



Original Research Article

A study delineating and assessing the risk factors of still birth at a tertiary care centre –An insight to improve future vision!

Authors

Dr Surendra^{*1}, Dr Santosh Khajotia²

^{1*}Third year post graduate Resident Doctor, Dept. of Obstetrics and Gynaecology, S.P. Medical College, Bikaner, Rajasthan

²Professor and Unit head, Dept. of Obstetrics and Gynaecology, S.P. Medical College, Bikaner, Rajasthan

*Corresponding author

Dr Surendra

Introduction

Developing countries represent 98% of estimated 3.3 million stillbirths, which occur annually. While many developed countries have stillbirth rates as low as 3–5 per thousand births, most developing countries have rates that are ten-fold higher¹. Reductions in stillbirth rates in developed countries are primarily due to the reductions in intrapartum stillbirth rates. Increased access to obstetric services -including better intrapartum fetal-monitoring - and to cesarean sections appear to be associated with these decrease in stillbirth.

In developing countries, the causes of stillbirth, generally similar across regions, include maternal infection, fetal asphyxia, trauma, congenital abnormalities, feto-maternal hemorrhage², and a variety of medical conditions of the mother. Because there is no standard international system for defining stillbirth, comparisons over time and between geographic areas is problematic and, even using the available classification systems, the cause of most stillbirths remains unknown.

Still birth is an unacceptable event for expecting mother as well as obstetrician. Both the woman

and obstetrician become desperate to know the cause of IUFD and means to prevent it in future.

The birth of a newborn after 28 completed weeks of gestation weighing 1000 gm or more, with baby showing no signs of life after delivery defines late fetal death while birth of a newborn after 22 to 28 completed weeks of gestation with baby weighing 500- 1000 gm with no signs of life after delivery defines early fetal death³. It includes both antepartum and intrapartum death. Stillbirth are the largest contributor to perinatal mortality. Of the estimated 3 million⁴ stillbirths which occur yearly, the vast majority are in developing countries, with rates in many developing countries 10 fold higher. Despite the large no. of stillbirths worldwide, it has received very little research, programmatic or policy attention. It is emotionally upsetting to parents who are now anxious about the chances of having a pregnancy to carry through successfully in the next confinement^{5,6}. The study is an endeavour to assess and analyse the causes of stillbirth at a tertiary care centre.

Methodology

It is a retrospective observational study conducted in dept. of obstetrics and gynaecology, S.P. Medical College, Bikaner from July 2018 to December 2018. A total of 9271 deliveries were included in this time period. The aim of the present study was to evaluate stillbirth with respect to prevalence, aetiological factors and associated risk factors for stillbirth. A written informed consent was obtained from all patients. For those who could not read or write, the participant information sheet and consent form were explained by trained interviewer and a thumb impression was obtained.

Objectives

1. To find out prevalence of still birth at our centre.
2. To identify etiological and high risk factors for still birth.

Inclusion criteria

1. All non viable fetus > 20 weeks or

2. Fetus Weighing > 500 gm with APGAR score 0 at 1 min and 5 min.

Exclusion criteria

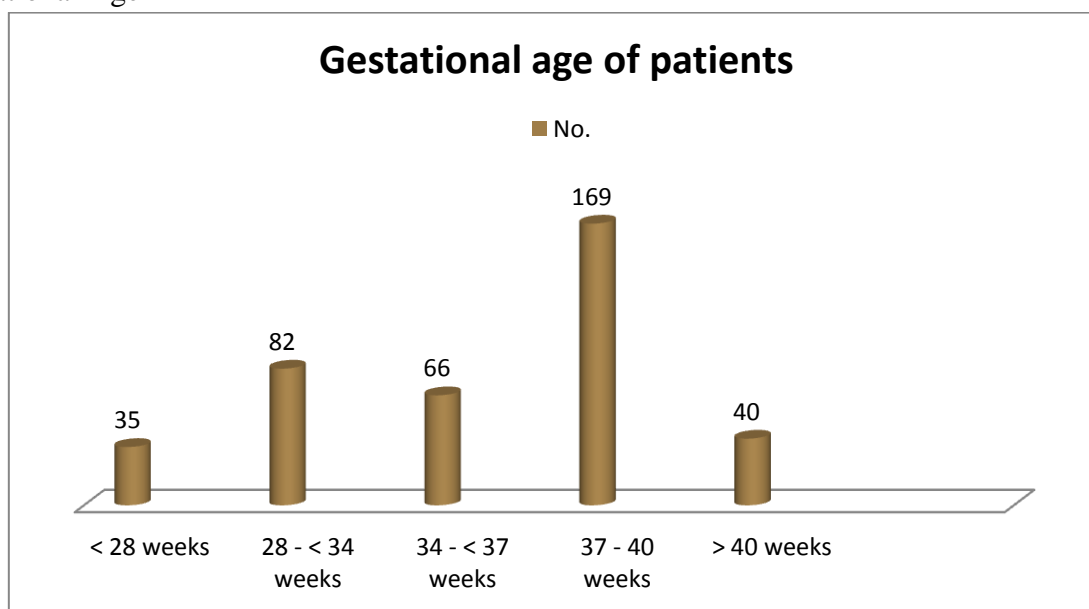
1. Patients who delivered at home or at some other hospital and referred post delivery not included in this study.
2. Refusal of consent for participation in the study.

Data were recorded in a standard proforma. Key variables such as age, parity, duration of gestation, physical examination, mode of delivery, antepartum high risk, complications and intra partum events were recorded. Stringent quality assurance measures were followed at time of data handling so as to ensure completeness, accuracy and reliability of data. Statistical analysis was done using SPSS system software.

Results

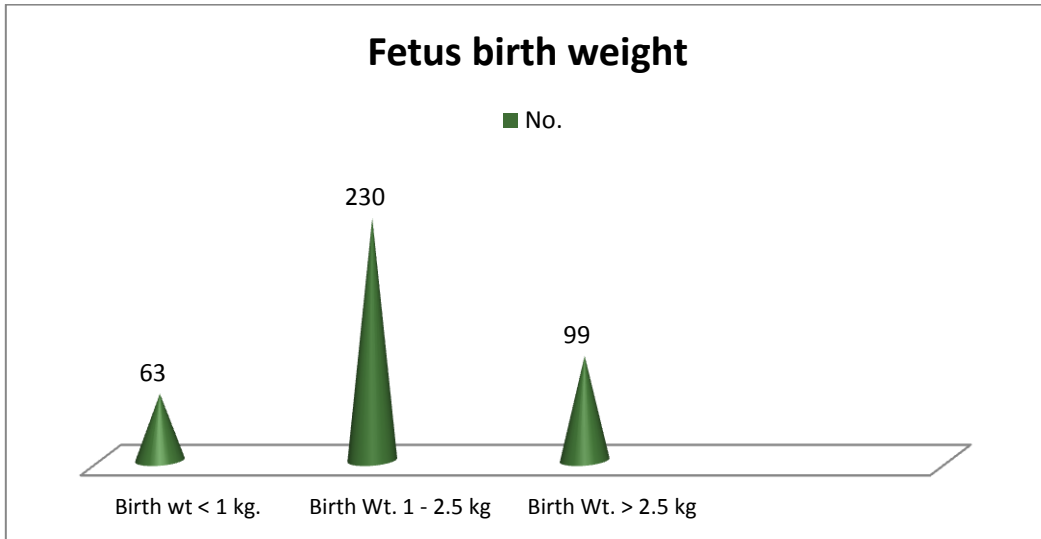
A total of 9271 deliveries were included in 6 months study period out of which 392 still births were recorded in study.

Graph 1 Gestational Age

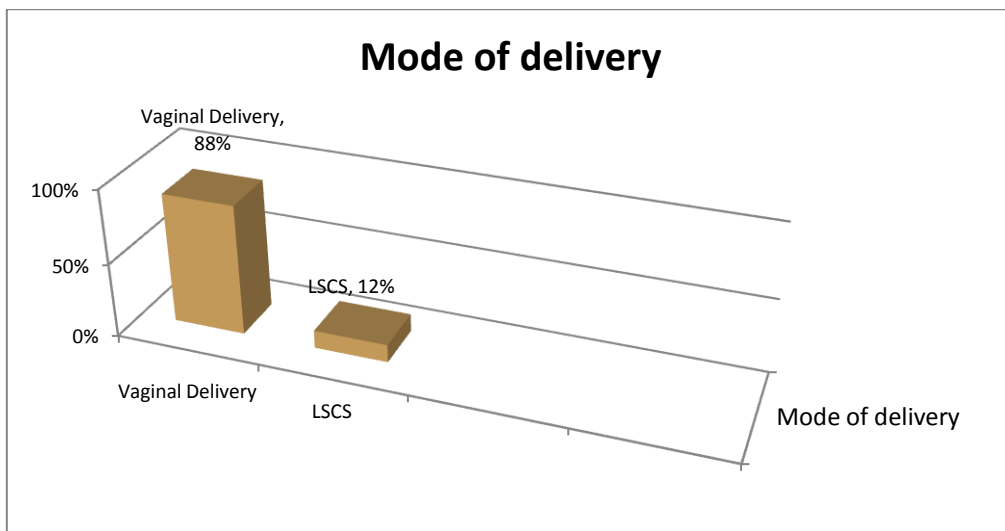
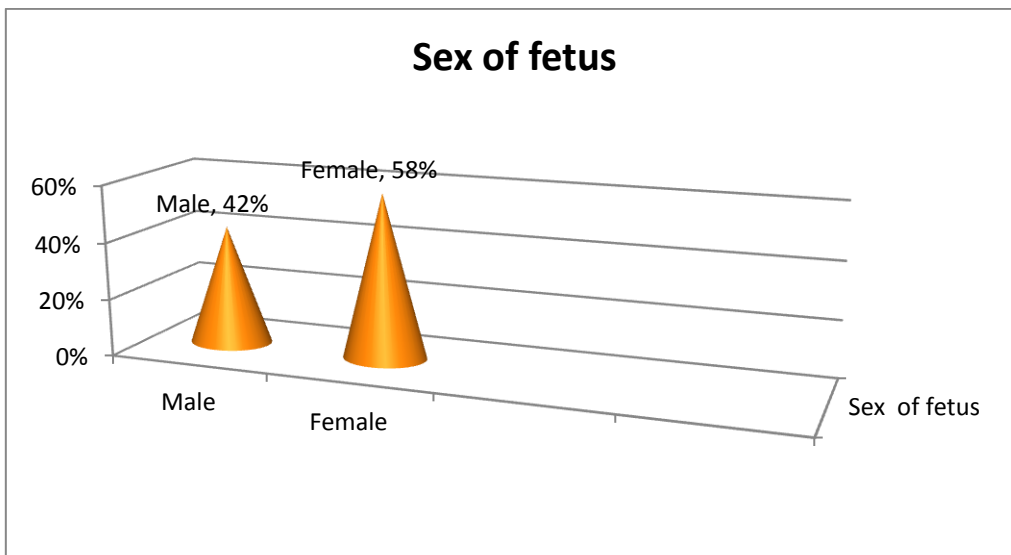


Gestational age of patient	No. of patients
<28 weeks	35
28 to <34 weeks	82
34 to <37 weeks	66
37 to 40 weeks	169
>40 weeks	40

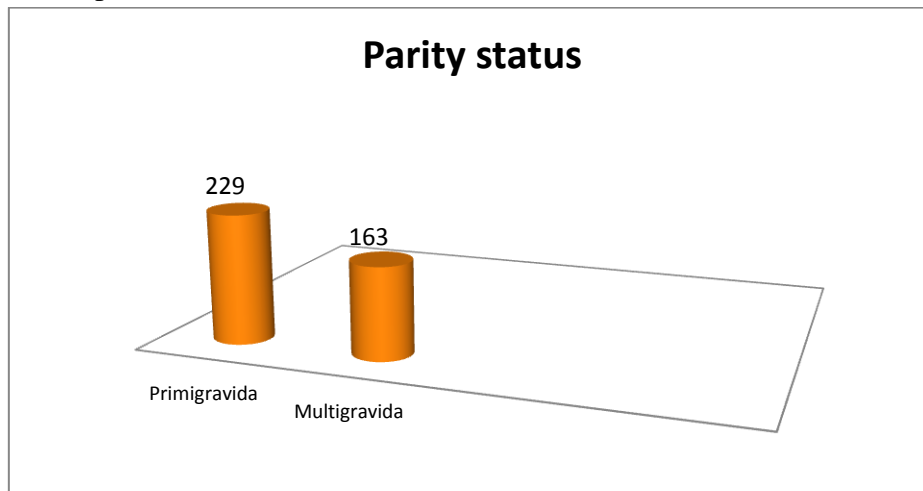
Graph 2 Fetal characteristics



Fetal birth weight	No.
< 1 Kg	63
to 2.5 Kg	230
>2.5 Kg	99

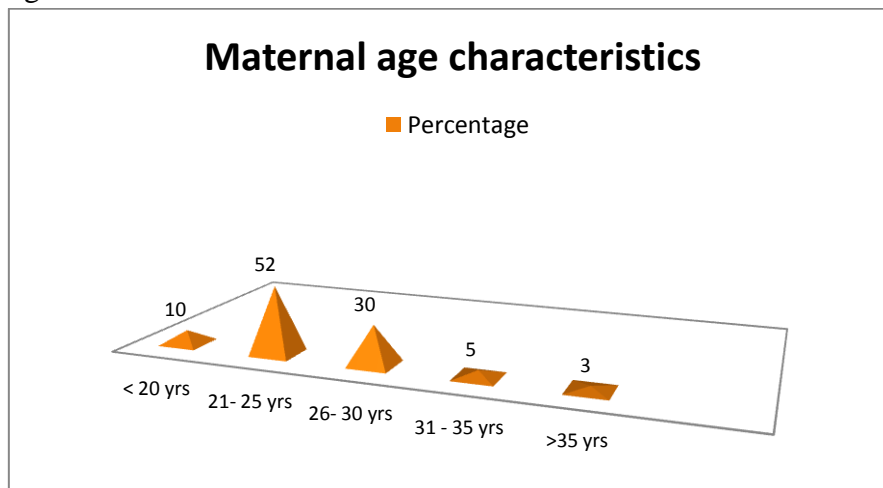


Graph 3 Parity status of patients

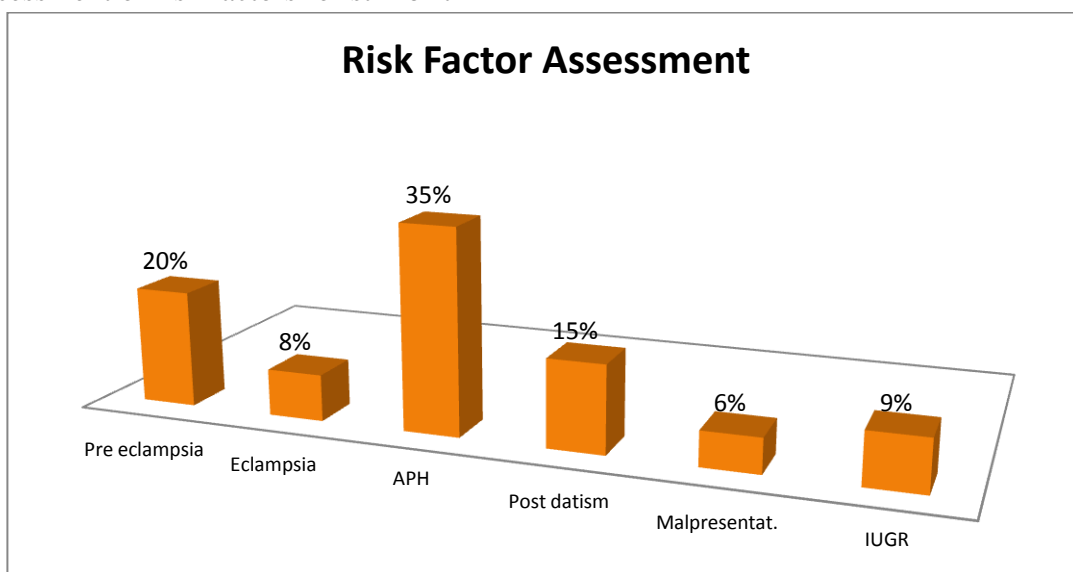


Parity status	No. of patients
Primigravida	229
Multigravida	163

Graph 4 Maternal Age



Graph 5 Assessment of risk factors for still birth



Factor responsible	Percentage
Pre eclampsia	20%
Eclampsia	8%
APH	35%
Post datism	15%
Malpresentation	6%
IUGR	9%
Severe Anaemia	4%
Fetal anomaly	2%
Oligohydramnios	1%

Discussion

Stillbirth is an important indicator of maternal health status and availability of health care delivery system. Our study shows that there are several risk factors for stillbirth that can be ascertained from the outset of pregnancy.

In the present study prevalence of stillbirth was found to be 4.2 %. This high rate is attributable to the fact that this hospital is functioning as the alone referral hospital for a large area and also because all high risk cases are referred to this hospital.

The highest no. of cases was in age group of 21-25 yrs supported by study conducted by McClure et al². Pregnant woman of advanced age group is not common in India especially rural area.

Majority of patients were primigravida i.e. 54%, while it was 39% and 34% reported by Zupan et al³ and Lawn et al⁴. First, third, and higher order pregnancies were significantly associated with stillbirth as were pregnancies in African, African-Caribbean. History of pre eclampsia and postdatism in present pregnancy is associated with an increased risk of stillbirth in our study which was also supported by Zupan et al³.

Most common risk factor was APH (35%) in our study while it was found to be 4 % in study conducted by Singh et al¹⁰ and 32 % in study conducted by Avachat et al¹¹.

In the present study Incidence of congenital malformation was found to be 2 % as compared to 11% and 32% in studies conducted by Goldenberg and Stoll et al^{5,6}. An anomaly scan can significantly contribute to reduce stillbirth rate.

Social factors with significant associations included deprivation and unemployment of the mother or her partner. Pregnancies in which the

parents with blood relations were not at significantly increased risk. Active as well as passive smoking, lack of antenatal folic acid, and booking after 13 weeks were all associated with an increased risk of stillbirth. A history of mental health problems and diabetes increased the risk of stillbirth. In the current pregnancy, pre-eclampsia and antepartum haemorrhage were strongly associated, whereas gestational diabetes was not⁸.

Preterm still birth rate was maximum in 28 – 37 weeks of gestation while the incidence of pre maturity as still birth rate was found to be 44 % in study conducted by Cnattingius et al⁷.

Severe anaemia was found in 4% cases as a risk factor for still birth while it was found to be 11 % and 15 % cases in studies done by Phelan and Chi et al^{8,9}.

Postdatism was found as a risk factor in 15 % cases therefore, early referral and timely intervention during antenatal care could have prevented stillbirth in these cases.

Our findings suggest that early detection of fetal growth problems can substantially reduce the risk of stillbirth, and needs to become a cornerstone and key indicator of safety and effectiveness in antenatal care.

Conclusion

Pregnancy complications or maternal disorders were found to be most commonly associated risk factors of stillbirth. Majority of women were from rural background and belonged to lower socio economic section of society. These maternal disorders can be detected early and properly managed through regular antenatal care services.

So, the issue of availability and accessibility of adequate antenatal care for the illiterate and socioeconomically weaker section of society need to be addressed for decreasing stillbirth rate.

References

1. Stanton C, Lawn JE, Rahman HZ, Wilczynska-Ketende K, Hill K. Stillbirth rates: delivering estimates in 190

- countries. Lancet.2006;367(9521):1487–94.
2. McClure EM, Phiri M, Goldenberg RL. Stillbirth in developing countries: a review of the literature. Int J Gynaecol Obstet. 2006;94(2):82–90.
 3. Zupan J. Perinatal mortality in developing countries. N Engl J Med. 2005;352(20):2047–8.
 4. Lawn J, Shibuya K, Stein C. No cry at birth: global estimates of intrapartum stillbirths and intrapartum-related neonatal deaths. Bull World Health Organ. 2005;83(6):409–17.
 5. Goldenberg RL, McClure EM, Bann CM. The relationship of intrapartum and antepartum stillbirth rates to measures of obstetric care in developed and developing countries. Acta Obstet Gynecol Scand. 2007;86(11):1303–9.
 6. Stoll BJ. Reducing fetal mortality. In: Bale JR, Stoll BJ, Lucas AO, editors. Improving Birth Outcomes. National Academies Press; Washington, DC: 2003. pp. 135–62.
 7. Cnattingius S, Stephansson O. The epidemiology of stillbirth. Semin Perinatol. 2002;26:25–30.
 8. Phelan ST, Goldenberg RL, Alexander G, Cliver SP. Perinatal mortality and its relationship to the reporting of low-birthweight infants. Am J Public Health. 1998;88:1236–9.
 9. Chi BH, Wang L, Read JS, Taha TE, Sinkala M, Brown ER, Valentine M, Martinson F, Goldenberg RL. Predictors of stillbirth in sub-saharan Africa. Obstet Gynecol. 2007;110(5):989–97.
 10. Singh A, Kumar Manish. An analysis of cause of stillbirth in a tertiary care hospital of Delhi: A contribution to the WHO SEARO project. The journal of Obstetrics & Gynaecology of India 2018; 1161-1.
 11. Avachat SS, Phalke DB, Phalke VD. Risk factors associated with stillbirths in the rural area of Western Maharashtra, India. Arch Med Health Sci 2015;3:56-9.