

The Sudan National Initiative : Helping Babies Breathe (HBB)



Lisa McCarthy Clark, DNP, CPNP-AC-Stony Brook Long Island Children's Hospital, New York, USA



Abdelmoniem M Hamid MD - Alneelein University, Khartoum, Sudan

Sami Ahmed, MD - University College, Cork, Ireland

C. Anthony Ryan, MD -University College, Cork, Ireland.



Introduction

- It is estimated that 25% of birth asphyxia accounts for neonatal deaths globally. 1
- In Sudan, 80% of births occur in the villages assisted by the community village midwife.
- Sudanese midwives (13,400 est.) have various levels of training: Village midwife program; Midwifery diploma schools; and in the University setting as a Nurse Midwives. 2
- Helping Babies Breathe (HBB) an evidenced based program developed by the American Academy of Pediatrics teach neonatal assessment and resuscitation techniques in resource-limited areas. 3
- Aim : the introduction of the HBB program will assist in the reduction of early neonatal deaths. The UN Development Goal 4: Reduce under-5 child mortality by two thirds by 2015.

SUDAN

It is estimated that Sudan's Total Population is 31,894,000 ; Current birth rate of 12/1000 (2011 est. rank 25); Infant mortality 68.07/1000 (2011 est. rank 20); with neonatal mortality rates of 41/1000 of live births.



HBB Program



A skilled birth attendant at all births.
Prepare for birth: have a clean area, prepared to resuscitate and an emergency birth plan.
For all infants, within the first minute after birth, a skilled birth attendant should:

- STIMULATE breathing
- ASSESS breathing
- INITIATE bag-and-mask ventilation for infant not breathing

Goal give the baby the "the Golden Minute"
Focus on the first minute of after delivery on newborn assessment; temperature control; stimulation; and ventilation assistance as needed for the newborn.

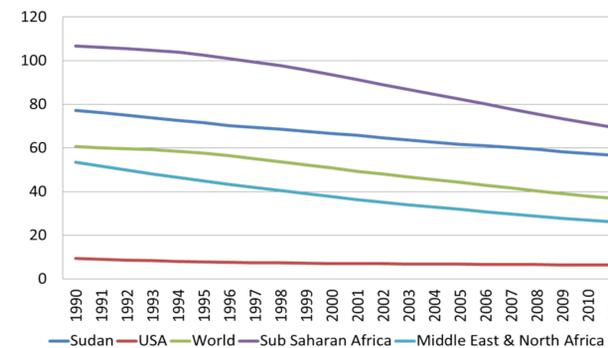


Methods

- Master and Facilitator Trainer courses were given over 4 days to 30 Physicians, 12 Sister Midwives, and 42 Health Visitors .
- A train-the-trainer model was designed to train village midwife in 17 states of Sudan in the 23 Continuous professional developmental (CPD) centers.
- Trainer Candidates were evaluated for teaching, skills performance, and knowledge of the HBB program.



Infant Mortality, Sudan and Others, 1990-2011



Results

EVALUATIONS	Master/42	Health Visitors/42
MCQ	16.6/17	15.14/17
Help a baby breath at birth	4.97/5	4.74/5
Teach the HBB curriculum to others	4.79/5	4.74/5
HBB Provider training:		
Routine care	4.79/5	4.97/5
Golden Minute: airway & stimulation	4.82/5	5.0/5
Golden Minute: ventilation	4.76/5	4.94/5
Continued ventilation-normal HR	4.66/5	4.94/5
Continued ventilation-slow HR	4.64/5	4.92/5
Mastering bag & mask	4.59/5	4.94/5

Conclusion

Candidates of the program for HBB demonstrated high satisfaction, high self-efficacy and gains in knowledge and skills.

Mastery of ventilation skills and integration of skills into case management was observed in the classroom setting.

To maintain skills, additional practice and continued learning of HBB are required with ongoing evaluation.

"Maternal and neonatal death is not part of the natural order when death is preventable."



References

- [1] Lawn JE, Lee ACC, Kinney M, et al. Two million intrapartum-related stillbirths and neonatal deaths: where, why, and what can be done? Int J Gynecol Obstet 2009;107(Suppl.):S5-19.
- [2] VM Carlson, MI Omer, SA Ibrahim, SE Ahmed, KJ O'Byrne, LC Kenny, CA Ryan "Fifty years of Sudanese hospital-based obstetric outcomes and an international partnership" BJORG, 14 September 2011.
- [3] <http://www.helpingbabiesbreathe.org/about.html>

Clark L., *Hamid A.,** Ahmed S.,*** Ryan C.A.***

Stony Brook Long Island Children's Hospital, New York, USA*,
Alneelain University, Sudan**, University College, Cork, Ireland***.



Abstract Title: The Sudan National Initiative Helping Babies Breathe (HBB),
Training of Trainers: Workshop Evaluation.

Objectives: The introduction and dissemination of the American Academy of Pediatrics Helping Babies Breathe (HBB). HBB is a simple neonatal resuscitation curriculum targeted at resource-limited circumstances by focusing on the first minute of after delivery including: newborn assessment; temperature control; stimulation; and ventilation assistance as needed for the newborn.

Background: It is estimated that Sudan's Total Population is 31,894,000 with a current birth rate of 36.12/1000 (2011 est. rank 25); Infant mortality 68.07/1000 (2011 est. rank 20); with neonatal mortality rates of 41/1000 of live births. It is estimated that 80% of births are not in hospitals but are assisted by the community village midwife. Presently, the 13,400 est. Sudanese midwives registered have various levels of training: Village midwife program; Midwifery diploma schools; and in the University setting as a Nurse Midwife.

Methods: With support from Irish AID and Sudan Federal & Local Ministries of Health, the program was developed for Master Trainer and Facilitator Trainer courses over 4 days for 30 physicians, 12 Sister midwives, and 42 health visitors who will then go out to train village midwives in 17 states and 23 CPD centers. All candidates were evaluated for teaching, skills performance, and knowledge of the HBB program. Candidates were chosen for their prior teaching skills and literacy. All US developed English learning materials, the learners' workbooks and clinical reminders were translated into Arabic.

Results: A multiple choice questions (MCQ) (80% passing) and post-training assessment of bag and mask skills, as well as 2 objective structured clinical evaluations (OSCE) were given.

English MCQ Results: Overall mean score of 98%; range of 71 to 100 with 2 scores below 80%. Arabic

MCQ Results: Overall average was 89%; range 71-100% with 8 scores below 80% Mastery of
ventilation skills was obtained by all candidates by the end of the second day.

Conclusions: Candidates of the program for HBB demonstrated high satisfaction, high self-efficacy and gains in knowledge and skills. Mastery of ventilation skills and integration of skills into case management was observed in the classroom setting. To maintain skills, additional practice and continued learning of HBB are required with ongoing evaluation.

Your submission number is: ASF-01-21-2013-11-52-34 Thank you for your submission! Submitted for the 2nd Annual Stony Brook Converging Science Summit