The Impact of Neonatal Resuscitation Training on Infant Outcomes in Low Resource Countries

Jill Bauer, MA, RN
Children’s Hospitals and Clinics of Minnesota, USA
Need for a Critical Review

- Personal experience
- Estimated 4 million infant die globally each year (almost half due to stillbirth or asphyxia) (Chombra et al., 2008; Lawn, Cousens, & Zupan, 2005; Opiyo et al., 2008).
- 99% of infant deaths occur in low resource countries
- 75% of infant deaths occur within the first 7 days of life and 50% occur within the intrapartum period
Method

- 46 articles reviewed: 2001-2012
- *John’s Hopkins Evidence Appraisal* method used to determine research quality and strength
- 23 articles accepted for review
- 23 articles rejected - content/quality/strength
Study Weaknesses

1. Missing or lacking verifiable accuracy
2. Poor quality data collection due to environment
3. Lack of organizational structure
4. Data corruption or bias
5. Lack of definition for asphyxia versus stillbirth
Major Findings...

Asphyxia  Prematurity

Neonatal Sepsis  Low Birth Weight

Leading causes of morbidity/mortality
Most morbidity and mortality occurs within first moments after birth...

Stillbirth? Asphyxia?
Resuscitation in Newborns

- <1% Required Advanced Resuscitation
- 5% Require Basic Resuscitation
- 10% Require Simple Stimulation at Birth
- 90% Require Only Basic Care

Low technology interventions can save many lives. An Estimated 23% of infant deaths related to perinatal asphyxia might be avoided with basic assessment and interventions (Lee et al., 2011)
Low technology interventions can save infant lives!
Study Findings Related to Sub-Saharan Africa

- 72-93% of birth attendants had no training
- 53-84% of facilities were missing basic equipment
- Health systems handicapped by lack of resources
- Lack of financial infrastructure, corruption and bureaucracy
Impact on Outcomes in Rural Africa

Bang et al., 2005/Gill et al., 2011

1. Volunteers work with Village Health Workers (VHW) in small rural areas of Africa

2. Train VHW in low technology resuscitation interventions at birth

3. Results - 65-67% reduction in neonatal mortality in those areas
Role of Nursing

Influential frontline caregivers

Promote health of patients, families, and communities through counseling, education, research, leadership, and service

Expertise and skill impacts patient outcomes
Education to Impact Morbidity/Mortality

- Low cost, low technology interventions
- Train hospitals, communities, and individuals
- Define and recognize asphyxia
- Bundle education
- Priority focus: Africa
- Include mother-care
Future Research ...

- Data collection
- Nursing leadership
- Training effectiveness
- Commitment, support, sustainability
- Effectiveness of trained birth attendants and village health workers
Thank you!