"To identify various contributing medical causes and understanding factors associated with still births in low- and middle-income families on a tertiary centre-; A Prospective observational study"

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Abstract-
Background- Still births are a major public health issue. it is the sensitive marker of the quality of care around pregnancy and birth. every year at least 2.65 million still births occur worldwide,98% in developing countries where social and medical causes and risk factors of still birth are rarely investigated. It is crucial that we understand causes and contributing factors.
Method- We conducted a prospective observational study over a period of 2 years from oct. 2019 to sept 2021 in Gajra raja medical college gwalior, mp. 46 still births occurred .they were classified into two groups – antepartum still birth(n= 18) & intra partum stillbirth (n= 28). These study design to find out probable social and medical causes and associated factors behind still births. A Substantial number of cases dealt with at our teaching hospital are recorded surrounding villages.
Main result- among the total 1670 deliveries during the study period,46 still birth(including 2 twins) occurred giving a still birth rate of 27.5/1000 births.
Out of the 44 women having still births. 30 women (68.18%) registered in ANC clinics. ,18 (60%) women were belongs in middle income families. ,12 women (40%) were belongs in low incomes families.
14 women (31.8%) were unregisteres. , Out of 14, 10 women(71.4%) were belongs in poor income families and 4 women (28.57%) were belongs in middle incomes families. . Most of the women were age groups of 20-30 years.
Prematurity and severe anemia most commonly cause of still birth which seen in unregister pts.
Conclusion- Stillbirth remains one of the most common adverse outcomes of pregnancy. To the majority of still births, an underlying likely cause of death could be determined despite limited diagnostic capacity . Registration of all births and stillbirths to evaluation of cause of stillbirths are important initial steps for developing countries. A significant proportion of still births is preventable by adequate antenatal care. To build capacity for perinatal death audit, clear guidelines and a suitable classification system to assign cause of death must be known.

***Keywords*- low- and middle-income countries, perinatal death audit, medical factors associated with still birth, cause of still birth.**

INTRODUCTION-
Still births are a major pubic health issue. it is the sensitive marker of the quality of care around pregnancy and birth.every year at least 2.65 million still births occur worldwide, 98% in developing countries where social and medical causes and risk factors of still birth are rarely investigated. Still births are associated with impaired physical and mental wellbeing of bereaved parents and financial costs to families and the health care system .
According The World Health Organization (WHO) defines – Stillbirth as a baby born dead at 28 weeks of gestation or more, with a birth weight of ≥1000 g, or a body length of ≥35 cm.1
The vast majority (98%) of stillbirths occur in low- and middle-income families in developing countries.More than half (55%) of these happen in rural areas . This has also been referred to as the 'silent epidemic' 2. Although some developed countries report a stillbirth rate (SBR) of 3 per 1000 births,3, 4 a ten-fold increase is noted in some settings in sub-Saharan Africa and South East Asia with reported stillbirth rates of 30 per 1000 births and over.5, 6 .
Various causes of still birth in developing countries- **Maternal cause**- Advance maternal age ,Prolonged labor ,Obstructed labor ,Pregnancy induced hypertension, Gestational diabetes ,Alcohol consumption during pregnancy ,Pre-eclampsia ,Anemia
Placental cause- Placental insufficiency, Placental damage ,Placenta abruption
Fetal causes- Fetal asphyxia, Prematurity, birth trauma, congenital abnormalities, fetal-maternal hemorrhage, Every stillbirth is a tragedy and a potential life lost. There are in addition many psycho-social consequences for parents, including anxiety, long-term depression, post-traumatic stress disorder and stigmatisation. Sadly, women who have experienced a stillbirth are more likely to experience this again in subsequent pregnancies than those who have not.7.
Data suggest that most of these deaths could be prevented by Training of healthcare providers is required to improve their understanding of the causes of stillbirth and factors associated with stillbirth and their ability to conduct perinatal audit.8

Identification and treatment of infections during the pregnancy has been shown effective in reducing stillbirth risk. The topic of stillbirths in developing countries has received very little research, programmatic or policy attention.Better access to appropriate obstetric care, especially during labor will reduce developing country stillbirth rates.Increased assessment to obstetric services - including better intra partum fetal assessment & monitoring decreases in stillbirths.

AIM AND OBJECTIVE-

To identification various social and medical causes along with understanding risk factors which are associated with still births in low and middle income families in developing countries

METHOD AND MATERIAL-

. We conducted a prospective observational study over a period of 1years from oct. 2021 to sept 2021 in Gajra raja medical college Gwalior, mp.

46 still births occurred .they were classified into two groups – ante partum still birth(n= 18) & intra partum stillbirth (n= 28). these study design to find out probable social and medical causes and associated factors behind still births.

. A substantial number of cases dealt with at our teaching hospital are recorded surrounding villages.

. Maternal details likes- Age, Parity, Antenatal visits, Previous history of still birth and its causes ,Medical disorders , Present of any associated obstetric complications were noted The mode of delivery, sex, and birth weight of fetuses were recorded.

Gestational age was assessed from the last menstrual period of the mother and clinical examination of the baby. All the fetuses were examined for congenital anomalies and each placenta was examined for any abnormality and retroplacental clot.

Autopsy was performed whenever consent could be obtained from parents.

Those women who had attended the antenatal clinics at least thrice times and no attended ANC clinics before delivery were considered as a registered cases

Exclusion criteria- still born babies with birth weight of less than 500 gm

RESULT-

among the total 1670 deliveries during the study period,46 still birth(including 2 twins) occurred giving a still birth rate of 27.5/1000 births.

Out of the 44 women having still births. 30 women (68.18%) registered in ANC clinics. ,18 (60%) women were belongs in middle income families. ,12 women (40%) were belongs in low incomes families.

14 women (31.8%) were unregisteres. , Out of 14, 10 women(71.4%) were belongs in poor income families and 4 women (28.57%) were belongs in middle incomes families. . Most of the women were age groups of 20-30 years.

In our study 56.9% women were illiterate and 63.4% women belongs to the lower most socio-economic class (monthly family income <rs. 2500/-)

TABLE NO. 1 – definition of still birth according to various classification-

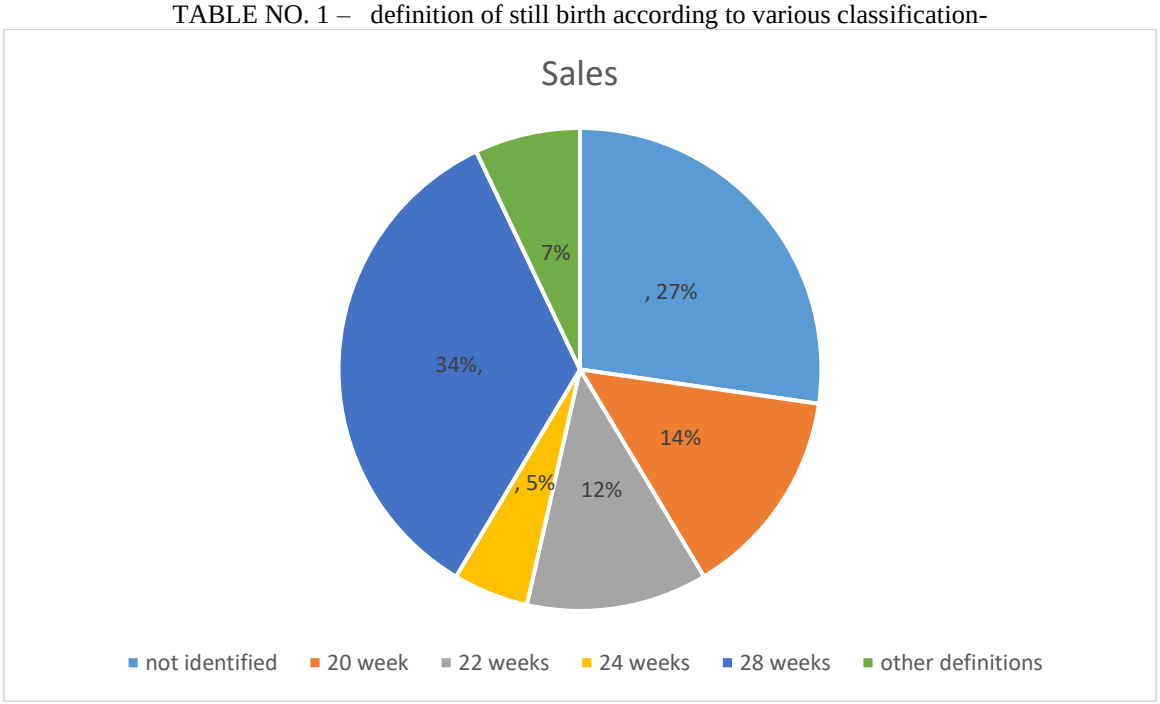

TABLE 2--Perinatal mortality rate and still birth rate-

	numbers
Total births	1670
Perinatal deaths	86
Total still births	46
Still birth rate	27.5/1000
Ante partum still births	18
Intra partum still births	28

TABLE 3- Women characteristics

Details	numbers	percentage
Registered	30	68.1%
Unregistered	14	31.8%
<20 year	4	9.1%
20-30 year	34	77.2%
>30 year	6	13.6%
Primigravida	30	68.1%
Multigravida	14	31.8%
Hb<10 gm	34	77.2%
Illiterated women	36	81.8%
Vaginal delivery	38	86.3%
Low income families	22	50.6%

TABLE 4- Still birth according to gestational age-

Gestational age (weeks)	Ante partum stillbirths	Intra partum stillbirths	total
Less then 37	10	2	12
37-42 weeks	18	10	28
More than 42 weeks	3	1	4

TABLE 5- Various cause of stillbirth-

Cause of stillbirths	registered	unregistered	total
Pregnancy induced hyper tension	2	4	6
eclampsia	–	2	2
Severe anemia(hb<6gm)	–	5	5
Placenta previa	2	1	3
Abruptio placenta	2	–	2
prematurity	2	11	14
Post maturity	1	2	3
Cord prolapse	1	1	2
Congenital anomalies	–	3	3
Rupture uterus	–	1	1
Obstructed ;labor	–	2	2
Scar rupture	–	–	–
Birth asphyxia	–	1	1
Unexplained causes	–	2	2

Prematurity and severe anemia most commonly cause of still birth which seen in unregister pts.
unregistered women whose were unawareness of antenatal care, inadequate ANC visits, low socioeconomic status and belongs to low income families, ignorance, illiteracy, poor support from family members.
Registers women whose were failure to report decreased fetal movements, default followup, refused to hospitalization.
The health care system ,mostly at primary health centers such as failure to provide adequate antenatal care, failure to recognize or managed high risk cases, late reffered to high risk cases, failure to do required investigations.
we examined the cause of stillbirth versus the presence or absence of signs of maceration. Among all stillbirths, 72.8% did not have signs of maceration, with the death likely to have occurred less than 12 to 24 hours prior to delivery. There were important differences in the cause of death between macerated and non-macerated stillbirths. If the fetus was macerated, the cause of stillbirth was nearly equally divided among infection, asphyxia and unknown, with a smaller proportion due to a congenital anomaly (28.2%).If the fetus was not macerated, the majority of deaths were caused by asphyxia (38.4%) with smaller percentages due to infection (12.4%), unknown (8.8%), prematurity (9.7%) and congenital anomalies (3.5%).

DISCUSSION-

Still birth is a traumatic experience for both mother and the obstetrician.The socioeconomic status and female literacy influence pregnancy outcome.
Women education is associated with decline in SBR. the main cause of still birth is suboptimal antenatal and intra natal care.
Area of suboptimal care by the obstetricians includes failure to manage high risk cases, delay/error in labor management, and poor counselling. Failure to counselling women with previously cesarean delivery. Unavailability of equipments for cardiotocography and errors in sonography reports also contributes . Prematurity and severe anemia most commonly cause of still birth which seen in unregister pts.
Asphyxia appeared to cause a substantial proportion of stillbirths across all sites. Among those with asphyxia as a cause of stillbirth, obstructed or prolonged labor was present among 38%, antepartum hemorrhage was present for 19% and preeclampsia or eclampsia were present among 18% of those with stillbirth

CONCLUSION-

Stillbirth remains one of the most common adverse outcomes of pregnancy. Registration of all births and stillbirths, evaluation of cause of stillbirths are important initial steps for developing countries. A significant proportion of still births is preventable by adequate antenatal care. Female literacy and health education will increase the awareness about antenatalcare . Identification of high risks cases, and timely referral needs to be emphasized among the medical & paramedical personnel at the first point of contact with the pregnant women well equipped tertiary centres and periodic departmental audits will help achieve the goal of reducing stillbirths.

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