Helping Babies Breathe
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Outline

• The problem
• A solution
• The evidence
• Hands-on

*The majority of these slides are from Dr. Carl Bose’s presentation at the 2015 AAP NCE*
Global Neonatal Health

• 3.8 neonatal deaths (3.2 million stillbirths)
• ~3x deaths due to HIV/AIDS and malaria combined
• > 400 neonatal deaths each hour

Most of these deaths are preventable!
Where do most neonatal deaths occur?

What Causes Neonatal Death?

The 3 main causes of all newborn deaths are preventable and treatable:

- Complications from preterm birth (35%)
- Vitamin A deficiencies (23%)
- Neonatal infections (23%)
- Sepsis and meningitis (13%)
- Pneumonia (11%)
- Tetanus (2%)
- Other (6%)
- Congenital (9%)
- Diarrhoea (2%)

What Causes Neonatal Death?
What can be done?

- Preterm labor management
- KMC
- Alternate feeding techniques
- Cord care
- Improved hygiene
- Exclusive breastfeeding

Access to newborn resuscitation is severely limited

Asphyxia: Major cause of newborn death

Total newborn deaths: 3.1 million

- Preterm 35%
- Infections 27%
- Congenital 9%
- Asphyxia 23%
- Other 6%

Helping Babies Survive

Helping Babies Breathe®
A Global Public-Private Alliance
The Helping Babies Survive Programs: Educational Programs to Improve Neonatal Outcomes

2015 NRP® Current Issues Seminar
EDUCATIONAL DESIGN

SIMPLE

HANDS ON

CO-OPERATIVE LEARNING
EDUCATIONAL DESIGN
PURPOSEFUL DEVELOPMENT OF EDUCATIONAL MODELS

Bag and Mask Ventilation

Expression breast milk

Nasogastric tube feeding
Spurs new medical device innovations

- Openable for cleaning
- Boilable for disinfection
- Reusable 100s of times
- Highly affordable ($ 3)

- Better mask seal
- Fewer parts
- Easier to clean
- Lower cost
Helping Babies Breathe (HBB)

Action Plan
Helping Babies Breathe Materials

- Neonatal Simulator
- Bag and Mask
- Suction Device
- Action Plan
- Facilitator Flip Chart
- Learner Workbook
Results from the Field: Tanzania

Newborn Medicine
Georgina Lamayila, Karim Maiga, Hege

**WHAT THIS STUDY ADDS:** The Helping Babies Breathe program was implemented in 8 hospitals in Tanzania in 2009. It has been associated with a sustained 47% reduction in early neonatal mortality within 24 hours and a 24% reduction in fresh stillbirths after 2 years.

DOI: 10.1542/peds.2012-1795
Results from the Field: Nepal

Reducing Perinatal Mortality in Nepal Using Helping Babies Breathe

Ashish KC, MBBS, MHCM, PhD,†,‡ Johan Wrammert, MD,§ Robert B. Clark, MD, MPH,*** Uwe Ewald, MD, PhD,⊥ Ravi Vitrakoti, MSc,⊥ Pushpa Chaudhary, MBBS, MD,⊥ Asha Pun, MBBS, MPH,⊥ Hendrikus Raaijmakers, MD, MPH,⊥ Mats Målnqvist, MD, PhD⊥

*Pediatrics. 2016; 137(6):e20150117*
Lots of ongoing research

**Evaluation of Helping Babies Breathe Quality Improvement Cycle (HBB-QIC) on retention of neonatal resuscitation skills six months after training in Nepal**

Ashish KC, Johan Wermeling, Viktoria Nevin, Robert Clark, Uwe Ewald, Stefan Sweering Peterson, Mats Milbyest, Uppsala University Publications, November 2015

Each year 700,000 infants die due to intrapartum-related complications. Helping Babies Breathe (HBB) uses an algorithm to increase knowledge and improve skills on neonatal resuscitation. READ MORE

**Educational Outcomes of Helping Babies Breathe Training at a Community Hospital in Honduras**

Teresa Sato, Meredith Tabanig, Shrema Joytulla, Kathryn K. Taylor, Juan Carlos Vasquez, Becca D. Kamath-Rayma, Perspectives, Oct 2013, 43(5) 225-32; doi: 10.1001/mededir.2013.014-8

Helping Babies Breathe is an evidence-based curriculum designed to teach basic neonatal resuscitation in low-resource countries. The purpose of this study was to evaluate the acquisition of knowledge and skills following this training and to correlate the characteristics of performance in Spanish-speaking setting. READ MORE

**Cost-Effectiveness of the “Helping Babies Breathe” Program in a Missionary Hospital in Rural Tanzania**


The Helping Babies Breathe™ (HBB) program is an evidence-based curriculum for basic neonatal care and resuscitation, utilizing simulation-based training to educate large numbers of birth attendants in low-resource countries. We analyzed its cost-effectiveness at a faith-based Haydam Lutheran Hospital (HLH) in rural Tanzania. READ MORE

**Beyond Newborn Survival: The Global Burden of Disease Due to Neonatal Morbidity**


This supplement includes six research articles presenting the first systematic estimates of impact after neonatal morbidity, bringing together the work of almost 50 authors representing 26 institutions from 12 countries, from more than a thousand different data inputs. READ MORE

**Resuscitation in Resource-Limited Settings**

H.L. Enebeli, N. Sighat, Paediatr. Neonatal Medicine, Dec 2013, 18(8), 373-375; doi: 10.1016/j.pnm.2013.07.001

Intrapartum-related hypoxy leading to deaths and disabilities continues to be a global challenge, especially in resource-limited settings. Primary prevention during labour is likely to have a significant impact, but secondary prevention with focus on immediate basic stabilization at birth can effectively reduce a large proportion of these adverse outcomes as demonstrated in the resource-rich settings. READ MORE

**Helping Babies Breathe” Training in Sub-Saharan Africa: Educational Impact and Learner Impressions**


Poor resuscitation contributes significantly to neonatal deaths globally. Helping Babies Breathe (HBB) is a new evidence-based neonatal resuscitation curriculum for low-resource settings. We sought to characterize knowledge changes after national-level HBB training in Ethiopia; factors correlated with successful training, resuscitation skills and trainee’s perceptions. READ MORE

**Stillbirth and Newborn Mortality in India After Helping Babies Breathe Training**


This study evaluated the effectiveness of Helping Babies Breathe (HBB) newborn care and resuscitation training for birth attendants in reducing stillbirth (SB), and perinatal and neonatal mortality (PMN). India contributes to a large proportion of the world’s annual 3.1 million neonatal deaths and 2.6 million SBs. READ MORE

**Addressing High Infant Mortality in the Developing World: A Glimmer of Hope**

John Kuttenwein, Pediatrics, Feb 2013, 131(2); doi:10.1542/peds.2012-3171

Extraordinary progress has been made in reducing infant mortality in the developed world over the past 7 decades, with death rates during the first year of life falling by more than 90% since my own birth in 1944. However, infant mortality rates in the developing world are still nearly 10 times higher than in the United States. READ MORE

**Appropriate Interventions to Reduce Perinatal Mortality and Morbidity in Low-Resourced Settings**


To meet the Millennium Development Goal (MDG) 4, a significant reduction in early neonatal mortality is required. It is necessary to define appropriate and effective low-tech interventions that can be implemented with high coverage and low-costs worldwide. READ MORE

**Implementing a simplified neonatal resuscitation protocol helping babies breathe at birth (HBB) – at a tertiary level hospital in Nepal for an increased perinatal survival**


Reducing neonatal death has been an emerging challenge in low and middle income countries in the past decade. The development of the low cost interventions and their effective delivery are needed to reduce deaths from birth asphyxia. READ MORE
Essential Care for Every Baby (ECEB)

Action Plan
Essential Care for Every Baby

Materials

- Action Plan
- Facilitator Flipchart
- Provider Guide
- Parent Guide
Essential Care for Every Baby

Parent Guide

Danger Signs

Seek health care immediately!

- Not feeding
- Too hot or too cold
- Chest indrawing or fast breathing
- No movement
- Convulsions
- Yellow palms or soles of feet

Help your baby survive

NOTES
- Baby's birth weight: 
- Date and location of next follow-up appointment:
- Clinic:
- Health worker contact:
- Other notes:

OBSERVATIONS AND ADVICE

Helping Babies Survive
Essential Care for Small Babies (ECSB)

Action Plan
Essential Care for Small Babies

**Materials**

- Action Plan
- Facilitator Flipchart
- Provider Guide
- Parent Guide
If a baby is small
Support breastfeeding

To provide the best nutrition
Expression of Breast Milk
The Helping Babies Survive Programs

- Improved resuscitation
- Preterm labor management
- KMC
- Alternate feeding techniques
- Cord care
- Improved hygiene
- Exclusive breastfeeding

Review Key Knowledge

Breast milk is the best food for small babies. Small babies may not have the skills or strength to feed at the breast initially. Mothers attempting to breastfeed a small baby require extra support and encouragement.

Support the special needs of a small baby who is attempting breastfeeding with:
- Nipple stimulation prior to feeding
- Added attention to positioning and supporting head
- Early licking and practice at breast
- Manual expression of breast milk into baby's mouth
- Awakening baby when changing to opposite breast

Evaluate the baby's effectiveness at breastfeeding:
- Wakes and shows feeding readiness cues.
- Latches, suckles steadily with pauses, and swallows audibly.

-Feeds without choking, turning blue or pale.
- Mother reports breast softening.

A baby who is adequately fed:
- Breastfeeds for at least 10 minutes per side.
- Sleeps comfortably between feedings every 2-3 hours.
- Has 6-8 wet diapers a day.
- Loses no more than 10% of birth weight.

If a baby cannot breastfeed effectively, support mother's breast milk production and use an alternative feeding method as needed:
- Teach mother to express breast milk every 3 hours (page 29).
- Encourage time at breast during skin-to-skin care and reassess readiness to breastfeed daily.
- Ensure mother has adequate nutrition, increased fluid intake and care for medical problems.

Review Key Skills

Ask participants to work in pairs or groups of 3 to play the roles of the mother and the birth attendant. Enact the following scenario:

A 2000 gram baby is 3 days old and breastfeeding. Weight today is 1700 grams.
- Evaluate the baby's effectiveness at breastfeeding.
- Determine if the baby is breastfeeding adequately.

Change roles and repeat practice.

Monitor Key Indicators

What to monitor:
- How often do mothers receive counseling on breastfeeding?
- Do all mothers of small babies breastfeed or provide some breast milk?

Quality Improvement Strategies

To improve care in your facility, discuss:
- Who helps mothers and babies with breastfeeding in your facility?
- What methods help small babies breastfeed effectively?
Meet Neo Natalie
Helping Babies Breathe, ROC
THANK YOU!

Help babies breath if they do not cry at birth. Provide essential care to all babies. Keep small babies well and help them grow.

THANK YOU!