

CHILD HEALTH PROJECT FOR THE DEPARTMENT OF HEALTH QUETZALTENANGO, GUATEMALA

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March 10th-March 20th, 2008**

TERM OF REFERENCE: In concordance with JICA objectives created for the project, “Ninez Saludable Nuestra Priorida,” a series of training workshops was created to strengthen the knowledge, clinical skills and attitudes of the health care workers. The workshop dated March 11th to March 19th was the final of three clinical modules focusing on reviewing skills and concepts involved with newborn resuscitation, newborn care, and treatment of specific newborn illnesses.

ORGANIZATION: University Hospitals of Cleveland-Case Western Reserve Medical Center, Department of Family Medicine, International Health Track

SITUATION: In March 2005, six Family Medicine resident doctors from University Hospitals of Cleveland accompanied Dr. Masahiro Morikawa to Quetzaltenango, Guatemala to assist in teaching workshops and precepting healthcare workers in the six designated project sites of the Nino Sano project sponsored by JICA and the Area de Salud of Quetzaltenango province. From these interactions, it became clear that the healthcare workers needed and wanted further training in support of their healthcare mandate. Recommendations from Dr. Morikawa included the necessity of strengthening the medical knowledge base and clinical skills of the healthcare workers at the level of the Puestos and Centros de Salud, in an attempt to strengthen a structurally and functionally weak healthcare system.

An attempt was made during the first series of workshops to implement a pyramid healthcare system with the base of the pyramid being the interaction of the community with the Puestos del Salud, and the peak being the tertiary pediatric hospital in Quetzaltenango. Within this infrastructure, an attempt was made (with the implementation of the Nino Sano (NS) Chart), to identify appropriate referral cases, and to streamline the process of referring patients from the Puesto and Centro levels to the pediatric hospital. The NS chart offered treatment options that allowed healthcare workers to stabilize and treat patients prior to transfer for additional care.

Additionally, during the workshops conducted in March 2007, a lack of confidence among healthcare workers was evident at all levels, particularly when dealing with emergencies and very sick children. Overall, the Puesto and Centro workers felt ill equipped to handle more serious cases that ordinarily would be treated and the primary and secondary levels of a pyramid healthcare system. By providing another series of training workshops, the hope was to not only increase the knowledge and skills of the healthcare workers, but also help to build their confidence. Another goal was to

empower these individuals to advocate for their communities, as well as provide a source of well-trained cadre who would disseminate the contents of each training exercise to their colleagues, thus providing sustainable quality healthcare.

The first phase (9/22/07 - 10/5/07) of the current series of three workshops focused on triaging patients by identifying emergency and priority signs, using an adapted version of WHO's ETAT training manual. It also taught course participants how to perform infant CPR using life-like resuscitation manikins.

The second phase (2/10/08-2/20/08) consisted of reviewing and testing the materials from the first phase. The phase also included teaching new concepts/skills in newborn care, resuscitation, and disease specific identification and management.

ACTIVITY: The Department of Family Medicine from University Hospitals of Cleveland-Case Western Reserve Medical Center conducted the third of three clinical modules from March 11th to March 18th, 2008. The third module consisted of reviewing all the material taught in the first and second modules. It also focused on reviewing materials specifically with the trainers. The trainers were asked to teach the group and observation of the trainers allowed for correction and reviewing of all material. Hands-on practicals were also performed to reinforce concepts and skills learned in the first two modules.

The third module was conducted at four different Centros de Salud including, Cantal, Cabrican, Palestina, and Cajola. The module involved attendance by various health care workers who were trained on two occasions by nurses and doctors previously trained in Module 2 by Drs. Mori, Lecky, and Goueli. At each center, those previously trained were asked to review all material with the health care workers in the form of questions, hands-on practicals, and chart reviews. The trainers and trainees were observed for any aberrancies in application of material and concepts/skills. Each session lasted approximately 4-5 hours and was begun with a pre-test to identify any weaknesses of each participant. The materials reviewed involved emergency triage assessment and treatment of children adapted from the World Health Organization ETAT training manual, one person and two person CPR, didactics, case scenarios, skills workshops, individual and group resuscitation drills. At the final review session the trainers in attendance were given a chance to ask any questions, in addition hands-on review, and final exams were conducted. Please refer to Appendix A for the schedule of activities for the final review session.

RESULTS: The results obtained from the third module included those from anonymous questionnaires asking trainees what could have been improved and what helped with each session, it also involved post-tests given at the final review session to each trainer. As well as observation of performance during cases given to each trainee in the final session.

From the responses given on the questionnaires, it was noted that most people wanted more practice sessions, and would like to review materials further at regular intervals. We provided this feedback to each trainer and asked that at each session, which ideally would be once a month, that cases and materials would be reviewed. It was also

stressed to each trainer that rapid assessment be the goal of training and that would come with regular practice.

During the final session, trainees were observed with each of 4 cases. Case #1 involved an infant with sepsis, Case #2 an infant with umbilical infection, Case #3 an infant with meningitis, and Case #4 an infant with jaundice. Each trainee was asked to assess the infant, diagnose, give treatment recommendations, and discuss all findings with the mother as well as record findings, the trainees were told to complete a newborn exam, and also within each case a situation needing emergent CPR was also presented. Trainees were observed performing all of the above, were critiqued at the end and also given a chance to ask final questions. Each trainee seemed to have improved compared with prior sessions. However, they did express some concern about the use of a manikin versus an actual baby.

The final session also included a final exam, which contained 25 questions. The questions involved material from the first two modules. The lowest grade on the exam was 68%, and the highest grade was 88%. The average was approximately 79% on the final exam. The mistakes made included triaging patients in order of importance based on symptoms and age and dosing of antibiotics based on weight for treatment of sepsis and meningitis. In analyzing each question and the number of attendees who marked an answer incorrectly it was also found that they were all able to utilize the ABCD/AVPU concept well, however, 1 out of 7 people defined the A in the mnemonic ABCD incorrectly. The exam was reviewed individually with each trainee at the end of the session. It has been shown that the average score from the first module was 84% on the final exam and in the second module the average was 75%. This was still an improvement over prior exams. This module showed an improvement in practical skills such as resuscitation and newborn exam however, it was noted that improvement in knowledge/didactics is needed.

During each training session, it was noted that there were a number of inexperienced health care workers (auxiliary nurses, technicians, etc.) that were a part of the training. It was noted that some of these people needed to improve their knowledge and skills. The writers (Dr. Emma Brooks and Dr. Sandra Thomas) were able to provide this feedback to each trainer from each of 4 locations (Cajola, Palestina, Cantel, and Cabrican) as mentioned above. The centers that seemed to have exceptional trainers were at Cantel and Cajola. We strongly urged Palestina and Cabrican trainers to improve their training as well as increase their frequency of practice sessions. We met individually with each trainer and provided this feedback.

At the final session, in attendance were 7 trainees. All of them seemed skilled in performing 1 person and 2 person CPR. They asked the appropriate questions to obtain a good history from the mother, about 28% forgot to ask the age of the baby and the length of rupture of membranes, which would be especially important in sepsis. All of them knew how to diagnose meningitis and jaundice, about 42% of them could not recall the chart that helped diagnose the severity of the jaundice and this was also reviewed. The difference between an infection which is non-emergent versus sepsis which is emergent was also a concept not well understood by ~85% of those in attendance, this was re-explained and then presented again in the form of cases. At the end of the final session, constructive feedback and suggestions for improvement were given to each trainee in attendance.

Overall, there seemed to be an improvement in knowledge and skills on the part of trainees. Further practice sessions within each centro de salud will be needed to reinforce all knowledge and skills and to adequately prepare all the other health care workers.

PRODUCT:

1. Multiple cases to practice CPR given at each of 5 review sessions
2. 4 Newborn exam cases at final review session
3. Phototherapy instruction review
4. Newborn exam checklist review
5. Sepsis, jaundice, and meningitis diagnosis and treatment chart reviews
6. Anonymous surveys at each session in order to improve sessions
7. Final written examination and review

Appendix A

1. Schedule of final review session activities