

## Neonatal Resuscitation Program: First Golden Minute

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Every child that is born, it brings with it the hope that God is not yet disappointed with man

–*Rabindranath Tagore*

**B**irth of a newborn baby is a special moment of joy with lot of expectations. However the first minute after birth is full of anxious moments and rapid physiological adjustments. Most babies go through the transition successfully as a matter of routine; 10% however, may need varying degree of assistance. Opportunity lost to provide needed assistance at this time would be a crucial impediment for saving these babies. Many babies who survive birth asphyxia go on to suffer from cerebral palsy, learning difficulties and other disabilities.

Why birth asphyxia is a cause of concern? It contributes to about 23% of neonatal deaths! In India there are one million neonatal deaths every year, representing about a quarter of all global neonatal deaths(1). Impact of birth asphyxia on childhood mortality is thus substantial. United Nations Millennium Development Goal 4 (MDG 4) targets the reduction of under-5 child deaths by two-thirds between 1990 and 2015. For this to happen it is obvious that neonatal mortality rate has to be brought down substantially and intervention directed towards neonatal resuscitation should receive priority.

What are the settings where newborn resuscitation needs is to be carried out? These include practically all the settings where asphyxiated babies are born, including: community

or domiciliary settings for home births; rural health centers/midwifery stations, where attendants with basic resuscitation skills might be available; district-level facilities where staff are available but skills vary; and urban referral and tertiary care centers. Individuals at all these levels require training(2).

### NEONATAL RESUSCITATION PROGRAM (NRP)

The American Academy of Pediatrics (AAP) and American Heart Association (AHA) developed Neonatal Resuscitation Program (NRP) in 1987 to provide resuscitation training to all delivery attendants. “Twenty years ago, the NRP was a new concept ahead of its time that addressed a need or a standardized course. At that time, we didn’t realize how revolutionary this program really was,” explained Dr. Errol R. Alden, Executive Director of the AAP. “Before the NRP, people weren’t following a particular protocol. Now, we have scientific evidence and a standardized approach to resuscitation”. While launching the first course of NRP, Dr. William Keenan, a founding member of the NRP and Professor of Pediatrics and Director, Neonatal-Perinatal Medicine, St. Louis University in Missouri said “We had put hundreds of hours into the development of these NRP materials, yet we were still trying to improve it for our debut.”(3).

Though Neonatal Resuscitation training has been widely used in the developed world it had

limited dissemination in developing countries, where it has great potential. "We're all quite convinced that, with the expertise of the NRP, the program is a very valuable tool for saving newborn lives and if implemented properly, can reduce infant mortality in developing countries," said Dr. Robert B. Clark, a volunteer consultant to Latter-day Saint Charities (LDSC), a volunteer-driven organization which sponsors NRP efforts in Turkey. NRP has made an impact by bringing down neonatal mortality rates in Turkey from 41 to 29 per 1000 live births between 1998 to 2003. LDSC is now working in India with same mission. In China, in 2003 a multidisciplinary partnership made a 5-year commitment to set up "Freedom of Breath, Foundation of Life: China Neonatal Resuscitation Program." Today, the NRP is a thriving program with more than 27,000 active NRP instructors and over 2.2 million providers who have received NRP training in the United States and abroad. The NRP has been taught in 124 countries and translated into 25 different languages(3).

#### **NRP IN INDIA AND WAY FORWARD**

Since the introduction of NRP, training programs for instructors and providers have been launched in India, under the aegis of the National Neonatology Forum (NNF). The initial goal was to train the trainers and provide them with the necessary equipment. The NNF created a national faculty of 150 pediatricians and nurses for NRP by conducting certification courses in various regions of the country. The certified faculty members in turn trained 12,000 healthcare professionals in various parts of India over the following 2 years. Simultaneously, in several teaching institutions, NRP was introduced into the curricula of medical and nursing students(4). NNF has done a great service in initiating NRP program in India and its subsequent propagation. However for a country of the size of India with 27 million deliveries per year the program need to be upscaled substantially. To have a skilled birth attendants trained for every delivery, more than 0.25 million health professionals needed to be trained in NRP including physicians, pediatricians, obstetricians, anesthetists, nurses, midwives and other categories. It is also essential that such skilled professionals

are available in a short period of time to meet the requirement of MDG4 goal deadline of 2015. This would require massive organizational support.

Indian Academy of Pediatrics(IAP), has an efficient network of more than 17,000 pediatricians with 26 state branches and 282 regional/district/city level branches. IAP also influences thousands of other pediatricians and medical practitioners who are not its members but who follow IAP policies. Along with Federation of Obstetrics and Gynecological Society of India (FOGSI) with 26000 members and NNF with 3000 members (many of them are also IAP members), it is possible to create a formidable network to extend the reach of NRP to all settings where neonates are delivered. Forming an alliance with other health care professional organizations including Indian Society of Perinatology and Reproductive Biology (ISOPARB), Trained Nurses Association of India(TNAI), Society of Midwives of India, etc. would further strengthen the organizational network.

#### **FIRST GOLDEN MINUTE AND NRP ROLL OUT PLAN**

To recognize the importance of first minute after birth, IAP plans to start the NRP program naming it as "First Golden Minute". The program aims to develop an efficient, cost effective and sustainable system for on-going training and monitoring of NRP in India. It is important that the program fulfills needs of large scale training and periodic re-training and continuous evaluation with emphasis on quality control. By working with other partners of NRP collaboration and the Government, IAP intends to develop, refine and implement a system that takes care of these needs. These systems, along with the information collected on their relative efficiency, will be a key resource for improving neonatal resuscitation practices in the country.

Starting in 2009, we plan to create 100 regional trainers immediately with full NRP course. Faculty from IAP, AAP and LDSC will be involved in the training. This will be followed by District level instructor courses to train 300 pediatricians from states with high childhood mortality; district instructors in turn will impart skills on basic NRP

to about 4000 health professionals through provider courses. Additionally advanced NRP courses would also be carried out in other states with provision of more provider courses. It is estimated that by the year end, 5000 health professionals would be imparted skill in neonatal resuscitation based on NRP. In subsequent years, program would be intensified with ultimate aim of having skilled birth attendant for every delivery in about 5 years time. IAP will issue Instructor Cards valid for two years to various levels of Instructors and providers, and also arrange for revalidation every two years. A web support and data management system will also be developed to support the program. A dedicated person will be employed to work as NRP coordinator at IAP office for supporting NRP management and data entry.

It is time that all health care professional

organizations engaged in newborn care join hands to facilitate every newborn's right to have a birth attendant skilled in basic neonatal resuscitation, at the time of delivery.

#### REFERENCES

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