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Original Research Article

Ante Partum Fetal Death in Tribal Population of South Rajasthan: Clinical Study of Maternal and Fetal Causes and Prevention

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Abstract

India is estimated to have the largest numbers of stillbirths globally, and the Indian government has adopted a target of <10 stillbirths per 1,000 births by 2030 through the India Newborn Action Plan (INAP) [1]. This study was conducted to analyze the maternal and fetal etiologies of intrauterine fetal death and to suggest preventive steps. 4800 patients with 25 ante partum deaths (5.20 per 1000 births) were studied in last four years. 56% were unbooked, 80% were illiterate and 60% were from very low socio economic status.16% had pre eclamptic toxemia, 12% had abruption placente, 8% had congenital anomaly in fetus and 4% mothers had anemia. Most of the etiological factors are manageable with regular ante natal care and timely treatment at tertiary care centre.

Keywords: Still birth, Intra uterine death, Ante partum death, Intra partum death, Maternal causes of fetal death, Fetal defects.

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INTRODUCTION

A stillbirth was defined as a fetal death with a gestation period of ≥28 weeks wherein the fetus did not show any sign of life [2]. Stillbirths are reducing across India, but there are still too many [3]. The stillbirth incidence in India (2015) was 21.2 per 1,000 births, with it being higher in the rural areas [4]. Possible underlying risk factors for stillbirth include infections like malaria syphilis, eclampsia (convulsions), high blood pressure, severe anemia, or diabetes during the last 3 months of pregnancy, or fever during labor, congenital anomaly of the fetus, obstructive delivery (breech position of the baby, cord delivered first, or cord entangled around the baby's neck), and excessive bleeding during delivery, accidental hemorrhage, ante partum hemorrhage [5]. 54.5%were considered as ante partum and 37.9% as intrapartum deaths, and the rest (7.6%) could not be classified [6]. Intrapartum death rates are frequently used as an indicator of quality of care, as most intrapartum stillbirths are associated with potentially preventable complications that arise during labor [7]. Breech position and the cord becoming entangled around the baby's neck made up most of the obstetrics complications that resulted in a stillbirth [8]. Most stillbirths are ante partum deaths. Adequate antenatal care is an effective intervention to reduce stillbirths by preventing, identifying, or treating pregnancies with likely adverse outcomes due to infections, maternal conditions such as hypertension and diabetes, and malnutrition Syphilis, malaria, and other infections, placental conditions, congenital anomalies, and pregnancy-induced hypertension [9]. Other factors include environmental factors, such as drinking and smoking; and social determinants, including poverty, transportation and general living conditions [10].

MATERIALS AND METHODS

This study has been conducted to analyze the maternal and fetal etiologies of intrauterine fetal death and to suggest preventive measures. Study has been carried out at PACIFIC INSTITUTE OF MEDICAL SCIENCES UMARDA UDAIPUR RAJASTHAN. Period of study has been May 2015 to Feb 2019. This is prospective study. Complete maternal history was taken and physical examination was done. Fetus, liquor, Placenta and cord were examined in detail. Analysis was done and stillbirths classified using Re Co De classification system. Maternal and factors intra partum factors were recorded. Maternal age, parity, education, socio-economic status, period of gestation and type of delivery were included. Pre-existing maternal disease, anemia, hypertension, heart disease and liver disease were recorded. Maternal weight at first visit, maternal

height, total ante natal visits, obstetric complications, drug and medication use, tobacco use were recorded. Maternal symptoms, amenorrhea, swelling feet, weakness, headache, bleeding or discharge per vagina were recorded. Physical findings, anemia, swelling feet and body, BP more than 130/ 90 mm of hg, twins, and mal presentations were recorded. Laboratory studies, hemoglobin, leukocyte count, blood sugar, urea, creatinine, liver enzymes, urine albumin and sugar were recorded. Imaging studies, gestational age, ultrasonography, Placental localization, cervical length, twins, congenital defects presentation and positions were noted. Fluid balance, tocolytic use and type, evidence of pre-eclampsia, infection, premature rupture of membranes, pre term labor and therapeutic measures type of delivery normal or caesarean section were also recorded. Pregnancy outcomes included gestational age at delivery, birth weight, mode of delivery, signs of maceration and gross fetal abnormalities. Patients were counseled for post mortem after delivery but none of the patients were willing for the same.

Table-1: Showing examination of baby

baby	cord	Placenta and membranes	Amniotic fluid
Congenital malformation	prolapsed	weight	meconium
maceration	entanglement	meconeum	blood
anemia	hematoma	edema	volume
plethoric	Number of vessels	infarct	

OBSERVATIONS

Table-2: The etiological classification according to Re. Co. De system

Sn1	Group A fetus Congenital anomaly Hydrops fetalis Iugr	No 2 1 1	Percentage 8 4 4
2	Group B cord Prolapsed Entangled on body/neck	 1 2	 4 8
3	Group C placenta and membranes Abruption	 3	 12
4	Group D amniotic fluid Oligo hydramnios	 2	 8
5	Group E uterus Rupture obstruction	 2 2	 8 8
6	Group F mother Severe anemia Pre eclampsia Eclampsia Diabetes jaundice	 1 4 1 1 1	 4 16 4 4 4
7	Group G intrapartum asphyxia	1	4

Table-3: Maternal Age distribution in ante partum fetal death

S.No	Age in years	No of patients	percentage
1	Less than 20	14	56.00
2	20- 25	5	20
3	26-30	3	12
4	31-35	2	8
5	36 and more	1	4
		25	100

Table-4: Maternal Parity distribution in ante partum fetal death

S. No	Parity	Number	Percentage
1	0	13	52
2	1	4	16
3	2	3	12
4	3	1	4
5	4	2	8
6	5	2	8
		25	100

Table-5: Maternal ante natal care education socio economic status distribution in ante natal fetal death

S.No	Maternal antenatal visits	No of patients	percentage
1	nil	14	56
2	1-2	10	40
3	3 and more	1	4
Maternal education			
4	Less than class 5	20	80
5	Class 5 to class 10	5	20
6	More than class 10	nil	
Socio economic class			
7	Very low	15	60
8	low	10	40
9	high	nil	

RESULTS

4800 patients with 25 ante partum deaths (5.20 per 1000 births) were studied in last four years.

As per the etiological classification, 4(16%) mothers had pre eclampsia .3(12%) had premature separation of placenta or abruption. 2(8%) each had congenital anomaly, oligohydramnios, umbilical cord entangled, rupture uterus or obstructed labor.1 (4%) each had hydrops fetalis, intrauterine growth retardation or umbilical cord prolapse.1 (4%) mothers had severe anemia, eclampsia, diabetes or jaundice. 14 cases (56.00%) belonged to age group of less than 20 years, 5 (20%) were 20-25 years of age, 3 (12%) were 26 -30 years, 2(8%) were 31 -35 years and 1 (4%) was more than 36 years. 13(52%) cases were primigravida and para 0 . 4 (16%) cases were para1, 3(12%) were para 2, 1 (4%) were para 3, 2(8%) were para 4 , and 2 (8%) cases were para 5. 14(56%) were totally unbooked without single antenatal visit, 10(40%) had 1-2 visits and1 (4%) had regular antenatal visits 20(80%) were illiterate 5 (20%) were less than 10 standard 15(60%) were very low socio economic status, 10(40%) were of lowsocio economic status

DISCUSSION

The overall rate of stillbirth was found to be 10 per 1000 total births, but varied widely between the nine states ranging from 4.2 to 14.8 per 1000 total births [11]. The overall estimated Still Birth Rate in the present study was 5.20 per 1000 births, approximately one fourth that of the WHO estimated rate of 22 per 1000 total births. Possible explanation being under reporting and low institution delivery rate in the tribal population.

Maternal age showed the presence of a U shaped association with stillbirth. Many studies have shown advance maternal age to have more adverse pregnancy outcomes as compared to the younger and a Peak incidence was seen among the women 25–30 years of age with most of them being gravid two (46.43%) [12]. In the present study 56% mothers were of 20 years or less and 52% mothers were primigravidas.

Women in the most deprived groups were at highest risk. Socio economic factors play significant role [13]. In the present study 60% were very low socio economic strata and 80 % were illiterate. 56% were totally uncooked with not a single ante natal visit. Chewing tobacco is highlighted as a significant risk factor for stillbirth [14].

Pregnancy complications, including anemia, eclampsia, other hypertensive disorders, ante partum hemorrhage, intra partum hemorrhage [14]. Women who reported to have anemia during pregnancy had 35% higher odds of stillbirth compared with women who did not have anemia. A number of studies have shown that anemia during pregnancy is associated with increased risk of stillbirth, with 3.7–16 times higher odds of stillbirth associated with anemia among pregnant women [15]. Eclampsia was associated with almost twice the odds of stillbirth and other hypertensive disorders were associated with about 22% higher odds [16]. Women who had an ante partum or intrapartum hemorrhage had significantly higher odds

of stillbirth compared with women who did not have these complications [17].

In the present study 16% still births were due to pre eclampsia 12% had abruption and4% had severe anemia.

Abnormal fetal position, breech presentation and obstructed labor significantly increased the odds of stillbirth. The adjusted odds of stillbirth were 58% higher in women with abnormal fetal position, more than three times higher for women who had an obstructed labor and nearly three times higher for women who had a breech presentation compared with women who did not report these complications. There is association between obstructed labor and stillbirth [18]. Multiple pregnancies were associated with 77% higher odds of stillbirth compared with singleton. Pregnancies with a male fetus had 26% higher odds compared with a female fetus. Of stillbirth observed with multiple pregnancies compared with singleton pregnancies can be explained by the propensity of women with multiple pregnancies to have more complications [19]. 15% cases had major congenital anomaly like anencephaly, spina bifida, amorphous conjoined twin, hydrocephalus [20], in the present study 8% anomaly were reported.

CONCLUSION

It has been established that most of the causes can be taken care of by instituting appropriate measures at Right time. The importance of antenatal care, nutrition, counseling, early detection and medical help, timely referral. To tertiary care hospital, awareness among the patients, doctors and the society can be emphasized in reducing the Incidence of stillbirths.

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