Stillbirths at the Federal Medical Center Owerri

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ABSTRACT

Background: *A stillbirth is a calamity and causes great distress both to parents and to the attending obstetrician or midwife. There is a paucity of information about stillbirths in Imo State, Nigeria.*

Aim : *This study is to determine the causes and rate of stillbirths in Federal Medical Centre Owerri, Imo State, Nigeria.*

Method: *This is a retrospective study of 296 stillbirths at Federal Medical Centre, Owerri, between 1st of January2000 and December 31st 2004.*

Results: *The stillbirth rate was 59.6/1000 deliveries. Most cases,208(72.7%), occurred in unbooked patients and nullipara accounted for 34.4% of cases. Most 126(44.1%) cases were in the 26-30 year age range and the major risk factors were pre-eclampsia 40(13.9%),abruptio placentae 39(13.6%), prolonged obstructed labour 30(10.5%)and prolonged pregnancy 28(9.8%).*

Conclusion: *Most cases of stillbirth were preventable and could be avoided by simple measures like antenatal care booking, delivery under the care of skilled personnel and early referral to centres that could perform caesarean section. The role of congenital abnormalities needs to be researched as the absence of postmortem examination made it impossible to determine their contribution.*

Key words: *Stillbirths, causes, Tertiary Centre, Nigeria.*

INTRODUCTION

The definition of a stillbirth varies from country to country. The WHO defines it loosely as "fetal death late in pregnancy"[1]. This allows each country to choose a cut-off point based on what the law defines as the age of viability in that country. In England and Wales, stillbirth is defined as "a child which has issued forth from its mother after the 24th week of pregnancy and which did not at any time after being completely expelled from its mother breathe or show any other signs of life'. In Nigeria, the definition is the same, except that the operative gestation is twenty-eight weeks. Sometimes, it is not possible to define gestation accurately as a good number of women are unsure of their last menstrual period. Consequently, some definitions of stillbirth have relied on weight of 500gm and above or a crown heel measurement of 25cm or more as the cut off [2].

From time to time, healthcare professionals and mothers are jolted by the occurrence of a stillbirth. This may occur before or during labour and is an unwelcome and traumatic experience particularly for the mother. The incidence of stillbirths is known to vary in different populations, being influenced largely by the quality of medical care, and within each society by social class. Indeed the perinatal mortality rat to which stillbirths contribute, is a well-known index of the state of the obstetric services of a country. Thus, while a high stillbirth rate of 73.9/1000 is seen in Burkina Faso [3], a developing country, in United States it is 5.8/1000 [4].The causes of stillbirths are numerous and attempts to accurately determine them are only feasible in developed countries where modern and sophisticated diagnostic facilities are available and postmortem examinations are performed routinely. That situation does not yet exist in Nigeria. However, if the incidence of stillbirths is to be reduced, the aetiology must be determined. This study was carried out to establish the incidence and risk factors associated with stillbirths in Federal Medical Centre, Owerri, at the beginning of the third millennium. It is the first study done in this institution and will establish a bench mark, with which more current studies will be compared.

MATERIALS AND METHODS

This is a retrospective study of stillbirths which occurred in the Federal Medical Centre, Owerri, between 1st of January 2000 and31st of December2004. The case notes were retrieved from the delivery register, ward records, theatre records and the medical records of the FMC Owerri. Data on socio-demographic characteristics, booking status, weight, type of stillbirth and causes of death were extracted. Analysis was done by simple percentages.

RESULTS

During the period of study there were 4968 births, of which 296 were stillborn, giving a stillbirth rate of 59.58 per thousand. The case notes of only 286 (96.6%) had sufficient information for analysis. Of these 196 (66.9%) were macerated while the rest were fresh

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stillbirths giving a ratio of 2.2:1. There were 91(31.9%) females, while the rest (68.1%) were males. As shown in Table I, most cases (72.7%)were unbooked for antenatal care. The largest percentage of stillbirths was seen in the 26-30 age group which contributed 44.1% of all stillbirths.

Nullipara contributed the highest percentage (34.3%) of stillbirths.Most,152 (53.2%), of the stillbirths were preterm (<37weeks) births, while 158 (55.2%) of them weighed less than 2.5 kg. Table II shows that the most common associated risk factors were pre-eclampsia, 40 (13.9%), abruptio placenta, 39 (13.6%) and prolonged obstructed labour, 30 (10.5%).

Table I: Socio-demographic factors

Age	N=286	100 %
<20	6	2.1
20-25	58	20.3
26-30	126	44.1
31-35	66	23.1
36-40	18	6.3
>/=40	12	4.2
Parity		
0	98	34.3
1	48	16.8
2	38	13.3
3	36	12.6
4	34	11.9
>/=5	32	11.2
Booking Status		
Unbooked	208	72.7
Booked	78	27.3
Gestation at delivery		
28-36+6	152	53.2
37-41+6	124	43.3
>/=42	10	3.5
Birthweight (gms) Distribution		
</=2499	158	55.2
2500-3900	92	32.1
>/=4000	36	12.6
Sex		
Male	91	31.9
Female	195	68.1

Table II: Causes of Stillbirths

Cause of Death	No	%
Preclampsia	40	13.9
Abruptio placenta	39	13.6
Prolonged obstructed labour	30	10.5
Prolonged pregnancy	28	9.8
Prolonged rupture of membranes	22	7.7
Unexplained	22	7.7
Anaemia	20	7.0
Fetal distress	16	5.6
Gestational Diabetes	16	5.6
Eclampsia	15	5.2
Ruptured uterus	10	3.5
Cord Accident	10	3.5
Multiple pregnancy	10	3.5
Placenta praevia	5	1.7
Congenital anomaly	3	1.0
Total	286	100

DISCUSSION

The major finding in this study was a stillbirth rate of 59.58/1000.Most cases were unbooked, and born preterm. The main contributory factors were pre-eclampsia, abruptio placentae, prolonged obstructed labour, and prolonged pregnancy in that order.

The stillbirth rate is less than 89/1000 reported in Ibadan [5] and 63/1000 inEnugu [6], but is higher than those from Nnewi [7], 42.2/1000, Benin [8], 53/1000 and advanced countries, 5.8-6.9/1000 [9]. The relatively high rates seen are partly due to the fact that the figures are from hospital based studies, mainly tertiary referral centers where the most serious cases are referred. The regional differences seen in Nigeria may be the result of variations in the level of care and staffing and the proportion of patients of various social strata seen in these institutions.

That unbooked cases contributed to a major proportion of the stillbirth as expected and this is the case in most centres in Nigeria [6-8,10]. Such patients often present with obstructed labour, severe anaemia and severe pre-eclampsia.More stillbirths were recorded among nullipara in this study. This may be because of factors like the increased incidence of pre-eclampsia,eclampsia and obstructed labour in this group of women. In addition, their increased susceptibility to malaria makes them more vulnerable to anaemia. This finding is however at variance with findings in some other studies [3,5,6].The largest number of stillbirth was seen in the age group26-30.This is similar to findings in Nnewi [7] and may reflect the fact that this age group contributes the largest number of deliveries. Although a study [11] has shown an increase in stillbirth rate for mothers above the age of 40,this is not the case in this study. Pre-eclampsia and eclampsia which accounted

for 19.1% of the cases constitute the major risk factors. If placental abruption which is strongly related to pre-eclampsia /eclampsia is added, then this triad will be responsible for 32.7% of all cases. This is similar to the findings by Igwegbe et al[7] where pre-eclampsia and abruption accounted for 33.1% of cases. This vaso-constrictive disorder causes stillbirth via hypoxia, intrauterine growth restriction, prematurity and low birth weight, resulting from its treatment by induction of delivery. Its contribution to stillbirths can be reduced by early booking, surveillance and the provision of good neonatal intensive care units for the management of the premature babies resulting from its management by induction of delivery. Prolonged obstructed labour secondary to cephalo pelvic disproportion was also an important associated factor in our study as well as in other studies [5,8,11]. In this study, it accounted for 10.5% of cases. This condition is one which can be easily be prevented by antenatal care, delivery under the care of skilled personnel and early referral to centres with facilities for caesarean section. This is however likely to remain a mirage, given the improper prioritization of the needs of the society by governments in developing countries. Malaria is a well-known cause of anaemia particularly in primigravida and may have been indirectly responsible for the seven percent of cases attributed to anaemia. It may also have played a part in the cases classified as unexplained. The 3.5% contribution of ruptured uterus in this study is much less than that of the study in Nnewi[7]. Congenital abnormalities which are known to cause about 18% of stillbirths in studies from developed countries [12], where preventable causes have been eliminated accounted for only 1% of cases in this study. The lack of postmortem examination in any of the cases may have contributed to this low incidence of congenital abnormalities.

This study shows that most cases of stillbirth can be explained and are avoidable. Indeed only the 7.7% which were classified as unexplained while 1%resulting from congenital abnormalities was unavoidable.

The major limitation of the study is its retrospective nature; hence not all the data were captured. Also, because of the absence of postmortem examination for which consent is hardly ever given in our environment, the actual contribution of congenital abnormalities could not be determined.

CONCLUSION
The stillbirth rate is very high. Fortunately, its prevention does not need any sophisticated equipment, but rather simple measures affordable even in developing countries. However many gaps in our knowledge still remain. The contributions of malaria, congenital abnormalities, HIV/AIDS, etc to stillbirths are yet to be accurately determined. There is therefore a need for a prospective study to address these issues.

REFERENCES
1. WHO. Definitions and indicators in family planning and maternal and child health and reproductive health, World Health Organization, European Regional office (2001).
2. World Health Organization. Mother Baby package. Implementing safe motherhood in countries. Geneva:WHO,1994.
3. Haddad B, Mercer BM, Livingston JC, Sibai BM. Obstetric antecedents to apparent stillbirths (Apgar score zero at one minute only). Am J Obstet Gynaecol. 2001;6:961-964.
4. Basket TF. Maternal and prenatal mortality. In: Basket TF (Ed) Essential management of obstetric emergencies.3rd Edit. 1999:1-7
5. Onadeko MO, Avokey F, Lawoyin TO. Observations of stillbirths, birth weights and maternal haemoglobin in teenage pregnancy in Ibadan, Nigeria. AfriJ Med Sci.1996;25(1):81-86.
6. Chugbu OC, Okezie OA., Odugu BU. Intrapartum stillbirth in a Nigerian tertiary hospital setting. Int. J Obstet Gynaecol,2009;104:18-21.
7. Igwegbe AO, Nwosu BO, Ugboaja JO, Monago NE. Stillbirths in a Nigerian tertiary hospital. Niger Med J. 2008;49(3):74-77.
8. Bobzom DN, Unuigbe JA. Stillbirths and perinatal mortality at the University of Benin Teaching Hospital, Nigeria. J. Obstet Gynaecol. 1996; 16:159-162.
9. Rao B. Perinatal mortality. In: Wallace HM, Giri K(Ed). Healthcare of women and children in developing countries. Oakland CA. Third party publishing Co.1990:267-278.
10. Okogbenin SA, Okonta PI, Eigbefoh J, Okusanya BO, The demographic characteristics and health seeking behavior of unbooked patients in Irrua Specialist Teaching Hospital. Niger J Med 2007;16(1):65-70.
11. Harrison KA, Rao BK, Bergstrom S. Organization of maternity care in developing countries. In: Lawson JB, Harrison KA, Bergstrom S. (Ed). Maternal care in developing countries. RCOG Press 2001: 21-36.
12. Confidential enquiry into Stillbirths and Deaths in Infancy. Eighth Annual Report. London: Maternal and Child Health Research Consortium 2002.