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Original Research Article

A 10 Year Review of Unsafe Abortion in a Tertiary Hospital in North-Central Nigeria

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ABSTRACT

Background**:** Every year, worldwide, about 42 million women with unintended pregnancies choose abortion, and nearly half of these procedures are unsafe. Complications of induced unsafe abortion remain high in developing countries and are among the leading causes of maternal mortality, especially in Nigeria where abortion law is restrictive. Objective: To determine the prevalence of maternal mortality from unsafe abortion at the Federal Medical Centre (FMC), Makurdi. Materials and Methods: This was a retrospective study of cases of induced unsafe abortion managed at FMC, Makurdi from 1st January, 2011 to 31st December, 2020. Data was collected using a pre-designed proforma. Data was analyzed and results were presented in tables and chart. Results: The prevalence of induced unsafe abortion was 17.3% of all gynecological admissions during the period under review. The induced unsafe abortion constituted 25.1% of all maternal mortality during the study period and a case fatality rate of 6.1%. The women mostly affected were teenagers (40.9%); single women (51.2%), and nulliparous women (62.9%). Chemist/Pharmacy units were responsible in 51.0% of the abortions whereas abortions performed in Clinics stood at 29.4% of cases. The most common complications were sepsis (27.1%) and hemorrhage (26.9%). The commonest causes of death were sepsis (36.6%), hemorrhage (28.0%), and Disseminated Intravascular Coagulopathy (20.7%).Conclusion: Complications of induced abortion remains a significant cause of maternal morbidity and mortality in Benue state. There is a need to stop this problem by improving the reproductive health system in Nigeria.

Keywords: Induced abortion, maternal death, unsafe abortion, Benue state.

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INTRODUCTION

According to the World Health Organization (WHO), every 8 minutes a woman in a developing nation will die of complications arising from an unsafe abortion. An *unsafe abortion* is defined as “a procedure for terminating

an unintended pregnancy carried out either by persons lacking the necessary skills or in an environment that does not conform to minimal medical standards, or both".[1]

WHO estimated that, each year approximately 25 million unsafe abortions take place worldwide.[1] Additionally, an estimated 68,000 women die yearly due to unsafe abortion practices.[1,2] Various studies estimate that 30 to 50% of all maternal mortality is attributable to unsafe abortions, making these practices a major risk factor for maternal death.[2] Studies also suggested an additional 5 million women who survive unsafe abortions suffer lifetime health complications and consequences.[3] Women within Sub-Saharan Africa are disproportionately affected by this issue. Although the region accounts for 29% of all unsafe abortions, it holds 62% of all abortion-related deaths.[4]

In Nigeria, like other countries in Sub-Saharan Africa, abortion laws are restrictive except a few scenarios. This makes data on unsafe or safe abortion, even under the context of the law, virtually impossible to access and document. The majority of induced abortions are performed illegally in Nigeria due to restrictive abortion laws.[2,3] As a result of restrictive abortion laws, most abortions cannot be carried out in public health institutions, and this drives the practice underground and makes it unsafe.

An estimated 610,000 induced abortions occur annually in Nigeria and account to about 40% of maternal deaths.[4] Due to the data unavailability within the national health system, it is difficult to determine the impact of unsafe abortion on maternal mortality, the age groups most affected, the trimester in which unsafe abortions occur, and the specific complications and outcomes. These factors make unsafe abortion a potentially hidden epidemic and a public health problem. However, many abortion morbidity and mortality studies have shown that teenagers form a major proportion of the victims of illegal or unsafe abortion.[3-5] Currently, a larger proportion of abortion morbidity and mortality are now recorded among older and married women.[6,7]

When carried out according to appropriate clinical guidelines and with trained personnel, abortion has the lowest physical risks for women of any significant medical intervention.[8] However, for most women in the developing world, abortions are often conducted in unsanitary conditions by untrained personnel. It is estimated that between 10% and 50% of women who undergo unsafe abortions need medical care for complications. These complications include infection, hemorrhage, and injury to internal organs, and can lead to long-term health problems such as chronic pelvic pain, pelvic inflammatory disease, and infertility[3,4,6]

Effectively, addressing unsafe abortion requires a comprehensive approach to women's health and rights, and the involvement of a wide range of stakeholders, including government, non-governmental organizations (NGOs), health care providers, and communities, as well as international agencies and donors. The purpose of this study was to review and determine the prevalence, morbidity, and maternal deaths associated with unsafe induced abortion at the Federal Medical Centre (FMC), Makurdi, North-Central Nigeria.

SUBJECTS AND METHODS

This was a retrospective cross-sectional study conducted at the Gynecology unit of the Department of Obstetrics and Gynecology, FMC, Makurdi a tertiary hospital located in Makurdi, Benue state between January 2011 and December 2020. The inclusion criteria encompassed all cases of unsafe abortions with complete patient records traceable, while cases of unsafe abortions with incomplete or insufficient patient records were excluded.

Data collection involved retrieving hospital numbers from the Gynecological ward register, manual vacuum aspiration register, and Gynecology emergency register. These were used to retrieve the case notes from the Medical Records Department of the FMC, Makurdi, with a retrieval rate of 78.1%. Sociodemographic profiles, clinical features, complications, management modes, and mortality data were obtained using a pre-designed proforma and entered into an Excel spreadsheet. Postmortem examinations were not accepted by the patients' relations in all recorded deaths from induced unsafe abortion. Therefore, causes of death were based solely on clinical examinations and findings in all cases. Data were input into SPSS from the Excel spreadsheet and analyzed using SPSS Version 25. The results were presented in textual form, chart and tables. Ethical approval was obtained from the Hospital Research Ethics Committee (HREC) of the Federal Medical Centre, Makurdi.

RESULT

During the period under review, there were 9783 gynecological admissions at the Department of Obstetrics and Gynecology of the FMC, Makurdi. Among these, 1697 were admitted with abortion-related complications, giving a prevalence of 17.3% of all gynecological admissions. Of 327 maternal deaths during this period, 82 deaths (25.1%) were due to complications of induced abortions giving a case fatality rate of 6.1%. Of the 1697 abortion-related cases over the study period, only 1325 case records were retrieved with complete records giving a retrieval rate of 78.1%, and this forms the basis of the data analysis.

The sociodemographic characteristics of the patients are shown in Table 1. The highest prevalence was

among patients <20 years of age (40.9%) which were mostly teenagers, single women (51.2%), nulliparous women (62.9%), and women with tertiary education (35.2%).

Table 2 shows the gestational age at induced abortion, place, and methods of induced abortion. The gestational age at which abortions were procured most commonly was between 5 weeks and 16 weeks (86.1%). The majority of the cases of induced abortions were performed in Chemist/Pharmacy units (51.0%), while 29.4% of cases of induced abortions were done in clinics. The commonest methods used to procure the abortions were Dilatation and curettage (D&C) and drugs which account for 54.3% and 33.4% of cases respectively (cumulative, 87.7%). Only 0.7% of the patients used sharp objects as a method of induced abortion.

Table 1. Sociodemographic characteristics of the patients for the review period (n=1325)

Variables	Frequency	Percentage (%)	Cumulative (%)
Age (years) Mean age = 22.7±5.96			
<20	542	40.9	40.9
20-24	396	29.9	70.8
25-29	247	18.6	89.4
30-34	130	9.8	99.2
≥35	10	0.8	100.0
Marital status			
Single	679	51.2	51.2
Married	387	29.2	80.4
Divorced	216	16.3	96.7
Widow	43	3.3	100.0
Occupation			
Students	607	45.8	45.8
Farmers	435	32.8	78.6
House helpers	158	11.9	90.5
Business	106	8.0	98.5
Civil Servants	19	1.5	100.0
Parity			
0	833	62.9	62.9
1-4	316	23.8	86.7
≥5	176	13.3	100.0
Education Status			
Primary	270	20.4	20.4
Secondary	415	31.3	51.7
Tertiary	467	35.2	86.9
No formal	173	13.1	100.0

Table 2. Gestational age at induced abortion/place of induced abortion/methods of induced abortion (n=1325)

Variables	Total no. of patients	%	Cumulative %
Gestational Age (weeks)			
5-8	394	29.7	29.7
9-12	500	37.7	67.4
13-16	248	18.7	86.1
≥17	111	8.4	94.5
Not Known	72	5.5	100.0
Place of Abortion			
Chemist/Pharmacy	676	51.0	51.0
Clinics	390	29.4	80.4
Home	199	15.0	95.4
Not specified	60	4.6	100.0
Abortion Method			
D & C	719	54.3	54.3
Drugs	442	33.4	87.7
Local herbs	154	11.6	99.3
Sharp objects (sticks/metals)	10	0.7	100.0

Table 3 shows the time interval in days from the time of termination of pregnancy to presentation in the hospital. A majority (50.9%) of the patients presented within the first week following the induced abortions.

Table 3. Time of abortion to presentation in the hospital (n=1325)

Time (Days)	Total no. of patients	Percentage %	Cumulative %
1-7	675	50.9	50.9
8-14	393	29.7	80.6
15-21	184	13.9	94.5
≥21	56	4.2	98.7
Not specified	17	1.3	100.0

Table 4 shows the common presenting complaints unsafe induced abortion by patients yearly and

cumulative for years under review. The most common presenting complaints were abdominal pain (19.6%), fever (15.4%) and vaginal bleeding (15%).

Table 4. Common presenting complaints of unsafe induced abortion (n=1325)

Presenting complaints	Total no. of patients	Percentage %	Cumulative %
Abdominal pain	260	19.6	19.6
Fever	204	15.4	35.0
Vaginal bleeding	199	15.0	50.0
Vaginal discharge	123	9.3	59.3
Weakness of the body	97	7.3	66.6
Dizziness	96	7.2	73.8
Abdominal distention	87	6.6	80.4
Vomiting	61	4.6	85.0
Loss of appetite	58	4.4	89.4
Diarrhoea	56	4.2	93.6
Headache	53	4.1	97.7
Jaundice	31	2.3	100.0

Table 5 shows the complications of unsafe yearly and cumulative for years under review. The most common complications were sepsis (27.1%), hemorrhage (26.9%) and anaemia (17.7%).

Table 5. Complications of unsafe abortion (n=1325)

Variables	Total no. of patients	Percentage %	Cumulative %
Complications			
Sepsis	359	27.1	27.1
Bleeding	356	26.9	54.0
Anaemia	234	17.7	71.7
Hypovolaemic shock	143	10.8	82.4
Pelvic Abscess	69	5.2	87.6
Perforated uterus	57	4.3	91.9
Bowel perforation	36	2.7	94.6
ARF	31	2.3	96.9
Urinary tract injury	23	1.8	98.7
DIC	17	1.3	100.0

Figure 1 shows the Mortality from unsafe yearly for the years under review. Most of maternal deaths occurred in 2011(12.2%) and 2013 (12.2%) respectively.

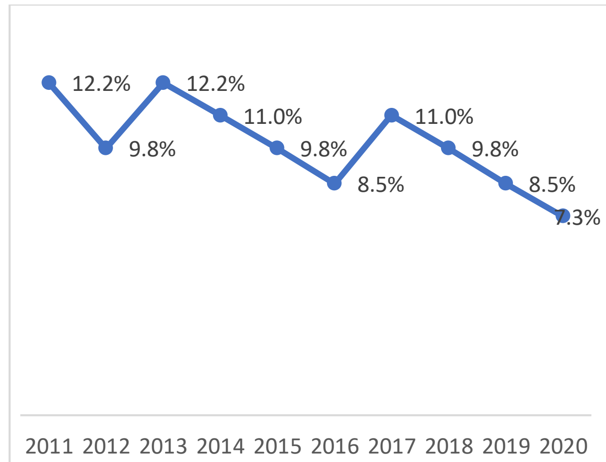

Fig 1. Line diagram showing mortality from unsafe Induced abortion year by year (n=82)

Table 6 shows the causes of maternal death for the years under review. The commonest causes of death were sepsis (36.6%), hemorrhage (28.0%), and Disseminated Intravascular Coagulopathy (20.7%)

Table 6. Causes of maternal death due to unsafe abortion(n=82)

Complications	Total no. of patients	Percentage %
Sepsis (Septicaemia + septic shock)	30	36.6
Haemorrhage	23	28.0
DIC	17	20.7
Acute Renal Failure (ARF)	9	11.0
Anaemia	3	3.7

DISCUSSION

This current study was a retrospective review of cases of unsafe induced abortion in a tertiary hospital in Makurdi, North-Central Nigeria aimed to determine the prevalence, morbidity, and maternal deaths associated with this public health problem.

The prevalence of unsafe induced abortion in this study was 17.3% of all gynecological admissions within the study period with a case fatality rate of 6.1%. The prevalence in this study is similar to the findings in Calabar, Nigeria in which the prevalence of 14.5% was reported.[3] This finding is high and may be attributable to referrals and the fact that only complicated cases are seen in public health facilities in Nigeria with restrictive abortion laws.[3] However, this value is higher than the prevalence of 3.4% of gynecological admissions reported in Benin, Nigeria.[3] The review in this study was over 10 years compared to the 4-year review in Benin and this may be responsible for the disparity of prevalence found in these studies. This may also be due to an increasing number of alternative specialist clinics and private hospitals with improved specialist facilities offering post-abortion care in Benin compared to Makurdi, Nigeria.[3,6]

Induced abortion also constituted 25.1% of maternal mortality in this study over the period. The high maternal mortality observed in this study may be ascribed to a variety of factors such as severe morbidity at the time of presentation in the facility, late presentations of patients to the facility, and limited higher centers/specialist facilities on the ground to manage the complicated cases. This finding is higher than 22.8% of maternal mortality reported in Calabar, Nigeria.[3] This may be due to the increasing number of quacks that perform abortions in this locality with resultant complications as was observed in this study 51.0% of induced abortions were done in the Chemist/Pharmacy units. Furthermore, delays in offering post-abortion care due to increasing poverty with the inability to pay for the services in complicated cases may be the reason for the high mortality recorded.

The finding of teenagers (40.9%) and single women (51.2%) that were disproportionately more affected was similar to the proportion of adolescents (53.92%) and single women (64.59%) observed in Calabar, Nigeria.[3] This also corroborates the findings reported in Liberia.[4] This may represent a similar trend in the age at which women procure abortions in different parts of Nigeria and other African countries. The large presence of single women may also indicate that premarital sexual intercourse is practiced much in this community probably because of increasing urbanization that broke down cultural barriers and predisposed to increased sexuality.[5,6] The low usage of modern contraceptives was also reported as a predisposing factor for unsafe induced abortion among these categories of women.[5,6] In this society where premarital sex, as well as childbearing outside wedlock, are frowned upon, the stigma associated with pregnancy outside wedlock could explain the higher rate of induced abortion among single women[7]. We also found out that 29.2% of patients were married and 28.4% were 25 years and older. This was a similar trend observed in a study in which 29.18% of patients were married and 28.18% were older women; as was reported in Liberia 29% of cases of induced abortions were older patients. Since this study indicated that unsafe abortions are common in young as well as older women; and in the unmarried as well as the married, preventive measures must be targeted to all sexually active women in urban and rural areas alike. However, special services could be offered to adolescents because of the peculiar circumstances and needs of this group.[9,10]

Another finding in this study was that 45.8% of patients were students and 62.9% were nullipara. These findings were similar to those reported in Calabar[3] and Liberia.[4] This is because more women nowadays pursue an educational career and may postpone pregnancy and delivery with resultant induced abortion for unwanted pregnancy. This may also be attributed to the low usage of modern contraceptives prevalent among single women.

A large proportion of the abortions were performed at a gestational age of between 9-12 weeks (37.7%), and 51% of the procured was done by the Chemists/Pharmacy unit, which suggests that the personnel involved were likely untrained and unqualified, and in an environment that will not have a minimum medical standard for safe abortion. The larger proportions of the abortionists were likely untrained and unqualified personnel. Faulty techniques and the use of traumatic instruments by abortionists, who are either poorly trained or not trained at all, have been responsible for serious injuries in induced abortion. The proportion of abortions performed in clinics was 29.4%. Although the personnel involved were not categorized as medical doctors or other health workers in this index study, the abortion services provided in the clinics are mostly medical personnel in private settings. The contribution of medical personnel to abortion complications has been previously documented in other studies.[1,6] The commonest methods of abortion were D& C (54.3%) in this study. This was also supported by a similar study in Bayelsa by Ibrahim et al who found D & C (46%) as the commonest procedure for unsafe induced abortion. This method of termination of unwanted pregnancy is more associated with complications especially when conducted by unskilled personnel and in an environment that does not meet the minimal medical standard. [8-10]

The commonest presenting complaints from this index study were abdominal pains (19.6%), fever (15.4%) and vaginal bleeding (15.0%). These are symptoms commonly associated with unsafe abortion. This finding was in keeping with a similar study by Emechebe et al in

Calabar, who found abdominal pains (72.84%), vaginal bleeding (68.86%), and fever (38.03%) as the most common presenting complaints among women with unsafe induced abortion.[3] This therefore implies that women presenting with these symptoms among others with amenorrhea should be held with a high index of suspicion of unsafe abortion by clinicians for prompt treatment to prevent complications associated with this condition.

A high occurrence of serious complications associated with unsafe abortion was observed in this study. These include complications such sepsis (27.1%), haemorrhage (26.9%) and anaemia (17.7%) is not unexpected as most of the abortions were done by nonmedically qualified persons in probably unhygienic environments and with dangerous methods like D&C which was the commonest method used (54.3%). Even among the abortions that were done by medically qualified persons, they may have been done in their homes, some in private clinics or places where aseptic rules may not be followed.[8-10] Sepsis is the most common associated complication worldwide. This study has revealed a sepsis rate of 27.1% and hemorrhage accounted for 26.9% of all the complications. Together, they formed more than half the complications observed in this study probably because most of the abortions were performed by untrained personnel in unhygienic environments with unsterile and dangerous methods. These findings were similar to those reported by previous studies.[3-5] Although DIC in this study accounted for only 1.3% of all the complications, the case fatality among patients who presented with or developed DIC on admission was 100%.

The mortality rate of 6.1% among women with induced abortion recorded in this study is by all standards very high. This was probably because a majority of patients were from the low socioeconomic class who presented late with severe complications such as sepsis, hemorrhage, acute renal failure, DIC as well as hypovolemic shock and could not afford to provide drugs/items needed in the hospital for resuscitation and definitive treatment. In some of the cases, blood was not available for transfusion, and antibiotics administration was very irregular because the relations could not afford them. In Nigeria and many other developing countries, poor referral systems, late presentation, poor transport systems, unavailability of blood transfusion services, and antibiotics often compound these patients' problems thereby leading to avoidable mortality.[3-5,8-10]

Limitations

Challenges arose in facility-based data collection, resulting in the exclusion of several patients due to missing or incomplete information in their case records. Additionally, there was insufficient data on direct mortality and disability outcomes, limiting their inclusion in the analysis. Consequently, the findings of this study can only be generalized to tertiary health facilities with settings similar to the study site. Lastly, the cross-sectional design of the study allows for the establishment of associations but not causality. Therefore, it restricts the ability to infer temporal relationships between variables.

CONCLUSION

Unsafe abortion with its social and economic consequences as evident in this study continues to be a problem in Nigeria. The results of the study not only support the argument of a strong association between unsafe abortion and maternal morbidity and mortality but also provide insight into the characteristics and factors that put women and girls who had unsafe abortions at risk of dying. The consequences of unsafe abortion as revealed in this work are a sad reminder of the poor state of the reproductive health system in developing countries like Nigeria. The results emphasize that unsafe abortion is an important issue and is strongly associated with maternal mortality.

Recommendations

Medical practitioners should be retrained in the management of post-abortion complications, and our health institutions should be equipped with adequate human and material resources to increase efficiency. Prompt surgical intervention without insisting on payment first should be made possible, and this will also help to reduce the mortality from these cases. The quacks are hugely responsible for these complications and should be discouraged through the enactment and enforcement of laws that will make it difficult for them to perform an abortion. Improvement in the social status of our populace especially the women by providing gainful employment is advised. Finally, the authors think that legalizing abortion in Nigeria will greatly reduce the morbidity and mortality associated with illegally induced abortion.

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Conflicting Interest:Nil

REFERENCES

1. World Health Organization. Unsafe abortion: Global and Regional Estimates of the Incidence of Unsafe Abortion and

Associated Mortality in 2003. 2007 [Internet]. Available from: https://www.who.int/reproductivehealth/publications/unsafe_abortion/9789241596121/e/. Accessed: 12 December 2023.

2. Ibrahim IA, Jeremiah I, Abasi IJ, Addah AO. Pattern of complicated unsafe abortions in Niger Delta University Teaching Hospital, Okolobiri, Nigeria: A 4 year review. Niger Health J. 2013;11:112-6.
3. Emechebe CI, Njoku CO, Udofia UM, Ukaga JT. Complications of induced abortion: Contribution to maternal mortality in a tertiary center of a low resource setting. Saudi Journal for Health Sciences. 2022;5(1):34. doi: 10.4103/2278-0521.182864. Accessed: 12 December 2023.
4. Ndyanabangi B, Livingstone M, Gobeh W, Logan GG, Atukunda L. Unsafe abortion - A Risk factor for maternal mortality in Liberia - An analysis of the characteristics of unsafe abortion clients and risk factors for maternal morbidity and mortality. Afr J Reprod Health. 2021 Dec;25(6):43-50. doi: 10.29063/ajrh2021/v25i6.5. Accessed: 12 December 2023.
5. Akpanekpo EI, Umoessien ED, Edidiong IF. Unsafe Abortion and Maternal Mortality in Nigeria: A Review. Pan-African Journal of Medicine. 2017;1(2):1-6.
6. Ikeanyi ME, Okonkwo CA. Complicated illegal induced abortions at a tertiary health institution in Nigeria. Pak J Med Sci. 2014;30(6):1398-1402.
7. Oyebode TA, Sagay AS, Shambe IH, Ebonyi AO, Isichei CO, Toma BO, Embu HY, Daru PH, Ujah IAO. The Contribution of Unsafe Abortions to Gynaecological Emergencies and Mortality –Five Year Experience of Jos University Teaching Hospital, Nigeria. Int J Biomed Res. 2015;6(06):402-411.
8. Lisa BH, Nawal MN. Unsafe Abortion: Unnecessary Maternal Mortality. Rev Obstet Gynecol. 2009;2(2):122-126.
9. World Health Organization. Preventing Unsafe Abortion: Evidence Brief. 2019 [Internet]. Available from: https://apps.who.int/iris/handle/10665/329887. Accessed: 12 December 2023.
10. Ziraba AK, Izugbara C, Levandowski BA, Gebreselassie H, Mutua M, Mohamed SF, Egesa C, Kimani-Murage EW. Unsafe abortion in Kenya: a cross-sectional study of abortion complication severity and associated factors. BMC Pregnancy Childbirth. 2015 Feb 15;15:34. doi: 10.1186/s12884-015-0459-6. Accessed: 12 December 2023.