

Advanced Training and New Protocols Help Save Newborns

“When I am in the delivery room working to save an infant who is in distress, I don’t have time to think about what needs to be done next.

My actions, and the actions of everyone else attending to the birth, must be automatic because every second can mean the difference between life and death, between good health and a lifetime of disability,” says Maya Shengali, chief neonatologist of Kutaisi. For the past seven years, Shengali has worked at Maternity Hospital #2 in this community of nearly 244,000 located in the Imereti Region, a three-hour drive from the Georgian capital of Tbilisi. She has also consulted with patients at the Kutaisi Women’s Wellness Center (WWC), established by AIHA’s Kutaisi/Atlanta partners, since it opened in March 2000.

One of four neonatologists employed by the Maternity Hospital, Shengali is present at all the births that occur when she is on duty. She is also called upon to supervise roughly 60 percent of the more complicated cases, including those in which infants are likely to experience asphyxia or some other type of distress.

“We deliver 70 to 80 infants here each month and, of those, approximately 15 percent are high-risk births. For these deliveries, a team consisting of an obstetrician, a neonatologist, an anesthesiologist, and an experienced pediatric nurse are present,” she states. And the clinicians truly do work as a team, Shengali notes, since she—along with Nino Berdzuli, an ob/gyn at the WWC who also works one day a week at the Maternity Hospital—helped develop and implement new neonatal resuscitation guidelines in the Hospital’s delivery rooms.

“Before these new protocols were instituted in 1999, the resuscitation techniques we used were very crude, very outdated, and often costly because they called for inappropriate use of medications,” Shengali notes, explaining that splashing cold water on the face of an infant who wasn’t breathing was one commonly employed method of resuscitation. “The guidelines we now use are in accordance with modern standards of clinical practice and enable us to work together much more effectively because each member of the team knows exactly what he or she is



PHOTO BY SUZANNE E. GRINNAN.

Kutaisi neonatologist Maya Shengali tends to one of her tiny patients at Maternity Hospital #2.

supposed to do. In cases when an infant is not breathing or is experiencing some other problem, there is no time to discuss what to do next; everybody must know their responsibilities by heart.”

Noting that she and her colleagues were eager to learn new ways to help newborns survive, Shengali recalls how instructors from the Tbilisi Neonatal Resuscitation Training Center came to Kutaisi to conduct training sessions soon after the new guidelines were instituted. “The training was conducted in such an interesting and practical way, using mannequins to simulate a wide range of complications that can occur during birth. They taught us simple, cost-effective ways of treating infants who are experiencing respiratory distress, asphyxia, and other life-threatening conditions,” she says, explaining that Dr. Berdzuli continued to share the latest information gleaned from the Internet, the Center in Tbilisi, and their partners in Atlanta with her colleagues at the WWC and the Maternity Hospital. The US partners also donated respirators, incubators, masks, and other resuscitation equipment necessary for the protocols to be successful.

“Five years ago, we had never even heard

Training in neonatal resuscitation techniques such as thermal management and suctioning, as well as more specialized skills such as intubation and ventilation, are the foundation of AIHA’s Neonatal Resuscitation Program. The clinicians who participate in these classes—whether at a partnership Neonatal Resuscitation Training Center or at their home institutions—often supplement their knowledge by conducting research that will help them implement newer, more effective guidelines for neonatal care. This is the story of one doctor who collaborated with the information coordinator of the Kutaisi/Atlanta partnership to develop new protocols that have resulted in a marked reduction in neonatal mortality at Maternity Hospital #2; the story of the information coordinator, an ob/gyn herself, appears on the other side.

of some of the equipment we received through our AIHA partnership,” Shengali continues. “Now we know how to operate the machinery and save the lives of many children who never would have survived if they had been born before then.”

The statistics bear out her claim: in 2001, the Maternity Hospital lost only three infants—two who were extremely premature and one who was born with profound brain abnormalities. “I noticed a difference in survival rates almost immediately, definitely within the first six months or so. In the first year, cases of asphyxia declined by nearly 10 percent and, by the second year, the staff was adept and confident in their newly-acquired skills.”

Expressing her happiness and pride at having played a role in the changes that have been made at the Maternity House, Shengali concludes, stating, “We have taken many important steps toward reducing neonatal mortality rates at the Maternity Hospital and, as the mother of two young boys, I can tell you that giving parents the gift of a healthy baby is a very precious thing. It is everything.”

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Using the Internet to Develop Life-saving Neonatal Protocols

When staff at the Kutaisi Women's Wellness Center (WWC) and Maternity Hospital #2 observed a steady increase in rates of neonatal mortality caused by central nervous system damage resulting from asphyxia, Dr. Nino Berdzuli immediately turned to the Internet. Berdzuli, a 27-year-old obstetrician/gynecologist and the information coordinator of AIHA's Kutaisi/Atlanta partnership,



PHOTO COURTESY OF AIHA TBILISI.

Nino Berdzuli (seated) performs a diagnostic procedure on a patient at the Kutaisi WWC.

knows the value of evidence-based protocols; she has been working on adapting them for use in Georgia since 1996 when she was introduced to the concept while training at Grady Hospital and Emory University as a member of the now-graduated Tbilisi/Atlanta partnership.

"When I returned from my partnership exchanges to Atlanta, I always presented what I had learned to my colleagues. They were very enthusiastic, asking me dozens of questions about how gynecological conditions are managed by physicians in the United States," says Berdzuli who, in addition to working full-time at the WWC, also consults at Maternity Hospital #2. One of her most rewarding experiences, Berdzuli notes, was sharing this new information with her mother, who is also an ob/gyn at the hospital. "My mother was the first person I spoke to after

returning from the exchanges, the first person with whom I shared all of my impressions about what I had seen and learned, so I guess you could say she was my guinea pig," she says with a wry smile.

"I soon came to believe that the neonatal resuscitation protocols we had been using here were really obsolete. So were the guidelines for neonatal and perinatal services in general," she continues, explaining that physicians in Georgia are often forced to use outdated methods of treatment simply because they do not have access to more recent research that would allow them to make changes. "After doing some Internet research using MEDLINE and several other information sources, I analyzed protocols commonly used for neonatal resuscitation and determined that the ones we were using were indeed less effective and more expensive. Some of the medications we used were completely unnecessary," Berdzuli notes, stating that, for years, doctors had been taught to use these drugs even though no clinical research she ever found proved they were effective. "In fact, the protocols were especially weak in their guidance for delivery room care when proper assessment and management of newborns with any type of disorder that may cause damage to the central nervous system is crucial."

So the young physician, along with neonatologist Maya Shengali and other colleagues, set to work adapting a series of guidelines for use in various situations—cases of hypoxia, asphyxia, and cardiac distress, for example—that require neonatal resuscitation. The physicians and nurses who work in the delivery wards all received training in the new guidelines. Some sessions were facilitated by staff from the Tbilisi NRTC, while others were conducted by Berdzuli. "I had been trained in these techniques in Atlanta, so it was simply a matter of passing along the knowledge and skills I had acquired there," she says.

Following on the heels of her success with the new neonatal guidelines, Berdzuli also helped put into practice new protocols

When newborns experience difficulty breathing on their own, the knowledge of medical personnel involved in the birthing process can make a critical difference. But, even skilled specialists can falter when the protocols set up to assist them as they work to save their tiny patients reflect outdated or unsubstantiated research. Evidence-based clinical practice is at the core of AIHA's Neonatal Resuscitation Program and this story describes how one doctor from Kutaisi, Georgia, used her partnership's Learning Resource Center (LRC) to develop new guidelines based on the most up-to-date information for delivery room procedures available on the Internet; the story of a neonatologist who uses the new protocols every day is on the other side.

for diagnosing and treating cervical cancer and human papillomavirus (HPV). "I used the resources of the LRC to obtain the most recent information on screening and managing these conditions then collaborated with colleagues to create appropriate guidelines for use at the WWC," she explains, noting that the training she received through AIHA's Information and Communication Technology Program enabled her to cull the most relevant and effective guidelines from the thousands available online.

"Many of the protocols that have their roots in the old Soviet system may very well be effective, but the problem is that there is no reliable evidence-based research that backs them up," Berdzuli concludes. "With the amount of medical information available today—there are more than two million articles in 100 biomedical journals available on the Internet, for example—it is crucial to understand which studies are reputable. This is especially true for clinicians practicing in the NIS countries where the funding available for healthcare is so very limited. I can only say that I am proud to play a part in bringing high-quality and cost-effective medical care to people in my own country."

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