

Risk Factors Associated with Still Births

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ABSTRACT

Introduction: Still birth is a common adverse outcome of pregnancy, associated with many risk factors like prematurity, infection, birth injury, eclamptic disorders.

Methods: A hospital based, retrospective study was conducted at Patan Hospital in the year 2064. The number of still births and their associated risk factors were assessed.

Results: There were three thousand and five hundred and eighty eight deliveries. Among all deliveries, still birth cases were counted forty seven with a rate of 14 per thousand deliveries. The major risk factors were prematurity, low birth weight, fetal distress and maternal jaundice.

Conclusions: Prematurity was the commonest risk factor for still birth.

Key Words: antenatal check up, appropriate for age, fetal distress, gestational age, jaundice, still births

INTRODUCTION

Stillbirth is one of the most common adverse outcomes of pregnancy. Each year, 3.3 million stillbirths are reported, with 97% occurring in developing countries.^{1,2} Because registries are available in only four percent of the

developing world and under-reporting is a common problem, it is likely that an additional 1-2 million stillbirths occur, but are not reported.³

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Stillbirth rates vary by geographic region and socioeconomic status. It's 5 per 1000 or less in the US and most developed countries while it's in the range of 30 to 40/1000 births in the least developed countries.⁴ South Asia has the world's largest population and highest stillbirth burden with rates ranging from 25 to 40/1000 births.³

Factors associated with the high stillbirth rates in developing countries are infection, including congenitally-acquired infections such as syphilis, malaria, birth injury, preeclampsia-eclampsia, poor nutritional status, previous stillbirth, congenital anomalies, and sickle cell disease.⁴

METHODS

This is a retrospective hospital based study, which was done at Patan Hospital from Baisak 2064 to Asoj 2064. With approval, data were taken from the hospital records. All still birth babies with gestational age more than 28 weeks and birth weight more than thousand grams were included in the study. Age, gravidity and abortion history of mother were recorded. Gestational age, weight and factors associated with still birth were analyzed. Forty seven babies were included in this study.

RESULTS

There were a total of 3588 deliveries in six months, 47 of them were still births with a still birth rate of 13.3 per 1000 births.

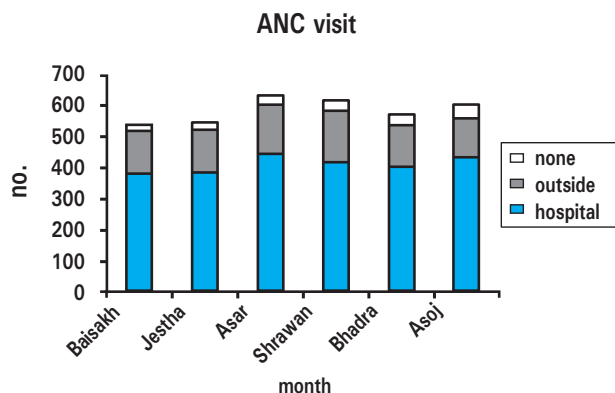


Figure 1. Ante natal visits of the mothers

Majority of the mothers had regular ante natal checkups. The major risk factor for still birth was prematurity and majority of the still born babies were less than 34 weeks of age.

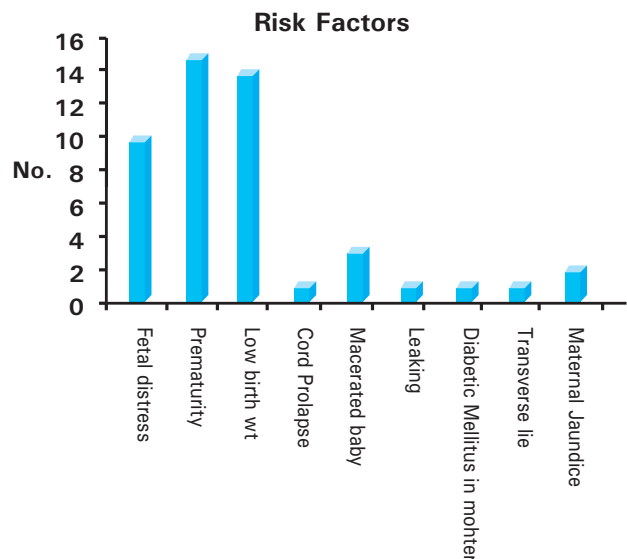


Figure 2. Risk factors associated with still birth

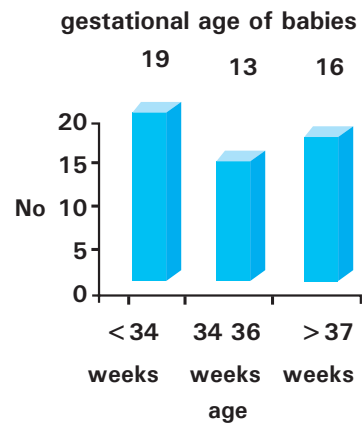


Figure 3. Gestational age of the still born babies

DISCUSSION

Stillbirth is an indicator of access to and quality of antenatal and delivery care and therefore, is becoming increasingly important.⁵ The higher stillbirth rates were shown among lower socio-economic groups of populations in both developing and more developed part of the world.⁶

WHO produced the first global estimates of perinatal mortality by region for 1983 AD and again by country for 1995 AD, but neither report gave stillbirth rates at national or regional levels. For the first time, World health report, 2005, included stillbirth rates for some countries and gave a global total of 3.3 million. Sources and methods are yet not available.⁸

Global statistics groups and WHO are actively promoting a systematic and transparent approach to global estimates with "well documented, preferably peer reviewed, and

published methods for estimation".⁹ Four steps are recommended –accessible databases, transparent methods, an independent advisory groups, and overall consistency through clearance procedures.¹⁰ The stillbirth rate in this study appeared to be 13.3/1000 births, which is less than our national stillbirth rate, 40/1000 birth.⁴ This rate is also less than 39 for India, and 24 for Pakistan.⁴ But our rate is much higher than the rate in some developed countries like Australia (6.4) and Canada (6.9).⁴ It is also higher than the data presented by some developing countries, like Malaysia (12/1000 births) and China (13).⁴

Present study showed severe prematurity (40%) as major cause of stillbirth. The other causes of still birth shown in this study were birth asphyxia (20%), maternal diseases (4.6%), cord prolapse (2%) and congenital abnormalities (6%). Imtiaz Jehan et al in their study found commonly associated factors with still birth were antepartum hemorrhage (23%), intrapartum asphyxia (23%) and spontaneous preterm labor (18%), followed by maternal disease (8%). Seven intrauterine fetal deaths (18%) were classified as unexplained as these occurred at term, were without a congenital anomaly, were mostly macerated and no cause could be determined.¹¹

Study from Pakistan showed, the Still birth rate was higher in the rural population (165/1000) and unbooked cases (176/1000) as compared to urban population (92/1000) and booked cases (37/1000). The difference in either case was statistically significant. Most stillbirths (75.7%) were fresh and in 86.5% cases the fetus was dead at the time of admission. There was a preponderance of males (55.5%). Only 34.2% of the stillbirths weighed 2.5 kg or less. In 54 cases no definite etiological factor could be identified. The most prominent factors were abnormal labor (23%), antepartum hemorrhage (17%), and malpresentations (16.5%). There were 172 (39.6%) cases in which the cause of stillbirth could be attributed to the mother. Of these, 27 (6.2%) were due to toxemia, 32 (7.4%) due to rupture of the uterus, 13 (3%) due to maternal diseases, and 100 (23%) due to obstructed labor.¹²

Shrestha M et al in his study classified causes of still birth into two groups Maternal causes (intrapartum) and fetal factors. Antepartum hemorrhage, obstructed labor, severe pre-eclampsia were the major maternal causes of stillbirth and congenital abnormalities, cord prolapses were major fetal causes of still birth.¹³

This study showed, 40% of stillbirth babies were less than 34 weeks of gestational age, 27% babies were in-between 34-36 weeks gestational age and 33% babies were of term size. Study from Pakistan showed, fifty-one percent of stillbirths occurred at 37 weeks of gestation

or later and 19% occurred in between 34-36 weeks of gestation.¹¹ These data totally differ with our data, as majority of stillbirth occurred in our study at less than 34 weeks of gestational age.

Study showed 70% stillbirth was associated with spontaneous vaginal delivery and 18% with Caesarean section. Increased stillbirth rates were associated with lower skilled care providers, delivery out-of-hospital, and low cesarean section rates. Feresu SA et al in his article described stillbirths were less likely to be delivered by Cesarean section and more likely to be delivered as breech.⁷ Lawn et al noted that appropriate cesarean section should prevent many of the fetuses with these characteristics from dying during labor, and further suggest that many of these deaths could be avoided with improved obstetric care and more rapid response to obstetric complications.³

This study showed 48% stillbirth babies had birth weight more than 2 kgs. Elizabeth M McClure et al found mean birth weight for the stillbirths was 2221 g \pm 744gms, but the mean birth weight for live births was 2918 \pm 520 (p-'3d0.001). Nearly sixty four percent (63.6%) of the stillbirths were \geq 3d2000gm.¹⁴

This study found congenital anomalies in 4% of the births. Imtiaz Jehan et al in their study also found congenital anomalies in 4% cases.⁷

Seventy percent women in the study had attended ANC in this hospital, twenty five percent have attended ANC some other place and five percent ladies had not had ANC. Imtiaz Jehan et al in their study found at least one prenatal care visit in ninety-five percent of all women; 72% of the live births received more than four visits compared to 69% of women with a stillbirth. They also found high rate of stillbirth even when 96% of the women received prenatal care.¹¹ Lack of ANC may be associated with increased rate of still birth.¹⁵

CONCLUSIONS

Stillbirth rate in our study is higher than the developed countries. But this rate is much less than our national rate and the rate of some developing countries. Prematurity and low birth weights were major risk factors associated with the still birth and regular ANC did not prevent still birth.

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REFERENCES

1. Goldenberg RL, Thompson C. The infectious origins of still birth. *Am J Obstet Gynaecol*. 2003;189(3):861-73.
2. Lawn JE, Cousens S, Zupan J, Lancet Neonatal Survival Steering Team. 4 million neonatal deaths: When? Where? Why? *Lancet*. 2005;365(9462):891-900.
3. Lawn JE, Shibuya K, Stein C. No cry at birth: global estimates of intrapartum stillbirth and intrapartum-related neonatal deaths. *Bull World Health Organ*. 2005;83:409-17.
4. McClure EM, Nalubamba-Phiri M, Goldenberg RL. Stillbirth in developing countries. *Int J Gynaecol Obstet*. 2006;94:82-90.
5. Say L, Donner A, et al. The prevalence of stillbirths: a systematic review. *Reprod Health*. 2006 Jan 10;3:1.
6. World Health Organization. Neonatal and perinatal mortality: Country, regional and global estimates. Geneva: WHO press; 2006.
7. Feresu SA, Harlow SD, Welch K, Gillespie BW. Incidence of stillbirth and perinatal mortality and their associated factors among women delivering at Harare Maternity Hospital, Zimbabwe: a cross sectional retrospective analysis. *BMC Pregnancy childbirth*. 2005 May5;5(1):9.
8. WHO. Make every mother and child count. Geneva, Switzerland: WHO; 2005.
9. Shibuya K, Scheele S, Boerma T. Health statistics time to get serious. *Bull World health organ*. 2005;83:722.
10. Lauria L, De Stavola BL. A district-based analysis of stillbirth and infant mortality rates in Italy: 1989-93. *Pediatric Perinat Epidemiol*. 2003;17:22-32.
11. Jehan I, McClure EM et al. Stillbirths in an urban community in Pakistan. *Am J Obstet Gynaecol*. 2007 Sep;197(3):257.e1-8.
12. Rehan N. Still births in a Hausa community. *J Pak Med Assoc*. 1982 Jul;32(7):156-62.
13. Shrestha M, Manandhar DS, Dhakal S, Nepal N. Two year audit of Perinatal mortality at Kathmandu Medical College Teaching Hospital. *KUMJ*. 2006;4(2):176-81.
14. Elizabeth MM, Linda LW, et al. A Prospective Study of Stillbirths in Developing Countries. *American Journal of Obstetrics and Gynecology*. 2007;197(3):247.e1-e5.
15. Weiner R, Ronsman C, et al. Labor complications remain the most important risk factor for perinatal mortality in rural Kenya. *Bull World Health Organ*. 2003;81:7.