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Pattern of presentation and management outcomes of miscarriages in a rural private hospital in Enugu, south-east, Nigeria: A 5-year retrospective study

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Abstract

Background: Miscarriage and its related issues and complications are the commonest reasons for presentation in most gynaecological clinics and emergency rooms. They are major contributors to maternal morbidity and mortality requiring a more holistic review of our laws and the entire health system.

Aim: The aim of this study was to determine the prevalence and the pattern of presentation of miscarriages in a private facility.

Methodology: It was a retrospective study conducted in the above hospital over a 5-year period spanning between 31st December 2023 and 1st January, 2019. The relevant data was collated from the patients' case files and hospital registers using a standardized proforma. The data collated were analyzed using the statistical products and services solution (SPSS) version 25.0. The mean percentages and ratios were calculated and the results presented in tables and charts. Pearson Chi-square test and student t-test were used as a test of significance for categorical and continuous variables respectively and a P-value<0.05 was considered statistically significant.

Results: From the hospital records and register, a total of 293 women presented to the hospital with gynaecological conditions, out of which 78 were related to miscarriages and its complications. This gives a prevalence of 26.62%. Most of the women were aged 26-30 years 23(29.5%) while the least were 31-35 years 11(14.1%). A significant proportion was less than 20 years 12(15.4%). Fifty eight (71.8%) had secondary education and only 4(5.1%) had tertiary

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education; more than half of the population 40(51.3%) were unemployed and only 4(5.1%) were civil servants. Majority of the women were multiparous 33(42.3%) and only 4(5.1%) were primiparous women; whereas only 47(60.3%) were married leaving 22(28.2%) and 9(11.5%) for single ladies and widows respectively. It further showed that 42(53.8%) were 1st trimester abortions and 51(65.4%) were induced mostly with misoprostol 32(41%) constituting the major agent of induction. Almost all of them, 74(94.9%), presented as a case of incomplete miscarriage with the most prominent features being: vaginal bleeding and abdominal pain 74(94.9%); drainage of liquor, 22(28.2%); passage of tissues per vaginam, 51(65.4%); asymptomatic, 13(16.7%). Thirty two (41%) had their cases complicated by hypovolemic shock whereas 28(35.9 had septic shock. The definitive treatments offered were medical evacuation (5.1%), MVA (94.9%). Majority of them 75.6%, had complete recovery whereas 19(24.4%) had significant morbidities and 2(2.6%) had maternal mortality from complications. There was a significant difference in the post-abortion complications between those that had spontaneous abortion and induced abortion and also the post-abortion complications between those who used misoprostol and those who had curettage or MVA; with the misoprostol group having more complications.

Conclusion: There was a high prevalence of miscarriage in the hospital and most of which were induced with misoprostol. There was more post-abortion complication among those that had induced abortion; and these complications were yet more among misoprostol users than those that had surgical abortion with either D&C or MVA.

Keywords: Pattern; Presentation; Outcome; Miscarriage; Rural Hospital; Enugu

1. Introduction

One of the commonest reasons for presentations in most gynaecological clinics and emergency rooms is miscarriage. About 50% of first trimester miscarriages are due to chromosomal anomalies [1]. This clinical condition occurs commonly in the first trimester. About 1.25millioninduced abortions occurred in 2012 in Nigeria alone resulting from a high level of unmet need for contraceptives and restricted abortion laws in Nigeria [2-4]. However, the true incidence of spontaneous abortions is not known, but 10- 15% of clinically recognized pregnancy and 30 to 50% of all conceptions [5] and about 1:4 women will experience such a loss in her life time [6]

In a 5-year retrospective study of all cases of miscarriage in a tertiary hospital in Abakalikki, south-east Nigeria, abortions constituted 45.5% of all gynaecological admission with a mean age of 28.4±6.4 years and the interventions offered include manual vacuum aspiration (82.2%), dilatation and curettage (9.8%) [7]. In a survey carried out in 14 countries, it was discovered that the most frequently cited reason for having an induced abortion were socioeconomic concerns or limiting childbearing while some have more than one reason [8]. Furthermore, it may be very difficult to ascertain the reason or procuring and abortion in countries with restrictive abortion laws like Nigeria. Most often patients present with abortion complications to the hospitals after an illegal abortion or following a spontaneous miscarriage.

Abortion complications constituted about 41.4% of all gynaecological admission and 11.5% of all maternal mortalities in a study done in Abakalikki, south east, Nigeria [9]. This study also found that women less than 19 years were 7.1% whereas single women constituted 25.3% of the cases. In a 2024 study in Nigeria, 14.2% of all miscarriages were complicated by various morbidities whereas 2.1% were complicated by maternal death [10]. Most of these complications were associated with induced abortions. It was also found that haemorrhage was the frequent type of complication. Induced abortions were also found to be associated with about 30% of maternal deaths in Nigeria [11]. These adverse outcomes could be linked to the restrictive abortion laws in Nigeria which creates hindrances to abortion services and exposing our women to quacks [12].

This retrospective review attempted audit the experience in a rural private hospital and to proffer solutions to achieving a sustainable maternal health index in our country.

Aims/Objectives

The aim of this study was to determine the prevalence and the pattern of presentation of miscarriages in a private facility

The objectives of the study were to determine the:

- Prevalence of miscarriages
- Prevalence of induced miscarriages

- Major agents of induction
- Most prevalent clinical types
- The correlation between clinical type and treatment outcome

1.1. Study area

This study was carried out Odugu Memorial Hospital in Enugu-Ezike, Igbo-Eze North Local Government Area of Enugu State, south-East, Nigeria. It is a one of the major health facilities in the area as there is no functional public hospital in the community

2. Methodology

It was a retrospective study conducted in the above hospital over a 5-year period spanning between 31st December 2023 and 1st January, 2019. The relevant data was collated from the patients case files and hospital registers using a standardized proforma.

2.1. Data analysis

The data collated were analyzed using the statistical products and services solution version 25.0. The mean percentages and ratios were calculated and the results presented in tables and charts. Pearson Chi-square test and student t-test were used as a test of significance for categorical and continuous variables respectively and a P-value<0.05 was considered statistically significant

3. Result

From the hospital records and register, a total of 293 women presented to the hospital with gynaecological conditions, out of which 78 were related to abortions and its complications. This gives a prevalence of 26.62%. Most of the women were aged 26-30 years 23(29.5%) while the least were 31-35 years 11(14.1%). A significant proportion was less than 20 years 12(15.4%). Fifty eight (71.8%) had secondary education and only 4(5.1%) had tertiary education; more than half of the population 40(51.3%) were unemployed and only 4(5.1%) were civil servants. Majority of the women were multiparous 33(42.3%) and only 4(5.1%) were primiparous women; whereas only 47(60.3%) were married leaving 22(28.2%) and 9(11.5%) for single ladies and widows respectively. It further showed that 42(53.8%) were 1st trimester abortions and 51(65.4%) were induced mostly with misoprostol 32(41%) constituting the major agent of induction. Almost all of them, 74(94.9%), presented as a case of incomplete miscarriage with the most prominent features being: vaginal bleeding and abdominal pain 74(94.9%); drainage of liquor, 22(28.2%); passage of tissues per vaginam, 51(65.4%); asymptomatic, 13(16.7%). Thirty two (41%) had their cases complicated by hypovolemic shock whereas 28(35.9 had septic shock. The definitive treatments offered were medical evacuation (5.1%), MVA (94.9%). Majority of them 75.6%, had complete recovery whereas 19(24.4%) had significant morbidities and 2(2.6%) had maternal mortality from complications. There was a significant difference in the post-abortion complications between those that had spontaneous abortion and induced abortion and also the post-abortion complications between those who used misoprostol and those who had curettage or MVA; with the misoprostol group having more complications

Table 1 Sociodemographics

Values	Frequency	Percentages
Age group		
16-20 years	12	15.4
21-25 years	16	20.5
26-30 years	23	29.5
31-35 years	11	14.1
36 and above	16	20.5
Religion		
Christianity	68	87.2
Traditional	10	12.8

Education		
No formal education	9	11.5
Primary	9	11.5
Secondary	58	71.8
Tertiary	4	5.1
Occupation		
Civil Servant	4	5.1
Petty trader/farmer	34	43.6
Unemployed	40	51.3
Marital Status		
Married	47	60.3
Single	22	28.2
Widow	9	11.5

Table 2 Clinical History

Values	**Frequency**	**Percentages**
Parity		
Grand-Multipara	19	24.4
Multipara	33	42.3
Nullipara	22	28.2
Primipara	4	5.1
Gestational Age		
1st trimester	42	53.8
2nd trimester	36	46.2
Spontaneous abortion		
Yes	27	34.6
No	51	65.4
Induced abortion		
Yes	51	65.4
No	27	34.6
If induced , what was the agent		
D & C /MVA	19	24.4
Misoprostol	32	41
Not applicable	27	34.6
Clinical Types		
Incomplete	74	94.9
Missed	4	5.1

Table 3 Treatment given after miscarriage

Values	Frequency	Percentages
Medical Evacuation		
Yes	4	5.1
No	74	94.9
MVA / D & C		
Yes	74	94.9
No	4	5.1
Laparotomy		
No	78	100

Table 4 Measures taken during Miscarriage

Values	Frequency	Percentages
Analgesia		
Yes	74	94.9
No	4	5.1
Transfusion		
Yes	47	60.3
No	31	39.7
Antibiotic		
Yes	78	100

Table 5 Clinical presentation during Miscarriage

Values	Frequency	Percentages
Asymptomatic /Missed		
Yes	13	16.7
No	65	83.3
Vaginal Bleeding		
Yes	74	94.9
No	4	5.1
Abdominal Pain		
Yes	Yes	94.9
No	No	5.1
Drainage of Liquor		
Yes	22	28.2
No	56	71.8

Passage of Tissues		
Yes	51	65.4
No	27	34.6
Hypovolemic Shock		
Yes	32	41
No	46	59
Septic Shock		
Yes	28	35.9
No	50	64.1

Table 6 Outcomes

Treatment outcome	**Frequency**	**Percentages**
Complete recovery	59	75.6
Significant morbidity	17	21.8
Mortality	2	2.6

Table 7 Relationship between outcomes and Clinical miscarriages

	Outcomes			
	Recovery (%)	**Post Abortion Complications %)**	**Total**	**X^2 (p value)**
Spontaneous Abortion				
Yes	27(45.8)	0(0)	27(34.6)	11.35 (0.001)*
No	32(54.2)	19(100)	51(65.4)	
Induced Abortion				
Yes	32(54.2)	19(100)	51(65.4)	11.35 (0.001)*
No	27(45.8)	0(0)	27(34.6)	
If induced, what agent was used				
D&C/MVA	19(32.2)	0(0)	19(24.4)	36.11(0.001) *
Misoprostol	13(22)	19(100)	32(41)	
Not applicable	27(45.8)	0(0)	27(34.6)	
Clinical types				
Incomplete	55(93.2)	19(100)	74(94.9)	0.32(0.57)
Missed	4(6.8)	0(0)	4(5.1)	

4. Discussion

The aim of this study was to determine the prevalence and the pattern of presentation of miscarriages in a rural private facility. From our study, the prevalence was 26.62%. This differs from the finding from Abakalikki, Ebonyi State, where Anikwe CC et at reported a prevalence of 45.5%[**7**]. Even though both were retrospective studies, that of Ebonyi was in a tertiary centre which received referrals from peripheral centres and may also have better documentation and record

keeping. It can also be compared with another finding in Ogun state, western Nigeria where a prevalence of 23.0% was reported [**13**]. The above was a prospective cross-sectional study involving women who sought abortions in different hospital in the 4 geopolitical zones of Ogun State. The slight differences could be due to the fact that it was a multicentre prospective study as against our retrospective study in a private facility. In our study, out of the 78 abortion related cases, 51(65.4%) were induced. All cases of induced abortions were as a result of unintended pregnancies. Induced abortion is largely illegal in Nigeria;and as such, the data on it is scanty. A 2012 survey involving 772 health facilities from all over Nigeria reported an induced abortion rate of 56% prevalence [**14**]. This value was a little less than the finding from our study possibly due to the differences in the methodology and the national spread of data from the quoted study. From our study, 51(6.4%) of the abortions were induced and the 2 major agents/methods applied were misoprostol (41%) and D&C/MVA (24.4%). The literature is scanty on which agent is mostly employed by seekers of abortion. This could be because abortion is largely illegal in most developing nations and are clandestinely procured. This study showed that there is a significant difference in the post-abortion complications between those that had spontaneous abortions and induced abortion with a P-value of 0.001. In this study, the entire 19 patient that had significant complications had induced abortion whereas none of the patient who had spontaneous abortions had significant complications. This finding is similar to the findings by Fouedjio JH et al, who reported that the rate of complication is more with induced abortion group [**15**]. Even though it was a cohort study carried out in Cameroon, the results were comparable. Another study by Jeanne HF [**16**] reported 3.5% incidence of septic shock among the women with induced abortion whereas our study found a septic abortion rate of 35.9%. The huge difference could be due to types of study employed in each case and the differences in the setting and socio-demographic differences between the populations studied.

5. Conclusion

There was a high prevalence of miscarriage in the hospital, most of which were induced with misoprostol. There was more post-abortion complication among those that had induced abortion; and these complications were even more among misoprostol users than those that had surgical abortion with either D&C or MVA.

Recommendations:

We recommend a review of the abortion laws in Nigeria to make abortion services more accessible. Secondly, we recommend that management of post-abortion complications and the use of MVA be incorporated into the primary health care services in all the rural areas. Finally misoprostol should be strictly regulated.

Compliance with ethical standards

Acknowledgment

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Disclosure of conflict of interest

There was no conflict of interest

Statement of informed consent

It was a retrospective study and no consent was needed

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