

Review Article

Why is India the world's stillbirth capital: causes and solutions?

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Abstract-

A stillbirth is a baby born with no signs of life at or after 28 weeks' gestation, while preterm births are those which occur between 28 weeks to 32 weeks of gestation. Approximately 3.2 million stillbirths occur annually in low- and middle-income countries. The aim of this paper is to review the present status of the stillbirths and identify the underlying factors of stillbirths in India. A search of PubMed and other search engines were conducted to retrieve the literature pertaining to neonatal and perinatal health in India. It was found that women face many difficulties due to accessibility, availability, affordability and quality issues when utilizing healthcare facilities during pregnancy. Several studies based on stillbirths also revealed the social aspects of perinatal grief. Stillbirths are bounded by high family pressures and social stigma. A review also revealed that half of all stillbirths occur in India, Pakistan, Nigeria, China and Bangladesh alone. These countries also account for a high number of maternal and newborn deaths. India has highest number of stillbirths in the world – the rates range from 20 to 66 per 1000 births in different states. It was also found that healthcare and socio-cultural factors contribute to the increase in the number of stillbirths in India. These issues highlight the need for urgent action and interventions to be taken by the government and other organization to improve the situation of stillbirths in India. Early neonatal deaths and stillbirths usually have obstetric causes, and are largely preventable if good quality obstetric care is made available at the right time. Initiatives for strengthening the information management system at the grassroots level to report stillbirths on a regular basis are necessary to improve the neonatal health indicators in India.

Keywords: Stillbirths, Socio-economic factors.

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Introduction

Stillbirth refers to the death of a baby after 28 weeks of pregnancy but before birth.¹ Stillbirths are classified into two groups - antepartum stillbirths (baby has died in the womb) and intrapartum stillbirths (baby died during delivery). Stillbirth is a traumatic experience for both the mother and the obstetrician. Despite the advances in Fetomaternal medicine the stillbirth rate continues to be high.

Unfortunately, each year, 10.6 million children die and this number goes uncounted across the world.² Among these 3.2 million annual stillbirths occur in low- and middle-income countries.³ India has highest number of stillbirths in the world. In India, the stillbirth rates (SBR) varied from 20 to 66 per 1,000 total births in different States.⁵

The current Perinatal mortality rate in India is 35.1 per 1000.⁶ Nearly 60% of perinatal deaths are stillbirths of which many are preventable. In this article , we have reviewed our study (Nayak et al)⁷ as well as reviewed other similar articles over the period of time. In our prospective study, we analyzed stillbirths in our referral rural teaching hospital. Our study was carried out with an attempt to identify the medical causes of stillbirths along with the social and practical causes and to suggest possible preventive measures. A search of PubMed and other search engines were conducted to retrieve the literature pertaining to neonatal and perinatal health.

The SBR in our study (Nayak et al)⁷ study is 35.2/1000, which is similar to 35.1/1000 reported by Kameshwaran et al⁸ but higher than 23.4/1000 reported by Nayak and Dalal⁹ and is lower than 42/1000, 43/1000 and 64.1/1000 as reported by Githa et al¹⁰, Ravikumar et al¹¹ and Chitra Kumari et al¹² respectively.

In our study, 84.9% women were unregistered. Kameshwaran et al⁸ observed five times and Ravikumar et al¹¹ found four times higher SBR in unregistered women.

The socio-economic status and female literacy influence pregnancy outcome. Women's education is associated with decline in SBR. In our study (Nayak et al)⁷ 56.9% women were

illiterate and 63.4% belonged to lowermost socioeconomic class. Chitra Kumari et al¹² reported that 79% women were illiterate and 84.2% from lowermost socioeconomic class.

Table 1: Stillbirth rates in some selected states of India, 2010

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India / states	Stillbirth rate		
	total	rural	urban
India	7	7	7
Andhra Pradesh	7	8	5
Assam	9	9	9
Bihar	1	1	1
Chhattisgarh	12	13	7
Delhi	6	3	7
Gujarat	8	7	9
Haryana	9	10	7
Himachal Pradesh	10	11	3
Jammu and Kashmir	5	5	8
Jharkhand	1	2	1
Karnataka	14	16	12
Madhya Pradesh	8	7	10
Maharashtra	7	5	10
Odisha	8	8	11
Punjab	6	6	6
Rajasthan	6	6	5
Tamil nadu	10	14	5

Uttar pradesh	5	6	4
West bengal	9	10	5

Causes of stillbirth –

In the antepartum stillbirth group, most of the babies died due to medical causes like premature separation of placenta (abruptio placenta) , pregnancy induced hypertension (PIH), convulsions in PIH (eclampsia), Bleeding due to low lying placenta (placenta previa),and Severe anemia in mother etc .

In the intrapartum stillbirth group, common causes were prematurity due to preterm deliveries , birth asphyxia, birth trauma , obstructed labor ,congenital malformations in babies , post maturity (pregnancy continues beyond 40-42 wks) and cord prolapse etc.

Surprisingly, the causes of significant percentage of stillbirths remain unknown (Unexplained Stillbirths), even in cases where extensive testing and autopsy have been performed.

Discussion –

When we read these causes carefully, we realize that most of these medical causes can be diagnosed beforehand & if treated properly in time, the mishaps can be avoided.

Behind the preventable medical causes, the main cause of stillbirth is the suboptimal antenatal (pregnancy care) and intrapartum care (delivery care). One or more factors were responsible for the suboptimal care. The frequencies of these factors were divided at three different levels. Women themselves were responsible for the suboptimal care in maximum number of stillbirths. The healthcare system was responsible for some cases, mostly at primary health centers, but also at tertiary care at one referral hospital.

The routine Pregnancy care (ANC), at regular intervals, at a registered doctor can help detecting many of the disorders & the treatment can be started early. In our study, 84.9% women were unregistered. Kameshwaran et al observed five times and Ravikumar et al found four times higher SBR in unregistered women. Patients themselves contributed to the suboptimal management of their own pregnancy in 52.9% of the stillbirths as reported by Tham et al¹⁴.

Why do women don't register themselves for routine pregnancy care? Definitely cost is not the factor, as these services are provided free of cost at all the primary health centers (PHC) & sub centers. Then unawareness- especially due to illiteracy, low socioeconomic conditions, lack of traveling facilities, no accessibility or other traditional beliefs & misconceptions keep women

away from this care.

The socio-economic status and female literacy influence pregnancy outcome. In our study 56.9% women were illiterate and 63.4% belonged to lowermost socioeconomic class. Most of the women were in the age groups of 20 to 30 years. But 30 % women were teenagers, less than 18 yrs of age. So child marriages / early marriages also contribute to still births as the girl is not physically ready to conceive & nurture the pregnancy. Nutritional deficiencies, poor food habits & Bad hygiene contribute further.

Unawareness of existing facilities and of benefits of medical care during pregnancy was the most common cause. Ignorance, poverty, illiteracy and poor support from family, especially the husband, also contribute to inadequate antenatal care.

In registered cases the causes were -late registration, Defaulted follow up, and non-compliance of doctor's advice and treatment. Two women refused termination of pregnancy even after detecting lethal fetal malformations in early gestation.

Sometimes Patients themselves contributed to the suboptimal management of their own pregnancy by failure to realize the significance of absent /decreased fetal movements in last few weeks , bleeding in pregnancy , presence of warning symptoms like excessive edema , headache, vomiting . If they are aware, alert & report to doctors in time, the babies can be saved.

Summary of the Social causes behind the medical causes -

Antenatal care

Unregistered women -

- Unawareness of antenatal care
- Inadequate antenatal care / visits
- Low socioeconomic status
- Ignorance / Illiteracy
- Poor support from family members

Registered women -

- Failure to report decreased fetal movement
- Defaulted follow up
- Refusal to hospitalize / intervene
- socio-cultural factors - Some traditional faiths & beliefs
- Home deliveries.

Home deliveries are a major problem in India. Still many rural women deliver at home by Dai / elderly relative. No monitoring of the fetus during labour is being done, the new born is received by untrained person & no resuscitation facilities are available. Birth Asphyxia & Birth trauma remains the major cause of still births.

Health Care Facilities & Related causes -

In our study, in some cases we found the lacunae in health care system. Primary health care providers contributed to suboptimal care by failure to recognize high-risk cases, leading to late referrals & poor counseling. . Failure to counsel women with previous cesarean to have next delivery in a hospital resulted in scar rupture due to attempt at home delivery by a 'Dai'. This killed the fetus & also led to maternal mortality.

Areas of suboptimal care by the obstetricians included failure to manage high risk cases, delay/error in labor management, Unavailability of equipment for cardiotocography (CTG) and errors in sonography reports. Lastly, perinatal death audits in every tertiary hospital will help us to identify the flaws and weaknesses in our clinical practice.

Primary health care -

- Failure to provide adequate antenatal care
- Failure to recognize/manage high risk cases
- Late referral of high risk cases
- Failure to do required investigations.

Tertiary Care-

- Failure to manage high risk cases.
- Delay / error in labor management.
- Inadequate monitoring by junior residents/inexperienced doctors
- Lack of equipment required for fetal monitoring in labour- CTG / USG
- Error in sonography reporting e.g. biophysical score

Lastly, in country like India, stillbirths remain a largely hidden phenomenon, as they often occur at home, fetal remains are buried with-out ceremony, and families rarely mourn publicly. Stillbirth is perceived as the mother's fault – which leads to feelings of shame and remorse for women. The loss is tremendous and irreversible, the mother is in deep distress, and can't hold the baby in her hands and does not even perform the rituals. After nurturing for long nine months it is like the hands are empty with great loss. Assessing the impact and magnitude of stillbirth is an important lap of the hurdle in creating a successful advocacy roadmap. To capture the true

number of still-births and make them visible it is necessary to have powerful reporting systems in place. These issues highlight the need for urgent action and interventions to be taken by the government and other organization to improve the situation of stillbirths in India.

Conclusion

A significant proportion of stillbirths are preventable by adequate antenatal care. Female literacy and health education will increase the awareness about antenatal care. The importance of timely marriages, adequate antenatal care and identification of high-risk cases, timely referral and promotion of hospital deliveries needs to be emphasized among the medical and paramedical personnel at the first point of contact with the pregnant women. Prompt care by well-equipped tertiary centers and periodic departmental audits will help achieve the goal of reducing stillbirths.

Notification of still births will give us the exact figures & help us understand the neonatal health indicators. Realization of the seriousness of the problem will help us work towards the solutions.

The integrated use of health informatics is slowly developing for better human resource management, GIS applications, mobile health, maintaining patient information in hospitals, nutrition and disease surveillance systems, death reporting, case-based follow-up systems including systematic pregnancy and child tracking in different parts of India.

Some novel approaches by Govt of India will definitely lead to decrease perinatal mortality e.g.

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- National Rural Health Mission (NRHM) - To provide healthcare and advance institutional deliveries to people living in the rural areas.
- The Health Management Information System (HMIS) – a web based portal launched in 2008 will be a ‘single-window’ for all public health data, for Ministry of Health and Family Well-fare.
- Mother and Child Tracking System (MCTS) jointly developed by the Ministry of Health and Family Welfare and National Informatics Centre, launched by the Government of India in 2009 in collaboration with the states.

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