

Clinician bias on the low resource workflow This is a mini commentary on R Goldenberg et al Birth asphyxia is under-rated as a cause of preterm neonatal mortality in low- and middle- income countries: A prospective, observational study from PURPOSE

Evelyn Verheijen¹

¹Maasziekenhuis Pantein Boxmeer

May 13, 2022

Clinician bias on the low resource workflow

This is a mini commentary on R Goldenberg et al.,

In this study in two LMIC settings in Asia, expert panels who looked at cause of death of premature neonates, with significantly more information available, found far more birth asphyxia and less Respiratory Distress Syndrome than the discharging NICU physicians did. Some NICU physicians attributed respiratory distress in the premature neonate to RDS by default, especially if there was no other information to contradict this belief. Especially in the Pakistan setting, birth asphyxia did not seem to be on the mind of the physician.

What could be possible explanations?

The maternal population, illiteracy rates, low rates of NICU admission and high death rates in the Pakistan setting suggest an impoverished background population and very restrained resources.

In such setting one could easily imagine diagnostic means and treatment options are limited. If there is also lack of staff, reduced availability of beds, and work overload (ref: authors correspondence), priorities have to be made who to admit and who to treat. Life expectancy and quality of life may play a role in triaging.

Physicians who work in labourward settings without CTGs may recognize the viewpoint that obstetric management only be guided by the maternal condition. On several SubSaharan African labourwards I experienced that decisions were not (solely) to be based on the supposed fetal condition. To perform ‘an unnecessary caesarean section’, or on the other hand to try and salvage the life of a baby who then turns out to be brain damaged after a poor start, was not seen as good obstetric care. A premature baby with apparent severe birth asphyxia might consequently not be transferred to the NICU. A baby who is admitted may not carry the diagnosis birth asphyxia since, as the authors point out this may imply mismanagement. It could even go further: if potential fetal compromise is not relevant in the obstetric management, it may also not be picked up. The obstetric physician could in such situation easily develop a blind spot for birth asphyxia.

Another cause of clinician bias in such low resource settings could be underestimation of the gestation, making RDS a more likely diagnosis. If gestational scans are not available, and last menstrual periods are unreliable (associated with illiteracy) gestational age is more often estimated by fundal height at presentation in labourward, or by the birthweight of the baby. Underestimation could be the case in Pakistan where 65% of babies were thought to be less than 32 weeks, only 12,5 % of the neonates were thought to be growth restricted which is associated with birth asphyxia, but nearly 63 % suffered with birth asphyxia according

to the panel.

These are several hypotheses how physicians in a low resource setting could form biases in their clinical thinking, which, when not corrected by other information, could lead to incorrect diagnoses and mismanagement. This correcting information could come from diagnostic tools, such as PCR tests Xchest, etc,. However, sufficient time and systems in place for proper handovers, e.g. between the obstetrician and pediatrician, an open mind and awareness of pitfalls, audit and reflection on one's management, and training to stay up to date are just as important. Hopefully expert panel studies such as these, could stimulate awareness and be a motor to improved Obstetric and Pediatric Care in LMIC settings.