Integrating maternal and neonatal care in resource-poor settings

Improving facility-based outcomes for mothers and newborns is achievable

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doi: 10.5694/mja13.11160

Of the patients Médecins Sans Frontières (MSF) and other organisations treat in settings affected by conflict, neglect or disaster, most are women and children. In MSF's facilities, they present against a backdrop of unacceptably high maternal and under-5 child mortality rates worldwide. Neonatal death in particular is seemingly intractable, growing to comprise 44% of all deaths of children aged under 5 years, or about three million deaths annually.[1] Additionally, there are an estimated 2.7 million stillbirths each year, a large proportion occurring in the intrapartum period.[2]

Maternal mortality and its risk factors are well documented. Infection, low birthweight or prematurity, and asphyxia are the main reasons for newborns' high risk of dying. The highest loss of life occurs during birth or within the subsequent 24 hours.[3] Most of these deaths are preventable. Relatively low-tech interventions have the potential to substantially improve the survival and health of newborns, but there are clear challenges to implementing them. Nonetheless, the experience of MSF highlights the importance and achievability of improving facility-based care in resource-poor settings for better outcomes for mother and infant, focusing on the concept of the continuum of care in the perinatal period.

One example where such initiatives are being implemented is the Republic of South Sudan. Health needs remain urgent in the world's newest country. South Sudan's maternal mortality ratio was last estimated to be 2054 women per 100 000 live births, with a neonatal mortality rate of 36 per 1000 live births. In comparison, the respective figures for Australia are 7 per 100 000 and 3 per 1000.[1,4]

MSF works alongside South Sudan's Ministry of Health in Aweil Civil Hospital, 800 km north-west of the capital, Juba. MSF provides free emergency obstetric and paediatric care and responds to epidemic outbreaks for an estimated population of 900 000. In 2013, some 4400 births in the hospital included 182 caesarean sections.

Conditions for mother and child, such as haemorrhage or fetal distress, can be treated if they are recognised early enough and if staff know how to respond. A skilled birth attendant is crucial to manage any maternal complications. In addition, every health professional attending births should be able to perform basic newborn resuscitation. Since 2011, MSF has been rolling out the Helping Babies Breathe curriculum of the American Academy of Pediatrics (http://www.helpingbabiesbreathe.org), to ensure that a baby not breathing well within 1 minute of birth is adequately ventilated with a bag and mask.

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Newborns are cared for in the hospital's maternity ward or the neonatal unit, opened in 2011. In 2013, there were just over 1100 admissions to the neonatal unit. Four out of five births occur in the community or without skilled supervision, and many babies present with serious infection. Lack of proper cord care creates a high risk of infection transmission, including tetanus, which also reflects the poor vaccination coverage that is typical of a country affected by conflict.

The three-ward unit offers "kangaroo mother care", involving skin-to-skin contact and regular breastfeeding, for premature or small newborns (under 2500 g), if they are stable. This approach can be highly effective, although progress can be slow. Higher-level care is offered for sick babies, as well as specific care for those with tetanus. All these children need close monitoring, which tests staffing levels, and there is a dearth of nurses familiar with neonatal care.

Long hospital stays create dilemmas for the family that should not be underestimated. Patients' families often reside far from the hospital, and "public" transport is unreliable. A mother may have to temporarily abandon her newborn to care for the rest of the family; or she may take her baby home early, at risk of its health.

The need for skilled health personnel in South Sudan is huge and, because of their scarcity, expatriates are relied on to provide in-service training for their local colleagues. To tackle this problem more fundamentally, MSF has commenced practical training of midwifery students from emerging schools in the area. Further, MSF is currently working with the Ministry of Health to prioritise stronger district birthing services and their role in managing more uncomplicated births, and improve early identification of complicated cases and referral to Aweil Civil Hospital. MSF is also assisting with strengthening of vaccination programs and advocating for more robust antenatal care.

The experience in Aweil not only demonstrates the ongoing work to improve knowledge, skills and obstetric and perinatal care in many under-served communities worldwide, it also points to the broad need for markedly better outcomes in resource-poor settings, and for additional research into appropriate strategies to achieve them.

Competing interests: No relevant disclosures.

Provenance: Commissioned; not externally peer reviewed.

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