

ORIGINAL ARTICLE

Clinical Audit of Stillbirths at a Faith-Based Secondary Health Centre in Ibadan, Nigeria: A Six-Year Review

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ABSTRACT

Objective: The determine the prevalence of stillbirth and identify associated factors among parturients in a faith-based secondary health centre.

Method: This was a retrospective audit of two hundred and twenty-five stillbirth deliveries at the Our Lady of Apostle Catholic Hospital at Oluyoro, Oke-Offa in Ibadan, Nigeria, between 1stJanuary2010, and 31stDecember, 2015. Data was extracted from hospital records for socio-demographic characteristics, obstetric factors, complications, and outcomes of pregnancy. Data analysis was done using SPSS version 20 and the level of statistical significance was set at $p < 0.05$.

Results: The stillbirth rate was 27.75 per 1000 births. More than half (129; 57.4%) were macerated. The ratio of still birth rate among the booked and unbooked parturients was 1:21. The common causes of stillbirths were hypertensive disorders in pregnancy (24.9%), anaemia in pregnancy (20.4%); while the least were congenital anomalies (1.0%) and gestational diabetes mellitus (1.0%).

Conclusion: This study confirmed that most of the stillbirths were due to unsupervised or poorly supervised pregnancies. There is need to ensure quality antenatal care services for the early detection and management of risk factors in order to reduce the burden of stillbirths.

INTRODUCTION

Worldwide, stillbirth rates have declined slowly compared to reductions in child and maternal deaths, and its occurrence constitutes a tragedy to families awaiting the birth of a new-born, only to be heartbroken by the demise of their babies. Though there are variations in the definition of stillbirth, it is generally accepted for international comparison as the death of a foetus at or after 28 weeks gestation or a crown-heel length of 35 cm or more and birth weight of at least 1000g.¹ Globally, 2.6 million third trimester stillbirths occur yearly, accounting for approximately 73,00 deaths per day and with ninety-eight percent occurring in less developed countries.²

Stillbirth rates vary sharply by country, with rates of less than 10 per 1000 deliveries reported in developed countries while most studies have documented rates of 10-40 per 1000 deliveries in developing countries.³ However, higher rates of between 40- 156 per 1000 deliveries have been

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reported in Africa and by more than 10-24 folds in sub-Saharan Africa compared to developed countries.^{2,3,4,5} Sadly, stillbirths are underreported, especially in developing countries, so the rates may be much higher than estimated.⁶ Nigeria, being the most populated country in sub-Saharan Africa contributes to this high burden of stillbirths, with hospital-based studies reporting higher rates compared with population surveys.^{7,8}

The common medical and non-medical causes of stillbirths, especially in developing countries, are pre-eclampsia/eclampsia, obstetric haemorrhage, prolonged/obstructed labour, delay in receiving appropriate management, lack of antenatal care (ANC) and skilled birth attendants at delivery.^{3,4} It is estimated that about 50% of stillbirths occur in the intrapartum period and this may be related to the quality of intrapartum care.² Two-thirds of stillbirths occurs in rural areas, where skilled birth attendants are not always available for essential and emergency obstetrics care.⁴ Good quality ANC had been shown to improve birth outcomes directly through preventative measures, and indirectly through promoting deliveries in health facilities where complications can be better managed.

In Nigeria, there is paucity of data concerning the incidence of stillbirths due to under reporting and poor documentation. Most of the studies done were in tertiary hospitals and show wide geographical variation in stillbirths' rates.^{1,9,10} Additionally, these previous studies were carried out in facilities with many well-trained personnel and facilities, and it is possible that the picture may be different in other strata of health care. This study was designed to audit the stillbirth rate at a secondary health centre and to determine the causes of stillbirths so that preventive strategies might be developed to reduce its incidence.

METHODOLOGY

This was a cross-sectional retrospective study carried out at the Our Lady of Apostle (O.L.A.) Catholic Hospital, Oluyoro, Oke-Ofa, Ibadan, Nigeria. This hospital is located in the Southwest

region of Nigeria and provides secondary health care to patients in Ibadan, Oyo State and surrounding communities. The hospital has a functional Department of Obstetrics and Gynaecology with two consultants and six doctors at various levels of training, supported by many midwives. Vaginal deliveries are conducted by midwives and doctors if interventions are needed. Prior to the commencement of this study, ethical approval was obtained from the Ethics Committee of the O.L.A. Catholic Hospital, Oluyoro, Oke-Ofa, Ibadan, Oyo State, Nigeria (OCH/EC/16/11).

The data was extracted from hospital records, antenatal, obstetrics emergency and labour ward registers of all parturients who delivered a dead baby at or after 28 completed weeks of gestation from January 1, 2010 to December 31, 2015. Parturients whose hospital records were not retrieved were excluded from the study. Those parturients who received antenatal care at O.L.A. Catholic Hospital and attended at least four antenatal visits were termed as booked while the others were classified as unbooked.

Data was extracted into study proforma containing information on socio-demographic characteristics, antepartum and intrapartum medical conditions, and analysed using the Statistical Package for Social Scientists (SPSS version 20) with the levels of statistical significance set at $p < 0.05$.

RESULTS

There were 274 stillbirths out of a total of 9,875 deliveries during the study period, giving a stillbirth rate of 27.75/ 1000 births. The incidence of stillbirths amongst booked parturients was 14.9/1000 total births compared to 310/1000 total births amongst unbooked, hence the ratio of stillbirths amongst booked and unbooked parturients was 1:21. Figure 1 shows the trend of still births compared with total births over the 6-year period.

Of the total stillbirths, the case notes of two hundred and twenty-five parturients (82.5%) were retrieved and used for analysis. Most of the participants were

in the age group 25-34 years (140;62.2%) and traders (144;64.0%), while slightly over half of the participants were nullipara and primipara (131;58.2%) and booked (116;51.6%). About a quarter of the participants (60;26.7%) had at least secondary level of education and one hundred and eighty (80%) were married. This is shown in table 1.

Table 1: Socio-demographic and obstetrics characteristics of the women who delivered stillbirth

Variable	Number	Percentage
Age in years		
15-24	23	10.2
25-34	140	62.2
35-44	61	27.1
45 and above	1	0.5
Occupation		
Professionals	5	2.2
Artisans	32	14.2
Traders	144	64.0
Unemployed	44	19.6
Highest Educational Level		
Tertiary	27	12.0
Secondary	33	14.7
Primary	94	41.7
No formal Education	71	31.6
Marital Status		
Married	180	80.0
Single	39	17.3
Separated	2	0.9
Not Stated	4	1.8
Booking Status		
Booked	116	51.6
Unbooked	109	48.4
Parity		
0-1	131	58.2
2-3	74	32.9
4-5	14	6.2
> 5	6	2.7
Previous Still birth		
Yes	15	6.7

Most of the parturients (159; 70.7%) had spontaneous vaginal delivery while only one parturient (1; 0.4%) had assisted vaginal delivery by vacuum extractor. Most (129; 57.4%) of the stillbirths were macerated. This is shown in table 2.

Table 2: Mode of delivery and type of stillbirth distribution of the women

	Number	Percentage
Mode of delivery		
Vacuum Delivery	1	0.4
Caesarean Section	65	28.9
Spontaneous Vaginal Delivery	159	70.7
Type of stillbirth		
Fresh	96	42.6
Macerated	129	57.4
Total	274	100

Figure 2 shows the common foeto-maternal complications associated with stillbirths. The commonest are hypertensive disorders in pregnancy (24.9%) and anaemia in pregnancy (20.4%) while the least were chorioamnionitis (2.0%), congenital anomalies (1.0%) and gestational diabetes mellitus (1.0%)

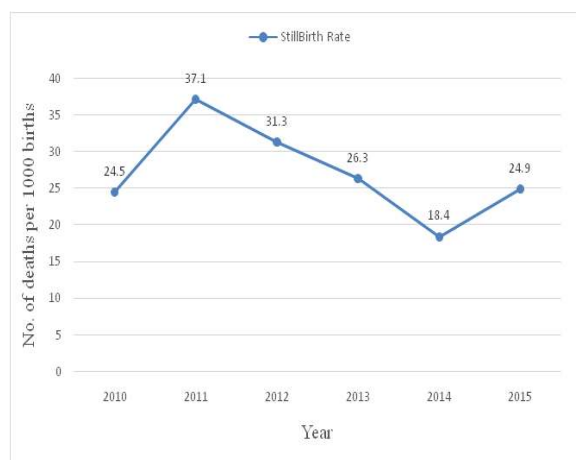


Figure 1: The trend of still birth per 1000 births between 2010 to 2015

DISCUSSION

Stillbirths are heart-rending to parturients as well as the healthcare givers and their family members and is an important issue which needs to be addressed. In our study, the stillbirth rate was 27.75 deaths per 1000 births. This was lower than reports from previous studies in Nigeria and are comparable to those obtained from tertiary health facilities in the country. This may indicate that faith-based hospitals have improved the nature and quality of health care given to pregnant women in Sub-Saharan Africa. This is because Governments in low-resource countries are unable to solely provide quality health care without the involvement of the private and faith-based institutions. The benefit of this collaboration may be responsible for lower rates observed in a previous study in Warri, Nigeria and if these steps are sustained it may approach the rates in developed countries.¹

A major observation from this study was the increase in the rate of stillbirths by 21 folds, among unbooked parturients, who received little or no antenatal care and presented for the first time in labour, compared to booked parturients. This is similar to findings from previous hospital-based studies in Southwestern Nigeria and greatly underscores the importance of encouraging pregnant women to book for antenatal care, at least by the second trimester of pregnancy.^{11,12,13} This will enable pregnant women to meet at least the four required visits recommended by the World Health Organization to be considered as booked. These visits would have enabled them to be evaluated for high risk factors, identify danger signs and seek early interventions where necessary. In addition, failure by parturients to book for antenatal care may be attributed to poor educational status and high levels of poverty, as most of the funding for healthcare is from out-of-pocket expenses. Empowering women by encouraging them to be educated to at least the primary level has been shown to improve their earning potential and offer better enrolment for ANC.^{14,15}

Furthermore, from this study, the number of macerated stillbirths was higher than that of fresh stillbirths suggesting that antepartum factors play a dominant role in the aetiology of stillbirths as macerated fetuses are known to result from insults that occurred in-utero. Similar findings have been observed in other health facilities in Nigeria, however fewer studies have reported a contrasting picture.^{7,16,17} The lower fresh stillbirth rate in this study was not surprising as labour and delivery are supervised by skilled attendants at the study site. In places with an efficient antenatal care, the intrapartum period is said to be the greatest risk of stillbirths, so the enforcement of standard quality of care to all pregnant women during delivery is a necessity.^{3,8,17}

In this study, the commonest causes of stillbirths during the antepartum period were hypertensive disorders of pregnancy, anaemia in pregnancy and antepartum haemorrhage. Hypertensive disorders are common in the black race and usually worsened in pregnancy, with preeclampsia one of the complications that compromises the uteroplacental blood flow and can lead to intrauterine death. Anaemia, especially when severe, can also lead to foetal demise because of deprivation of adequate oxygen flow to the foetus. This may be related to the high poverty rates in low- and middle-income countries, with the likelihood of nutritional anaemias. Likewise, antepartum haemorrhage, especially when due to abruptio placentae, can lead to rapid impairment of blood and oxygen flow to the foetus with an eventual foetal death, so a high index of suspicion and early interventions are keys to having a good outcome.

Intrapartum and postpartum conditions are associated with stillbirths as observed in this study. Postdates pregnancy is known to be associated with placental ageing, calcifications and impaired umbilical artery doppler flow, which if persistent, lead to intrauterine foetal death. So, early resort to induction of labour before prolonged pregnancy sets in, coupled with adequate intrapartum monitoring of the foetus and the availability of facilities for

caesarean section are key interventions to reduce the occurrence of stillbirths. Similarly, from this study, prolonged labour is associated with foetal death, and these may follow cephalopelvic disproportion and malpresentation. Ultrasound estimation of foetal weight in the late third trimester and the use of the partograph to observe the progress of labour will raise its suspicion and allow appropriate interventions to be instituted.

The act and skill of vaginal breech delivery is rapidly declining in recent times due to the increased adoption of caesarean section for delivery but skilled attendants may be faced occasionally with breech babies in advanced labour so the skills must still be taught so as to reduce its associated morbidities and mortalities. The use of mannequins for teachings and hands-on experience have been shown in developed countries to be effective in preventing this important skill from going into extinction and should be adopted in every health facility.¹⁸

Our study has documented the burden of stillbirths so preventive measures are key strategies to reduce its burden. The need for early booking for antenatal care must be emphasized to all women of reproductive age group. This can be done through health institutions and community-based health education and media organizations. The ANC must be structured to be user-friendly so as to ensure regular attendance, and most importantly to be affordable or free to pregnant women, as poverty and out-of-pocket expenses are major reasons for not attending ANC regularly. The human resources are an often omitted part of ANC so the staff must be well motivated and there should be regular training of all cadre of staff in health facilities and genuine obstetric competence ascertained. The overall effect of all these interventions may aid prevention, improve surveillance or early detection of these disorders and give room for proper management including a properly timed and planned mode of delivery.

In conclusion, this study has shown that stillbirths occur predominantly during the antenatal period

and may be due to lack or poor ANC and that most of the causes are preventable. These preventive strategies include ensuring that ANC is available and accessible to pregnant women, improvement of our health facilities to be able to offer standard and safe care to those with risk factors for stillbirths, ensuring that intrapartum care must be conducted by skilled attendants and reduction in the cost burden of healthcare on pregnant women and their families. Although the existing healthcare insurance policy is being adopted at a slow pace, there is need for increased dissemination of its benefits to reproductive age women, and to be re-modified or reinforced such that even pregnant women who opt to receive care in private hospitals do so with the lightest of financial burden on their shoulders.

CONFLICT OF INTEREST

There is no conflict of interest.

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