An Enquiry into Deaths of Newborns in Nashik District in 2017-18

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On the directions of State Human Rights Commission

By team of:

1. **Prof. T. Sundararaman,** Dean, School of Health Systems Studies: Tata Institute of Social Sciences, Mumbai
2. **Dr. Narendra Kakade,** School of Health Systems Studies: Tata Institute of Social Sciences, Mumbai
3. **Dr Manish Arya,** Pediatrician, Intensive Care, Lilavati Hospital, Mumbai

Methodology:

Collaborative inquiry framework: In discussion with department/implementors

- Visit to Nashik district on March 16th and 17th, 2018. Interactions with
  - District Health Office (civil surgeon district health officer and others:
  - District hospital:
  - Visit to SNCU and interaction with SNCU medical and nursing team (headed by Dr. Pankaj Gajare)
  - Qualitative interviews with mothers of sick newborns in SNCU)
  - Sub-Divisional (SDH) Hospital, Trimbak.
  - Amboli Primary Health Center in Trimbakeshwar tehsil-
  - Talwade health sub-center in Trimbak block and interaction with ANM and ASHAs working there.
  - Visit to Corporation Hospital.
- Data in records and reports available in facilities & Conversation over data:
- Observations of the facilities and comparisons with norms and guidelines:

Neonatal Mortality In Nashik District:

- Nashik: population 61 lakhs :
- Estimated live births per year of about 64,000.
- Anticipated newborn deaths: 960 to 1000 per year (IMR appox. 20 per 1000 live-births (NFHS), and if 75% of these are neo-natal, we anticipate 960 neonatal deaths in a year).
- Reported newborn deaths: 427 deaths in DH's SNCU and about 400 deaths elsewhere within the district. (In the year 2017-18 as of February 2018, 391 neonatal deaths in SNCU, : about 427 deaths in the year – or an average of about 36 deaths/mnth Also 437 infant deaths in 10 months outside DH or 524/yr of which 75% is 400 neonatal deaths), Plus 160 referrals and 58 LAMA

Conclusion: Consistent with what we know about decreasing neonatal deaths- Not excessive in comparison to anticipated. – but still too high. SNCUs make this more visible

WHY ARE SO MANY NEWBORNS STILL DYING?

A relative reduction of newborn mortality from 20 to 10 is costlier (per baby saved) and more challenging than reducing from 40 to 20.

….*The low hanging fruits are gone*…

1. Challenges at the Special Newborn Care Unit (SNCU)
2. Challenges in the community/ social determinants
3. Challenges in primary health care
4. Challenges in newborn transport
5. Challenges for Governance

1. CHALLENGES IN THE SPECIAL NEWBORN CARE UNIT

Out of the total admissions 40% are out-born and 60% are inborn neonates.

Nashik DH itself having about 8,000 deliveries in a year or about 700 deliveries per month of which about half are in the high-risk category and about 43 % are delivered through Caesarean section surgery.

As many of 25% of the babies delivered in the DH require to be admitted in SNCU.

	In-Born Number	Outcome Rates	Out-born Numbers	Outcome rates	Total Nos	Outcome Rates
Admissions	1,792		1,317		3109	
Discharge	1,222	68%	835	63%	2057	66.16%
Deaths	189	11%	202	15%	391	13.06%
Referred out	160	9%	142	11%	302	9.71%
LAMA	58	3%	78	6%	136	4.37%
Total adverse outcomes	407	23%	422	32%	829	27.14

Why the SNCU deaths?

By cause and by prematurity

Prematurity- 23.66%

Respiratory distress-31.6%

Low birth weight- 29.3%

Overlap in above- but majority of neonatal deaths are in some way related to prematurity. In addition,

Birth asphyxia – 24.5% - mainly problems at delivery of the child.

Sepsis including pneumonia accounts - 9.2%

Congenital malformations - 4.7%

(April 1st, 2017 to February 2018 data).

	Total	< 28 wks	28 to 32 weeks	32 to < 34 weeks	34 to <37 weeks	37 to 42 weeks	>42 weeks
Admissions	2,579	77	219	232	450	1,560	41
Mortality	337	58	95	46	35	99	4
Case fatality rate	13%	75%	43%	20%	8%	6%	10%
Proportional Mortality Rate	100%	17%	28%	14%	10%	29%	1%

Challenges in the SNCU @ District Hospital

- 36 beds (18 added in August) has 58 newborns admitted:
- Designed for Level 2 care - but Level 3 care is essential: Many deaths need ventilators to prevent: Many also need advanced life support; . About 50-60% of all neonatal deaths could be in this category. (includes CPAP machines, multipara monitors, infusion pumps, syringe pumps, capnography, *portable X-RAY machine, portable Sonography*, phototherapy units, blood gas analyzer etc)
- Only one ventilator in private medical college – and insurance cover is needed. More commonly medical colleges refer cases to district hospital
- Private Sector/RGJAY does NOT close this gap:
- The 10 NBSUs- add little value-

Newborns in respiratory distress

RECOMMENDATIONS- 1

- Nashik district SNCU serves 60 to 80 lakh people-
  - ***Needs one NICU (level 3) and over time: 10 to 12 SNCUs:***

1. Convert 16 beds to level 3 care, other 20 beds remains as level 2
2. Plan for both together at one site- close equipment gaps (especially but not only ventilators) and HR gaps: (9 paediatricians – 45 nurses estimated):
3. PLUS enhance all 10 NBSUs in RH to SNCUs plus two SNCUs in corporation hospital and one at Malegaon
4. Make NICU a training center for newborn care -for SNCUs in RH/SDH
5. Neonatal Care Advisory Committee: ensure HR skills; adapt and review protocols;
6. Quality Assurance Committee: clinical audits and review; written infection control policies; NICU protocols; NICU &SNCU admission criteria; antibiotic policy, regular QA reports etc: Also fire safety, electricity back ups- and other such aspects also.

- (note that this hospital is Kayakalp award winner)

2. Challenges at Community Level:

- Adolescent/ teenage Pregnancy seems a major contributor (by NFHS- Nashik district has 8.3% pregnancies in 15 to 19 age group- same as for Maharashtra)
- Under-nutrition and frequent pregnancies add to this.
- Low and delayed referrals from some blocks.
- Most of these are in a background of tribal communities with relatively lower women's education levels.
- In out-born high gender imbalance:

RECOMMENDATIONS -2

1. Reduce adolescent pregnancies and push spacing measures in adolescents and young women
2. During ANC pick up under-nourished young mothers for nutrition supplementation.
3. More epidemiological studies and mapping of vulnerable villages, urban wards and communities.
4. Intensive behaviour change communication in vulnerable communities addressing the above with central role for the ASHA and community.
5. More community and govt, attention to increasing age of marriage-
6. Intensify post natal visits for Home based newborn care with early referrals for girl newborns

3. Challenges in Primary Health Care

- PHCs/SCs visited functioning well for identifying,referring high-risk
- It must be noted that over 50% of neonatal deaths in the district are still happening outside the SNCUs and perhaps even outside the primary care facilities.
- Persistent areas- mostly nearer the district borders and select villages where the care is sub-optimal.
- Disproportionately high-risk pregnancies and sick newborns from urban areas. Also (as per NFHS-4) access to key preventive and promotive care like ante-natal check up is poorer in urban areas than in rural areas.
- Protocols for preventing complications in (a) prematurity and (b)addressing birth asphyxia and (c) post SNCU discharge follow up @ primary level require strengthening / better implementation:

RECOMMENDATIONS-3

1. Mapping such vulnerable areas- based on the lack of referrals from such areas- and reporting pattern of neonatal deaths…
2. Strengthen primary health care for urban poor.
3. Given that prematurity is the most important medical reason, use of antenatal steroid based on standard recommendation needs to be strengthened to reduce prematurity related complications. Greater emphasis on availability and appropriate use of betamethasone (even as contrasted to dexamethasone) in the periphery would be of considerable help.
4. Reduce the incidence of birth asphyxia, and related complications can be assisted by introducing ANMs and ASHAs and primary health centers to neonatal resuscitation.
5. Post SNCU discharge follow up- and in general home based newborn care requires strengthening.

4. CHALLENGES IN PATIENT TRANSPORT…

- There is a need to save time by avoiding inappropriate referrals to centers not equipped to manage that level of complexity. Time is lost in Intermediate hospitals – even when using 108. More often patients come, wait for treatment and then get referred up.
- Though 11 or 12 ambulances have ventilators none of the facilities to which they transfer the case have them. These ventilators in the ambulances are seldom if ever, deployed.
- Most often 108 is used for inter-facility transfer- which is not its purpose. The pick-up from home/village is low.
- Number of areas where due to lack of mobiles, roads, and even operational reasons, the transport is not optimally functional.
- The number of 108 ambulances is also insufficient for such a population and despite this number of cases per day is low…..

RECOMMENDATIONS- 4

1. Standard protocols for safe neonatal transport and high-risk pregnancies with imminent deliveries from referral centre to the hospital.
2. Intermediate hospitals should clearly indicate their availability or on-pass status to the 108 system, as also the level of care they can provide- so that transfer can avoid intermediate stages.
3. Twelve advanced life support ambulances must be equipped and placed to provide advanced neonatal transport- which includes ventilation.
4. Need to increase density and efficiency of the 108 ambulance services- especially in remote areas.

NOT recommending special newborn care ambulance- (unless considering it for transfer from SNCU- to KEM)

GOVERNANCE RECOMMENDATIONS- 5

1. Providing support to the staff who are working in SNCUs - educate civil society, media on why SNCUs will have more mortality.
2. Monitoring: Avoid any top-down directive of reducing mortality below 10% - will lead to pressures to increase LAMA and referrals. Use process indicators for monitoring. *Include* referral and LAMA along with mortality in adverse outcome indicator.
3. Nashik NICU must be developed as the last port of call. Referrals to KEM should phase out.
4. requires more comprehensive development of the facilities- where other services- not only obstetrics and newborn care- develop in parallel. Cannot build required support systems and quality for one service alone- needs other specialities too. Even more Essential at RH/SDH level

THANK YOU

We did not ask for this problem.. And this problem is at least in part because of the good work that has been done before us-… but now it is our problem and we must address it…