Research Paper Public Health

Initiatives to Improve Newborn Health in India Progress in the Last Two Decades

* Dr. Himani Pandya

* B.D.S, M.P.H, Public Health Professional, 1152-A, Sector 11, Hiranmagri, Udaipur - 313001, Rajasthan, India

ABSTRACT

Newborn survival lays the foundation of child and adolescent health. Every baby has the fundamental right to survive in a healthy state. Neonatal Mortality is one of the most significant health challenges faced by developing world. Newborn deaths in India are almost 5-6 times of those in the developed nations. In order to alleviate mortality rate and improve child health, interventions need to be designed and implemented to target the newborn period specifically.

This paper describes the initiatives taken by Indian Government and other organizations over past two decades (1990-2010) to address the issue of newborn mortality including a range of home/community and hospital based interventions.

It concludes by stressing the need for a comprehensive research to evaluate and measure the combined impact of these initiatives in order to better plan, design and implement interventions for improving newborn health in India.

Keywords : Newborn Health, Neonatal Mortality, Newborn Survival

Introduction:

Every year, majority of child deaths in India occur during the newborn period (within first 28 days after birth) with a neonatal mortality rate (NMR) of 32 per 1000 live births in 2011 (CHERG,2012). Most of these deaths occur at home and are unrecorded. This state does not align with the status of India as a country excelling in other fields like economic growth and development.

During the last two decades, newborn survival has gained global attention and various efforts have been undertaken by governments to improve newborn health and reduce mortality. About 70% of all the 4 million newborns that die each year can be saved by low cost, lowtech interventions (Executive Summary, 2005).

UN Millenium Development Goal4 calls for a two third reduction in death rates for children under age of 5 from 1990 to 2015 and almost 40 percent of these deaths occur in neonatal period (MDG-4). Research studies have identified three major causes contributing to almost 85% of all neonatal deaths viz. prematurity and low birth weight, infections and inability to breathe after birth (Asphyxia) (State of World's Children, 2009).

As per UNICEF's progress report (CHERG,2012), over the last two decades, NMR in India has declined from 47 (1990) to 32 (2011). In order to achieve MDG 4, we need to reduce India's NMR to 16 by 2015 which implicates a need for 50% further reduction from 2011 figure. From 1990 to 2011, various efforts have been undertaken in India at national, regional and local levels to improve child survival and reduce newborn deaths.

Public Health System in India

India is a vibrant country with a varied mix of public and private sector health care. 80% qualified medical doctors are in the private sector most of which is limited to urban areas (NNF, 2004). The public health system consists of Sub centers, Primary Health Centers (PHC), Community Health Centers (CHC), District hospitals and Medical Colleges ranging from villages to districts and divided according to population covered with subcenter as smallest unit (1 for 5000 population) and teaching hospital being the highest unit (1 for >30,00,000) (IPHS). Health care in these hospitals is provided by nurses, medical officers and specialist doctors.

Components of Newborn care

Newborn care in Indian public health system ranges from cost effective home/community care upto intensive care for sick babies in expensive hospital settings (Chart1).

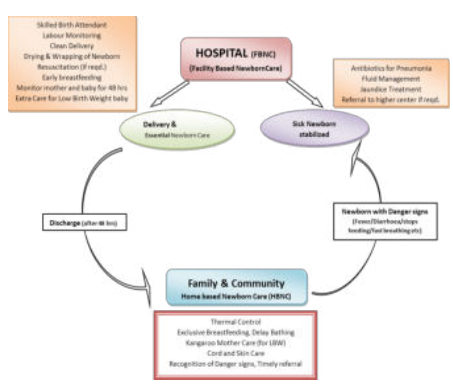

Chart 1: Components of Newborn Care

Facility (Hospital) based Newborn Care (FBNC) Vs Community/Home based Newborn Care (HBNC):

- **FBNC**

It consists of newborn care undertaken in a health facility/hospital and includes Essential Newborn Care (ENC) immediately after delivery (drying and wrapping of baby, thermal control, initiating early breastfeeding, resuscitation for babies unable to breathe and monitoring the baby till discharge from hospital). If danger signs are detected in hospital or after discharge, baby requires sick newborn care which includes antibiotics for sepsis and other infections, fluid management, treatment of jaundice and respiratory distress. Such babies need strict monitoring round the clock and have to be referred to a higher center if there are no signs of improvement. FBNC requires skilled staff such as trained nurses, medical officer or Pediatrician along with neonatal care equipment and infrastructure

in the hospital (FBNC, 2011).

- **HBNC**

Newborn care undertaken in home/community settings starts after the baby is brought home and includes regular breastfeeding, keeping the baby warm, Kangaroo mother care for Low Birth Weight (LBW) babies, cord and skin care, timely recognition of danger signs and prompt referral to a nearby hospital. It also includes ENC for babies delivered at home. HBNC is a low cost care that can be provided by community health workers such as ASHAs and Traditional Birth Attendants (TBA/Dai) at the level of village/family with minimum resources (HBNC, 2011).

Studies by various authors have shown that HBNC interventions can prevent upto 30-60% newborn deaths in high mortality settings (WHO/UNICEF, 2009). Henceforth, the WHO/UNICEF joint statement recommends home visits by health workers in the first month of newborn's life. At the same time, babies with morbidities such as sepsis, pneumonia and jaundice require facility/hospital based care which can reduce NMR by 25-30% (Darmstadt,et al.,2005) and demands the need for FBNC. A combination of HBNC and FBNC is mandatory in any health system in order to improve overall newborn survival.

Initiatives to improve Newborn and Child Health in India

These initiatives fall in three broad categories viz. Policies, Programmes and Projects/other initiatives. They have been summarized in ascending order of their launch year in the table below followed by details (Chart 2 and 3).

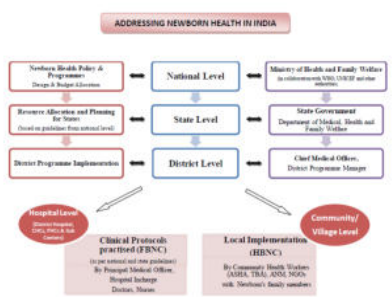

Chart 2: Addressing Newborn Health in India

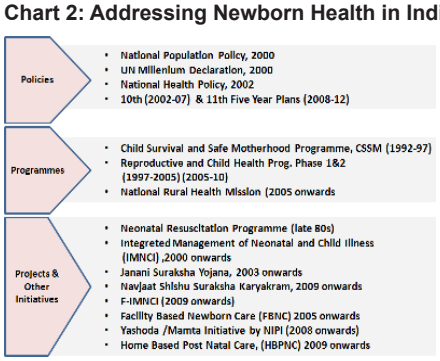

Chart 3: Initiatives for Newborn Health in India (NNF, 2004)

1) POLICIES

- **National Population Policy 2000 (NPP):** The central government took steps to incorporate newborn and maternal health in national policy in 2000 by forming NPP as a policy framework for improving child health as a national agenda. NPP consisted of an integreted delivery of basic reproductive and child health services and aimed at reducing NMR to 20 per 1000 live births by the year 2010.
- **Millenium Declaration, 2000:** India is a signatory to the United Nations' MDGs and thereby committed to reduce under-5 child mortality to two thirds from 1990 to 2015.
- **National Health Policy,2002 (NHP):** It was focussed on improving health infrastructure in deficient areas and increase the allocation of resources to primary health care by 2% of GDP by 2010 thereby contributing to better services for reproductive and child health.
- **Five Year Plans:** The 10th (2002-07) and 11th five year plans (2008-12) include strategies to address newborn care by targeting a decline of NMR to 26 by 2007 (NNF,2004) and IMR to 28 by 2012 (Annual Report, 2010), made budget provisions for improving ENC, TBA and Midwives' training on newborn care, HBNC and equipping hospitals with newborn care facilities.

2) PROGRAMMES

- **Child Survival and Safe Motherhood Programme CSSM (1992-97)**

It introduced ENC for the first time as a national priority and included strengthening of PHCs, CHCs, District Hospitals and training physicians.

- **Reproductive and Child Health Programme (RCH):**

It integretes maternal, neonatal and child health services and was launched in two phases with Phase 1 extending from 1997-2005 and Phase 2 from 2005-10. RCH 2 is integreted to National Rural Health Mission (NRHM) and incorporates a comprehensive newborn care strategy covering household, community and facility level activites that aimed to reduce NMR to <20 by 2010 (NNF,2004). The components of newborn care in RCH include HBNC, management of sick neonates at community level, extra care for LBW newborns, facilitate referrals for sick newborns and upgrading PHCs and CHCs to provide care to inpatient and outpatient newborns.

RCH launched various programmes and schemes under its purview such as JSY, FBNC and NSSK to address maternal and child health issues. (described in further sections)

- **National Rural Health Mission:**

It is a major flagship programme of the Indian government focussed on 18 states to ensure effective delivery of health interventions at a wider level and integretes various health programmes including RCH. It aims to reduce Maternal and Infant mortality (deaths <1year) by a range of interventions including strengthening the public health service delivery infrastructure, increase the number of doctors and nurses and recruit a special cader of community/village level workers called Accredited Social Health Workers (ASHA) (NRHM,2005). It has substantially increased the number of institutional deliveries in India (Iyengar, et al.2008), promoted ENC and achieved other outcomes due to which there are plans of its extension upto 2017.

3) PROJECTS & OTHER INITIATIVES

- **Neonatal Resuscitation Program (NRP)**

It was an initiative by National Neonatology Forum (NNF) in collaboration with American Academy of Pediatrics in late 80s to disseminate guidelines and protocols on neonatal resuscitation for babies who do not breathe immediately after birth through conducting workshops at a national level. It led to significant improvement in awareness of policy makers and health workers towards newborn care, improved resuscitation practices and fewer deaths from asphyxia.

- **Integreted Management of Neonatal and Childhood Illness (IMNCI):**

Since 2000, Government of India along with WHO and UNICEF initiated IMCI (Integreted Management of Childhod Illnesses) adopted from WHO, to which a neonatal component was added later. It includes national level training programs for community health workers (CHWs) including care for young infant (birth to 6 months) and sick child (upto 5 years). It also includes a home based care package for newborns which is being delivered by CHWs through home visits in post natal period.

- **Janani Suraksha Yojana, 2003 (JSY)**

It is a cash benefit scheme, launched in April, 2003 by Ministry of Health and Family Welfare, India as part of RCH2. It has a dual objective of reducing maternal and infant mortality by

providing cash incentive to families for promoting institutional deliveries in government hospitals.

Additional neonatal component was added to this scheme in June, 2011 and it was modified to Janani Shishu Suraksha Karyakram (JSSK) which includes cashless health services for the newborn including ENC in all institutional deliveries and sick newborn care in addition to the previous components. It has been designed to mitigate the burden of out of pocket expenses for deliveries and sick newborns (JSSK, 2011).

- **Navjaat Shishu Suraksha Karyakram (NSSK)**

Launched in 2009 by the Ministry of Health, it includes a two days training package for doctors and nurses on ENC and ensures the presence of a trained health care provider in every hospital where deliveries are conducted (NSSK, 2009).

- **Facility based IMNCI (F-IMNCI):**

It is a facility based version of IMNCI launched to address the need for undertaking newborn care in low resource settings. It was introduced by Ministry of Health and Family Welfare, India and UNICEF in 2009 as a training package to equip hospital staff with appropriate knowledge and skills to undertake ENC and sick newborn care at the level of CHCs, 24*7 PHCs and district hospitals by nurses even in the absence of a paediatrician (F-IMNCI, 2009).

- **FBNC**

Considering the need for special care of sick newborns which can't be undertaken easily at home/community settings, Ministry of Health and Family Welfare in collaboration with NNF and UNICEF initiated the concept of FBNC under the umbrella of RCH2, which includes establishment of Neonatal care Units such as Sick newborn care units (SNCUs) in District Hospitals, Newborn Stabilization units (NSUs) in CHCs and Newborn care corners (NBCCs) in every delivery room, training package for doctors and nurses on standard clinical protocols and guidelines for hospital based care of sick newborns at various levels (Chart 4).

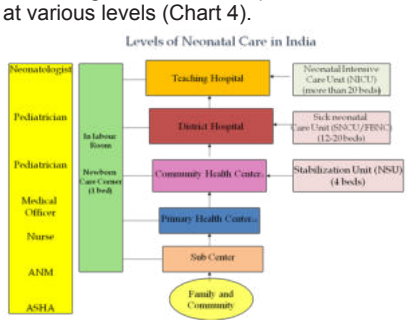

Chart 4: Levels of Neonatal Care in India (IPHS)

- **Yashoda/Mamta Initiative, 2008**

Norway India Partnership Initiative (NIPI) in collaboration with government of Rajasthan and Bihar, introduced a cader of trained female health workers in district hospitals called Yashoda/Mamta, who are paid a performance linked incentive and undertake tasks such as supporting pregnant women, counselling mothers on immediate and exclusive breast feeding, nutrition for mother and newborn, immunization and family planning (NIPI, 2008).

- **Home Based Post Natal Care (HBPNC):** Launched in 2009 by NIPI in few focus states, it consists of a package of interventions that target the period from pregnancy to child birth and after delivery in community setting and links HBNC with FBNC by identifying danger signs in newborns and facilitating timely referral (NIPI,2009).

In addition to the above mentioned initiatives, various small scale programmes and projects were implemented at state or local levels in various parts of India since last two decades through authorities such as Health department; Government of India, Indian Council of Medical Research, UNICEF, Indian Academy of Pediatrics, Breast feeding Promotion Network of India and some international funders.

Moreover, various community based organizations have conducted small and large scale research trials in different parts of India to develop and test interventions on newborn care delivered through CHWs in villages.

Conclusion

Over the last two decades (1990-2010), various efforts have been taken by different authorities including the Indian government in order to address the issue of newborn mortality. As per Executive Summary (2005), if presently available, known and affordable interventions such as exclusive breastfeeding, clean delivery, resuscitation, temperature management, timely recognition and treatment of danger signs are universalized, newborn health and survival in India can be drastically improved. All these interventions are being incorporated and implemented at different scales as part of the past and present intiatives ongoing in India.

Although NMR has decreased over this period, currently there is a lack of conclusive research evidence that attributes this decline exclusively to afore mentioned initiatives. To measure the impact of these initiatives and draw conclusions about their effect on improving newborn health, detailed evaluation studies are required. A few such studies and evaluations have been conducted that focus on some specific initiatives (such as NRHM evaluation by Planning Commission) but none of them takes a comprehensive look at the combined impact of all these efforts.

In order to determine the way forward as to which new initiative should be introduced, which of the present ones should be continued/scaled up and which ones should be stopped, a detailed evaluation of all these programmes and policies is required which takes a holistic approach in order to better plan, design and implement interventions for improving newborn health in India.

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