



## Gynecology

## A RETROSPECTIVE ANALYSIS OF 236 STILLBIRTHS IN A TERTIARY CARE HOSPITAL

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**ABSTRACT** **BACKGROUND:** Maternal deaths, still births and neonatal deaths are indicators of quality of health care provided by the state to the pregnant women. In India though there has been substantial reduction in maternal and neonatal mortality, the reduction in still births has not been as sizable. It is time to look at the factors responsible for high still birth rates in developing country like India.

**MATERIAL & METHODS:** A retrospective study was conducted to determine the cause and rate of stillbirths in a tertiary care hospital.

**RESULTS:** A total of 236 stillbirths were recorded over a period of 3 years. The rate of still births was 25.46/1000 births. The leading cause of stillbirths was found to be pre-eclampsia (25%) followed by eclampsia and abruption (13.55%). Most of the cases were un-booked or referred to us from primary health centres and rural hospitals.

**CONCLUSION:** The study showed that incidence of intra-uterine deaths followed by still births is still quite high compared to developed countries. Most of these still births could have been prevented. The regular antenatal follow-up, early detection of the underlying pathology, good intrapartum monitoring are some of the simple remedies for prevention of still births.

**KEYWORDS :** Intra uterine fetal death, Still birth, Perinatal mortality, Pre-eclampsia, Abruptio-placenta, Diabetes with pregnancy

**INTRODUCTION:**

Stillbirth is an unfortunate and tragic event in the field of obstetrics. It is even more distressing if it occurs without any warning signs in a previously normal pregnancy. Although the causes of stillbirths are varied, the fetal salvage is possible in majority of cases with good ante natal care. With better understanding of various disorders effecting of pregnancy, modernisation and developments in medical science, there has been reduction in still birth rate around the world. However the rates continue to remain high in the developing countries. Perinatal mortality has more of stillbirths as compared to neonatal mortality. Due to the advances in the field of obstetrics and neonatology, the period of gestation or the gestational age of viability has gradually decreased from 28 weeks to the current 20 weeks.<sup>1</sup> The rate of stillbirths decreases with advancing gestational age. It is also observed that the rate of stillbirths is high in women with extremes of age<sup>2</sup>, high parity, associated medical disorders, smoking and socially backward class. In addition, poor economic status, illiteracy and superstition plays an important role in the higher rates of stillbirths. Several studies have reported non medical factors such as referral from peripheral health facilities, delay in receiving appropriate management, lack of skilled birth attendants and quality antenatal care as the commonest conditions that lead to stillbirth.<sup>2</sup> The still birth rates in developed countries are reported to be less than 10 per 1000 delivery. While the rates may be more than 40 per 1000 delivery in developing countries.<sup>3</sup>

Today with the decline in the maternal mortality ratio, the perinatal mortality has become a health care indicator of a society or a country. To keep this in mind this study was carried out to determine the cause and rate of stillbirth occurring in a tertiary care hospital.

**AIM & OBJECTIVE:**

This study was conducted determine the cause and rate of stillbirth occurring in a tertiary hospital and role of antenatal care in prevention of stillbirths.

**METHOD:**

A retrospective study was conducted at MGM medical college and hospital, a tertiary care referral centre in Navi Mumbai, Raigad, Maharashtra. The study analysed the records of still births from January 1, 2015 to December 31, 2017. The data was systematically collected from the hospital birth registers and case records of the patients. A data collection form was designed for the study. The data was tabulated and analysed as percentages. Precautions were taken to strictly maintain anonymity and confidentiality of the patient's personal information. The stillbirth was defined as death with gestational age  $\geq 20$  weeks or fetal weight  $\geq 500$ gm occurring before the complete expulsion or extraction from its mother.

**RESULT:**

Extremes of age have more incidences of stillbirths.

**TABLE 1: MATERNAL AGE STATISTICS**

MATERNAL AGE	2015		2016		2017		Total		Percentage	
	Stillbirth	Total deliveries	Stillbirth	Total deliveries	Stillbirth	Total deliveries	Stillbirth	Total deliveries	Stillbirth	Total deliveries
<20	6	366	5	468	7	507	18	1341	7.62	1.34
21 - 25	32	1111	40	1421	42	1536	114	4068	48.30	2.80
26 - 30	6	836	5	1067	7	1156	18	3059	7.62	0.58
>30	24	218	26	277	36	302	86	797	36.44	10.79

\*chi-square -274.4;  $p < 0.01$  (significantly more still births in age > 30 years)

Stillbirths are more common with higher parity women than in primigravida.

**TABLE 2: MATERNAL PARITY STATUS**

PARITY	2015		2016		2017		Total		Percentage	
	Stillbirth	Total deliveries	Stillbirth	Total deliveries	Stillbirth	Total deliveries	Stillbirth	Total deliveries	Stillbirth	Total deliveries
Primi	20	366	30	468	42	507	92	1341	38.98	1.34
Multi	48	1111	46	1421	50	1536	144	4068	61.01	2.80

\*chi-square -10.67;  $p < 0.01$  (significantly more still births in multi-para)

Most of the patients coming to our hospital were referred and were not booked with us.

More so, most of them were not booked at any other hospital as well.

**TABLE 3: STATISTICS WITH RESPECT TO BOOKING STATUS**

BOOKING STATUS	2015		2016		2017		Total		Percentage	
	Stillbirths	Total Deliveries	Stillbirths	Total Deliveries	Stillbirths	Total Deliveries	Stillbirths	Total Deliveries	Stillbirths	Total deliveries
Booked with us	4	1726	5	2206	5	2387	14	6319	0.59	0.22
Booked outside	28	759	32	970	41	1050	101	2779	42.79	3.63
Unbooked	36	46	39	59	46	64	121	169	51.27	71.59

\*chi-square -3398.1;  $p < 0.01$  (significantly high still births in cases booked outside and highest in unbooked cases)

Stillbirths are commonly seen in the gestational period of 28-34 weeks followed by 34-37 weeks. It's less common for term fetuses to be stillborn.

**TABLE 4: RATE OF STILLBIRTH ACCORDING TO THE GESTATIONAL AGE**

GESTATIONAL AGE	2015	2016	2017	TOTAL	Percentage
<28 weeks	16	13	19	48	20.33
28-34 weeks	20	28	34	82	34.74
34-37 weeks	16	22	24	62	26.27
37-40 weeks	11	10	10	31	13.13
>40 weeks	5	3	5	13	5.50

Most of the stillborn fetus were found to be <2 kgs.

**TABLE 5: BIRTH WEIGHT STATISTICS**

Birth weight	2015	2016	2017	Total	Percentage
<1kg	22	18	17	57	24.15
1kg-2kg	23	27	46	96	40.67
>2kg	23	31	29	83	35.16

**TABLE 8: CAUSE OF STILL BIRTH**

Cause	2015	2016	2017	Total	Percentage
Pre-eclampsia	15	17	27	59	25
Eclampsia	8	11	15	34	14.40
Abruptio	9	13	13	35	14.83
Unexplained	4	5	9	18	7.62
Congenital Anomalies	4	2	5	11	4.66
Placenta previa	3	3	2	7	2.96
Cord prolapse	1	0	1	2	0.84
Infections	4	6	4	14	5.93
Diabetes	9	11	10	30	12.71
Oligo	2	2	1	5	2.11
Rupture uterus	3	2	4	9	3.81
Prolonged/obstructed	3	1	0	4	1.69
Malpresentation	1	2	1	4	1.69
IUGR	2	1	0	3	1.27

#### DISCUSSION:

This study was conducted to evaluate the cause and rate of stillbirths in our hospital. All stillbirths fitting the criteria were taken in the study. A total of 9267 deliveries were recorded in the period of study i.e. 1<sup>st</sup> January 2015 to 31<sup>st</sup> December 2017. Out of these 236 were stillbirths, giving a rate of 25.46 per 1000 deliveries.

A total of 121(51.27%) patients were unbooked, 101(42.79%) patients were booked outside and mostly referred from primary health care centres. The group with maternal age 21-25 years had maximum number of stillbirths (48.30%) followed by age group of >31 years (36.44%). Around 92 women were primigravida (38.98%) and 144 were multigravida (61.01%). 127 stillbirths infants (53.18%) were male and 153 (64.83%) had majority had birth weight between 1-2 kgs (40.67%). The data revealed that main cause of still birth was Pre-eclampsia causing 59 (25%) stillbirths, 35 (14.83%) were due to placental abruptio, 34 (14.40%) were due to eclampsia, 30 (12.71%) were due to diabetes and 18 (7.62%) were due to unexplained causes. Most of the patient were referred and had long standing fetal deaths and were found to have macerated fetus (75%).

Perinatal mortality is an important indicator for good maternal wellbeing. The main cause of stillbirths was found to be pre-eclampsia, followed closely by eclampsia and placental abruptio, all of which are associated with raised blood pressure in the antenatal period. Diabetes was also one of leading causes of still births. All these causes can be

prevented by early detection and appropriate interventions which can only be possible with a good antenatal follow up.<sup>4</sup>

Skilled birth attendants are required in all primary health centres to assess the patients for any complications in the antenatal period and refer to tertiary hospital.<sup>5</sup> They also play an important role during the intrapartum period, where early detection of any mal-presentation, placental or cord abnormalities can be beneficial. Also, prolonged or obstructed labour should be picked up as soon as possible and patient must be referred to tertiary hospital. Early referral to tertiary centre can help reduce the rate of stillbirths.

Ultrasonography to diagnose cord abnormalities, placental abnormalities, and use of intrapartum electronic fetal monitoring, Partograph and prompt action in case of fetal distress will help in reduction stillbirths.<sup>6</sup>

Vigilance by the obstetrician or the primary health care provider at every antenatal check-up and during labour for various maternal and fetal complications must be maintained to help reduce the rate of still births.

#### CONCLUSION:

Stillbirth at any point of time in the pregnancy is an unfortunate event. It is one of the most common adverse outcomes of pregnancy. Yet, studies related to stillbirth are very few. With regular antenatal check-ups and timely admission, these stillbirths can be avoided.

The leading cause for the stillbirth in the current study was found to be pre-eclampsia followed closely by eclampsia, placental abruptio, diabetes. The rate of stillbirth in this study is considerable high, owing to majority of referral patients. The rate of stillbirths can be reduced if all these patients are educated and attended by skilled personnel all through the pregnancy and labour. It will have a major effect on reducing the perinatal mortality.<sup>6</sup>

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