Original Article

Intrapartum Still Births: Is there a Scope to Improve

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Abstract

Objective: To assess the frequency and causes of intrapartum still births in tertiary care hospital and to identify the quality related issues in these intrapartum deaths.

Study Design: Observational Study

Place and Duration of the Study: Study conducted from 1 Febuary 2011 to 29 February 2012 at Obs/Gyn unit IV, Liaquat University of Medical Health Sciences (LUMHS) Jamshoro.

Methodology: All still born babies of more than 32 weeks gestation with a positive heart beat at the onset of labour were included, antenatal foetal deaths and still borns with congenital anomalies were excluded from the study. The medical records of every intrapartum still birth was evaluated and included in the study after taking informed consent from the mother or family. Information regarding socio demographic, high risk obstetric conditions (prematurity, Hypertensive disorders in pregnancy and Antepartum hemorrhage), mode of delivery, delayed decision regarding delivery, communication gap between junior and senior staff members and availability of resources was recorded on the preformed proforma.

Results: The still birth rate was 24.2/1000(52/2142 births) births among these, 9 (4/1000 birth) were intrapartum still births. Mean maternal age was 28± SD years. Thirty three percent were primigaravida and 44.4% were booked for antenatal care. Caesarean section (CS) was the mode of delivery in 2(22.2%) cases, whereas the rest were delivered vaginaly. Prematurity, hypertensive disorders in pregnancy and abruption were 4(44.4%), 2(22.2%) and 2(22.2%) respectively. Risk identification problems were present in 22.2%, poor obstetric management because of lack of unit protocol was responsible in 22.2% of cases and resource unavailability caused delay in care provision in 44.4% of the cases. These women delivered with in a mean time of 4±SD hours at the facility. Mean birth weight of the neonates was 2.7±SD kg and 55.6% of them were at term.

Conclusion: Intrapartum still birth rate of 4/1000 in a university hospital is very high. There is scope to improve intrapartum care even in high-performance settings like university hospitals. Improved quality of intrapartum care and neonatal resuscitation through drills and audits, are promising strategies so is the involvement of hospital administration in quality care issues.

Key Words: Intrapartum stillbirth, Quality care, Emergency Obstetric and Neonatal Care.

Introduction

Most of the world's one million intrapartum still births occur in low and middle income countries.[1] The high-income countries have successfully reduced intrapartum stillbirths and intrapartum related neonatal mortality[2] rendering it a preventable tragedy. While high income countries are celebrating their success of reducing still birth rates from 50/1000 to 5 /1000 during the last 5 decades we are still struggling to get maximum out of poorly functioning health care system.[3] Developed countries have reached their present statistics (0.79/1000)[4] by working on improving maternal health as primary prevention, resuscitation of non-breathing newborn as secondary and management of babies with complications as third prevention. As maternal mortality[5,6] goes hand in hand with still born babies EmONC services are assured at facility levels to achieve these goals in our part of the world. But mere presence of facility does not guarantee its appropriate utilization and delivery.

Intrapartum stillbirths are strong and direct indicators of quality of obstetric care.[7] In developing countries the role of tertiary level facility is to disseminate knowledge and provide EmONC and essential newborn care services for referrals and the population around. These services are the mainstay in reducing labour related morbidities and mortalities.[8] We conducted this observational study to find out the frequency and causes of intrapartum still births in a tertiary care hospital and to identify quality related issues in these intrapartum still births.

Methodology

This is an observational study conducted in obstetric and gynaecology (Obs/Gyn) unit IV of Liaquat University of Medical and Health Sciences (LUMHS) hospital, Jamshoro from February 2011 to February 2012. All still born babies of more than 32 weeks gestation with a positive heart beat at the onset of labour were included and still born with congenital anomalies and antenatal fetal deaths, were excluded from the study. The medical records of every intrapartum mortality was evaluated and included in the study after taking an informed consent from the patient or the family. A proforma was filled, noting all maternal antenatal details and intra partum events including management plan, instruction, senior's involvement and advice, action taken and resuscitation notes. Data gathered was entered and analyzed by SPSS version 16. Numbers and percentages were calculated.

Results

There were 2142 maternities during the study period and the mean age of the study sample was 28 years. Fifty two babies without congenital malformations were born still, making still birth rate of 24.8/1000. There were 9 intrapartum still births that is 4/1000 births. Table I shows that one third 3(33.3%) of women were primiparas and nearly 4(44.4%) half of them had some form of antenatal care and were living within 10 km from the facility but arrived in advanced labour 4(44.4%).

Table I. Demographic and other features of the study group (n=9)

Maternal characteristics	Results
Mean age	28yrs
Parity	(3)33.3 % Primiparas
Booking status	(4)44.4% booked
Socioeconomic status	(8)88.9% less than 10,000Rs /month
Educational status	(7)77.8% with no formal education
Jamshoro resident	(4)44.4%
advanced labour	(4)44.4%

Preterm labour was present in 4(44.4%) of patients and history of previous loss was there in 5(55.5%). Hypertension was the commonest comorbidity present in 2(22.2%) patients and Abruption was found in 2(22.2%) of the patients. CS was mode of delivery in 2(22.2%) of cases where as the rest were delivered vaginaly. Indication of CS being failed instrumental delivery and preterm breech with PPROM and prolong labour. (Table II)

Table II. Obstetric complications in study group (n=9)

Obstetrical condition	Percentage
PIH	(2)22.2%
Abruption	(2)22.2%
Preterm labour	(4)44.4%
Pprom	(2)22.2%
Fetal distress	(3)33.3%
Malpresentation	(2)22.2%
Previous pregnancy losses	(5)55.5%

There was a delay in identifying the risk by on floor staff in 2 (22.2%) cases and delay in seeking senior on call`s advice in 2 (22.2%) cases. Lastly there was delay in availability of Anesthetists and OR technicians (Table III). Labour room nursing staff neither had any training in EMONC nor was available after 1400 hour in all the cases.

Table III. Quality care issues

Delay in identifying the risks	(2)22.2%
Delay Involvement of senior	(2)22.2%
No standardized ward protocols	(2)22.2%
Anesthetist`s/OR Technician`s delay	(1)11.1%
Man power issues	(2) 22.2%
Delayed availability of blood & blood products	(3)33.3%
Radiology unavailable	(1)11.1%

Discussion

Liaquat university hospital is a tertiary care hospital providing basic and comprehensive maternal and child care services in the Jamshoro district. A figure of 52 non anomalous, more than 32 weeks gestational age babies, delivering without heart beat among 2142 maternities is very high when compared to other developing countries.[9] The intrapartum still birth rate of 4/1000 is similar to home births in Bangladesh.[10] Lack of education and poverty[11] contribute to high perinatal mortality from society perspective leading to underutilization of available facilities. But this also reflects poor state of MCH services which has been reported in other studies.[12] Mean age of 28 years, and 1/3rd of study sample being in their first pregnancy theoretically suggest poor health or health seeking behavior of the young female population. On the other hand more than half of women receiving some form of antenatal care and having previous pregnancy loss[13] as commonest risk factor raise suspicion on quality / sensitivity of antennal care being provided to our women population.[14] Antenatal monitoring and screening is used to identify the risks in pregnancy and provide more targeted care and appropriate treatment but it should also be kept in mind that many of antenatal interventions have no proven impact on intrapartum still births. Poor quality of antenatal care[15] was also seen by lack of birth preparedness in those who had antenatal care and hence they arrived in advanced labour.

Hypertension like in other studies[16] was the most common medical problem associated with intra partum still births in our study indicating the need for preeclampsia prophylaxis. Screening for preterm labour in high risk population is also an antenatal work up and this affected one third of the study sample.[17]

CS is the key intervention that can prevent intra partum mortality if performed well in time after detection of

problem(s).[1] Detecting hypoxia in the foetus is the mainstay of foetal monitoring during labour and so is the progress of labour. Once the problem is surfaced prompt decision can save the life of the baby. Decision delivery time has been standardized for emergency CS, but to achieve this standard, all units of the facility providing MNCH services should be equally sensitized and involved in perinatal mortality meetings to make them a part of EmONC team.[18] Resources are required by EmONC like in any health intervention, in the form of personnel, time, equipment, drugs, and supplies[19].The third delay at the facility level was found to be an important factor in present study, in the form of lack of prompt availability of OR technicians and availability of quality blood [20,21] bank facility especially in odd hours and shortage of anesthesia staff. This study shows serious lack of quality work in the facility.[22] Delay in senior's involvement, and identifying the risk and absence of unit protocols points towards the need for improvement in inter unit communication and training and teaching programs. Health care organizations must give attention to staffing of maternity care units to foster professional work in a manner that enables provision of high-quality maternity care. Introduction of ward Dash board as suggested by Royal College of Obstetricians and Gynaecologists, London in maternity units will lead to prompt identification and correction of the problems.[23] In the end we were left with statements like if senior would have been present on floor, anesthetist would have come earlier, if blood would have been arranged, if women had given consent, and so on.

Conclusion

Intrapartum still birth rate of 4/1000 in a university hospital is very high. There is scope to improve intrapartum care even in high-performance settings like university hospitals. Improved quality of intra patum care and neonatal resuscitation through drills and audits, are promising strategies, so is the involvement of hospital administration in quality care issues.

Arranging mortality meetings religiously and rout cause analysis by all stake holders, in a non-blaming atmosphere will encourage clinical and nonclinical support staff to work together against this preventable tragedy.[25] We believe that improving quality of care with in the facility can nearly eliminate the tragic intrapartum still births in this hospital.

Limitation 0f the Study: There were no post mortem autopsies for confirming the cause of death ,so in present state of conditions. We have taken obstetric conditions and delivery delays as causes of these still births.

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