Editorial

Neonatal Survival and Beyond

The global burden of neonatal deaths is estimated to be 5 million of which 3.2 million deaths occur during the first week of life. Almost a quarter of the burden of neonatal mortality is shared by India with three babies dying every minute, and every fourth baby born being low birth weight. The problems faced by newborn infants vary significantly in different parts of the globe; even among developing nations there is much heterogeneity in the causes of neonatal morbidity and mortality. While planning and providing health care services to newborn infants, we have primarily looked at the information originating in specialized neonatal units rather than at the grass root level.

A networking of tertiary care centers by the National Neonatology Forum (NNF) and the Indian Council of Medical Research (ICMR) has contributed to the establishment of the National Neonatal-Perinatal Database(1). This has provided invaluable information on the dynamics and spectrum of neonatal diseases and death in these large centers. However, the reality of the problem that faces the country is vastly different and lies in the homes of rural and semi-urban India, rather than in the tertiary care setting. Of the 26 million babies born annually in our country, 65% are delivered at home and more than half by semi-skilled and unskilled Traditional Birth Attendants(TBAs)(2).

The Government of India has set a target of reducing the infant mortality rate from 64 to 30 per 1000 live births by the year 2010, which can only be possible if neonatal mortality is reduced from 44 to 20 in this period(3). However, there has been only a 15% decline in neonatal mortality during the 1990s that plateau in recent years(4). In a country as vast and varied as ours there is also much geographical variation in the rates of neonatal mortality; more than half of the burden of neonatal deaths is shared among three large states (Uttar Pradesh - 26%, Madhya Pradesh-13%, Bihar-12%)(5). Sepsis, asphyxia and prematurity are the primary causes of neonatal deaths in rural India. Hence plans and programs have to necessarily be tailor-made to meet the local requirements. The pioneering work from Gadchiroli among tribal population with none or minimal neonatal care services has shown that community interventions aimed to provide essential newborn care and treat sepsis effectively by dedicated community health workers could bring down neonatal mortality to a large extent(6).

While looking at the various causes of neonatal illness and death, we have often overlooked many other major factors influencing newborn care and survival. In a country plagued by differences of caste, creed, social and educational bias, we have often forgotten to link adverse social and cultural events to neonatal morbidity and mortality. Many contributory factors like poverty, illiteracy, poor maternal health, barriers to exclusive breastfeeding, harmful traditional practices and inadequate health care facilities and transport need to be studied in great detail and deficiencies adequately addressed before we expect to see a substantial dent in the indices of newborn health.

We do know that low birth weight contributes maximum directly or indirectly to

the high neonatal mortality. It is also true that anemia and poor nutritional status of the adolescent mother predisposes to low birth weight, which in turn compromises on the developmental outcome. Our challenge really is to reach out to all mothers and provide them basic antenatal are, safe delivery and essential newborn care. Lack of transport facility for in-utero transfer of a high-risk fetus to a centre with better facilities is probably the most critical stumbling block. Yet, we also now know that provision of services alone do not make a difference, as utilization of nearby facilities in the urban slums is often poor. Neonatal survival has to become the felt need of the community and in turn the family. Is there anyone who can help empower the family to seek appropriate help, support and guidance - for both medical and non-medical inputs? Providing a "family counsellor", a Unicef supported initiative in Tamilnadu may be the answer(7).

Over the past few years, several governmental and non-governmental agencies, both national and international, have joined hands to support a nationwide Neonatal Health Research Initiative (NHRI)(8). This has been under the auspices of the India Clinical Epidemiology Network (IndiaCLEN) with the active support of NNF, Ministry of Health-Government of India, Saving Newborn Lives, Johns Hopkins University and USAID. Under NHRI several multi-centric studies are being undertaken in many centers representing the entire country. This research is aimed at addressing many hitherto unexplored issues related to neonatal care. It would identify ways and means to provide neonatal care to normal, at risk and sick neonates in the community setting, so as to improve neonatal survival by supporting and sustaining existing health care infrastructure facilities.

Lack of adequate documentation has been a major problem for the health care providers to understand the magnitude and the socio-medical etiological factors that contribute to neonatal deaths. An important component of NHRI is to understand and document the perceptions of various stakeholders including mothers towards neonatal health and comprehend the dynamics of health seeking behavior of the community. Also, the community's perception of major neonatal health problems, their decision-making process and the factors influencing health seeking behavior can be recognized. The views of providers and facilitators on neonatal health issues at various levels have been explored. As part of this research various tools have been developed to identify the volume and reasons for neonatal mortality among various communities in the country. Validation of these tools viz. social and verbal autopsy modules is being done.

Beyond this, the need to monitor and maintain a system of disease surveillance has been identified. Key aspects of this would include the etiology and pathogenesis of neonatal infections, interventions for birth asphyxia and effective care of low birth weight infants in the community. With the completion of the formative phase of NHRI, it is hoped that many solutions to the unanswered questions on neonatal health-related issues can be made available to those involved in neonatal care. These new initiatives would address important social issues and by working with the government and non-governmental agencies, it would definitely help strengthen basic infrastructure to implement essential newborn care at the community level and thus would have a significant impact on newborn survival.

In the recent past there has been a mushrooming of 'neonatal intensive care units' especially in the urban areas and

metropolis. A large number of medical personnel have received training in new and advanced treatment modalities. In these units, management is directed towards salvaging the tiniest of babies with sophisticated and expensive techniques such as new modes of ventilation, administration of surfactant and total parenteral nutrition. Sadly enough, the support systems needed for further growth and development of these particularly vulnerable babies has not been adequately developed and thus these NICU graduates often struggle to have an optimum long-term outcome and often with an increased risk for future psychomotor retardation. Hence, the Academy in association with the National Neonatology Forum proposes to organize neuro-developmental follow up programs and promote developmental friendly well-baby clinics at all pediatric facilities(9).

The goals and concerns of the two organizations have been largely common *i.e*., improving child survival with special emphasis on neonatal survival. However, the status and quality of neonatal and child health remains unsatisfactory in India, and therefore, the two organizations resolve to consolidate their ongoing partnership by looking at newer objectives and methods to improve the existing status of neonatal and child health in India(10). It is in this context that the Indian Academy of Pediatrics held a National Consultation Meeting on Child Survival and Development. The specific recommendations of the neonatal mortality and morbidity group were as follows(11);

– Ensure skilled birth attendants at all deliveries
– Identify all high-risk mothers and newborns and timely and proper referral of the same
– Training of all workers including TBAs in ANC, identification and initial management of birth asphyxia, low birth weight (LBW) and sepsis.
– Creation of additional cadre of health care workers for community and home-based newborn care with compulsory home visits on Day1, 7, 14, 28 in the first month through the gram pachayath system.
– Special emphasis to ensure exclusive breast feeding and immunization.

It is heartening to see that global institutions like the WHO, UNICEF, Gates Foundation and World Bank have been sensitized to a large extent, to commit funds and personnel to improve newborn care. Various strategies have taken their roots in our country in teaching and training health workers in newborn care. Thus the 'N' component has been added in India to the existing IMCI program, there is an important neonatal component in the integrated management of pregnancy and childbirth, and UNICEF has developed protocols for emergency neonatal (and obstetric) care(12).

Celebration of events such as the "Newborn Week" and "Breast Feeding Week" now make the headlines of national dailies at regular intervals. There is an increased awareness among the medical fraternity and in the non-medical community including policy-makers and politicians of the need to focus on neonatal issues and we do hope that the same would be reflected in the National Rural Health Mission.

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