



SOCIO DEMOGRAPHIC DETERMINANTS AND CAUSES OF STILLBIRTHS

Obstetrics & Gynaecology

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ABSTRACT

Introduction-Stillbirth creates difficult situation for the Obstetrician and results in great psychological and emotional trauma to the couple. It reflects the suboptimum quality of maternal and child health services. Study was carried out to find out the causes of stillbirths and the socio demographic profile of women, who had stillbirth.

Material And Methods -A clinical observational study of 7994 deliveries and 262 stillbirths was undertaken at tertiary care hospital over a period of 10 months from January 2020 to October 2020.

Results- Stillbirth rate was 33.30/thousand births. Lack of antenatal care (78%), low socioeconomic status (66%) were commonly associated with stillbirths. Pregnancy induced hypertension (25%), ante-partum haemorrhage (12%), cord related accidents (8%) and preterm labour (24%) were mainly responsible for stillbirths.

Conclusion-Early recognition of high risk factors, regular antenatal checkup. Ultrasonography to diagnose cord abnormalities, use of intrapartum electronic fetal monitoring, partograph and prevention of prolongation of second stage of labour will help in reduction of fresh stillbirths.

KEYWORDS

Perinatal mortality, Perinatal deaths, Stillbirths, High risk pregnancy

INTRODUCTION

Occurrence of stillbirth is a tragic event faced by the obstetrician. It has many implications for the couple, family and the health care provider. It reflects a failure or lapse in implementation of maternal and child health care programme. It is estimated that approximately 3.6 million stillbirths occur in the world every year. Majority of them take place in underdeveloped and developing countries¹. Stillbirths contribute to more than half of the perinatal deaths. More than two third of the stillbirths take place during pregnancy and remaining during course of labour.^{2,3} Suboptimum care during pregnancy and labour results in macerated stillbirths and fresh stillbirths respectively.^{4,5}

Stillbirths during pregnancy are usually due to lack of adequate nutrition, hypertensive disorders ante partum haemorrhage, genetic abnormalities in fetus, maternal infections and exposure to some toxic agents.⁶ Intrapartum deaths are usually related to prolonged and neglected labour, malpresentations and cord related complications. Present study was carried out to find out the socio-economic profile of women who had stillbirths after institutional delivery and different medical and obstetric causes related to these stillbirths.

MATERIAL AND METHODS

The present study was a hospital based retrospective observational study carried out at Pravara rural hospital, which is a tertiary care teaching hospital in Ahmednagar district of Maharashtra. All pregnant women who after admission, delivered a stillborn baby during a period of one year from January 2020 to October 2020 were included for analysis in the study. The data regarding socio demographic profile and antenatal investigations to find out cause of stillbirths was collected from the indoor case sheet. The information regarding intrapartum events was collected from labour record and partograph of every case. The data related to total deliveries and stillbirths was collected from medical record section of the hospital. The statistical analysis was performed using descriptive methods.

RESULTS

During the study period, the total number of deliveries were 7994 and there were 262 stillbirths. The stillbirth rate was 33.30 per thousand births (Table 1). Sixty one percent stillbirths occurred during antepartum period and remaining thirty nine percent during intrapartum period. Perinatal mortality rate was 51 per thousand births. Out of 262 stillbirths, 14 percent were among teenage primigravidas and 3 percent were among elderly primigravidas. Majority of women were in their third decade of life. Women from rural residential area and from lower socio economic class had more stillbirths as compared to their counterparts. Primigravida women

delivered more stillborn babies than multigravidas (Table 2). It was observed that pregnancy induced hypertension and preterm labour resulting in birth of preterm babies were the common obstetric problems related to causation of stillbirths. Other causes being cord related accidents like cord prolapse, true knot formation of cord entanglement, either nuchal or around fetal body parts. Malpresentations, prolonged and obstructed labour and labour abnormalities resulted in many fresh stillbirths. Antepartum haemorrhage, especially accidental haemorrhage resulted in acute placental insufficiency and fetal deaths. Fetal congenital abnormalities and postdated pregnancy was responsible for many macerated stillbirths. (Table 3) It was observed that eighty eight percent of stillborn babies were low birth weight, of which sixty six percent were very low birth weight. Seventy eight percent of stillborn babies were premature of which seventy five percent had gestational age of below 34 weeks.

Table 1-Perinatal Outcome

Sr.No	Parameter	Number/Rates
1	Total Births	7994
2	Total Live births	7588
3	Perinatal deaths	406
	-Stillbirths	262
	-Early Neonatal deaths	144
4	Perinatal mortality rate	50.78/1000 births
5	Stillbirth rate	33.30 /1000 births

Table 2- Socio Demographic Profile Of Women With Stillbirths

Sr. No	Socio demographic parameter	No. of cases (n= 262)	Percentage
1	Age distribution (Years)		
	-Below 20	36	14
	-20-30	218	83
	-Above 30 years	08	03
2	Parity		
	-Primi	146	56
	-Multi	116	44
3	Socio economic class		
	(I)	06	2.29
	(II)	10	3.81
	(III)	74	28.24
	(IV)	104	39.69
	(V)	68	25.95
4	Unbooked/Booked	204/58	78/22
5	Area of residence- Urban/Rural	20/242	08/92

6	Marital status (unmarried/married)	0/262	0/100
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Table. 3 Distribution Of Stillbirths As Per The Etiology

Sr. No	Etiology of Stillbirth	No. of cases (n= 262)	Percentage
1	Pregnancy induced hypertension	66	25.19
2	Prematurity	62	23.66
3	Antepartum haemorrhage	32	12.21
4	Cord accidents	18	07.63
5	Fetal malformations	12	06.87
6	Postdatism	16	06.10
7	Malpresentations	12	04.58
8	Labour abnormalities	10	03.81
9	Medical disorders (Anemia,Heart disease, Liver disease)	10	03.81
10	Idiopathic	16	06.10

DISCUSSION

Stillbirths contribute to majority of perinatal deaths. Sometimes they occur suddenly and unexpectedly and at times they are anticipated by the obstetrician. Irrespective of type ,time of occurrence and cause ,they cause lots of psychological trauma to the patient and relatives. With the news of the stillbirth ,the dream of fulfilment of motherhood disappears and is gets replaced by state of shock .The severity of this problem is much more with sudden intrapartum deaths due to birth asphyxia due to various reasons .In the present study ,the rate of stillbirths(33.30 per 1000 births) was comparable to the rates reported by other authors.^{7,11} and was much less than reported by few authors.¹²

¹³The stillbirths were common during antepartum period (61%) than during intrapartum period(39%).

Common causes of antepartum stillbirths were placental insufficiency secondary to hypertension an antepartum haemorrhage. Similar observations were reported by Ravikumar, Nayak and Dalal and Uchil.^{7,11,14} Congenital malformation of fetus were responsible for 7 percent of stillbirths. Ravikumar et al and Korde et al reported slightly higher rates of malformations causing stillbirths.^{8,11} Among all the socio demographic factors studied, lack of antenatal care, lower socio economic class and illiteracy were found to be significantly associated with higher still birth rates.(p value less than 0.05) Kameshwaran and Ravikumar et al and Chitrakumari have reported similar observations in their studies.^{9,11,13} Prematurity and low birth weight due to various medical or obstetrical causes were associated with more than eighty percent of stillbirths. Maternal under nutrition, anaemia, cervico-vaginal infections ,heavy strenuous work during pregnancy contribute to the onset of preterm labour and still birth of premature and low birth weight babies.

Many of the stillbirths can be avoided by proper diet, adequate rest, regular antenatal check-up. Early detection of high risk factors and their prompt management can save many antepartum deaths due to placental insufficiency. Modern gadgets like color doppler, non stress tests can detect the fetal jeopardy before occurrence of stillbirth. Carefully performed obstetric ultrasonography can detect nuchal cord position and cord entanglement around body parts. Sonologist must alert the obstetrician of such occurrence, so that necessary care is taken during labour. Use of partograph and intrapartum fetal monitoring can detect fetal distress before major damage takes place. Avoidance of prolongation of labour, especially the second stage ,careful selection of cases for instrumental deliveries and availability of neonatologist for resuscitation of asphyxiated newborn can reduce the rate of stillbirths.

CONCLUSION

Majority of stillbirth are preventable by regular antenatal check-up and institutional delivery. High rate of ante partum stillbirths due to hypertension, antepartum hemorrhage and preterm labour can be reduced by early recognition of the problem, color doppler study to diagnose fetal growth restriction, and timely obstetric intervention.

Obstetric ultrasonography to diagnose cord abnormalities, use of electronic fetal monitoring, partograph and prevention of prolongation of second stage of labour will help in reduction of intrapartum stillbirths.

Improvement in female literacy, health education to paramedical workers in identifying high risk pregnancies and their timely referral to tertiary care centre and periodic departmental perinatal mortality

audits of all stillbirths can help in reduction of stillbirths.

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