Irrua Specialist Teaching Hospital.

Data were entered into epi info 3.5.4 statistical software and analysed using percentages. Chi square was used to test for association and significance level was set at $p \leq 0.05$.

RESULTS

Out of the 423 respondents, 242 (57.2%) were within the group of 20-24 years, with a range of 17 to 29 years and a mean of 23 ± 3.15 years. Most of the respondents were single ($n=371$, 87.7%) and Christians ($n=308$, 72.8%). They were mostly students ($n=209$, 49.4%), with most of them having tertiary level of education ($n=220$, 52%). They were mostly from low socioeconomic class ($n=212$, 50.1%). There were an almost equal number of respondents from both urban ($n=214$, 50.6%) and rural ($n=209$, 49.4%) settings. The sociodemographic

characteristics of respondents are summarised in Table 1 below:

Table 1: Sociodemographic characteristics of respondents (N=423)

Variable	Freq	%
Age (Years)		
15 - 19	49	11.6
20 - 24	242	57.2
25 - 29	132	31.2
Marital Status		
Single	371	87.7
Married	52	12.3
Religion		
Christianity	308	72.8
Islam	115	27.2
Occupation		
Students	209	49.4
Self Employed (Artisans)	102	24.1
Farmers	62	14.7
Civil Servants	50	11.8
Level of Education		
No Formal Education	13	3.1
Primary	72	17.0
Secondary	118	27.9
Tertiary	220	52.0
Socioeconomic Status		
Low	212	50.1
Medium	146	34.5
High	65	15.4
Location of Study		
Urban (Benin and Auchi)	214	50.6
Rural (Igarra and Irrua)	209	49.4

Figure 1. Distribution of Respondents by Location of Study (N=423)

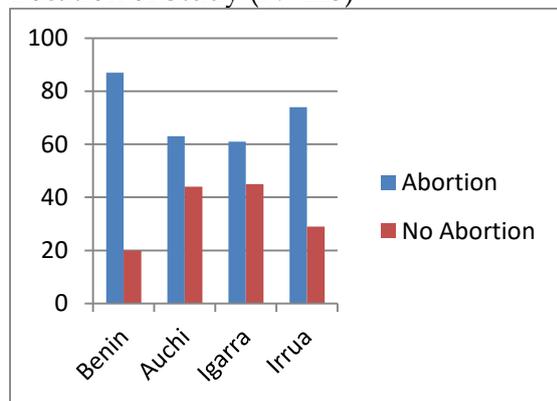


Figure 1 represents the distribution of respondents by location of study. One hundred and seven respondents from Benin participated in the study out of which 87 (81.3%) have had an abortion in the past. Respondents from Auchi were also 107 out of which 63 (58.9%) have had an abortion. Of the rural locations, 61(57.5%) out of the 106 respondents from Igarra have had abortion while 74 (71.8%) of the 103 respondents from Irrua have had an abortion. The difference was not statistically significant ($\chi^2 = 1.45; p = 0.25$).

The sexual characteristics of respondents are as outlined in Table 2 below. Majority of respondents (n=233, 55.1%) had their sexual debut between the ages of 15 to 19 years. The mean age of coitarche among respondents was 19 ± 2.3 years, while the range was from 6 to 26 years. Majority of respondents had multiple sex partners (n=297, 70.2%), had had treatment for reproductive tract infection (RTI) in the past (n=265, 62.6%), and did not use any form of contraception (n=326, 77.1%). Among those who used a form of contraception, 47 (48.4%) used condom.

Most respondents have been pregnant at least once (n=285, 67.4%), with 367 (86.8%) of respondents having no children, while 285(67.4%) of them had had at least one abortion. The main method of termination of pregnancy was via dilatation and curettage (D & C) in 177(62.1%) of respondents. A total of 215 (75.4%) respondents had unsafe abortions, with another 16(5.6%) uncertain of whether their abortions were done by medical professionals or quacks. The results are summarised in Table 3 below.

Table 2. Sexual characteristics of respondents

Variables	Freq	%
Coitarche (years) (N=423)		
5 - 9	3	0.7
10 - 14	45	10.6
15 - 19	233	55.1
20 - 24	134	31.7
25 - 29	8	1.9
No of Sexual Partners (N=423)		
1	126	29.8
2	116	27.4
3	99	23.4
4	58	13.7
5 and above	24	5.7
Previous RTI (N=423)		
Yes	265	62.6
No	158	37.4
Contraceptive Use (N=423)		
Yes	97	22.9
No	326	77.1
Method of Contraception (N=97)		
Condom	47	48.4
Natural	25	25.8
Pills	19	19.6
Injectable	6	6.2

Abortion increased with increasing age and was highest among respondents aged 25 to 29. The difference was statistically significant ($p < 0.001$). Abortion was also significantly higher among those who were single compared to married respondents ($p = 0.005$). a significantly higher proportion of Christians had abortion compared to Muslims ($p = 0.008$).

Abortion was highest among respondents with low socioeconomic status followed by those in the middle socioeconomic class and was least among respondents in high socioeconomic class. The difference was statistically significant ($p = 0.008$). There was a significant association between abortion

and previous RTI ($p < 0.001$). These are outlined in Table 4 below.

Table 3. Pregnancies and Outcomes in Respondents

Variables	Freq	%
No of times ever Pregnant (N=423)		
0	138	32.6
1	184	43.5
2	53	12.6
3	28	6.6
4 and above	20	4.7
No of Children (N=423)		
0	367	86.8
1	29	6.8
2	14	3.3
3	10	2.4
4 and above	3	0.7
No of Abortions (N=423)		
0	138	32.6
1	200	47.3
2	51	12.1
3	22	5.2
4 and above	12	2.8
Method of Abortion (N=285)		
Medical (Misoprostol)	75	26.3
Surgical (Dilatation & Curettage and Manual Vacuum Aspiration)	177	62.1
Others (Self-medication, Herbal concoction etc.)	33	11.6
Facility Abortion was done (N=285)		
Qualified health personnel/facility	54	19.0
Non health professional	215	75.4
Don't know	16	5.6

DISCUSSION

Sexual activity is high among teenagers and young adults. Age of sexual debut was as low as 6 years in some respondents in this study. The median age at coitarche was 19years. This is close to the National median age of 17.2 years,¹⁷ and it is also similar to the findings in some previous studies.^{18,19}

Table 4. Determinants of Abortion (N=423)

Variable	Abortion		Total N=423	Statistical Test
	Yes N=285	No N=138		
Age (Years)				
15 - 19	22(44.9)	27(55.1)	49(100)	$\chi^2 = 34.42$ P < 0.001
20 - 24	150(62.0)	92(38.0)	242(100)	
25 - 29	113(85.6)	19(14.4)	132(100)	
Marital Status				
Single	260(70.1)	111(29.9)	371(100)	$\chi^2 = 10.04$ P = 0.005
Married	25(48.1)	27(51.9)	52(100)	
Religion				
Christianity	219(71.1)	89(28.9)	308(100)	$\chi^2 = 7.16$ P = 0.008
Islam	66(57.4)	49(42.6)	115(100)	
Socioeconomic Status				
Low	157(74.1)	55(25.9)	212(100)	$\chi^2 = 9.81$ P = 0.008
Medium	92(63.0)	54(37.0)	146(100)	
High	36(55.4)	29(44.6)	65(100)	
Location of Study				
Urban (Benin and Auchi)	150(70.1)	64(29.9)	214(100)	$\chi^2 = 1.45$ P = 0.25
Rural (Igarra and Irrua)	135(64.6)	74(35.4)	209(100)	
Previous RTI				
Yes	198(74.7)	67(25.3)	265(100)	$\chi^2 = 17.4$ P < 0.001
No	87(55.1)	71(44.9)	158(100)	

Findings comparable with this were reported in some studies done in South Africa, Ireland and Albania where sexual debut was at 17.3 years, 17.6 years and 18.8 years respectively.^{20,21} However, this is in contrast to the findings by Adegbeniga *et al.* in their study in Northern Nigeria, where earlier age of sexual debut was reported.²² This finding may be attributed to religion and cultural factors in the area studied as the culture and Islam which is the predominant religion in northern Nigeria encourages early marriage, hence early sexual debut. Also northern culture In Nigeria, 19% of women initiate sexual intercourse by age 15, and 57% by age 18. By the age of 20, 7 out of 10 women have had sexual intercourse.¹⁷

The prevalence of unsafe abortion found in this study was 75.4%. This is largely due to

restrictive abortion laws in Nigeria.^{3,23} According to the regional estimates from a study in south-central Asia, the prevalence of unsafe abortion was 57.8%.²⁴ This is in contrast to a much lower prevalence reported in a study conducted in India, using data from the 2015 Health Facilities Survey, and national abortion medication sales, which concluded that among 15.6 million abortions occurring in 2015, 0.8 million (5%) abortions were unsafe.²⁵ This discrepancy is possibly because in this latter study unsafe abortion was defined only as a surgical abortion performed outside of a health facility, without considering who performed the abortion or when the abortion was performed.

There was a high level of unwanted pregnancies (67.4%) among study participants, and majority of these

pregnancies ended in abortion. Unwanted pregnancy among teens and young people account for about three million unsafe abortions worldwide and the incidence seems to be on the rise.²⁶ Although abortion is illegal in our country, all the girls procured it somehow. Studies in Nigeria revealed that over 80% of adolescents who have an unwanted pregnancy, seek the option of induced abortion with many of them using dangerous and unsafe methods.^{27,28}

The implications (both economic and otherwise) of treating complications of unsafe abortion is enormous, and this often stimulates the debate on review of our abortion legislation. The way forward is to prevent unwanted pregnancy which will in turn lead to a reduction in the practice of unsafe abortion. Measures aimed at preventing unwanted pregnancies and unsafe abortions in young ladies include modern contraception, proper education, improving the socio-economic status of these young ladies. Government, nongovernmental organisations (NGOs) and other relevant stakeholders should ensure modern contraceptives are available and affordable to young ladies, and the misconceptions they have about using modern contraceptives be cleared through advocacies and sensitisations.

In this study, it was found that the practice of abortion increased with increasing age, and this was found to be statistically significant ($p \leq 0.001$). In similar studies done in India, Bangladesh and Nigeria, younger women (≤ 24 years) were at a higher risk of unsafe abortion, and the risk of abortion-related death was highest among teenage women (15–19 years).^{29,30,31} The reason may be the fact that older women (≥ 24 years) are

more educated, may be gainfully employed, and independent. This is unlike the teenagers who are still schooling, less educated and dependent on their parents, and thus, more likely to sneak to quacks for the abortion due to fear and lack of funds to have safe abortion.

Abortion was also found to be more among those who were single. This may be due to the fact that pregnancy is desirable in marriage, hence no need for termination, as it is unwanted pregnancies that often results in abortion.

More Christian young women were found to have procured abortion in our study, compared to Muslims. Abortion is prohibited by both religions and it is considered as murder. However, why Christian young ladies engaged more in abortion despite the prohibition is a subject for further study. Islam permits abortion only if it is done to prevent harm to the mother or foetus.³² This applies to Christians too. The decision of conducting abortion must be by a trustworthy physician and must be done within 120 days of conception as ensoulment occurs at 120 days.³² Beyond 120 days, abortion can only be done if it is proven beyond doubt that continuing the pregnancy will lead to the death of the mother.³²

Findings in this study showed that abortion was higher among respondents with low socioeconomic status. This was statistically significant ($p=0.008$). This is similar to what was reported in other studies where low socioeconomic status was found to increase the likelihood of unsafe abortion.^{1,8,13} However, this is in contrast to what was found in another study where the prevalence of abortion was higher among women with higher socioeconomic status.²⁹

They also found that women from lower socioeconomic status were more likely to have an unsafe abortion, and to die from abortion-related causes. This is consistent with evidence showing that disadvantaged minority groups in Brazil are at a higher risk of unsafe abortion.³³ This may be attributed to the fact that the women from low socio-economic background may not have funds to pay for the services of a professional, hence they take the only option available which is the cheap services of quacks. This finding is worrisome as they will not have the funds most of the time to manage the complications that results from unsafe abortion, further increasing morbidity and mortality in this vulnerable group. The high prevalence of abortion in women of low socio-economic group found in this study, may be as a result of the increased unwanted pregnancies in this category of persons who mostly engage in sex for pecuniary gains, and are therefore unable to negotiate sex and contraceptive use.²³

Abortion was found to be associated with increased risk of Reproductive Tract Infections (RTI). Findings of this study are similar to findings of a study done in Vietnam, which revealed that women requesting for abortion were at increased risk of developing RTIs compared to the general population of women of reproductive age.³⁴ Recurrent RTI in adolescents and young women worsen their chances of fertility later in life, in addition to other long term complications such as ectopic pregnancies and chronic pelvic pain.²³

CONCLUSION

This study found unsafe abortion to be high among adolescents and young women in Edo State, South-South Nigeria. This

demonstrates a critical public health problem. Similar to research in other low-and-middle income countries, our findings demonstrate that socioeconomic vulnerability, teenage pregnancy, and inadequate access to healthcare services combine to leave large numbers of women at risk of unsafe abortion and abortion-related death.

Limitations

The study relied on self-reporting. It considered abortion as unsafe even when done by health professionals so long as it was not done in accredited health facilities. Again, only 4 communities were studied.

RECOMMENDATIONS

Healthcare providers should disseminate accurate information about contraception, and provide the full range of contraceptive services and supplies and guide couple to make appropriate choices.

The government should increase the availability of effective and efficient post-abortion care technology, such as MVA equipment, at low cost; train physicians in its operation and maintenance; and train nurses to provide contraceptive counselling after treatment. Again, government should reform existing laws restricting access to safe abortions.

To better prevent unintended pregnancy among young people and help reduce the demand for abortion, schools should offer medically accurate and age appropriate family life education for adolescents, including information about modern contraception.

ACKNOWLEDGEMENT

Dr Mary Amoakoh-Coleman of the Department of Epidemiology, Noguchi Memorial Institute of for medical Research,

University of Ghana, Legon Accra Ghana for reading through the manuscript.

REFERENCES

1. Atuhaire S. Abortion among adolescents in Africa: A review of practices, consequences, and control strategies. *Int J Health Plann Mgmt.* 2019;34: e1378-e1386
2. Gebremedhin M, Semahegn A, Usmael T, Tesfaye G. Unsafe abortion and associated factors among reproductive aged women in Sub-Saharan Africa: a protocol for a systematic review and meta-analysis. *Systematic Reviews* 2018; 7:130
3. Enabudoso E, Oko-Oboh GA, Ehigiegba AE, Sodje JD, Erhabor J, Oriakhi M, et al. Harm elimination project for unsafe abortion in Nigeria: An operations research. *Trop J Obstet Gynaecol* 2019; 36:126-1A32.
4. Bhattacharyya SK, Saha SP, Bhattacharya S, Pal R. Consequences of unsafe abortion in India—a case report. *Proceedings in Obstetrics and Gynaecology* 2011;2(2):12
5. Kalu CA, Umeora OIJ, Sunday-Adeoye I. Experiences with Provision of Post-Abortion Care in a University Teaching Hospital in South-East Nigeria: A Five Year Review. *African Journal of Reproductive Health* 2012; 16(1): 105-112
6. World Health Organisation. Adolescent Pregnancy. Factsheet 2020 Available at: <https://www.who.int/news-room/factsheets/detail/adolescent-pregnancy>. Accessed 26th October, 2020.
7. Sama CB, Ngasa SN, Dzekem BS, Choukem SP. Prevalence, predictors and adverse outcomes of adolescent pregnancy in sub-Saharan Africa: a protocol of a systematic review. *Systematic Reviews* 2017; 6:247
8. Munakampe MN, Zulu JM, Michelo C. Contraception and abortion knowledge, attitudes and practices among adolescents from low and middle-income countries: a systematic review. *BMC Health Serv Res* 2018 ;18(1):909 DOI 10.1186/s12913-018-3722-5
9. Adogun P, Udigwe G, Ubajaka C. Review of problems of adolescent sexual behaviour and the role of millennium development goals 4, 5 and 6 in Nigeria. *International Journal of Clinical Medicine* 2014; 5:940-948
10. Mote V, Otupiri E, Hindin MJ. Factors Associated with Induced Abortion among Women in Hohoe, Ghana. *Afr J Reprod Health* 2010; 14(4):115-121
11. Lauro D. Abortion and Contraceptive Use in Sub-Saharan Africa: How Women Plan Their Families. *Afr J Reprod Health* 2011; 15(1): 13-23
12. Abdullahi ZG, Shittu OS, Koledade AK, Mohammed U, Maikudi HA, Igashi JB, et al. The Benefits of a Guideline on Safe Termination of Pregnancy for Legal Indications: An Illustrative Case Report of a Hydranencephaly. *Afr J Reprod Health* 2019; 23[2]: 148-151
13. Bell SO, Omoluabi E, OlaOlorun F, Shankar M, Moreau C. Inequities in the incidence and safety of abortion in Nigeria. *BMJ Global Health* 2020;5
14. Okonofua F. Abortion and maternal mortality in the developing world. *Journal of Obstetrics and Gynaecology Canada.* 2006;28(11):974-979.
15. World Health Organization. Unsafe abortion: Global and Regional Estimates of the Incidence of Unsafe Abortion and Associated Mortality in 2003. 5th ed. Geneva: World Health Organization 2007.
16. Bankole A, Oye-Adeniran BA, Singh S, Adewole IF, Wulf D, Sedgh G, et al. Unwanted Pregnancy and Induced Abortion in Nigeria: Causes and Consequences, New York: Guttmacher Institute, 2006.
17. National Demographic Health Survey. 2018 Available at: <https://www.dhsprogram.com/pubs/pdf/FR359/FR359.pdf>. Accessed 2th October, 2020.
18. Akinsoji AA, Olufunmilola AA, Idowu AA, Pius AO. Sexual and contraceptive practices among female undergraduates in a Nigerian tertiary institution. *Ethiopian Journal of Health Sciences,* 2015;25(3):209-216.
19. Cadmus E, Owoaje E. Patterns of contraceptive use among female undergraduates in the University of Ibadan, Nigeria. *Internet Journal of Health* 2009;10(2).
20. Hoque E, Hoque N. Knowledge of and attitude towards cervical cancer among

- female university students in South Africa. *South Afr J Epidemiol Infect.* 2009;24(1):21-24.
21. O'Connell E, Brennan W, Cormican M, Glacken M, O'Donovan D, Vellinga A, et al. Chlamydia trachomatis infection and sexual behavior among female students attending higher education in the Republic of Ireland. *BMC Pub Health* 2009; 9:397.
 22. Sunmola AM, Dipeolu M, Babalola S, Otu AD. Reproductive, sexual and contraceptive behaviour of Adolescents in Niger state, Nigeria. *Afr J Reprod Health* 2002;6(3):83-91.
 23. Oseni TIA, Odewale MA. Socioeconomic status of parents and the occurrence of pelvic inflammatory disease among undergraduates attending Irrua Specialist Teaching Hospital, Irrua, Edo State, Nigeria. *Niger Postgrad Med J* 2017;24(2):114-120.
 24. Ganatra B, Gerdtts C, Rossier C, Johnson Jr BR, Tunçalp Ö, Assifi A, et al. Global, regional, and subregional classification of abortions by safety, 2010-14: estimates from a Bayesian hierarchical model. *Lancet* 2017; Nov 25; 390(10110):2372-2381.
 25. Singh S, Shekhar C, Acharya R, Moore AM, Stillman M, Pradhan MR, et al. The incidence of abortion and unintended pregnancy in India, 2015. *Lancet Glob Health* 2018;6(1): e111-120.
 26. World Health Organization. Adolescent Pregnancy. [January 2014]. Available at: <http://www.who.int/mediacentre/factsheets/fs364/en/> Accessed on 27th October 2020.
 27. Orji EO, Esimai OA. Introduction of sex education into Nigerian schools: The parents; teachers and students' perspective. *J Obstet Gynaecol* 2003;23(2):185-188.
 28. Fasubaa OB, Akindele ST, Adelekan A, Okuwokenye H. A politico-medical perspective of induced abortion in a semi-urban community in Ile-Ife, Nigeria. *J Obstet Gynaecol* 2002;22(1):51.
 29. Yokoe R, Rowe R, Choudhury SS, Rani A, Zahir F, Nair M. Unsafe abortion and abortion-related death among 1.8 million women in India. *BMJ global health.* 2019;4(3): e001491.
 30. DaVanzo J, Rahman M. Pregnancy termination in Matlab, Bangladesh: trends and correlates of use of safer and less-safe methods. *IPSRH* 2014; 40:119-126.
 31. Bankole A, Sedgh G, Oye-Adeniran BA, Adewole IF, Hussain R, Singh S. Abortion-seeking behaviour among Nigerian women. *J Biosoc Sci* 2008; 40:247-268
 32. Alamri YA. Islam and Abortion. *JIMA* 2011;43: 39-40.
 33. Fusco CLB, Silva RdeSe, Andreoni S. Unsafe abortion: social determinants and health inequities in a vulnerable population in São Paulo, Brazil. *Cad. Saúde Pública* 2012; 28:709-719
 34. Hng NM, Kurtzhals J, Thy TT, Rasch V. Reproductive tract infections in women seeking abortion in Vietnam. *BMC Women's Health* 2009; 9:1