IMPROVING OUTCOME IN VERY PRETERM INFANTS

Authors’ reply to Page and Rafi

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We agree with Page and Rafi about the importance of identifying the key evidence based obstetric and neonatal interventions that can be monitored to assess quality of care for very preterm infants.1,2 As our study shows,3 evaluating the use and impact of four evidence based practices together sets higher standards and focuses attention on care processes. The EPICE (Effective Perinatal Intensive Care in Europe) project’s international dimension is a strength, as it reveals underuse of evidence based care in many health systems and cultures.

But international studies are challenging. Despite universal access to evidence based knowledge, guidelines differ between countries. The all-or-nothing composite is a powerful concept when the selected interventions are based on widely accepted scientific evidence and clear, consensus guidelines. However, not many interventions for very preterm infants fulfil these requirements in a cross national perspective.

As part our project’s objectives we reviewed recommendations in the 11 participating countries and the published literature. We found many differences in the existence and content of recommendations and in evidence related to common interventions for the care of preterm infants, including caesarean section, antibiotics during labour, cord clamping, probiotics, management of persistent ductus arteriosus, and breastfeeding support. Our review also found inconclusive evidence for the use of tocolytics to improve outcomes, as noted in recent debates.4

Magnesium sulphate provides another good example of these challenges. Despite a 2009 Cochrane review concluding that magnesium sulphate is effective for neuroprotection,5 only a few countries, to our knowledge, have recommendations on its use for this indication.6-8 In Denmark—one of the EPICE countries—a randomised trial on the effectiveness of magnesium sulphate for neuroprotection is ongoing, reflecting concerns that the previous meta-analysis was underpowered.9 The absence of consensus may also relate to uncertainty about dose and regimen, as concluded by the Cochrane review.

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To benchmark care across units, regions, and countries we need common international standards about what constitutes evidence based care for very preterm infants. Greater collaboration between national obstetric and neonatal societies would be one way of achieving this goal. Providing an international context for national guidelines would also allow national societies to clarify how their recommendations relate to those available elsewhere.

Finally, our composite measure of evidence based care was developed to show an effect on short term outcome. This led us to select practices that reduced mortality before discharge home or reduced severe morbidity at discharge. Many practices, including magnesium sulphate, aim primarily to improve the longer term development and health of the child. Using this approach to evaluate the use and impact of these interventions is more complex, but it should be a priority.

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1 Page A-S, Page G. Tocolysis may optimise outcomes in very preterm infants. BMJ 2016;354:i4632.