

ROTARY VOCATIONAL TRAINING TEAM UNIVERSITY OF GONDAR COLLEGE OF MEDICINE AND HEALTH SCIENCES TRIP 3 APRIL 4-19 2016 GLOBAL GRANT

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Purpose: Training of Trainers in Post Resuscitation Care of the Neonate Part 2

Four day instructor course: Over a 4 day period, 17 health care professionals (10 pediatricians, 1 nurse midwife instructor, 4 nursing instructors and 2 neonatal nurses) were trained in major topics of neonatal care in a course designed to prepare them to become instructors in post-resuscitation care of newborns for their colleagues and students. The curriculum included:

1. Pathophysiology and current techniques for treating perinatal asphyxia
2. Neurologic care of the neonate with encephalopathy
3. Diagnosis and treatment of neonatal infection including safe preparation of IV fluids and delivery of parenteral Gentamicin
4. Prevention of neonatal infection and techniques to reduce nursery acquired infection
5. Screening, diagnosis and treatment to prevent severe neonatal hyperbilirubinemia including introduction of transcutaneous bilirubinometer and methods to maximize the effectiveness of phototherapy.

Each module included care paths and care bundles which were modified by the Ethiopian instructors to be used as care protocols in the nursery. Active learning techniques included small and large group discussions, debate, games, and poster sessions, as well as skills practice and application of skills to clinical scenarios.

Provider course: Groups of 5 new instructors were mentored by the Rotary training team as they taught their first provider course. A total of three provider courses lasting 2 days each trained a total of 44 students (1 pediatrician, 8 pediatric residents, 6 general practitioners, 24 nurses, and 5 nursing instructors). Teaching methods included brief lectures followed by intensive skills stations using demonstration, return demonstration and scenarios and large group discussion about implementation.

One day leadership development workshop: Ms Yemeserach Balayneh, the head of Reproductive and Family Planning Services at the Packard Foundation in Ethiopia and a Rotarian, facilitated a one day workshop on leadership development and team dynamics. This workshop was opened up to a larger audience of health care workers at the University of Gondar College of Medicine and Health Sciences. Thirty-four participants from a variety of fields, including 27 nurses and 7 physicians, attended. The workshop started with small groups of 5 or 6 participants sharing personal histories with each other for the purpose of developing teams with distinctive identities and strengths. In the afternoon each team created a presentation which identified a specific problem which they have encountered in their workplace and a suggested program for solutions. Topics ranged from problems with the availability of oxygen for patient care to developing programs for effective hand hygiene to the need for visionary leadership training at the administrative level.

Warm Chain Champion workshop: A ½ day workshop was held for obstetricians and nurse midwives working in Labor and Delivery to emphasize the importance of the 10 step “Warm Chain” in the prevention of neonatal hypothermia after delivery. Seventeen participants (7 nurse midwives and 10 Ob Gyn residents) attended. The birthing kits provided by Rotary Foundation (which included a gown for the mother, 2 blankets to dry the baby and a baby hat) were introduced and appropriate skin-to-skin warming techniques demonstrated. Early breast feeding techniques which will be facilitated by the skin-to-skin warming after birth were also discussed. Learning strategies included lecture, skill stations, small group presentations and large group implementation discussion.

Supplies and equipment: Training supplies for both ongoing NRP training and the post resuscitation care course were brought by the US team. The use of the medical equipment was introduced in the skill stations for each module. All instructors and learners received hands-on training in the use of the medical equipment and supplies and then applied the techniques to clinical scenarios in order to facilitate the implementation of the equipment in the clinical setting. Medical equipment included cardiac monitors, oximeters, infusion pumps, a suction machine and supplies for nasal CPAP. Transcutaneous bilirubinometry, the use of the phototherapy blanket and introduction of a novel prototype for intensive phototherapy (BiliHut) were introduced. Implementation supplies such as oxygen delivery equipment, IV infusion supplies, supplies associated with infection control and prevention as well as treatment of neonatal jaundice were provided.

Thanks to the advance planning by our colleagues at the University of Gondar and Gondar Fasiledes Rotary club we submitted a list of medical training equipment and supplies to be approved by the Ministry of Health prior to our arrival. The University liaison officer in Addis, Mr Fedelke, was present when we arrived with our equipment and cleared our way through customs. We were fortunately able to bring a total of 19 suitcases of materials and supplies to Gondar.

Ancillary program for providing “birthing kits” for prevention of hypothermia in the delivery room: An ancillary program was developed to help the University of Gondar College of Medicine and Health Sciences develop a birthing kit for prevention of hypothermia in the delivery room. This kit includes a gown for the mothers which will allow skin-to-skin warming, 2 blankets and a hat to dry and warm the baby immediately after delivery. As part of a separately funded program, we brought 250 gowns, 500 blankets and 500 baby hats. These materials were given to the department of Pediatrics to administrate. Discussions were held with leaders in the Obstetrics and Gynecology department as well as hospital administrators about the logistics needed to launder and monitor the use of the birthing kits in the labor ward.

Course Evaluation: The curriculum was well-received by the instructors and the learners who felt that it was immediately applicable to their practice and could help to improve neonatal care. They particularly appreciated the emphasis on “hands-on” learning, practice in the skills stations and application of skills to clinical scenarios. The instructors enjoyed using games, small group presentations and discussion as methodologies to present didactic material and began to use these strategies when teaching their provider courses.

Problems encountered: The instructor training course of 4 days plus 2 day commitment to teaching the provider course was quite time-consuming for our instructor students, particularly as most of them were staff pediatricians with demanding teaching and clinical responsibilities. Only 3 of our 17 PRC instructors attended the leadership development workshop, presumably due to the press of other responsibilities.

Originally we had conceived of the leadership development workshop as the first step of a more intensive leadership training workshop to be held in the Fall of 2016 to assist in planning for the sustainability of the teaching program. Due to the lack of participation in the leadership training workshop we will need to reformulate the plans for a more intensive leadership training.

There is a gap between learning skills and use of equipment in the provider courses and implementation of these skills in labor and delivery and the nursery. A potential solution for bridging this gap is to provide a period of time for the US team to work side-by-side our colleagues in the nursery to reinforce clinical and technical skills in the clinical setting.

Although this program has met with great enthusiasm by our colleagues and students in Gondar there are many potential barriers to sustaining the teaching program once the grant has ended. Both teams recognize the need for a transition period (of possibly up to 2 years) to support the teaching program until the University can provide the necessary funds and infrastructure to keep it going as part of the curriculum. We have encouraged our colleagues at UoG to come up with a proposal for supporting ongoing teaching, particularly of the NRP program for all new interns, residents and nurses working in Ob and the nurseries with a graduated shift of responsibility and funding to the University.

Plans for training trip # 4: After debriefing with our partners in Gondar, there were many suggestions for curriculum for the 4th trip planned for October 2016. Possibilities include:

- a. Develop and teach a short NRP refresher course (1/2 day) to reinforce basic resuscitation skills
- b. Develop and teach a short PRC course (1 day) emphasizing 3 or 4 most important skills taught in first 2 PRC courses
- c. Assist existing UoG NRP instructors to conduct a training course to teach more NRP instructors (training of trainers of trainers)
- d. Identification and diagnosis of acute surgical conditions of the newborn (especially GI problems) with pre-operative and post-operative care techniques
- e. Assisted ventilation of the newborn
 - i. To effectively teach assisted ventilation, the Gondar team will need to provide a ventilator which is appropriate for ventilating newborns.
 - ii. The infrastructure requirements for assisted ventilation include adequate medical air and oxygen resources, blenders, humidifiers, and, if possible, availability of blood gas determination.
- f. Screening, diagnosis, and treatment of Inborn errors of metabolism
- g. End of life care, counseling families and ethical dilemmas
- h. A 3-5 day period where the US team works side-by-side in the UoG NICU in order to reinforce the techniques and use of equipment previously taught in the NRP/PRC courses

Our teaching methods will remain the same, including active learning, skills practice with scenarios and the development of care paths and care bundles to guide development of treatment protocols.

Suggestions for modifying the teaching schedule include shortening the length of the instructor course to 2 or 3 days, reducing the number of provider courses by increasing the number of learners in the provider course by utilizing more than one room for the skills stations.

We will continue to emphasize planning for the next phase of the program, which is to create a sustainable teaching program for NRP and post resuscitation care at the University of Gondar.

PICTURES OF SEPTEMBER 2015 ROTARY VOCATIONAL TRAINING TEAM IN POST RESUSCITATION CARE



Demonstration of IV infusion pump



Return demonstration safe IV fluid preparation



Prevention of hypothermia



Demonstration of Nasal CPAP system



Using suction machine



Practicing Kangaroo Mother Care



Evacuation of pneumothorax



Workshop on "Dynamics of Change"



Role playing in Change workshop



Hands-on practice with cardiac monitor



Practicing technique of breast milk expression



Ethiopian use of IV pump



Hands-on practice using isolette



Classroom discussion



Practicing Kangaroo Mother Care

Developmental Care



Instructors University of Gondar



Staying Connected to improve the care of the newborn