

Birth Asphyxia Tekno-Tube Technology Assessment

Background:

In western Aceh, Indonesia, the health system was disrupted not only by the 2004 Asian Tsunami, but also by the preceding civil conflict. Starting in 2005, a Training of the Trainer (ToT) network of midwives was designed and implemented by clinicians including Dr. Kristian Olson, the Indonesian Department of Health, and the International Organization of Migration. The program intended to overcome barriers to sustainability and participation by making it concise, on-site, and integrating it into the structure of the existing health system.

The first two curriculum modules of the ToT included management of neonatal resuscitation and post-partum hemorrhage along with provision of a neonatal resuscitation device. The device selected was the “Tekno Tube” which is manufactured, but not yet scaled in Indonesia.

Though the training was designed as a humanitarian response and not initially intended as a trial, unique attributes of the training and the role of this technology warranted evaluation. In October 2008, an outcome investigation of was commenced. One component of the evaluation included testing the resuscitation device’s acceptability and sustainability of use.

Method:

Survey questions, visual inspection and then manometry measurement of devices was undertaken. A minimum threshold of whether or not the devices were capable of generating greater than 30 cm of water pressure was assessed. Functionality of current-use rather than ‘off the shelf’ devices was designed to help determine sustainability. Pressure generation of the resuscitation devices will be measured with the use of *Mercury Medical Optional Manometer Pressure Relief*® valves. The pressure will be generated on a flat surface. The accuracy of the Mercury Medical Manometers will be validated before each evaluation session with the use of an *Instrumentation Industries Pressure Manometer*®.

