

# Unearthing the Hidden Tragedy: Stillbirths in Abakaliki, Nigeria – Prevalence and Causes

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## Abstract

**Background:** Stillbirths are very traumatic events to the parents, family, and obstetricians. Although a global public health crisis, it has remained relatively hidden while their devastations continue unabated in different parts of the world. We have not evaluated this tragedy in our practice environment hence the need for this paper. **Methods:** This is a retrospective study involving all cases of stillbirths that occurred at the Alex Ekwueme Federal University Teaching Hospital, Abakaliki, over a 3-year period, 2017–2019. The case notes were gotten and relevant information was retrieved and analyzed. **Results:** The prevalence of stillbirths in our centre was 16.1 per 1000 deliveries or one stillbirth in 62 deliveries. Majority of our parturients who had stillbirths 89 (81.7%) were unbooked, 43 (39.5%) had only primary education, 16 (14.7%) had no education at all, and only 10 (9.2%) had tertiary education. The leading cause of stillbirths was abruptio placenta 27 (24.8%) followed by prolonged obstructed labor 22 (21.1%), intrauterine fetal death of unknown cause 18 (16.5%), and ruptured uterus 10 (9%). Seventy-three (67%) women were delivered by spontaneous vaginal delivery while 18 (16.5%) had a caesarean section. Thirty (27.5%) women had postpartum hemorrhage. None of the dead babies had an autopsy performed on them. **Conclusion:** The prevalence of stillbirth in our centre is unacceptably high and majority of the causes are preventable. There is an urgent need for public enlightenment to highlight this silent tragedy and mobilize efforts toward its prevention. Carrying out autopsies on stillbirths especially those with unexplained causes will help elucidate some of the causes.

**Keywords:** Abakaliki, causes, Nigeria, prevalence, silent tragedy, stillbirths

## INTRODUCTION

The magnitude of stillbirths in the world has become a global public health crisis, still little attention is given to it. Stillbirth though variously defined by different countries with different cut-off gestational ages is defined by the World Health Organization as the death of a fetus before the complete expulsion or extraction from its mother at term, weighing 1000 g and occurring after 28 completed weeks of gestation or having at least 35 cm body length, which is indicated by the fact that after such a separation, the fetus does not show any evidence of life.<sup>[1]</sup> At times, due to uncertainty of gestational age, fetal weight at delivery of 500 g or more or crown-heel length of 25 cm or more had been used to define babies delivered with these parameters and without any sign of life as having suffered stillbirth.<sup>[2]</sup> In Nigeria, our age of viability is that adopted from that of the World Health Organization which is 28 weeks and that is the cut-off point for our definition of stillbirth in this study.

In 2015, there was an estimated 2.6 million stillbirths or 18.4 stillbirths per 1000 births in the world.<sup>[3]</sup> With more than 7178 fetuses delivered stillborn every day,<sup>[4]</sup> about 98% of these stillbirths occurred in low and middle-income countries. There had been some decline in stillbirth rates, especially in the high-income countries.<sup>[3]</sup> At the present rate at which stillborn rates are being reduced, it will take about 160 years for a pregnant woman in Africa to have the same chance of her baby being born alive as a woman in a high-income country.<sup>[4]</sup> In spite of these calamities, stillbirths are still being overlooked

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as a global crises as social taboos, political neglect, health system, and data gaps mean that stillbirths go unreported year after year globally by the world agencies that matter.<sup>[2]</sup>

Stillbirth rates vary in various parts of the world;<sup>[5-7]</sup> the rates are highest in South Asia and sub-Saharan Africa with rates as high as 40–50 per 1000 births compared to 2–3 per 1000 births in many high-income countries;<sup>[3]</sup> in England and Wales, the rate released by the Office for National Statistics in July 2020 showed a stillbirth rate of 3.9 per 1000 total births, down by 6.2% from the 2019 figure.<sup>[8]</sup> A rate ranging from 22.4 per 1000 to 180 per 1000 had been reported from various centers in Nigeria,<sup>[5,9-13]</sup> in contradistinction to 2–3 per 1000 births in high-income countries.<sup>[3]</sup>

While detailing the cause of stillbirths may not be possible in low-income countries, efforts have recently been made to classify stillbirths with signs of fetal maceration suggesting a fetal death occurring in the antenatal period, at least 12 h before delivery and those without signs of maceration as due to intrapartum stillbirths or those that occur just before or during labour or delivery.<sup>[14]</sup> Although a significant number of the causes of stillbirths cannot be identified despite intensive and extensive investigations even in the developed countries.<sup>[15]</sup> Most of the intrapartum causes of stillbirths are associated with obstetric emergencies. Antepartum causes are mostly associated with maternal diseases, infections, and fetal growth restrictions.<sup>[16]</sup> It is posited that improved care at birth is important as it is estimated that it can prevent the 1.3 million intrapartum stillbirths that occur presently, end preventable maternal and neonatal deaths and improve child development.<sup>[17]</sup>

Risk factors and causes of stillbirths include preeclampsia/eclampsia, intrauterine growth restriction, abruption placenta, infections, umbilical cord accidents, environmental factors, maternal smoking, advanced maternal age, high parity, obesity, fetal distress, obstructed labor, and placental factors.<sup>[18-22]</sup>

Culture plays a prominent role to the phenomenon of stillbirths. In addition to stillbirths being likely to affect women in African traditional society more because their value and acceptance in such societies are enhanced by childbearing, culture predominantly determine their belief system, actions and response to grief. If the culture does not recognize stillbirths as an event, she may be forced to bear her grief stoically and silently without much support. This will potentially prolong her grief reaction.<sup>[23]</sup> Most Igbo societies recognize stillbirths as a very traumatic event and the woman's family, especially her mother, her husband's family, traditional and religious women groups and friends provide the woman with enough social support and safety net during such periods.

Culture can also contribute significantly in the occurrence of stillbirths. Cultural factors that devalue women, encourage male preference, especially when it comes to education of the girl child, deprives her of nutritious food, encourages girl marriages, discourages pregnant women from seeking prenatal care and hospital delivery will definitely contribute to increased

stillbirth rate. In India, Lawn *et al.*<sup>[24]</sup> found that cultural factors and traditions such as seclusion of pregnant women, preventing women from utilizing preventive health services, birthing practices involving dietary restrictions, using traditional remedies and spiritual healing are associated with stillbirths.

Stillbirth rates vary in various parts and regions of the world, and even in the same country, it varies in various regions of it and even in different health institutions in the various parts of the country. Despite the very traumatic effects of stillbirths on the woman, the family and care providers and the preventable nature of some of the causes, especially in our third world practice environment, we do not know the prevalence of stillbirths and their causes in our centre, the only tertiary health institution in Ebonyi State, one of the 36 states that make up Nigeria hence the urgent need for this work.

## METHODS

This is a retrospective study of all cases of stillbirths that occurred in our centre, the Alex Ekwueme Federal University Teaching Hospital, Abakaliki, the capital city of Ebonyi State, Nigeria in the South East geopolitical zone of Nigeria. A search was made through the antenatal ward, labour ward, and Obstetric and Gynecology emergency unit and the theatre records for all the cases of stillbirths that occurred in the hospital over a 3-year period, from 2017 to 2019. All the case notes got in the hospital's records department were retrieved and relevant information including the sociodemographic characteristics, causes of stillbirths, and treatment given were retrieved and analyzed. Gestational age in this study was calculated from the last menstrual period of the women. Where this was not known, abdominopelvic ultrasound was used to calculate the women's gestational age. Diagnosis in this study was made by the managing obstetricians at the time the stillbirth occurred.

## RESULTS

Out of 114 case notes retrieved, 109 (95.6%) had complete information and were used for the study. During the 3 years under review, there were 6760 deliveries and 109 stillbirths giving the prevalence rate of stillbirths in our centre to be 16.1 per 1000 deliveries or one stillbirth for every 62 deliveries.

The age range of the patients [Table 1] was from 17 to 42 years with an average of 29.5 years. Majority, 89 (81.7%) of the patients were unbooked, that is, did not have any prenatal care from the hospital before coming with present problem. Forty-six (42.2%) of the parturient were in the para 1–4 age group while 26 (23.9%) were primigravidae and 37 (33.9%) grand multiparas as was seen in Table 1. Majority of our study participants, 43 (39.5%) had only primary education while 16 (14.7%) had no education at all with only 10 (9.2%) having tertiary education. Majority of stillbirths 60 (55%) occurred at term or post-term.

As can be seen in Table 2, there were antenatal complications in 45 (41.3%) of our participants with the most common being

malaria in 15 (33.3%) followed by high blood pressure in 14 (31.1%) and chorioamnionitis in 6 or 13.3%.

From Table 3, the greatest cause of stillbirth in our study was abruptio placenta which occurred in 27 (24.8%) of the women followed by prolonged obstructed labor in 22 (21.1%) of them. This was followed by intrauterine fetal deaths of unknown cause in 18 (16.5%), ruptured uterus as the fourth cause with 10 (9%) of the parturient affected. Prolonged

labour and retained second twin, were next with five each or 4.6% women affected. Eclampsia and cord prolapse followed, respectively, as the cause of stillbirths in 4 (3.7%) of the women. Three (2.8%) of the women each were past their date of delivery and had eclampsia.

As can be seen from Table 4, Majority of the women 73 (67%) gave birth by spontaneous vaginal vertex births, followed by 18 (16.5%) by caesarean births and 14 by exploratory laparotomy (because they had a diagnosis of uterine rupture on presentation). In one woman (0.9%), the already dead fetus had a craniotomy in a bid for her to be delivered vaginally.

As can be seen from Table 5, forty-nine (44.9%) of the fetuses were preterm, 15 (13.1%) term and 11 (10.1%) postdate.

Majority of the fetuses 88 (80.7%) were dead when their mothers arrived at the hospital while 21 (19.3%) were still alive but died before they could be delivered. At delivery, 70 (64.2%) of the fetuses were fresh stillborn while 39 (35.8%) were macerated stillborn.

Majority of the women 73 (67%) gave birth by spontaneous vaginal vertex delivery followed by 18 (16.5%) by cesarean births and in one person (0.9%) the neonate had a craniotomy.

**Table 1: Sociodemographic characteristics**

Characteristics	n (%)
Age (years)	
<20	2 (1.8)
20-25	31 (28.4)
26-30	38 (34.9)
31-35	26 (23.9)
36-40	11 (10.1)
>40	1 (0.92)
Total	109 (100)
Booking status	
Booked	20 (18.3)
Unbooked	89 (81.7)
Total	109 (100)
Parity	
Primigravidas	26 (23.9)
Para 1-4	46 (42.2)
>4	37 (33.9)
Total	109 (100)
Occupation	
Farming	23 (21.1)
Trading/business	20 (18.3)
Civil servants	21 (19.3)
Students	26 (23.6)
House wives	19 (17.4)
Total	109 (100)
Educational status	
None	16 (14.7)
Primary	43 (39.5)
Secondary	40 (36.7)
Tertiary	10 (9.2)
Total	109 (100)

**Table 2: Antenatal complications**

Complication	n (%)
Shock	3 (6.7)
Ruptured varicose vein	1 (2.2)
Vesicovaginal fistula	1 (2.2)
Chorioamnionitis	6 (13.3)
Malaria	15 (33.3)
High blood pressure	14 (31.1)
Unconsciousness	3 (6.7)
Obstetric palsy	1 (2.2)
Chronic hypertension	1 (2.2)
Total	45 (100)

## DISCUSSION

Our stillbirth rate of 16.1 per 1000 birth or one stillbirth in 62 births is high and all efforts must be made to bring it down. This stillbirth rate is even more painful when one considers the fact that the most common causes such as eclampsia, prolonged obstructed labour, ruptured uterus and contributing factors such as low literacy level and unbooked status are preventable.

Our stillbirth prevalence rate is <40.5 per 1000 births noted by Mutahir and Eka in Jos,<sup>[18]</sup> 42.2 per 1000 births in Nnewi by Igwegbe *et al.*,<sup>[25]</sup> 53 per 1000 births in Benin,<sup>[26]</sup> 50.4 per 1000 in Abuja.<sup>[13]</sup> Our prevalence rate may have been lower than what was got in their studies due to the fact that our clinical practice environment may be different from theirs. In emergencies, the management of our hospital allows all treatment to be given to patients and booked to their folder if patients cannot pay cash immediately. This enables patients to receive emergency treatment at the most critical time and pay later. It also enables a lot of mortality both perinatal and maternal to be avoided. We also as much as possible try to reduce type 3 delays as people on call present the cases they managed during calls in the departmental daily morning reviews. Mortality whether maternal or perinatal is especially frowned at and highlighted with a view to preventing reoccurrence of any mismanagement. This generally enhances correct patient management and timely involvement of the Senior Registrars and consultants on call. Our stillbirth rate is, however, much higher than the 5.8–6.9 per 1000 births for more advanced countries.<sup>[27]</sup> This is a reflection of the improved access to obstetric care and rendering of excellent obstetric services in these developed countries.

**Table 3: Causes of stillbirths**

Causes (diagnosis)	n (%)
Prolonged obstructed labor	22 (21.1)
Intrauterine fetal death of unexplained causes	18 (16.5)
Footling breech	1 (0.9)
Preterm PROM	1 (0.9)
Postdatism	3 (2.8)
Preeclampsia with abruption	2 (1.8)
Abruption placentae	27 (24.8)
Severe preeclampsia with postdatism	1 (0.9)
Hand prolapse	1 (0.9)
Eclampsia	4 (3.7)
Ruptured uterus	10 (9)
Cord prolapse	4 (3.7)
Placenta previa	1 (0.9)
Preterm delivery	2 (1.8)
Prolonged labor	5 (4.6)
Severe anemia	1 (0.9)
Retained second twin	5 (4.6)
Total	109 (100)

PROM: Premature rupture of membranes

**Table 4: Mode of delivery**

Delivery	n (%)
Spontaneous vertex delivery	73 (67)
Vacuum	3 (2.8)
Caesarea section	18 (16.5)
Exploratory laparotomy	14 (12.8)
Craniotomy	1 (0.9)
Total	100 (100)

**Table 5: Fetal characteristics**

Characteristics	n (%)
Gestational age (weeks)	
28-33	25 (22.9)
34-37	24 (22.0)
Gestational age (weeks)	
38-40	15 (13.8)
40+1 day-43	11 (10.1)
Total	109 (100)
State of baby on arrival	
Alive	21 (19.3)
Dead	88 (80.7)
Total	109 (100)

Majority of our patients, 59 (54.2%) had none or only primary education. Studies had shown that education reduces ignorance and empowers women and also enhances care-seeking behavior of women.<sup>[14]</sup> Education is therefore important and enables women to access health care for themselves and their babies when pregnant. This, no doubt contributed to the high stillbirth rate in our centre. Majority of women who had stillbirths in our center, 89 (81.7%) were unbooked. That unbooked status contributed this immensely disproportionate number

to the stillbirth rate in this study, and shows that patients not availing themselves of obstetric services are bad, and a huge but preventable contributor to stillbirth rate in our centre. The fact that unbooked status is a major cause of stillbirths in Nigeria is collaborated by many other studies carried out in Nigeria.<sup>[28]</sup> Various works had shown that lack of antenatal care has strongly and consistently been associated with an increased risk of stillbirths.<sup>[22,28]</sup>

Majority of our stillbirths 55 (50.5%) occurred at term. This is very saddening because this is at a time that the mothers had the highest hope of delivering their babies alive happily having almost come to the end of the journey of pregnancy. Stillbirths occurring at this time will further heighten their stress and trauma. This is contrary to other studies where majority of their stillbirths were preterm.<sup>[13,29,30]</sup> This could be because of differences in the practice environment. Again causes of stillbirths such as obstructed labour and ruptured uterus that occur at term could have been more predominant in our study and a most likely cause of this.

The greatest cause of stillbirths in our centre was abruption placenta 27 (24.8%) followed by prolonged obstructed labor 22 (21.1%) then unexplained intrauterine fetal death 18 (16.5%) and ruptured uterus 10 (9%). This is a very sad situation because majority of these causes are preventable and the death of these babies could have been avoided. These main causes of stillbirths in our centre were similar to other studies such as Igwegbe *et al.* in Nnewi.<sup>[25]</sup> Prolonged obstructed labour also contributed significantly to stillbirths in other centres. Ukaegbe *et al.* found that abruption placenta was associated with stillbirths in their study in Enugu, south-east Nigeria.<sup>[6]</sup> This could be attributed to our studies being from the same third world environment where low literacy level, poverty, poor health service factors all combine to make the woman not attend antenatal clinic and also denying herself of being attended to by skilled birth attendants during delivery. Such women only come to the hospital when problems arise. The prominence of abruption placentae as a leading cause of stillbirths in our center could also be due to the practice of uterine massage by traditional birth attendants or applying fundal pressure to the fetus through the uterus in a bid to facilitate delivery in prolonged labours in the villages. Eighteen or 16.5% of stillbirths in our center were unexplained. This is high and unacceptable. This high rate of unexplained stillbirth rate in our study could have been because no autopsy was carried out on any of the cases. However, that we have unexplained stillbirths does not seem to be peculiar to our centre alone as this finding is in agreement with studies carried out even in developed countries that found a significant proportion of stillbirths in their studies unexplained because they could not find causes of those stillbirths despite their excellent health facilities with their excellent investigational facilities.<sup>[15]</sup>

Majority of the fetuses in this study, 88 (80.7%) were dead by the time their mothers arrived at the hospital. This is sad and could be due to the fact that majority of our patients who had stillbirths were unbooked women who go labouring elsewhere including spiritual homes, traditional birth attendants' homes, chemist shops, at home etc., only to come to the hospital

when problems arise. The rough and bad terrains of villages, our extremely bad and mostly unmotorable earth roads and referrals coming from far-flung rural villages with poor vehicular services make obstetric emergencies in laboring women to scarcely get to the hospital on time and this could explain so many fetuses dying before their mothers reached the hospital. Sadly, most of these deaths are preventable. Of the dead babies in our series, 70 (64.2%) were fresh stillbirths with 39 (38.8%) being macerated stillbirths. This high proportion of fresh stillbirths as was observed in our study suggests intrapartum problems during labor and delivery<sup>[14]</sup> and is a pointer to the need for improved obstetric care services and emergency care during labor and delivery periods.<sup>[18]</sup>

Although a majority of the fetuses, 88 (80.7%) were dead when their mothers arrived at our hospital, 21 (19.2%) arrived alive and died before they could be delivered. This may have been a result of type 3 delay in the hospital in attending to the mothers. We must improve on our emergency drills so that the intervention-delivery interval will be shortened during obstetric emergencies. This will increase our salvage rate of babies in this category thereby reducing our stillbirth rate. None of the babies that died in our center was subjected to autopsy. This is sad and had denied us the opportunity of finding out some of the causes of these stillbirths and using them to help other women and their babies.

## CONCLUSION

Stillbirths are very silent but traumatic events to the mother, the couple, family, and indeed the obstetrician. The stillbirth rate in our centre is high and most of the causes are preventable. All hands must be on deck including public enlightenment of the populace the policymakers, and training and retraining of health workers on how to avoid this silent but ongoing tragedy.

## Limitation of the study

This is a retrospective study and has all the limitations of such study such as being prone to recall bias, researchers not being able to control exposure or outcome assessment thus they have to rely on others for accurate record-keeping, significant biases that may affect controls. Furthermore, it is possible that given our filing and recording system, some cases of stillbirths may have been missed out or that all the case notes of the names got from the registers may not have been found during the data gathering phase of the study. This is a limitation of this study.

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## Conflicts of interest

There are no conflicts of interest.

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