



Causes, Socio-demographic Factors and Placental Histopathology of Stillbirth: A Case- Control study

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Introduction

Stillbirth is an important global health problem affecting many families and is associated with many modifiable factors which can be reduced to prevent the loss.

Aims and Objectives:

To identify causes and sociodemographic factors for stillbirth and to study its clinical correlation with placental histopathology.

Methods:

Study Design: Hospital based, unmatched case- control, analytical study. **Sampling technique:** Consecutive sampling on patients having stillbirth reporting to JNMCH, AMU, Aligarh **Study Duration:** Nov 2020 to Nov 2022, **Sample size:** 150 in each group.

Intrapartum	M1	M2	M3	M4	M5	Total
	Case (%)	Case (%)	Case (%)	Case (%)	Case (%)	Case (%)
Congenital Malformation & Chromosomal Abnormality I1	2 (1.3)	1 (0.7)	0 (0.0)	1 (0.7)	1 (0.7)	5 (3.3)
Birth Trauma I2	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Acute Intrapartum event I3	10 (6.7)	8 (5.3)	6 (4.0)	14 (9.3)	2 (1.3)	40 (26.7)
Infection I4	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Other Specific Intrapartum Event I5	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Disorder Related to Fetal Growth I6	10 (6.7)	3 (2.0)	8 (5.3)	6 (4.0)	2 (1.3)	29 (19.3)
Intrapartum of Unspecified Cause I7	10 (6.7)	0 (0.0)	4 (2.7)	3 (2.0)	2 (1.3)	19 (12.7)
Total	32 (21.3)	12 (8.0)	18 (12.0)	24(16.0)	7(4.7)	93(62.0)

S.No.	Antepartum	M1	M2	M3	M4	M5	Total
		Case (%)	Case (%)	Case (%)	Case (%)	Case (%)	Case (%)
1	Congenital Malformation & Chromosomal Abnormality A1	1 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.7)
2	Infection A2	3 (2.0)	2 (1.3)	0 (0.0)	0 (0.0)	2 (1.3)	7 (4.7)
3	Antepartum Hypoxia A3	0 (0.0)	3 (2.0)	3 (2.0)	8 (5.3)	7 (4.7)	21(14.0)
4	Other Specific Antepartum Disorder A4	3 (2.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3 (2.0)
5	Disorder Related to Fetal Growth A5	5 (3.3)	1 (0.7)	0 (0.0)	9 (6.0)	2 (1.3)	17(11.3)
6	Unspecified Cause A6	1 (0.7)	0 (0.0)	0 (0.0)	4 (2.7)	3(2.0)	8(5.3)
7	Total	13 (8.7)	6 (4.0)	3 (2.0)	21 (14.0)	14 (9.3)	57 (38.0)

	Placental findings	Study Groups				P- Value
		Case Group		Control Group		
		n	(%)	n	(%)	
	Markers of Infection					
1	Chorioamnionitis	64	42.7	0	0.0	0.000
2	Villitis	3	2.0	0	0.0	0.083
3	Funicitis	1	0.7	0	0.0	0.317
	Markers of UPI					
1	Infarction	32	21.3	0	0.0	0.000
2	Fibrin deposition	68	45.3	0	0.0	0.000
3	Intra & inter villous hmg	100	66.7	14	9.3	0.000
4	Chorangiosis	7	4.7	0	0.0	0.008
5	Ghost Villi	7	4.7	1	0.7	0.033
	Syncitial knots	85	56.7	13	8.7	0.000
	Markers of maturation disorder					
1	Calcification	4	2.7	0	0.0	0.045
2	Areas of decidualisation	98	65.3	17	11.3	0.000
3	Villous immaturity	28	18.7	0	0.0	0.000
4	Distal villous hypoplasia	1	0.7	0	0.0	0.317

Conclusions:

- Maternal age < 30 years a
- Residence in a rural area was associated with higher risk of SB (AOR 1.36; 95% CI 0.53-3.47) and (AOR 0.97; 95% CI 0.52-1.81) respectively .
- Low socio-economic status at eight times increased risk of SB (AOR 8.26; 95% CI 4.08-16.72)
- < 4 ANC visits increased the risk by 4 times (AOR 5.45; 95% CI 2.82-10.5).

- Majority of SBs in our setting are preventable
- Placental HPE confirms clinical findings and suggest probable diagnosis.
- HCWs and patients should be sensitised about causes antenatal and intrapartum causes of SB and importance of placental HPE in the diagnostic workup. .

1.Lawn JE, Blencowe H, Waiswa P, Amouzou A, Mathers C, Hogan D. for The Lancet Ending Preventable Stillbirths Series Study Group with The Lancet Ending Preventable Stillbirths Series Advisory Group (2016) Stillbirths: Ending Preventable Deaths by 2030. Lancet.;387:587-603.
2. Blencowe H, Cousens S, Jassir FB. National, regional, and worldwide estimates of stillbirth rates in 2015, with trends from 2000: a systematic analysis (vol 4, pg e98, 2016). Lancet Global Health. 2016 Mar 1;4(3):E164-
3.Bhattacharyya R, Pal A. Stillbirths in a referral medical college hospital, West Bengal, India: A ten-year review. Journal of Obstetrics and Gynaecology Research. 2012 Jan;38(1):266-71