

STILL BIRTHS AT KORLE BU TEACHING HOSPITAL: CHARACTERISTICS OF PARENTS, PREGNANCY AND LABOUR

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SUMMARY

As part of an autopsy study of 93 still births out of a total of 3,761 deliveries in Korle-Bu Teaching Hospital (KBTH) information was collected on the characteristics of the parents and the pregnancy which resulted in the still births to determine the factors that influenced the outcome of the pregnancies. Analysis of the data obtained revealed important factors that influenced the outcome of these pregnancies and reflected on inadequacies of maternal services in the Accra metropolis and probably the whole of the country.

Low maternal educational level, low socioeconomic status of the families, late commencement and irregular antenatal attendance were present in majority of the mothers. Intra-partum foetal death was low, 17% (16 out of 93) while antenatal foetal death was 83% (73 out of 93). The high ante-partum foetal death may be a reflection of inadequate maternal services in the Accra metropolis. About half of the pregnancies studied, 46 out of 93, were unplanned out of which 10 were contraception failures. Hypertension was the most common pre-existing maternal complication while the most common maternal complication was maternal pyrexia followed by antepartum haemorrhage and gestational hypertension with and without other features of pre-eclampsia. Measures to reduce late foetal loss and improve antenatal care and coverage are suggested.

Key words: Stillbirth, labour pregnancy complications, prenatal care, Ghana.

INTRODUCTION

Several factors, social and environmental, in addition to the care of pregnancy and the management of labour influence the outcome of any pregnancy. Parent family history and the maternal medical and past obstetric histories¹, physical stature^{2,3}, nutritional status⁴, level of education⁵ as well as the social status of the family⁶ have all been found by

various studies to be important influences on the outcome of pregnancy.

This paper is the third of series of reports from a single study concerning the problem of stillbirths at the KBTH. The first two papers dealt with the autopsy findings^{7,8}. The aim of this part of the study is to investigate the characteristics of the parents, their previous pregnancies and the current pregnancy that resulted in the stillbirth to find which of these characteristics probably influenced or contributed to the late foetal death. We believe that knowledge of these factors will help in reviewing relevant policies and improving the delivery of maternal services in the country in order to reduce the occurrence of these deaths.

MATERIALS AND METHODS

The study was carried out from November 1991 to March 1992 at the Korle-Bu Teaching Hospital. Any mother who delivered a still born baby during the study period and gave consent for the baby to be studied was included in the investigation. The attending midwife completed a questionnaire with the aid of the antenatal records, the labour ward notes and interviewing the mother. The questionnaire was designed to collect information on the age, level of education, occupation and family history of both parents. Information was also collected on the past and recent medical, surgical and obstetric history of the mother where applicable, and the current pregnancy and labour. The social status of the family was determined from the father's occupation using the definition by the Registrar General of England and Wales⁶.

The data was entered into a computer using EPI INFO version 6 software. Frequencies of the various variables obtained using the same software.

RESULTS

The findings presented in this article are on 93 mothers who delivered still born babies at the

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Korle Bu Teaching Hospital (KBTH) during the study period.

Parental Details

Age distribution of parents and parity of mothers: Maternal age ranged from 16 to 45 years with a mean age of 28.0 (SD6.2) years. Nine (9.7%) of the mothers were in their teens and 17(18.3%) were above 35 years. The bulk of stillbirths (72%) occurred in mothers in the age group 20-34 years, with the highest proportion of 26.9% being in the age group 30-34. For all age groups, majority of the stillbirths were delivered by primigravidae (26%). The oldest primigravida was 36 years. The highest parity was 8.

Level of education of parents:

Over half of the parents (56% mothers, 58% fathers) had only first cycle education (Figure 1). Twenty-six (27.9%) of the mothers and 18(19.3%) of the fathers never had any formal education. Only 1 (1.1%) of the mothers and 4 (4.3%) of the fathers had tertiary education. Two of the mothers did not know the level of education or the number of years of formal education their husbands had.

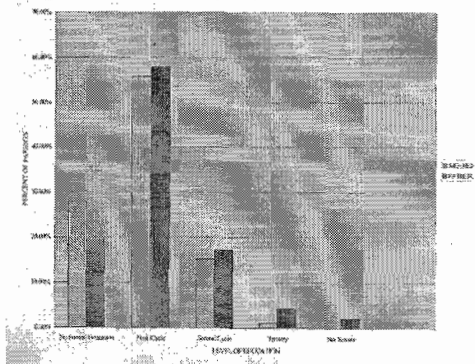


Figure 1 Maternal and paternal level of education

Occupation and social status of parents:

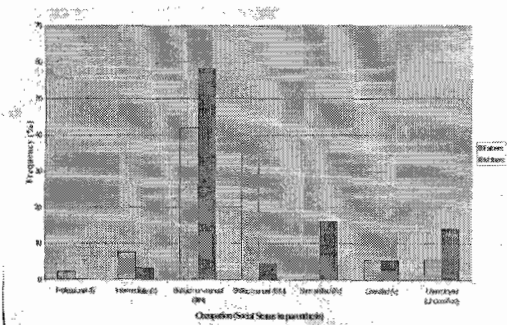


Figure 2 Occupation and social status of parents

Figure 2 shows the occupation of both parents and the social status of the family. The majority of mothers (58.1%) were skilled non-manual workers

like traders, clerks and shop assistants. None of the mothers was a professional and 13(14%) were

unemployed. Most of the fathers were either skilled non-manual workers (41.9%) or skilled manual workers like bricklayers, drivers and carpenters (37.6%). Only 2 (2.2%) of the fathers were professionals while 5(5.4%) were unemployed. Based on the father's occupation, majority of the stillbirths (79.5%) were delivered to families in social class III (IIN and IIIM).

Past medical conditions in the mothers:

Fourteen (15.1%) of the mothers had a pre-existing medical condition before pregnancy. Two of these mothers had 2 medical conditions (hypertension and asthma) and 1 had 3 medical conditions (hypertension, diabetes and peptic ulcer) before pregnancy. Hypertension was the single most common medical condition in these mothers, being present in 8 of them.

Outcome of previous pregnancies:

Twenty-five primigravidae were excluded from this analysis. Fifty-three of the 71 mothers with previous pregnancies (78%) had no prior stillbirths. Thirteen (19.1%) had had one previous stillbirths and two (2.9%) had two previous stillbirths. Most of the mothers (81.7%) had at most 3 live births and 2 had 8 live births each. The mean previous live births were 3.

The Current Pregnancy Resulting in Stillbirth:

About half (50.4%) of the pregnancies studied were planned and 49.6% were unplanned. Ten of the mothers were practising one form of contraception or the other but the method failed. Five of these were on the pill, 3 were using the condom and 1 each had an IUCD or used a spermicidal cream. This means that overall 36 mothers (37.6%) did not want to be pregnant and yet practised no birth control method. Two of these mothers tried unsuccessfully to abort their pregnancies.

Gestational age at first antenatal clinic attendance:

The gestational age at which the mothers started antenatal care ranged from 7 to 39 weeks (mean 21, SD 7 weeks). Sixty-two (66.8%) of the mothers started antenatal care after 16 weeks of gestation and 18 (19.4%) after 27 weeks. Fifteen of the 25 primigravidae (60%) started antenatal care at 20 or more weeks. The two mothers who had two previous stillbirths started antenatal care at 8 and 13 weeks respectively. Three mothers did not have any antenatal care at all during their pregnancies. Maternal educational and social status did not appear to influence the time of commencement of antenatal clinic attendance.

Complications of the pregnancy:

Fifty-six (60.2%) of the pregnancies were associated with maternal complications, 15 of these being associated with two complications and the rest with one complication. Maternal pyrexia was the commonest complication and in the majority of cases it was due to malaria, which was adequately treated. Antepartum haemorrhage (APH) was the second most common complication. Five of the mothers had pregnancy-induced hypertension without other features of pre-eclampsia while 8 had hypertension as a component of pre-eclampsia. One mother was admitted and was being treated for severe anaemia when she had the stillbirth.

Labour:

On admission to the labour ward, foetal heart activity was unrecordable in 77(82.8%) mothers using the Pinard Stethoscope and/or sonicaid. Only 36 of these mothers (46.8%) could recall cessation of foetal movements. The interval between cessation of foetal movements and admission to the labour ward ranged from 1 to 30 days, with a mean of 8 days. In 16 cases (17.2%) there was foetal heart activity on admission (intra-partum death). Vertex presentation was the commonest mode of foetal presentation (77.2%). This was followed by breech presentation (19.6%). There was one case of transverse lie, 2 of compound presentation and one abdominal pregnancy.

Spontaneous vaginal delivery was the commonest mode of delivery (62.4%). Fourteen (15.1%) mothers had breech delivery, 14 (15.1%) by emergency Caesarean section and 6 (6.5%) by vaginal instrumentation. The only stillbirth delivered by elective surgery was the case of abdominal pregnancy. Eight of the 16 intra-partum deaths were delivered spontaneously per vaginam, 3 each by vaginal instrumentation and emergency Caesarean section, and 2 by breech delivery. Delayed second stage was the indication for the three deliveries by vaginal instrumentation and one of the foetuses had the cord around the neck. The indications for the 3 emergency Caesarean sections were severe pre-eclamptic toxemia (PET), antepartum haemorrhage (APH) and premature rupture of membranes respectively. Fifty-one (54.8%) of the stillbirths were males and 42 (45.2%) females. Fifty-two (55.9%) of the stillbirths were macerated and 41 (44.1%) were fresh still births (FSBs). No foetal heart activity was recorded in 26 of the FSBs at the time of admission to the labour ward. In all but 3 of these there were maternal (17 cases) or foetal complications (6 cases) that compromised foetal

survival. The commonest maternal complication in these cases was APH (9 cases) followed by PET (4 cases).

DISCUSSION

The findings in this study confirm a number of factors already known to influence pregnancy outcome, but also highlight others that are peculiar to our environment.

In Northern Nigeria, the lowest foetal and perinatal deaths were at parities 1-4 and highest at parities of five or more and in primigravidae⁹. In Britain the lowest foetal deaths was found at the second parity and the highest at parities of 5 or more. The present study shows, that as in Northern Nigeria and a previous study from this hospital¹⁰, primigravidae had the highest proportion of stillbirths. Teenage primigravidae have been found to have a high incidence of stillbirths and perinatal death^{9,11,12}. This is due predominantly to increased incidence of anaemia, eclampsia, incomplete growth of the pelvic bone⁹ and poor development of the uterus and its blood supply¹³.

The teenage population in this study is small nevertheless 8 out of the 9 teenage mothers were primigravidae. In the economically advanced countries like Britain¹⁴ and America¹⁵ and also in the present study, majority of stillbirths occurred in women in the age group 30-34 years. This is contrary to the findings of the earlier study in this hospital¹⁰ where majority of the stillbirths occurred in the maternal age group 20-24 years. The reason for this 10-year shift is not immediately apparent.

Harrison⁹ found in Northern Nigeria that both formal education and antenatal care had tremendous impact on the results of child bearing. In this study, 28% of the mothers never had any formal education, a comparable figure to that of Northern Nigeria of 33%. Over half of the mothers (56%) had only first cycle (primary school) education. It is known that these mothers start antenatal visits late in pregnancy and are irregular attendants. Parsons et al⁶ reported from Britain that the stillbirth and neonatal mortality rates of babies born to fathers of social class V was almost double that of social class I fathers, and they stressed the importance of early antenatal attendance. A study in Sweden on the influence of socio-economic status on stillbirth risk also concluded that low socio-economic status increases the risk of stillbirth¹⁶. Contrary to these findings, majority of the families that had stillbirths belonged to social class III, that is the skilled manual and skilled non-manual workers.

This may be because relatively low proportions of Ghanaians in social classes IV and V compared to the other classes use the services of the hospital, which is a tertiary hospital.

Hypertension was the most common pre-existing maternal disease before pregnancy in this study and was third commonest complication in the pregnancies. In a study of the prevalence of pre-eclampsia (PE) and other obstetric outcomes in pregnancies of normotensive and hypertensive women attending an antenatal hypertension clinic, pregnancies in women with uncomplicated hypertension had an increased risk of stillbirth of 5.5 (confidence interval 2.6-11.9) compared to general hospital obstetric population⁷. We reported in a previous publication on this study that only 1 death was due to hypertension and in 7 out of the 8 cases of PE foetal death was directly attributable to the PE⁸. Buchbinder et al¹⁸ report that in women with gestational hypertension or PE, adverse perinatal outcome is seen only in those with severe hypertension and the presence of proteinuria does not influence perinatal outcome¹⁸. This suggests that the adverse effect of PE on pregnancy is mediated by the hypertension. Only 3 diabetic mothers, one of whom also had hypertension, were found. Stillbirth was directly attributed to diabetes in only 1 case⁸. The development of both macro- and micro-vascular complications of diabetes is amplified during pregnancy resulting in a higher incidence of stillbirth than in non-diabetics¹⁹. This adverse outcome may be due, in part, to vascular dysfunction particularly of the endothelium, which can significantly alter blood flow and tissue perfusion¹⁹. Although maternal pyrexia, mostly due to malaria, was the commonest complication in the pregnancies resulting in stillbirth, in none of the cases was foetal death directly attributed to this complication⁸. These maternal infections were adequately treated and no parasites were seen in the placentae of foetuses⁷. Foetal infection with malarial parasites was unlikely because of a high incidence of maternal antibodies in such an endemic area as Accra.

Antenatal attendance was poor in this study population. The late commencement of antenatal care by women with previous stillbirths underscores a total lack of or inadequate postnatal counselling. It is suggested that women be encouraged to book as soon as they "missed" their periods to enable their obstetricians undertake early investigations and adopt management policies for their particular pregnancies and, when indicated, offer elective induction of labour or Caesarean section^{6,11,21,22}.

An intra-partum death of 17% may be an underestimation since some of the mothers with no foetal heart activity, arrived in the labour ward with advanced first or second stage of labour. Also in 26 fresh stillbirths no foetal heart activity was recordable on admission to the labour ward. It is probable that many of these babies died within 6 hours prior to admission and therefore died intra-partum as it takes a minimum of 6 hours for the features of maceration to start appearing²⁰. Ampofo's study¹⁰ showed 39.5% intra-partum and 60.4% antepartum late foetal deaths. Our crude figure of 17% intra-partum death, which is similar to Hovatta's²¹ in Finland and Lofgren's²² in Sweden, may be a reflection of improvement in intra-partum foetal monitoring and management of labour in this hospital following the introduction of the partogram in the labour wards and formal labour ward rounds at stated intervals by obstetricians which has ensured better management of patients and more prompt intervention when indicated. However, an 83% antepartum death of all stillbirths may be an indication of the relative inadequacy and/or low coverage of antenatal services in the Accra metropolis. Alternatively or in addition, the existing services may not be meeting the needs of some pregnant women. Less than half of mothers who had antepartum deaths could recall the last time they felt foetal movement. It is recommended that pregnant women be taught the usefulness of foetal movement as an indication of foetal well-being.

In conclusion, this study has shown that low maternal educational level, low socio-economic status, late and irregular antenatal attendance were present in majority of the mothers who had stillbirth. Secondly, majority of the stillbirths occurred ante-partum. The study has also shown some avoidable foetal deaths due to maternal complications of pregnancy. Finally, about half of the pregnancies were unplanned. We advocate the expansion of the coverage and training of all levels of maternity service providers in the components of routine antenatal care and recognition of signs of maternal and foetal problems in the antenatal clinics and during labour for prompt referral. All pregnant women should be encouraged to attend antenatal clinic and to do so early. Postnatal counselling of women with stillbirths should be a vital component of our maternal and child health services. Additional measures include improving the socio-economic status of Ghanaian families, economic empowerment of women and intensification of both formal and informal education including health education.

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