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Research Paper

The Burden and Risk Factors of Unsafe Abortion: Insights from an Eight-Year Appraisal in a Southwestern Nigerian Tertiary Hospital

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Abstract
Unsafe abortion contributes adversely to the health of women within the reproductive age group, affecting the younger women more due to combination of multiple factors. The aftermath of unsafe abortion poses a great challenge to both women and the health care provider. This study served to highlight the risk factors and some of the burdens of unsafe abortion. It wasa retrospective descriptive study conducted at a Ekiti State University Teaching Hospital, Ado-Ekiti, Ekiti State, Nigeria, reviewing all gynaecological admissions from January 2017 to December 2024. Descriptive statistics were generated, and associations were assessed using chi-square tests. Temporal patterns were evaluated using the Cochran–Armitage trend test. Statistical significance was set at $p < 0.05$.A total of 2,748 gynaecological admissions were recorded over the eight-year period, of which 143 were due to unsafe abortion, giving an overall prevalence of 5.2%. Annual prevalence fluctuated between 3.2% and 7.7% with no significant trend over time (Cochran–Armitage trend test, $p = 0.751$). The affected women were predominantly young, with the 21–25-year age group constituting 37.8%, and most were single (79.7%), nulliparous (66.4%), and students (55.2%). Although 93.7% were aware of modern contraception, only 27.3% had ever used a method, and 51.7% reported at least one previous voluntary termination of pregnancy. Haemorrhagic complications were common, with 28.7% requiring blood transfusion. Overall, 79.0% were discharged after treatment, 12.6% left against medical advice, and 8.4% died.
The rate of unintended pregnancy was noticed to be high in this study. Women education to increase the uptake of contraceptive services is crucial to prevent unwanted pregnancies. Post abortal care is also of importance to prevent the complications that can follow unsafe abortions. Provision of adolescent friendly centre will go a long way in committing us towards reduction of unsafe abortion practices and preventing long term complications from those who have already been affected.

Keywords: *Abortion, Abortion law, Adolescent friendly centres, Post abortal care, Unintended pregnancy, Unsafe abortion*

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I. INTRODUCTION

Worldwide, about 42 million women with unintended pregnancies opt for abortion, and 50% of these procedures, 20 million, are unsafe[1]. Because of low contraceptive prevalence in Nigeria, the rates of unintended pregnancies are high and because the abortion law in Nigeria is restrictive, many women resort to clandestine abortion[1–4]About 68,000 women die from unsafe abortion yearly, making it one of the leading causes of maternal mortality (13%)[5,6]. Amongst the women who survive unsafe abortion, 5 million will suffer

long-term complications[1]. Another study estimated the global unsafe pregnancy to be 25 million annually with 97% of these taking place in developing countries[2].

Unsafe abortion is known to be a preventive cause of maternal morbidity and mortality[7]. According to the World Health Organization, WHO, it is defined as the process of terminating an unintended pregnancy either by individuals lacking the necessary skills or in an environment that does not meet basic medical standards, or both. Abortion on the hand, is the expulsion or extraction of pregnancies before the age of viability, which is 28weeks in Nigeria, or a fetus weighing less than 500g.Reliable data on incidence of abortion and its complications in Nigeria is difficult to ascertain because of the restrictive nature of the abortion law. Nigeria has an abortion rate of about 45 per 1000 women of reproductive age[8].

Generally, from studies done in Nigeria, about 27% of women who have had an abortion said it was due to the fact that they were unmarried and 19% said that they were still in school and were too young to have a child. Women in their 30s and 40s were mostly married and reported that the primary reason they had an abortion was because they wanted to space their children[4], or they had completed their family sizes. Another reason people abort pregnancies is due to marital discord[9].

Abortion is only permitted in Nigeria when it is established that the life of the woman is at risk, as such, women look for various means to terminate unwanted pregnancies. The abortion law in Nigeria states that abortion is illegal unless it is performed to save the patient's life. Otherwise, the laws of Nigeria criminalize abortion with a stated penalty of a 7-year jail term for the patient and a longer jail term of 14 years for the abortionist[5].Most unsafe abortions are either self-induced or performed in clandestine venues[3], which include pharmacy shops, offices of private practitioners or in the abode of untrained abortionists. Regular people who are patronized for such practice include chemists, nurses, traditional healers and traditional birth attendants. Most of these abortions are performed in the first trimester[10].

The perpetrators of this unsafe abortion have greatly varying techniques they use which involves the inappropriate use of medications that are not licensed for abortion. They also engage in use of surgical approaches such as use of manual vacuum aspiration and dilatation and curettage. Some of them resort to using unscientific and highly toxic substance ingestion, physical means such as insertion of a foreign object or substance through the cervix and into the uterus or use of external force, such as squeezing or massaging the abdomen[9].

Modern techniques that have been licensed for use in abortion include use of medications like mifepristone and prostaglandins. Although misoprostol alone can be used to expel products of conception, using it in combination with mifepristone increases its effectiveness[10]. These modern techniques are associated with reduced complications. Surgical methods in use for early pregnancy termination include the use of vacuum aspiration and the traditional dilatation and curettage[11]. These techniques are relatively safe in the trained hands but constitute a weapon of destruction when used by the untrained. Despite the documented increasing safety of the procedure, the complications from unsafe abortions keeps rising because many women have limited access to abortion services due to logistics, legal and social obstacles.

Various complications usually arise from unsafe abortion, some of which include haemorrhage, post abortal sepsis, genital tract laceration, uterine perforation, shock and death[12,13]. Late complications include, ectopic gestation, uterine synechiae, infertility, chronic pelvic pain and psychological feeling of guilt.The mortality and long-term morbidity associated with complications of unsafe abortion can be reduced with quality post abortal care which entails treatment of incomplete and unsafe abortion and all potentially life-threatening complications, adequate counselling, contraception and family planning services and community and service provider partnership[6,14,15].

Many hospitals in Nigeria are not equipped enough to manage severe complications of abortion because of chronic shortages in manpower and lack of adequate equipment. The prerequisites for management of abortion complications include availability of blood transfusions services, antibiotics to control infection, and surgery to control haemorrhage or remove the source of infection[11,16,17].When managing unsafe abortion and its complications, some laboratory tests that are important include full blood counts, swabs for microscopy, culture and sensitivity, urinalysis, blood cultures, serum urea, electrolytes and creatinine and plain X-rays of the pelvis, abdomen and chest may be necessaryto rule out presence of foreign bodies within the uterus and uterine perforation[18].

The prevention of unsafe abortion can be achieved by the primary, secondary and tertiary prevention approaches. Primary prevention (the prevention of unwanted pregnancies), secondary prevention (safe termination of unwanted pregnancy) and tertiary prevention of unsafe abortions; which entails the proper management of abortion complications. All these can be put into place by ensuring the post abortal care package.

Unsafe abortion remains a significant contributor to maternal morbidity and mortality in Nigeria, yet reliable local data are limited due to restrictive laws and underreporting. This study is focused to provide hospital-based evidence on the prevalence, risk factors, and complications of unsafe abortion at Ekiti State

University Teaching Hospital, which will help inform improved post-abortal care and preventive strategies in the study setting.

II. AIMS AND OBJECTIVES PRIMARY AIM

To determine the prevalence and associated risk factors of unsafe abortion among patients managed at Ekiti State University Teaching Hospital, Ado-Ekiti.

OBJECTIVES

1. To determine the prevalence of unsafe abortion in Ekiti State University Teaching Hospital, Ado Ekiti.
2. To assess the socio-demographic characteristics of patients who had unsafe abortions.
3. To determine the gestational age at which these abortions occurred and pattern of abortion practices.
4. To assess the complications associated with unsafe abortion.
5. To give relevant recommendations.

III. MATERIALS AND METHODS

An8-year retrospective review of all the patients with required data, managed for unsafe abortion at the Obstetrics and Gynaecology Department of Ekiti State University Teaching Hospital, Ado – Ekiti, Ekiti State between 1st of January, 2017 and 31st of December, 2024. Case records of patients were identified from ward registers, admission logs, and case files and relevant data extracted. Ethical approval was obtained from the Health Research and Ethics Committee of EKSUTH. The data obtained were analysed using Statistical Package for Social Sciences, SPSS version 28.0.1.1. Descriptive statistics were generated, and associations were assessed using chi-square tests. Temporal patterns were evaluated using the Cochran–Armitage trend test. Statistical significance was set at $p < 0.05$.

IV. RESULTS

During the study period, there were 2748gynaecology admissions in the Obstetrics and Gynaecology department of Ekiti State University Teaching Hospital, Ado Ekiti, out of which 143 patients were managed as a case of unsafe abortion, given a prevalence of 5.2% (about 52 per 1000 gynaecology admissions).

Table 1 shows the socio-demographic characteristics of the patients. The majority were young adults, with the 21–25-year age group accounting for 37.8%, followed by 26–30 years (25.2%). Those ≤15 years constituted 5.6% of the sample. Most patients were single (79.7%), and the predominant ethnic group was Yoruba (78.3%), followed by Igbo (9.8%) and Hausa (4.9%). Christianity was the most common religion (76.2%).Regarding occupation, students made up more than half of the population (55.2%), while 26.6% were self-employed. Educational status showed that tertiary education was most common (37.8%), although 18.2% had no formal education. A large proportion were nulliparous (66.4%), highlighting the vulnerability of young and first-time mothers to unsafe abortion.

Table 2 demonstrates the distribution of cases of unsafe abortion. During the 8-year study period, 2,748 gynaecological admissions were recorded, out of which 143 were cases of unsafe abortion, giving an overall prevalence of 5.2%.Annual prevalence fluctuated between 3.17% (2019) and 7.74% (2020). Although variations were observed across years, the overall pattern suggests periodic peaks with no consistent upward or downward trend (Cochran–Armitage Trend Test:$Z = 0.317$, $p = 0.751$)

Table 3illustrates modern contraception awareness, previous contraception usage and previous voluntary termination of pregnancy.The awareness of modern contraception was high, with 93.7% reporting knowledge of at least one method. However, actual usage was low, with only 27.3% having ever used contraception. History of voluntary termination of pregnancy (VTOP) revealed that 48.3% had never had a previous abortion, whereas 23.1% had undergone one prior episode and 16.8% had undergone two. Notably, 11.9% reported three or more previous terminations, indicating recurring exposure to unsafe abortion practices.

Table 4 indicates the need for blood transfusion.A total of 41 patients (28.7%) required blood transfusion, reflecting the severe haemorrhagic complications frequently associated with unsafe abortion.

Table 5 highlights the patient's outcome.Regarding clinical outcomes, 79.0% were successfully treated and discharged, 12.6% left against medical advice (DAMA), and 8.4% died, highlighting a high mortality burden attributable to unsafe abortion complications.

Figure 1 is a histogram that depicts the gestational age at abortion. Most of the abortions were done within the first trimester; many of them at estimated gestation of 8 weeks.

Table 1: Socio-demographic characteristics of the patients

Age distribution (Years)		
Variables	Frequency (n)	Percentage (%)
≤15	8	5.6
16 – 20	21	14.7

21 – 25	54	37.8
26 – 30	36	25.2
31 – 35	18	12.6
>35	6	4.2
Total	143	100
Chi-square goodness-of-fit: $\chi^2 = 94.77$, $p < 0.001$		

Marital Status

	Single n(%)	Married n(%)	Total n(%)	Statistical tests
Marital status	114 (79.7)	29(20.3)	143(100)	$\chi^2 = 51.08$, $p < 0.001$

Tribe

	Yoruba n(%)	Igbo n(%)	Hausa n(%)	Others n(%)	Total n(%)	Statistical tests
Tribe	112(78.3)	14(9.8)	7(4.9)	10(7.0)	143(100)	$\chi^2 = 209.34$, $p < 0.001$

Religion

	Christianity n(%)	Islam n(%)	Total n(%)	Statistical tests
Religion	109(76.2)	34(23.8)	143(100)	$\chi^2 = 40.86$, $p < 0.001$

Occupation

	Student n(%)	Self-employed n(%)	Unemployed n(%)	Civil servants n(%)	Total n(%)	Statistical tests
Occupation	79(55.2)	38(26.6)	19(13.3)	7(4.9)	143(100)	$\chi^2 = 114.6$, $p < 0.001$

Educational status

	Primary n(%)	Secondary n(%)	Tertiary n(%)	No formal education n(%)	Total n(%)	Statistical tests
Educational status	21(14.7)	42(29.4)	54(37.8)	26(18.2)	143(100)	$\chi^2 = 38.67$, $p < 0.001$

Parity

	Nulliparous n(%)	Primiparous n(%)	Multiparous n(%)	Grand multiparous n(%)	Total n(%)	Statistical tests
Parity	95(66.4)	27(18.9)	17(11.9)	4(2.8)	143(100)	$\chi^2 = 121.96$, $p < 0.001$

Table 2: Distribution of cases of unsafe abortion for the period of study

Year	Number of Admissions	Number of unsafe abortions	Prevalence (%)
2017	344	16	4.65
2018	390	20	5.13
2019	379	12	3.17
2020	297	23	7.74
2021	332	21	6.33
2022	310	15	4.84
2023	364	25	6.87
2024	332	11	3.31
Total	2748	143	5.20
Cochran–Armitage Trend Test Z = 0.317 p = 0.751 No statistically significant upward or downward trend over the 8-year period			

Table 3: Modern contraception awareness, previous contraception usage and previous voluntary termination of pregnancy

Modern contraceptive awareness

	Aware n(%)	Not aware n(%)	Total n(100%)	Statistical tests
Modern contraception	134(93.7)	9(6.3)	143(100)	$\chi^2 = 110.6$, $p < 0.001$

Previous contraception use

	Yes n(%)	No n(%)	Total n(%)	Statistical tests
Previous contraception	39(27.3)	104(72.7)	143(100)	$\chi^2 = 29.39$, $p < 0.001$

Previous voluntary termination of pregnancy (Previous VTOP)							
	None n(%)	Once n(%)	Twice n(%)	Thrice n(%)	>three times n(%)	Total	Statistical tests
Previous VTOP	69(48.3)	33(23.1)	24(16.8)	11(7.7)	6(4.2)	143(100)	$\chi^2 = 66.6$, $p < 0.001$

Table 4: Blood transfusion

Blood transfusion				
	Yes n(%)	No n(%)	Total n(%)	Statistical tests
Blood transfusion	41(28.7)	102(71.3)	143(100)	$\chi^2 = 26.8$, $p < 0.001$

Table 5: Patient's outcome

Patient's outcome						
	Discharged n(%)	DAMA n(%)	Mortality n(%)	Referred n(%)	Total n(%)	Statistical tests
Patient's outcome	113(79.0)	18(12.6)	12(8.4)	0(0)	143(100)	$\chi^2 = 131.8$, $p < 0.001$
*Discharge Against Medical Advice						

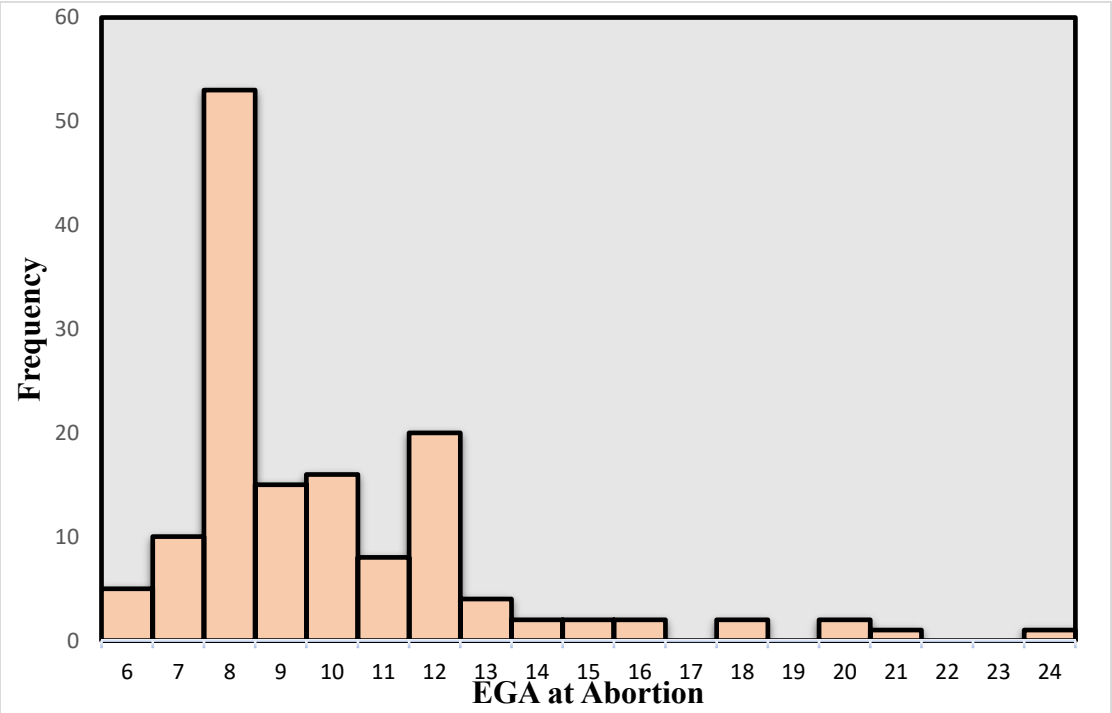

Figure 1: A histogram showing the gestational age at abortion.

V. DISCUSSION

This eight-year appraisal highlights the persistent burden of unsafe abortion within a major tertiary health facility in Southwestern Nigeria. With an overall prevalence of 5.2% (52 per 1000) among gynaecological admissions, unsafe abortion remains a significant contributor to reproductive morbidity in the region.This is higher than what was found in a similar study done in Nigeria in 2015, involving 772 health facilities indifferent parts of the country with a report of 33 per 1000 women aged 15 – 49 years[3]. Although annual fluctuations were observed, ranging between 3.2% and 7.7%, the trend analysis revealed no statistically significant change across the study period (Cochran–Armitage trend test, $p = 0.751$). This suggests that, despite ongoing public health interventions, the underlying drivers of unsafe abortion have remained largely unchanged.

The study shows that the unsafe abortion affects mostly young women. The age pattern, with the highest proportion between 21 and 25 years, reflects the vulnerability of women in early adulthood who may still be in school, financially dependent, or experiencing unstable relationships. The majority being single also aligns with existing literature showing that unmarried women often face stronger social pressures and stigma when dealing with unintended pregnancies[19,20]. The high representation of students and women with secondary and tertiary education suggests that unsafe abortion is not restricted to those with limited schooling. Instead, it reflects broader barriers, such as fear of judgment, confidentiality concerns, and challenges in accessing youth-friendly reproductive health services. The distribution of ethnic and religious groups largely

mirrors the population structure of the surrounding community rather than pointing toward cultural differences in behaviour.

Across the eight years, the overall proportion of admissions involving unsafe abortion remained fairly stable. Fluctuations in specific years may have been influenced by broader societal or healthcare factors, such as service disruptions, economic pressures, or shifts in patient health-seeking behaviour. The absence of a clear upward or downward change over time suggests that the underlying drivers of unsafe abortion have likely remained constant.

A striking finding is the mismatch between the high level of awareness of modern contraception and the low level of actual contraceptive use. This gap underscores an ongoing challenge: awareness does not equate to utilization. Several factors—including fear of side effects, cultural beliefs, poor access to youth-friendly reproductive health services, and partner dynamics—likely hinder voluntary uptake. A study by Ochako classified reasons why women do not uptake contraception into myths about contraception, fear of side effects and association with promiscuity and straying[21]. Consequently, many women experience unintended pregnancies, as reflected by the substantial proportion with a history of prior voluntary terminations, some undergoing abortion three or more times. This pattern of repeat unsafe abortions highlights persistent unmet contraceptive needs and underscores the cyclical nature of reproductive risk in this population.

The clinical implications of unsafe abortions are substantial. Nearly one-third of patients required blood transfusion, reflecting significant haemorrhagic complications as the commonest[22]. Mortality rate in this study was 8.4%, indicating that unsafe abortion continues to exact a heavy toll in terms of preventable deaths. This mortality rate differs significantly from a rate of 2.9% gotten from a similar study in north central Nigeria[23] but comparable with that (9.7%) gotten from north-eastern Nigeria[22].This mortality burden remains unacceptably high and emphasizes the inadequacy of safe abortion access, delayed presentation, and limitations in pre-hospital care. A notable proportion of patients left the facility against medical advice. This behaviour may be influenced by fear of stigma, financial constraints, or misunderstanding of the severity of their condition, and it underscores the importance of better counselling and patient support.

Overall, this study reinforces that unsafe abortion remains an entrenched public health challenge in Southwestern Nigeria. Despite modest advances in reproductive health services, the risk factors and burden have not significantly shifted over eight years. Targeted interventions focusing on contraception uptake, early pregnancy counselling, and safe abortion services—within the limits of the law—are essential to reducing preventable morbidity and mortality associated with unsafe abortion in the region. Equally important is ensuring the availability of timely, non-judgemental, and youth-friendly post-abortion care.

VI. CONCLUSION

Unsafe abortions contribute significantly to the huge maternal morbidity and mortality burden of developing countries. An incidence of 5.2% of gynaecological admission was noted from this study with a case fatality of 2.2%. Adolescent single students were majorly affected. The prevailing hazard of unsafe abortion is a source of concern and the desire to reduce its associated high incidence of morbidity and mortality in our women is achievable.

VII. RECOMMENDATIONS

1. The need for organized sexual and reproductive health education for all women especially for the young adults and unmarried sexually active population as these groups formed the majority of patients affected in this study.
2. There is need to encourage coordinated campaigns againstunprotected sexual activity and unwanted pregnancies. Abstinence remains a key protection against these. But where abstinence is not achievable, they should be encouraged to increase the uptake or modern contraception.
3. Blood banking services and adequate antibiotics provision at all times in the hospitals.
4. The restrictive abortion law in Nigeria has failed to prevent voluntary termination of pregnancy and a review of the abortion law is therefore necessary.
5. Provision of adolescent friendly centers that will cater for the adolescents and young adults.
6. Encouraging school authorities to avoid discriminating against pregnant school girls, rather, they should support them and ensure continuation of their education

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