

Original Research Article

Intra Uterine Fetal Demise: Can we prevent it?

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1. Background:

Intra Uterine Fetal Demise is Very Traumatic to mother and the family also. In most of the cases it is preventable by proper antenatal care and counselling. Antepartum fetal death after period of viability and weighing more than 500 gm is termed as IUFD. In Recent times the incidence of IUFD is decreasing gradually this is because of prenatal diagnosis antenatal care good intra natal monitoring sources and all babies with congenital anomalies are being diagnosed and terminating by time. According to confidential Perinatal Mortality Surveillance Report (CEMACH)¹ stillbirth baby defined as 'a baby delivered with no signs of life and died after 24 completed weeks of pregnancy'. According to ICD 10 definition death of foetus after 20 weeks of gestation, but a foetus greater than any combination of 16, 20, 22, 24 and 28 week of gestational age and 350gm, 400gm, 500gm or 1000 gm birth weight considered as stillborn depending on local law. And according to WHO the gestational age is 28 completed weeks (late stillbirth). India Along with 10 other countries contributes to two third cases of IUFD.

Worldwide 2.6 million stillbirth occurs every and approximately 7,200 still birth every day and current global still birth rate is 18.9/ 1000 live birth. And 45% were intrapartum death and 56% were antepartum Death worldwide. In India average 6 lakh still birth occur every year. In 2000 the estimated still birth rate in India was 29.3 per thousand delivery in 2011 the stillbirth rate was 20 per thousand delivery and in 2019 the stillbirth rate was 13.4 per thousand delivery so after initial 53% of reduction from 2000 to 2010 there is not much decrease. Foetal death may be due to maternal (5-10%), placental (20-35%), and Foetal cause (24-40%). After foetal death dead foetus undergoes aseptic degeneration in which 1st epidermis involved which lead to skin peeling (after 12-24 hours of foetal demise). The various signs of foetal demise are 1) decrease in fundal height, diminished foetal tone, absent foetal movement, foetal heart sound absent even by doppler flat CTG and in late cases egg shell crackling feel is there.

The radiological diagnosis is made by absent of foetal movement (including cardiac) for 10 mins, oligohydramnios and collapsed skull bones are other signs.

So lets find out

- *what is the still birth rate at rural district health center ??*
- *what are different causes of stillbirth at rural district health facility ??*
- *What are the key gap areas for amendments towards SBR reduction??*

Aims and objectives:

- To study the still birth rate at a District Hospital setting.
- To study and analyze different causes of SB among women delivering at district hospital setting.

2. Methodology:

It is a observational cross sectional study done in District Hospital. duration from April 2020 to September 2020. At a district hospital of Madhya Pradesh. All the antenatal record related to IUFD studied. Descriptive statistical data analysis used for data analysis. Any incomplete data were excluded out of study.

Observation Tables: Admission of Patient

S No	Number of patients	Percentages
Total admission	8614	
Total delivery	5821	
Total IUFD	166	SBR according to WHO 28.5/1000 delivery

Observation Tables: Type Of stillbirth

Total IUFD	166(>500gm)	Percentage
Fresh Still birth	51	30.7%
Macerated IUFD	115	69.3%

Observation table: Age wise Distribution

Age group	Number	% percentage
< 20	26	15.6%
20-30	110	66.4%
>30	30	18%

Observation table: Gestational Age Distribution

Gestational age		
24-28 weeks	20(but > 500gms)	12%
28-37 weeks	88	53%
>37 weeks	58	35%

So still birth rate according to WHO > 28 week- 25/ 1000 live birth

Perinatal Death Grouping Cause of IUFD 1) antenatal IUFD

Causes		Total	Percentage
Maternal Causes	PIH	16	10%
	Severe Anaemia	21	12.6%
	PROM	5	3%
Placental causes	Placenta previa	2	1.2%
	Abruption	4	2.4%
	Intrauterine Growth Retardation	11	6.6%
Foetal Causes	Congenital anomaly	5	3%
Unexplained causes		69	41%
Total		133	80%

Unexplained antepartum death was seen in 69 cases.

Intrapartum IUFD

Causes			Percentage
Congenital anomaly		3	1.8%
Birth trauma		2	1.2%
Acute intrapartum events	Cord Prolapse	12	7.2%
	Obstruction of after coming head of breech	8	4.8%
Unexplained Intra partum death		8	4.8%
Total		33	20%

Status of antenatal registration	Number of Patient	Percentage
Booked	64	38.5%
Unbooked	102	61.5%
Referred	62	37% of all IUFD

Mode of delivery	Number of Patient	Percentage
Spontaneous vaginal	120	60%
Induced	42	25%
LSCS	4 (2 transvers lie hand prolapse, 1 abruption, 1 prevl IUFD)	2.4%
Total	166	

Results Total still birth were in our study were 166 out of 5821 deliveries with still birth rate of 28.5/ 1000 delivery which is considerably higher from other studies and pre-covid times in our own centre (SBR 24/1000 delivery.) which could reflect neglected antenatal care in covid times About two-thirds (62%) were unbooked while about one third (37%) were referrals from nearby peripheries which reflects poor antenatal care utilization and delays in transport still prevailing in rural set ups. Out of 166 IUFD 51 were fresh IUFD and 115 were macerated IUFD.

About 80% (133) were antenatal deaths while 20% (33) were intrapartum deaths. Common among antepartum were hypertension (12%), severe anaemia (26%), IUGR (6%) which contributed to nearly half of antepartum deaths and could be prevented by careful watch on blood pressure, correction of anaemia and good antenatal care which are still deficient in rural set ups. Many of Congenital anomaly (8 cases total) could have been prevented by adequate folic acid supplementation in preconception and antenatal period and timely diagnosis. Among the intrapartum causes (33) acute cord accidents could have been prevented by timely referrals to facility with provisions for LSCS and early initiation of treatment. Thorough assessment at admission by senior obstetrician could have prevented some case of birth trauma (2). Many cases of unexplained intrapartum deaths (4.8%) could have been evaluated with availability of better diagnostics and patient compliance.

Out of 166 of total IUFD 162 were vaginally delivered (120 spontaneous vaginal delivery, 42 induced vaginal delivery), and 4 undergone LSCS. Out of 166 women 26(15.6%) were in age group less the 20 years, 110 (66%) were in age group between 20-30 years, answer 30 women (18%) were in age group > 30 years.

Discussion

IUFD is very tragic to pregnant women and treating doctor. It is important to identify the cause of IUFD so that the counselling and mode of prevention for recurrent event can be prevented. **According to India's New born action Plan there is target of achieving single Digit Still Birth Rate By 2030.** For that the cause of IUFD should be well Identified so we can work on preventing them. We had studied all the patient admitted in DH of Madhya Pradesh from April 2020 to December 2020 and the women with either with absent foetal movement or documented IUFD or the patient who had foetal heart at the time of admission but delivered a baby without sign of live were taken into detailed. the total admission were 8614 out which 5821 were total live birth and 166 were still birth so still birth rate in present study was 28 per thousand live birth which is quit comparable with a similar study done by various centre of India, and there reported rate were ranges between 24.4- 41per. And a similar study done by Rajal V. thakur et al they found that the stillbirth rate in there study centre were 17.2 /1000 birth. and in there history majority were multigravida and 48.1% were primigravida similar in our study majority were multigravida¹². Out of 166, 62 were booked (38.5%), and 102 were unbooked patient similar by Rajal V. thakur et al 59.5% were unbooked in their study, In their study 39.9% were not having any identifiable cause similarly in our study 46.38 % not having any identifiable cause.

The study done by Kanavi et al the still birth rate were 39/ 1000 live birth but in our study the rate was 28/1000 live birth. Similarly the rate of IUFD were higher in multipara in there study which was comparable to our study. In there study most of the women were in age group 20-30 years which was comparable with our study. But in there study most of the patient were booked in contrast to our study. In there study most of the women were vaginally delivered (94.9%) and 5.1% had gone LSCS similar in our study 97.5% had vaginal delivery and 2.4 % had LSCS. In there study 49.4% were macerated IUFD but in our study 69% were macerated IUFD¹³. Anjali et found in their study that the prenatal loss was 49/ 1000 live birth¹⁰. The study done by karale et al the rate of IUFD in their study were 27/1000 live births² and 49.4% of foetuses had signs of maceration² A study from Faridkot India, quotes a still birth rate of 125 per 1000 live births, another similar study from Saudi Arabia states a rate of 10 per 1000 births^[8,9]. Neetu Singh et al found 33% unexplained foetal deaths^[7]. And in our study(69+8) 46% IUFD the cause was not known and similarly by Lamia Shaban et al in 28 % cases of IUFD were without a probable cause^[8]

The similar study done by shaveta garg et al in there study most of foetal deaths causes were due to preventable conditions like hypertensive disorders of pregnancy (28.75%), severe anaemia (15%), abruptio placenta (11.25%), and rupture uterus (10%).¹⁴ In our study the preventable cases of IUFD seen in 36 cases 21.6%[the intrapartum birth trauma seen in 2 cases, cord prolapse in 12 cases obstruction of aftercoming head of breech in 8 cases Severe anaemia in 21 cases, PIH in 16 cases PROM in 5 cases.

3. Conclusion:

IUFD is emotionally challenging for mother, doctors, and whole family. There are various medicolegal risk related to IUFD. It indicate the public health facility of the country. So proper periconceptional care, use of folic acid, regular Antenatal visit, proper identification of high risk and timely management and strict intrapartum monitoring for high risk pregnancy, and proper neonatal management combinedly can reduces the chances of IUFD significantly. Tender loving care to mother and future preconceptional counselling can significantly reduces the maternal anxiety to future baby outcome and chances of future bad outcomes.

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