

PERINATAL MORTALITY IN UNIVERSITY OF NIGERIA TEACHING HOSPITAL (UNTH) ENUGU AT THE END OF THE LAST MILLENNIUM.

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ABSTRACT

Objective: This study was designed to determine the Perinatal Mortality Rate at the University of Nigeria Teaching Hospital (UNTH), Enugu, Nigeria at the end of the last millennium. There had been no comprehensive study on this since the inception of the institution in the early seventies.

Methods: A five-year retrospective, hospital based study of the births and deaths of infants under one week of age was carried out. This was done using the birth records in the Labour Ward (LW), and the New Born Special Care Unit (NBSCU) of the hospital. The UNTH is a referral centre in Enugu covering five states in Eastern Nigeria. However, for the purpose of this study, all babies referred from other hospitals, maternity homes etc (BBA's), were not included. All births and deaths from twenty two weeks gestational age to one week after birth were included in the study. The data were collected by the doctors involved in the study from January 1995 to December 1999 inclusive.

Result: Six thousand, three hundred and seventy-six babies were recruited into the study. Out of this number, 5942 were live births, 434 were still births while 411 were early neonatal deaths. Seventy-four babies were dropped from the study (1.16%), due to insufficient information and mutilation of some parts of the records. The total perinatal deaths was 845 giving a perinatal mortality rate (PMR) of 133.94/1000, a high PMR when compared with similar centers in and outside Nigeria.

Key words: Perinatal mortality, Nigeria

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INTRODUCTION

Perinatal mortality is defined as the total number of late fetal deaths (also called stillbirth) and early neonatal deaths (or deaths within the first week of life), per 1000 total births⁽¹⁾. The perinatal period commences at 22 weeks (154 days) gestation, (the time when the birth weight is normally 500gm and crown-heel length is 25cm) and ends seven completed days after birth⁽²⁾. Perinatal mortality rate usually reflects the standard of antenatal and intrapartum obstetric service in any health facility or community. It also closely correlates with the extent of damage among the infants who survive. Therefore reducing the causes of perinatal mortality automatically reduces the causes and incidence of severe morbidity in the same proportion⁽³⁾. Prenatal mortality rates may also indirectly give an indication as to the proportion of babies who later in life may present with problems acquired during pregnancy, delivery and shortly after peripartum services provided by the hospital where the Study was carried out at the close of the last millennium with a view of improving services rendered to patients in the Obstetric and neonatal units.

MATERIALS AND METHODS

Birth records in the labor-ward (LW) of the University of Nigeria Teaching Hospital (UNTH), Enugu were retrospectively studied for the five year period of January 1995 to December 1999. The hospital is a referral center for hospitals, maternity homes and other health facilities in Enugu, Anambra, Ebonyi, Abia and Imo States of Eastern Nigeria. However, because of the peculiar position of the hospital in Enugu, it also doubles as a General Hospital.

For the same period, admission records and deaths within the first week of life in the Newborn Special Care Unit (NBSCU) of the hospital were studied. The NBSCU caters for all sick pre-term and term Newborn Babies delivered in the hospital as well as those referred from other centers. For the purpose of this study, all babies born outside the hospital (Born before arrival or BBA's) were excluded. Babies of mothers who did not have antenatal care but who delivered, at UNTH (so-called un-booked mothers) were however, included in the study. Figures were then collated for the stillbirths in the labor-ward and early neonatal deaths in the NBSCU.

Babies included in the study were those from the gestational age of 22 weeks to within one week of age after delivery (perinatal period). This means that babies that were above one week of age were not included in the study.

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Gestational ages of the babies were obtained from the records having earlier been estimated by the attending doctors using the Dubowitz chart⁵, a standard practice in the centre. The gestational ages of the babies born stillbirth were estimated from the mothers' last menstrual period (LMP). Thus, the 6376 babies included in the study were consecutive deliveries in the UNTH from January 1995 to December 1999. Simple statistical methods were used to calculate the perinatal mortality rates (PMR), still birth rates (SBR) and early neonatal death rates (ENDR), while tables were used to illustrate differences in the figures for each of the years studied. Seventy four (1.16%) entries had to be ignored because they were either not properly entered or the portions of the records where they were entered were mutilated.

RESULTS

During the period of study, there were 6376 deliveries made up of 3370 males and 3006 females (Table I). Four hundred and thirty-four (434) of these deliveries were stillborn. Of the stillborn babies, 402 were fresh stillbirths (FSB) while only 32 were macerated stillbirths (MSB), giving a stillbirth rate (SBR) of 68.06/1000.

Four hundred and eleven (411) early neonatal deaths were also recorded during the same period, Giving an early neonatal death rate (ENDR) of 64.46/1000. The total number of perinatal deaths was 845, giving a perinatal mortality rate of 133.94/1000. The male/female ratio of SBR, ENDR and PMR were 1:1.4; 1:1.28 and 1:1.34 respectively.

Table II shows the distribution of mortality according to the gestational ages of the babies. One hundred and sixty three (163) babies or 19.28% of the total number of deaths yearly were of 28 weeks gestational age or below. Three hundred and thirty six (336) babies or 39.05% of the total number of deaths were of between 29 and 36 weeks gestational age. The total number of full term babies that died during this period was three hundred and fifty two (352); making up 41.65% of deaths during the period of study. The ENDR, an indication of neonatal care, slightly increased from 96 in 1995 to 103 in 1999.

Table 1: Perinatal, Stillbirth And Early Neonatal Death Rates At The U. N. T. H. 1995-1999.

Year	Total Births	Live Births		SBR/ 1000	Early Neonatal Deaths	ENDR / 1000	Total Perinatal Deaths	Perinatal Mortality Rates
		Still Births	FSB MSB					
1992	1675(M=871;F=804)	1581	83 11	56.12	96	57.31	190	113.43
1993	943(M=504;F=686)	871	58 6	67.86	58	61.50	122	129.37
1995	1469(M=783;F=686)	1380	79 10	60.58	77	52.41	166	113.00
1997	1583(M=727;F=656)	1265	114 4	85.32	103	74.47	221	159.79
Totals / Means	6376(M=3370;F=3006)	5942	402 32	68.08	411	64.47	845	133.94

Figure 1: Perinatal Mortality, Still Birth And Early Neonatal Death Rates At The Unth 1995 - 1999

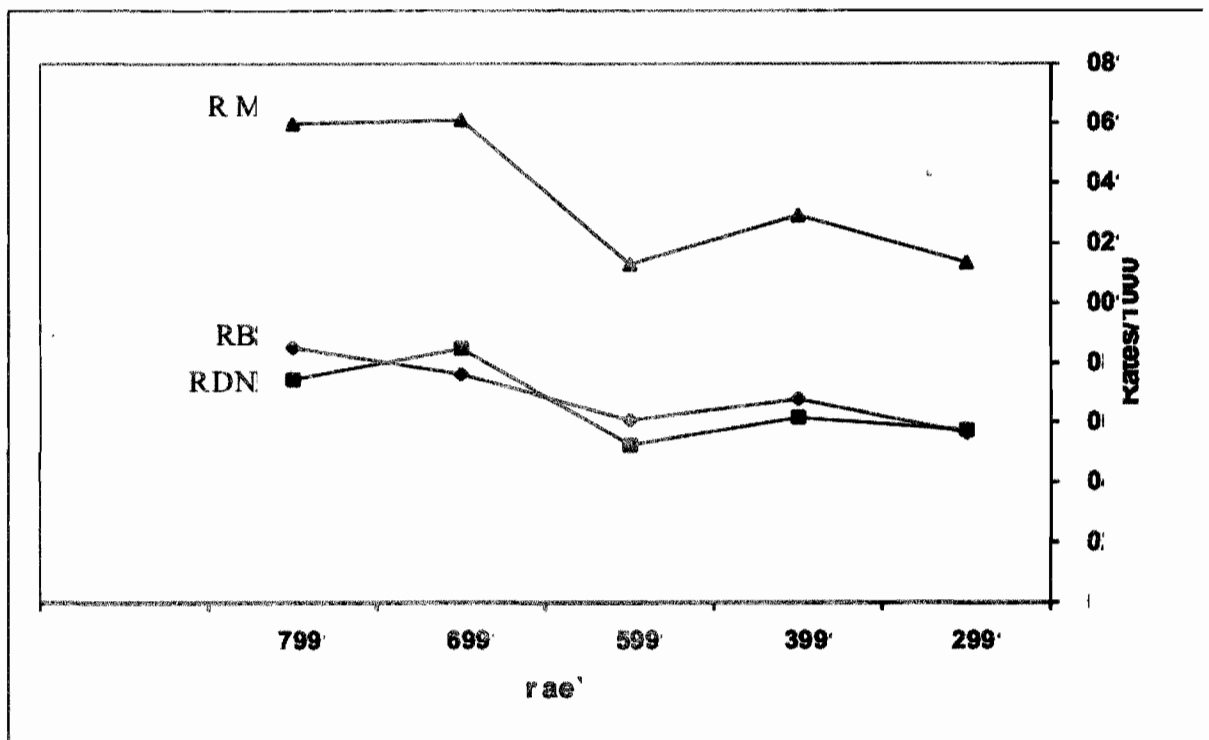


Table II: Perinatal Deaths According To Gestational Age.

Year	< 28 Weeks Gestational Age				29-36 Weeks Gestational Age			Term Babies			Total Deaths
	Total Births	Total No	% of Total Births	% of Total Death	Total No	% of Total Births	% of Total Deaths	Total No	% of Total Births	% of Total Deaths	
1995	1675	30	1.9	15.79	69	4.1	36.32	91	5.4	47.89	190
1996	943	27	2.8	22.14	49	5.2	40.16	46	4.8	37.70	122
1997	1469	31	2.1	18.68	69	4.2	41.56	66	3.8	39.75	166
1998	906	34	3.7	23.28	55	6.1	37.68	57	6.3	39.05	146
1999	1383	41	2.9	18.55	88	6.3	39.82	92	6.6	41.63	221
Total	6376	163	2.5	19.28	330	5.3		352	5.5	41.65	

DISCUSSION

Perinatal mortality rates in developed countries have been on the decline over the years, an evidence of improvement in the level of antenatal and perinatal care⁴. Figures from this study do not however show the same trend. In the first place, the perinatal mortality rate during the period of study, (133.94/1000) is unacceptably high. More disturbing, however, is the rising trend of PMR from 113.43/1000 in 1995 to 159.97/1000 in 1999; an indication of a deterioration in the level of perinatal care during this period.

This study did not focus on the probable causes of the high PMR. Some determinants of PMR are well known and have been broadly classified into, common obstetric and medical complications like prolonged and/or obstructed labor; social environmental factors like mass poverty; maternal biological variables like teenage pregnancies and high parity and fetal factors like low birth weight, birth asphyxia and congenital anomalies^{6,7}

The SBR increased from 56.12/1000 in 1995 to 85.32/1000 in 1999. Out of the total number of 434 still births recorded, 402 were FSB while only 32 were MSB.. Compared with figures from other parts of the country, the SBR in Enugu is also higher^{8,9,12}

Most of the deaths during the period of study were recorded among the full term babies and those between 29-36 weeks gestational ages. (Table II). This is similar to findings in Port Harcourt¹⁰.

For babies delivered at 28 weeks gestational age or less, the percentage total deaths was 19.28. For those with gestational age between 29 and 36 week the percentage of total births was 5.3 while the percentage total deaths was 39.05. The figures for full term babies were 5.5 and 41.65 respectively. The contribution of each gestational age group to the total deaths (19.28% for 28 weeks and below, 39.05% for 29 - 36 weeks and 41.63% for full term babies) to the PMR may at first look seem to indicate a higher mortality of the higher gestational age babies, but this is really because of the gross number of babies per group; the older babies being generally more in number contributed more to the mortality figures. Babies that were 28 weeks gestational age or less, made up only 2.5% of the total deliveries.

Ibe¹³ in 1993 had observed an increasing trend in low birth weights in Nigeria. This was attributed to the worsening economic situation in the country. It may not be out of place to cite the same reason for the deterioration in perinatal care, and therefore increasing PMR, in the UNTH. In the past decade, free medical services for some categories of patients,

Including children under the age of 15 years and antenatal care for women, had been withdrawn. The state of infra-structural services in the hospital had also worsened during the same period while, attitude to work by the average health worker also deteriorated due to poor remuneration; all of which may have affected services during this period.

Data from other centers in the country, when the economy was buoyant may give an indication that the high PMR obtainable here could have been better if the national economy was in a better shape¹⁰⁻¹².

CONCLUSION

The perinatal mortality, stillbirth and early neonatal death rates are still unacceptably high in our centre and there is a lot of room for improvement. This may be ascribed to the institution being a referral center and therefore receiving some of the more difficult cases from other centers. Ideally such a center should be equipped to handle such cases successfully. There are however some other centers in the country of the same status with lower figures.

Some of the factors at play may be beyond the control of the institution especially in terms of finances for the provision of some necessary equipment and personnel since it is government sponsored. However, there is an urgent need to look inwards and work towards a reduction in the number of preventable perinatal deaths. There is need for re-planning for improved services, despite the existing limitations, so that avoidable fetal and infant wastage and consequent neonatal morbidity can be minimized.

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