



ORIGINAL RESEARCH PAPER

Gynaecology

EPIDEMIOLOGY AND RISK FACTORS OF STILLBIRTHS IN CENTRAL INDIA

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Kshama Vishwakarma	Assistant Professor, Department of Obstetrics And Gynecology, Gandhi Memorial Hospital and Shyam Shah Medical College, APS University, Rewa-486001, Madhya Pradesh, India
Saurabh Kumar Patel*	Assistant Professor, Department of Pediatrics, Gandhi Memorial Hospital and Shyam Shah Medical College, APS University, Rewa-486001, Madhya Pradesh, India*Corresponding Author
Dr. Kalpana Yadav	Professor, Department of Obstetrics And Gynecology, Gandhi Memorial Hospital and Shyam Shah Medical College, APS University, Rewa-486001, Madhya Pradesh, India

ABSTRACT

In the present retrospective study, an attempt has been done to identify the epidemiology and risk factors associated with stillbirths in Central India. Data required for the study was collected over a period of 1 year from January 2014 to December 2014, from Shyam Shah Medical College, Rewa, Madhya Pradesh. Data such as sex of the inborn, type of delivery along with various Antenatal factors were studied. Results from the study indicate that majority of the risk factors are preventable and close monitoring and weekly follow up in last trimester may be beneficial in preventing risk factors.

1.0 INTRODUCTION

Intrauterine fetal demise is the clinical term for the death of a baby in the uterus, during pregnancy and before birth. The definition of stillbirth varies between countries and over time, but generally refers to the death of a fetus in the later stages of pregnancy (cut-offs varying from 20 to 28 weeks gestation). Worldwide, around 2.6 million stillbirths occurred in 2009, according to the first comprehensive set of estimates.(1,2)

World Health Organization (WHO) defines Intra uterine death (IUD) or still birth as deaths beyond 20 weeks of gestation or birth weight > 500gm. Although improved antenatal care, advanced techniques of perinatal diagnosis and better intrapartum monitoring has reduced the incidence of Stillbirths, still it is significant contributor to perinatal mortality in developing countries. Intra uterine and intra-partum fetal deaths together constitute a large portion of perinatal mortality, which in a society is the direct indicator of the quality of antenatal care in the country. Ante-partum fetal death contributes to about two thirds of prenatal mortality (3). The developing countries in Asia and sub Saharan Africa together constitute 70% of the world's stillbirth burden (4). Lack of prenatal care, inaccessible or limited health care facility is the major factor responsible for high peri-natal deaths in these regions. Many times these mortalities are due to causes which can be prevented. In order to have a decrease of the antepartum fetal mortality rate in a population, it is necessary to know the etiology of fetal death and risk factors associated with it. The present work has been carried out with the aim of identifying epidemiology of intrauterine deaths and its risk factors and to streamline the preventive and management protocols.

2.0 Material and Method

All registered cases of still births were studied retrospectively over a period of 1 year from January 2014 to December 2014, in the department of obstetrics and gynecology Sanjay Gandhi Memorial Hospital and Shyam Shah Medical College, Rewa (M.P). Criteria for diagnosis were absent fetal heart sounds and an ultrasonographic confirmation. Socio-demographic factors, laboratory investigations and clinical parameters were noted.

3.1 RESULT:

Total number of deliveries during this period was 9238. Among this, total number of still births including both ante and intra partum deaths were 263 (Among 256 pregnancy including 8 twin delivery, of which one survived). Women aged between 20 to 25 years had maximum cases of still births (57.03%) followed by age group 25 to 30 years. Majority of women were primipara (48.8%).

Among the still births, male sex was found to be higher (56.65%) as compared to female sex (43.34%). It was observed that majority of still births (N=183, 69.58%) were from 37 to 40 weeks whereas preterm and postdated intra-uterine deaths accounted for 28.13% (N = 74) and 2.28% (N=6) of total still births respectively. Out of 256 pregnancies, 186 (72.66%) delivered vaginally, 64 (25%) underwent LSCS (lower segment cesarean section) and only 6 needed forceps or other kind of instrument.

Antenatal factors were responsible for most (59.37%) of the cases where as intra partum factors for only 7.03%, and 41.40% cases remained unexplained. Among antepartum factor fetal factors (35.54%) were responsible for most of the cases followed by maternal (14.84%) and placental factors (11.32%). Among maternal factors severe anemia (7.8%) and hypertensive disorders (6.64%) accounted for most of the cases and only one case of gestational diabetes mellitus was present. Abnormal presentation was found to be responsible for the death of 19.53%babies, 4.29% fetuses had congenital anomalies. Among placental complications placenta previa (2.73) accounted for maximum number of cases. Among Intrapartum complications maximum numbers of patients had obstructed labour (2.73%), rest other factors are detailed in table⁶.

3.2 DISCUSSION:

The incidence of still birth in our study was found to be 28.46%, Shaaban et al in their study from Saudi Arabia found it to be 10.1% (5) and it vary by country from 2% to 40% per 1000 live birth.(A) Majority of the women in our study was in the age group of 20 - 30 years, this is in accordance with the Shaaban et al (5) whereas others found advanced maternal age to be associated with it.(6,7) Nearly half of the women were primipara (48.82%), and only 5.46% were grand multipara, whereas study from Nepal found increasing parity to be associated with it.(7) Among still births fetuses, male sex was found to be higher (56.65%) as compared to female sex (43.34%), Debapriya et al in their meta analysis also found increased risk of still birth in male by about 10%.(8) Among all still births 72.66% were delivered vaginally and 25% underwent LSCS. Di Stefano et al found cesarean delivery rate in still birth to be only 10.5%.(9) In our study, cause of still birth was identified in 66.40% fetuses and in 41.40% it remained unexplained. We found severe anemia (7.8%) and hypertensive disorders (6.64%) to common causes among ante partum factors. Congenital malformation was found in 4.29%, Preterm rupture of membrane in 3.51, Rh negative pregnancy in 1.95%, Placenta previa in 2.73%, Antepartum hemorrhage in 1.56%, Intruterine growth restriction in 2.34%. Other also found hypertensive

disorders, abruption placenta and IUGR to associated with increased risk. (7,10). Shabaan et al found chromosomal abnormality in 5.7% of cases.(5) Froen et al work showed 52% of unexplained stillbirths were growth restricted (11).

Abnormal presentation was associated with 19.53% cases of still birth. The abnormal fetal presentation may be due to maternal or placental factors also. This abnormal presentation during last month / stage of pregnancy may predispose to many other intra partum factors. It was noticed that most of our fetuses were lost at 37 to 40 weeks. Intrapartum fetal death accounted for 7.03% of fetal deaths, which include obstructed labour, scar dehiscence and ruptured uterus and all these are mostly present at or near term. Therefore there is need of closed surveillance and more care during last months of pregnancy.

Inspite of our effort 41.40% of still birth remain unexplained. Shaaban et al (5) and Chibber et al (12) could not found any risk factor in 28% and 27.2% of cases respectively. This large difference in comparison to other studies showed that there is more extensive need of workup to look for causes of still births. Chibber et al (12) found that primiparity, parity of 5 or more and extreme of maternal age are independent risk factors for unexplained deaths.

4.0 CONCLUSION:

The incidence of still birth in our country is still high in spite of increase in institutional deliveries and improved health care. Male fetuses are more vulnerable to still birth. Although most of risk factors responsible for still birth are known and potentially modifiable more than 40% cases remain unexplained. There is need of close surveillance during last months of pregnancy, so we recommend at least weekly follow up in last trimester; and early admission.

Table 1 Distribution of Stillbirths according to maternal age

Age (Years)	Number (N)	Percentage (%)
< 20	24	9.37
20-25	146	57.03
25-30	61	23.82
30-35	22	8.59
> 35	3	1.17
Total	256	

Table 2 Distribution of Stillbirths according to Parity

Parity	Number (N)	Percentage (%)
P1	125	48.82
P2	56	21.87
P3	49	19.14
P4	12	4.68
P5 and above	14	5.46
Total	256	

Table 3 Distribution of Stillbirths according to Fetal Sex

Fetal Sex	Number (N)	Percentage (%)
Male	149	56.65
Female	114	43.34
Total	263	

Table 4 Distribution of Stillbirths according Gestational Age

Gestational Age	Number (N)	Percentage (%)
Preterm (< 37 week)	183	69.58
Term (37 – 40 weeks)	74	28.13
Post term (> 40 weeks)	6	2.28
Total	263	

Table 5 Distribution of Stillbirths according to Mode of Delivery

Mode of Delivery	Number (N)	Percentage (%)
Vaginal	186	72.65
LSCS	64	25
Instrumental	6	2.34
	256	

Table 6 Distribution of Stillbirths according to risk factors

I. Antenatal Factors (N=152) 59.37%			
Maternal N=38 (14.84%)	Hypertensive disorder of pregnancy	17	6.64
	Gestational Diabetes Mellitus	1	.39
	Severe Anemia	20	7.8
Fetal Factors N=91 (35.54%)	Congenital Malformation	11	4.29
	Preterm rupture of membrane	9	3.51
	Rh Negative Pregnancy	5	1.95
	Twin Pregnancy	8	3.12
	Abnormal Presentation	50	19.53
	Meconium Stained Liquor	8	3.12
Placental Complication N=29 (11.32%)	Placenta Previa	7	2.73
	Antepartum Haemorrhage	4	1.56
	Intra Uterine Growth Restriction (IUGR)	6	2.34
	Postdated	6	2.34
	Cord Prolapse	6	2.34
II. Intrapartum (N=18) 7.03%			
N=18	Obstructed Labour	7	2.73
	Ruptured Uterus	5	1.9
	Scar Dehiscence	6	2.34
III. Unexplained (N=106) 41.40%			

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