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Still Births in a Tertiary Hospital, Niger Delta Area of Nigeria; Less Than a Decade to the Millennium Developmental Goals

H. A. A. Ugboma^{1*} and C. N. Onyearugha²

¹*Department of Obstetrics and Gynaecology, University of Port Harcourt Teaching Hospital, Nigeria.*

²*Departments of Paediatrics, Abia State University Teaching Hospital, Aba, Nigeria.*

Research Article

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ABSTRACT

Aims: To determine the prevalence and associated factors of stillbirths in the University of Port Harcourt Teaching Hospital (UPTH), Port Harcourt, south-south Nigeria.

Study design: Retrospective study.

Place and Duration of Study: Data were obtained from the delivery registers in the theatre, labour and isolation wards and the records department of the UPTH between 1st January 2005 and 31st December 2010.

Methodology: We included 580 stillbirths (316 males and 264 females) whose data were analyzed using Epi-Info software version 6.04 and SPSS version 11.

Results: The prevalence of stillbirths was 45 per 1000 births. Fresh stillbirths (SB) (50.9%) were not significantly more than macerated SB (49.1%) $p=0.792$. Preterms (47.8%) were insignificantly more than term SB (41.5%) $p=0.765$. Unbooked mothers (86.7%), age 25-34 years (70%) and lower parities 1, 2 and 0 (43.4% and 29% respectively) were significantly associated with stillbirth delivery $p<0.05$. Places of antenatal supervision of the unbooked mothers were primary health centre (27%), traditional birth attendants' (25%), churches, (22.3%), private maternities, (21.1%). Predominant pregnancy and labour complications associated with SB were prolonged labour (23.1%) abruptio placentae (14.1%), retained second twin (21.8%). Significantly more SB were delivered vaginally (66.9%) than abdominally (33.1%) $p=0.026$.

Conclusion: Lack of booking, inadequate pregnancy and labour supervision, avoidable delays are major contributors to high prevalence of stillbirths in Nigeria.

*Corresponding author: Email: haugboma@yahoo.co.uk;

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1. INTRODUCTION

Stillbirth remains an unexpected foetal catastrophe often bringing a devastating emotional experience to couples (Olusanya et al., 2006).

The ratio of stillbirths to neonatal deaths worldwide is nearly 2:1 (Ojofeitimi et al., 2010). Of the over nine million newborns that die before birth or days after delivery worldwide, stillbirths constitute fifty five to ninety percent, with these deaths occurring overwhelmingly in developing countries (Ekure et al., 2004; USAID, 1999; Adimora and Odetunde, 2007).

Stillbirth rates have dropped drastically to below 5 per 1000 births in most advanced countries of the world in the last three decades (Registration of still births, 2007), while its` high level in many parts of Nigeria and indeed other developing countries, is worsening. This is due to lack of political will to initiate policies that will impact positively on health issues. Budgetary allocations to the health sector have remained grossly insufficient. Corruption has eroded the positive effect that should be felt from the small allocation sent to the health ministry. Even in urban cities, the roads are so bad that emergencies are no longer workable. In the so called `five star` hospitals, the government supplied medical equipments are most times non functional or substandard. Electricity supply is epileptic. Workers morale are so low that most times health workers are either coming back from or embarking on industrial disputes. The facilities on ground are overstretched and doctor patient ratio is inadequate.

Stillbirth rates from hospital studies reported from different parts of Nigeria in the last three decades were as follows: 65 per 1000 births in northern Nigeria in 1977 (Harrison, 1999); 63 per 1000 births in Ibadan, western Nigeria in 1982 (Adeleye, 1982); 78 per 1000 births in Zaria, northern Nigeria in 1985 (Harrison et al., 1985); 65 per 1000 births in Port Harcourt, south-south Nigeria in 1991 (Ikimalo et al., 1992); 68 per 1000 births in Enugu, south-east, in 1999 (Adimora and Odetunde, 2007), 69.7/1000 births in Lagos, western Nigeria in the year, 2000 (Ekure et al., 2004) and 42.4 per 1000 births in Nnewi, south-east Nigeria in 2007 (Igwegbe et al., 2008). Stillbirth rates are therefore generally high and on upward trend in different parts of the country.

The high prevalence rates of stillbirths in developing countries including Nigeria are ultimately traceable to ignorance, poverty, low women empowerment, as well as negative sociocultural and faith beliefs (Ogunniyi et al., 2000; Archibong et al., 2002; Etuk et al., 2000; Mela et al., 2003; Udoma et al., 2008; UNICEF, 2006). Concerted efforts must be made at federal and state levels as well as local communities to bring down the unacceptable high stillbirth rates generally prevalent in the country.

This study was therefore undertaken to determine the prevalence and other associated factors contributing to stillbirths in the University of Port Harcourt Teaching Hospital (UPTH) Port Harcourt, south-south Nigeria. It is hoped that the results obtained would serve as a valuable tool for the evaluation, monitoring and policy formulation in stopping this deplorable trend.

2. SUBJECTS AND METHODS

All stillbirths delivered in the UPTH from 1st January 2005 to 31st December 2010 were retrospectively analysed.

UPTH, a tertiary health care institution located in Port Harcourt, the capital of Rivers State was founded in 1979 and became baby friendly in 1993. It also serves as a secondary health care centre, since there is only one other secondary health care establishment in the densely populated city of Port Harcourt. It is usually well attended because it also receives referrals from peripheral hospitals in Rivers State and beyond. Its clientele cuts across all strata of the society. Its annual delivery rate averages approximately 2,500.

Approval for the study was obtained from the Ethics committee of the hospital before commencement.

Antenatal, obstetric and social data were extracted from the delivery registers in the labour and isolation wards and the theatre as well as from maternal case notes retrieved from Medical Records Department. Information obtained included the gestational age, birthweight, sex of the fetus; age, parity, booking, marital and educational status of the mother, place of antenatal supervision, pregnancy and labour complications as well as the mode of delivery. Still birth feti 28 weeks and above were the subject of the study. Preterm was defined as less than 37 completed weeks of gestation while post-term was defined as 42 or more weeks of gestation (Adams-Chapman, 2007). Prolonged labour was defined as labour lasting more than 24hrs (Egwuatu, 2003). Retained second twin was defined as the second of a set of twins delivered after 30 minutes of delivery of the first (Sunday-Adeoyo, 2008). The total number of births during the study period was also derived.

Sample means and percentages were calculated, from which simple frequency tables were created. Data was analysed using soft ware EPI-info version 6.04 and SPSS version 11. P values less than 0.05 were considered as significant.

3. RESULTS

There were a total of 601 stillbirths delivered during the study period but 21 had inadequate data and were excluded, so 580 comprising 316 (54.5%) males and 264 (45.5%) females were used for further analysis. The male/female ratio was 1.2:1. The total number of deliveries during the six-year study period was 13,350. The prevalence of stillbirths was therefore 45 per 1000 births.

The mean gestational age of the stillbirths was 36.4 weeks (range 28 to 44 weeks). The gestational age distribution of the subjects was as follows: <37 weeks, 277(47.8%); 37-41 weeks, 241(41.5%); >41 weeks, 62(10.7%). The preterms were not significantly more than term deliveries $p = 0.765$.

Birthweight (BW) distribution of the stillbirths was as follows: <2,500grams, 195(33.6%); 2500-4000grams, 348(60%); >4000grams, 37(6.4%). The mean BW of the subjects was 2,640 grams (range 700-5000 grams).

Stillbirths were delivered by significantly more unbooked mothers (86.7%) than the booked (13.3%) $p < 0.0001$ (Table 1).

Places of antenatal supervision of the 503 unbooked mothers were primary health centre, 136(27.0%), traditional birth attendants'- 126 (25.0%), churches, 112(22.3%), private maternities, 106(21.1%) and none, 23(4.6%).

The mean age of the mothers who had stillbirths was 30.4 years (range 16 to 48 years). Significantly more mothers in the age bracket 25 to 34 years (70%) than the younger (19.7%) or more elderly (35years or more), (10.3%) had stillbirths $p=0.001$, $p<0.0001$, respectively (Table 1).

The parity range of the mothers of stillbirths was 0 to 10 with a mean of 1.5. The highest incidence of stillbirth delivery occurred in parities 0, 1 and 2 and the lowest in para5 and above (Table 1).

Educational levels of the mothers of the subjects were as follows: no formal, 42(7.2%); primary, 84(14.5%); secondary, 380(65.5%); tertiary, 74(12.8%). All the mothers with secondary education were booked.

Pregnancy complications were recorded in many of the mothers (40.1 %) who had stillbirths (Table 2).

Labour complications occurred in 262 mothers of subjects (45.2%). The leading labour complications were prolonged labour (23.1%) and retained second twin (12.8%) (Table 3).

Majority (57.2%) of the stillbirths were delivered by unassisted vaginal delivery. Spontaneous vaginal deliveries (57.2%) were significantly more than those delivered by Caesarean section (CS) (33.1%). $p=0.029$.

Table 1. Booking status and antenatal data of the mothers of stillbirths

Variable	Number of mothers	%
Booked	77	13.3
Unbooked	503	86.7
Age (years)		
< 20	15	2.6
20-24	99	17.1
25-29	215	37.1
30-34	191	32.9
≥ 35	60	10.3
Parity		
0	168	29.0
1, 2	252	43.4
3, 4	120	20.7
>4	40	6.9

Table 2. Pregnancy complications in the mothers of subjects.

Pregnancy complication	Number of mothers	%
Abruptio placentae	82	14.1
Post – term	52	9.0
Breech presentation	48	8.3
Placenta praevia	45	7.8
HIV Infection	2	0.3
Sickle cell anaemia	2	0.3
Rhesus negative	2	0.3
None	347	59.9

Table 3. Labour complications in the mothers of subjects.

Labour complication	Number of mothers	%
Prolonged labour	134	23.1
Retained 2 nd twin	74	12.8
Uterine inertia	28	4.8
Uterine rupture	14	2.4
Cord prolapse	12	2.1
None	318	54.8

4. DISCUSSION

The stillbirth rate of 45 per 1000 births obtained in this study is lower than 65 per 1000 births obtained from this centre in 1991 (Ikimalo et al., 1992) and 63 per 1000 births reported from Ibadan (Onadeko and Lawoyin, 2003) but comparable to 42.4/1000 births reported in Nnewi, south-east Nigeria in 2007 (Igwegbe, 2008). These figures are however in sharp contrast to values of less than 5 per 1000 births obtainable in developed countries (Frets, 2005).

This swinging scenario in our environment may have come to stay for now unless politicians and policy makers who can afford expensive medical treatment in developed countries begin to invest in our health institutions (Training, Research and Service), repair our roads, provide electricity and utilize our rich resources for the welfare of its poor citizens. Most health programmes and infact all aspects of our national life will be born stillbirth until corruption is cured.

The results of the survey indicated that fresh stillbirths were more in number than macerated stillbirths. This is similar to results obtained from previous studies (Ogunniyi et al., 2000; Onadeko and Olawoyin, 2003). This we may attribute to delays in intervention time, lack of adequate fetal monitors and patients poor response to in providing intervention needs as a result of ignorance and poverty.

Also, there were more preterms than term deliveries in this analysis as similarly observed in some previous studies (Onadeko and Lawoyin, 2003). Pregnancy complications may account for most of these, also, difficulties and indecisions in management options especially among patient overwhelmed resident doctors add to these.

The results of this survey also revealed that overwhelming majority of mothers of the stillbirths were not booked. Lack of booking by most mothers of stillbirths has been a universal observation in previous studies (Ikimalo et al., 1992; Igwegbe et al., 2008; Ogunniyi et al., 2000; Archibong et al., 2002; Etuk et al., 2000). This embarrassing picture is not surprising considering the fact that increasing number of women continues to patronise unorthodox and unskilled health practitioners including traditional health practitioners and churches for purpose of antenatal supervision and delivery and are brought to the hospital only when pregnancy or labour is complicated (Ezechukwu et al., 2004; Asuquo et al., 2000; Smith, 2003).

The results of the survey also revealed that the highest incidence of stillbirths occurred in mothers aged 25-29 years (Table 1). This conforms with the observation in a previous study at Nnewi (Igwegbe et al, 2008) but is at variance with the documentation at Ibadan in 2003 in which teenage and advanced maternal age (>34 years old) mothers had the highest incidence of stillbirths (Onadeko and Lawoyin, 2003). This may be due to the number of women in these age groups. There were fewer teenagers and elderly gravidae in our study.

Highest incidence of stillbirths being delivered by mothers of lower parities, 0, 1, 2 observed in this study conforms to a previous report from Nnewi (Igwegbe et al., 2008). This also, may be as a result of more pregnant mothers in this parity group than in the other parities.

Leading pregnancy complications - abruptio placentae, post-term, preterm and breech presentation observed in mothers of stillbirths in this study have been reported in previous surveys (Igwegbe et al., 2008; Archibong et al., 2002), poor or absent antenatal supervision being a major contributor.

Predominant labour complications - prolonged labour and retained second twin, associated with stillbirth delivery in this study have also been noted previously as significant causes of stillbirths (Olusanya et al., 2006; Igwegbe et al., 2008; Mela et al., 2003). Prolonged labour and retained second twin observed in this study must have resulted from prior seeking of antenatal and delivery care by mothers from unorthodox places such as traditional birth attendants', churches and private maternities which are often manned by untrained and unskilled employees. These attendants are in most cases unable to recognise danger signs in pregnancy and labour early often resulting in prolonged complications and delayed referrals leading to stillbirth.

Majority of the stillbirths were delivered vaginally. This can be explained by the fact that maternal safety becomes the only reasonable indication for CS delivery in situation of foetal demise.

5. CONCLUSION

Stillbirth rates have remained unacceptably high in the community and the predominant causes are largely preventable (Delivery in inappropriate places, poor education and unbooked status).

6. RECOMMENDATIONS

- Effective and sustained education of the populace.
- Early booking.

- Delivery in appropriate health facility.
- Training and retraining of health personnels including TBAs.
- Government commitment to improving maternal and child care deliveries.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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