SUPPORTING PREMATURE INFANTS IN SAMOA

Thanks to the efforts and persistence of one New Zealand nurse, major improvements have been made in the care of premature infants in Samoa.

By Anevili Purcell

‘I was overwhelmed by the number of babies I saw born at 27-32 weeks gestation’ – Anevili Purcell

Neonatal nursing has always been my passion and to return to my roots in Samoa in 2008 to share my knowledge and skills was both a privilege and a challenge. It had taken me seven years to find the right contacts to introduce the bubble continuous positive airway pressure (BCPAP) nasal breathing system to the Tupua Tamasese Meaole (TTM) Hospital’s neonatal intensive care unit (NICU) in Apia. This system enhances gas exchange in the lungs, which are compromised in pre-term babies.

In 2001, National Women’s Hospital in Auckland was helping to establish the BCPAP in The Kingdom of Tonga. This scheme prompted me to want to do the same for Samoa, as I could see Samoa would benefit from the system and it would make a real difference for our neonatal population. The Bubble CPAP supports spontaneously breathing neonates who require respiratory support to manage respiratory distress syndrome. The system, which uses bubbling to improve gas exchange in the lungs, was developed by Fisher & Paykel (F & P) Healthcare and is non-invasive, effective, easy to set up and monitor. It requires minimal equipment and intense training. It has distinct advantages over the headbox, hood and tent oxygen system more commonly used in many developing countries, including Samoa. Giving oxygen to babies by headbox needs a relatively high flow, and can also cause retinopathy and other complications.

Children are very precious to the Samoan nation and, as health care professionals, we are expected to deliver the best care we possibly can to sick, fragile infants. I thank the then executive officer of TTM Hospital, Stanley Dean, for accepting my proposal to introduce BCPAP to NICU, a project which was supported by Middlemore Hospital and the Kidz First neonatal unit where I have worked for the last eight years.

A close nursing colleague, David Blee, who helped establish the BCPAP in Tonga, introduced me in 2007 to an F & P) representative Geoff Bold. Thanks to his generosity and vision, the BCPAP equipment is now operating at the TTM Hospital.

TTM Hospital NICU consists of a six-bed, intensive care level 3 area that can take up to three more babies if needed, and an eight-bed slightly intensive care level 2 area. Most Samoans in New Zealand are probably unaware that such units exist in the TTM Hospital.

Introducing BCPAP to Samoa

I travelled to Samoa to introduce the BCPAP to the TTM Hospital in June 2008. The first baby I placed on the BCPAP was a 32-week gestation infant with severe respiratory distress. With the help of head paediatric consultant Farah Fatubaito, her medical team and the unit nurses, we worked together to place the infant on BCPAP. It was great to see the new technology put into use and I was proud to have initiated the project.

Returning to Samoa after many years living in New Zealand, I was overwhelmed by the number of babies I saw weighing less than 1500 grams and born at 27-32 weeks gestation. They are cared for by dedicated doctors and nurses, who work hard to deliver the best care they possibly can, despite the limited resources and equipment available. I knew BCPAP could improve their ability to care for sick newborn babies, giving them improved outcomes.

Mothers room in on the ward, if their babies are in for the long-term. They are there to supply breast milk for their babies, as the hospital is strictly “baby friendly”. Such dedication from the mothers and their families demonstrates the values and traditions which are the cultural expectations of a tina (mother) in the aiga (family). This is the fa’a Samoa (the Samoan way).

During my first visit in 2008, I only had one week to teach TTM staff about BCPAP, how to set up the equipment and how to care for a baby on BCPAP. I took with me all the equipment needed, kindly donated by F & P and our neonatal unit at Kidz First Hospital.

Thanks to F & P and with the help of our unit educator, I was able to offer teaching materials for my sessions. The nurses and doctors found it very helpful having posters on the wall and booklets to help them put the BCPAP equipment together. Staff also found the self-learning materials like CDs and a protocol folder very useful.

The first day was the most challenging, as I had to set up the BCPAP with whatever equipment was available in the unit and throughout the hospital. The NICU unit had no oxygen and air blenders, essential for the BCPAP system, so I had to use a nebulizer compressor from the paediatric ward to deliver oxygen and air to provide a flow and bubble to the CPAP circuit.

There were no oxygen analysers, which I did tried to get before I left New Zealand. Unfortunately, F & P had none available, and my finances did not stretch to purchasing one. In this situation, we had to be careful how much oxygen we were delivering, monitoring this via the oxygen flow meter on the wall, and making sure we checked saturation levels and weaning oxygen accordingly.

I had to make sure the three unit champions – two senior nurses and a charge nurse – were well trained in setting up the BCPAP. I suggested to the unit nurse manager that one of these nurses or a nurse who had attended the BCPAP training session could be rostered on each shift, in case a baby needed to be put onto BCPAP, or to care for a baby already on BCPAP. She thought this a very good idea and attended to the matter straight away, with the help of the unit co-ordinator.

I worked two shifts on the day the first baby was placed on BCPAP – a 12-hour morning shift, followed by a few hours’ break, then an eight-hour night shift, so I could check on the baby’s progress and also train the night nurses on the BCPAP system at the same time.

Second baby put on BCPAP

The following day, I was contacted at my accommodation by Dr Farah Fatubaito, to notify me they would be putting the next baby (one born at 24 weeks, but then 29 weeks old) onto BCPAP after the baby had a grand opnoea (stopped breathing). Returning to the unit, I was de-
lighted the nurses and doctors had successfully placed the second baby onto BCPAP. I felt quite overwhelmed that they had been able to use their new knowledge and to put the equipment together successfully in such a short time.

I continued to work different shifts throughout the rest of the week, making sure I worked with the unit champions, and following up on the babies placed on BCPAP.

I had planned to return for a second visit in 2009, but after reading all the evaluation forms, I was encouraged to go back earlier. At the request of the neonatal unit nurses and doctors, I agreed to provide further in-depth teaching sessions in September 2008, on how to use and manage the BCPAP.

But I needed help. Fortunately, two Kidz First colleagues, senior NICU nurses Philippa Gyde and June O’Ferrall, agreed to join me, volunteering their time and funding themselves to teach in a developing country where nurses and doctors are keen to learn more about BCPAP and other issues concerning neonates.

Two-week follow-up workshop
The workshop took place over two weeks, comprising a four-to-five-hour workshop each day, with the sessions repeated every day of the first week. The first hour of our session was a powerpoint presentation on bubble CPAP, presented by O’Ferrall. This session covered the background to the system, and included the anatomy and physiology of the pre-term baby. The practical session included the setting up of the BCPAP and using dolls to demonstrate fitting of nasal prongs, hat and chin strap.

Gyde covered developmental care, using cloth nappies she had bought, to demonstrate how to make “cuddling nests”. How to position a baby on BCPAP was also demonstrated using dolls and cloth nappies.

During the second week, we worked in the unit with the nurses to cover BCPAP clinical practice. We assessed whether the nurses had any further educational needs and assisted in any way we could. Teaching the unit nurses how to set up admission spaces was also important, a practice they have continued to do successfully, as I witnessed when I visited in 2009.

On our last day, the unit nurses and doctors provided us with afternoon tea and also performed the Samoan ceremony of Aiava – the exchange of gifts or the giving of gifts. This ceremony is very important to Samoan people. It is a way of showing respect and appreciation to visiting guests who have shown care and love for our people.

I felt overwhelmed and honoured to be recognised by my own people but, at the end of the day, the difference we made in neonatal nursing in the unit was what was most important.

Ongoing education and support
BCPAP technology is now an integral part of care in the NICU unit at TTM Hospital. It is also being used in the neighbouring countries of Tonga and Fiji. Introducing the BCPAP to Samoa has opened the door to education opportunities for health professionals in Samoa, with other associations in New Zealand joining in as providers.

Over the last year, the Neonatal Nurses College Aotearoa (NZNO) has initiated a project to further neonatal education in Samoa. A site visit has been made, with plans underway to deliver education to meet identified needs later this year. This project is supported by Counties Manukau District Health Board and is in line with the United Nations’ millennium goal of reducing child mortality rates by two thirds in children under five. It also meets the objectives of the Council of International Neonatal Nurses to improve neonatal care.

Other groups responding to a request to assist the TTM neonatal unit include the Church of Jesus Christ of Latter-Day Saints in Papatoeoe, Auckland, and the Women’s Relief Society in Mangere. Members of the society have made baby blankets for the unit, as hypothermia is one of the common complications for a premature baby.

Any health professional or association wanting to assist a Pacific nation must remember these islands are developing countries. Changes do not happen overnight, but they will happen with the right support and ongoing education.

Being culturally sensitive is vital in gaining respect from Pacific peoples. Being aware of and understanding my own culture, beliefs, values and feelings, along with my own knowledge, were my strength and guide in seeing this project through. I hope it will continue to build a collaborative relationship between New Zealand neonatal nurses and our Pacific neighbours.

Acknowledgements: I would like to acknowledge and thank Kidz First NICU unit director Lindsay Mildenhall, nurse manager Niccy Brougham, nurse educator/neonatal nurse specialist Christine Millar, Auckland City Hospital NICU, the Neonatal Nursing College Aotearoa (NZNO), Geoff Bold at Fisher and Paykel, registered nurse/midwife David Blee, the general manager and nursing management team of Tupua Tamasese Meaole Hospital in Apia, Samoa, and my dear colleagues June O’Ferrall and Philippa Gyde.Fafetai lavo.

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