

# Newborn and child health in India: Problems and interventions

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Infant mortality showed an appreciable decline during the 1980s and the early part of the 1990s. Thereafter, its pace of decline has slackened considerably. Earlier declines in the infant mortality rate (IMR) have been largely due to reduction in post-neonatal mortality, with neonatal mortality rates (NMRs) not contributing as substantially. As a result, currently almost two-thirds of the IMR is being contributed by the NMR. Consequently, the focus of child health shifted to neonatal health. This was rightly so, but should not be at the cost of health interventions for children in the age group of 1 month to 5 years. We review the current proportion of child mortality between birth and 5 years in India. The mortality rate in the age group of 0–28 days is about 35/1000 live-births, 1–12 months about 30/1000 live-births and 1–5 years about 26/1000 live-births. Thus, the ratio of neonatal death rate to 1–5-year death rate is about 1.3. In contrast, in most developed countries the ratio is over 10. Thus, while efforts are under way to reduce neonatal mortality in India, it is equally important that the risk of mortality of a child who survives the neonatal period decreases substantially; else there will only be a shift in the burden of death from an early period of infancy to a later part of early childhood.

## Why is the NMR still so high?

A review of ages at death during the first 28 days reveals that two-thirds of deaths occur in the first week of life and two-thirds of these within the first 2 days of life (Baseline surveys of Multi-centric Home based Intervention project of the Indian Council of Medical Research [ICMR]). Thus, almost 45% of neonatal deaths take place within 48 hours of birth. The major causes of death during this period are birth asphyxia and trauma, problems related to low birth weight (LBW) (such as hypothermia, respiratory problems, feeding and peripartum infections) and malformations. Most of these problems occur due to inadequate care during the

antenatal period and during labour. Inadequate care immediately after birth and inadequate care of LBW infants within the first 48 hours contribute to the rest. Although a significant proportion of women would be categorized as high-risk and identified for institutional delivery, yet over 75% of all births take place in the community and mostly in the hands of unskilled birth attendants with little postpartum care to either the mother or the newborn. Clearly, the intervention package must focus not only on the newborn alone but treat the mother–baby dyad as one. (This would be in tandem with our efforts to reduce the MMR in India.)

## What are our options?

We should either push for universalization of institutional delivery for all women, or use an at-risk approach to ensure institutional deliveries for high-risk women and provide a skilled birth attendant in the community for the remaining women. The first option needs to be weighed against the existing capacity of health care institutions (in terms of their numbers and quality of health care provided) both in the public and private sectors, the capacity of the user to pay for these services (especially given the disparity in costs incurred between the two sectors and the per capita income of the users), and the evidence as to the type of skilled birth attendant needed to assist the delivery of low-risk women. In the final analysis, the answer is that this is an intangible solution.

## Can we push for the second option?

The answer is probably yes. It should be possible to enhance the capacity of the existing health delivery system to handle this load of deliveries (this may also include a public–private partnership). Besides, if the auxiliary nurse–midwife (ANM) (or the current health worker–female [HW-F]) was to be ‘freed’ of her non-mother and child health (MCH) activities (which could easily be shifted to other cadres of workers, especially the HW-M, who is currently underutilized and underworked), then she would more likely be able to significantly increase the proportion of births she attends and the postpartum care she offers to the mother and her newborn. In Integrated Child Development Scheme (ICDS)

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areas, the *anganwadi* worker (AWW) has it in her charter to provide some care to expectant and lactating mothers and their infants. It is another issue that she does not do so in most places. Implementation of their assigned jobs, with training in identifying and solving some newborn health problems, could augment through home visits the identification of a significant proportion of the 60% of neonates who die after 2 days of life in the community. The pilot Integrated Management of Neonatal and Childhood Illnesses (IMNCI) intervention by health workers in the Border District Cluster Strategy (BDCS) districts in collaboration with the UNICEF has demonstrated that AWWs do have the capacity to provide home-based newborn care and identify most sick newborns.

It is equally important to empower communities, families and the mother, so that they seek and demand care for the mother and her newborn. This stems from the observation that among communities in India women and newborn health is accorded a low priority, especially if the newborn is a female infant. Second, even if families opt to take sick newborns to hospitals, transportation, finances and the poor image of public health institutions hinder the sick neonate from receiving the care it requires.

The choice of the institution where a sick newborn needs to be referred has been a matter of frequent debate. During the Child Survival and Safe Motherhood (CSSM) intervention, operationalization of newborn care was initiated at district level. This included training in newborn care of medical officers (MOs) and nurses at the Primary Health Centre (PHC), first referral unit (FRU) and District Hospitals in 30 districts along with the supply of essential (indigenously manufactured) neonatal care equipment. This project was implemented by the National Neonatology Forum (NNF) with support from the Government of India (GOI). The project monitoring report revealed that at PHCs and FRUs the utilization of neonatal care equipment such as weighing machines, thermometers and warmers was a mere 50% (in some facilities the NNF review staff found the equipment still in their packing cases even after a year). Most of the trained medical staff had been transferred and the new incumbents were unaware of the use of the equipment or the principles of essential newborn care. The situation in District Hospitals was better but still well below optimum in spite of the presence of a specialist paediatrician. During the Reproductive and Child Health (RCH)-I Programme, an essential newborn care package was incorporated for training at all levels. The training and supply of equipment was extended to more districts, the involvement of nurses was augmented and obstetricians were also included in a three-day training package at the District Hospital. Unfortunately, no evaluation of its implementation during RCH-I is available. However, the experience of neonatal care specialists in India, who have been involved with these interventions for almost a decade, suggests that the facility must have a paediatrician and nurses, as well as minimal laboratory facilities if moderately sick newborns are to be treated. At

present, in most part of the country, it is either a District Hospital or a similar facility, and in some regions it could be an FRU or a small nursing home/hospital.

There is also a need for some tertiary care facilities which can cater to the needs of very sick newborns. In the governmental health system, medical colleges are expected to play this role. Unfortunately, the state of these institutions is dismal, with respect to availability of manpower (both teaching and paramedical), equipment and other support infrastructure. Even the basic newborn care equipment that is being supplied to District Hospitals/FRUs is not available here. This disparity stems from the fact that central funding from the Department of Family Welfare supports non-teaching health institutions in the State through its national programmes, while the finance-drained State Directorates of Medical Education are expected to fund medical colleges. There is an urgent need to ensure that this anomaly is corrected. This becomes even more urgent now that child health is an independent subject for training and examination at the MB,BS level and 25% of this training is meant for newborn health. If medical colleges are poorly equipped and starved of quality care, the quality and competence of our medical graduate students is bound to be poor and reflect ultimately in the health care provided, and the morbidity and mortality statistics of the nation.

### Child health interventions

While a number of vertical programmes have been initiated to address the issue of child health and mortality, it is evident that the success of these programmes has been partial. The immunization programme has been successful in reducing the proportion of vaccine-preventable diseases (VPDs), but the diarrhoea control programme has been only partially effective in reducing the proportion of under-5 mortality. Estimations of the burden of diarrhoeal diseases in India by the National Institute of Cholera and Enteric Diseases (NICED) indicate that diarrhoeal diseases contribute to about 9.1% of deaths in the age group of 0–6 years. It has been further estimated that the years of life lost (YLL) due to diarrhoeal diseases in the 0–6 years' population presently contribute to about 98% of disability-adjusted life-years (DALYs) and would probably remain unchanged over the next decade till 2016. It clearly indicates the need to shift gears to address the projected stagnation in diarrhoea-related mortality among children. However, pneumonia-related deaths, childhood tuberculosis and undernutrition still remain major problems. This reflects the problems in the Acute Respiratory tract Infections (ARI) Control Programme, the Revised National Tuberculosis Control Programme (RNTCP) vis-à-vis childhood tuberculosis (the new RNTCP guidelines for childhood TB have been published only this year and it is hoped that these will fill the existing void) and numerous nutrition-related programmes. Most importantly, all these vertical single-

disease interventions have not taken cognizance of the one fact that sick children (especially those under 5 years of age) invariably suffer from more than one illness and are also often undernourished and unimmunized. There is a need to look at sick children holistically both when they come as outpatients and while treating them as inpatients. The IMNCI package of the WHO attempts to fill this gap and also provides modules for inpatient treatment of childhood illnesses (this component has not been evaluated nor adapted for India). However, one of the major hurdles

in its implementation is the training schedule. In the RCH-II, the IMNCI has been incorporated as a major package for intervention. There is a need to evaluate the capacity of the health system to train the enormous cadre of health care providers required. One needs to put into place a full-time nodal agency to oversee the training, follow-up and monitoring of its implementation. The implementation also requires health systems' augmentation; else this effort will also peter out as with all other programmes.