

Newborn care during the COVID-19 pandemic must adapt as evidence accumulates

The COVID-19 pandemic is an ongoing learning experience for the healthcare professions and the world at large. A sense of profound humility emerges from mankind's limited success in developing and implementing consensus-based guidelines for the control and treatment of this frightening disease. Specifically, the care of infants born to women with suspected or proven COVID-19 infection raises challenges that call into question established and evidence-based policies and treatments. As new evidence becomes available, individual caregivers and professional organisations are required to re-assess potentially best practices that are appropriate in each setting.

The essential dilemma inherent in the development of guidelines is finding the correct balance between provision of the best possible neonatal care and prevention of viral transmission that may endanger both staff and families. In a perspective in this issue of *Acta Paediatrica*, Sacks et al¹ take issue with certain public health and patient care measures, including those presented in the interim guidance offered in April 2020 by the American Academy of Pediatrics.² The authors claim that these recommendations were neither evidence-based nor equitable. They include separation of infants from their potentially infected mothers and discouraging breastfeeding. In addition, they decry "profiling" of at risk mothers based on familial as opposed to scientific criteria. Each of these claims needs to be critically addressed.

The AAP guideline was based on information available as of March 30, 2020 and was developed as a response to the widespread uncertainty prevalent in the early days of the pandemic. At that stage, it was already clear that this new disease was highly infectious and was capable of causing severe multi-system morbidity and significant mortality. There was, however, inadequate evidence regarding both the risk of transmission of the virus from the mother to the infant and the potential to cause significant disease in the infant. Likewise, there was little information available regarding the potential risks for healthcare professionals in this setting. Accordingly, the AAP concluded that "the safest course of action from the perspective of minimising the likelihood of the infant becoming infected is to separate mother and infant, at least temporarily". This recommendation is indeed not evidence-based, but rather a common-sense conclusion reached after considered balancing of major potential risks against potential benefits in the complete absence of reliable data. In contrast, Sacks et al propose competing benefits of zero separation of mother and infant and skin-to-skin care after birth. They claim

that these practices represent respectful, dignified and high-quality care. Unfortunately, there is little or no evidence on which to base a valid comparison of risks and benefits. Skin-to-skin contact and kangaroo care are associated with improved thermoregulation and blood glucose control, in general, and reduced risk of infection and mortality only in low birth weight infants.^{3,4} As regards zero separation, no relevant evidence of major proven benefits can be offered. Thus, these possible advantages clearly do not outweigh the potential profound risks as perceived at that time. In my opinion, this high-quality review process represents advocacy for the rights of all infants, mothers and caregivers to a safe and healthy environment. This equitable guideline advocates for all with no discrimination or selection.

It is axiomatic that breastmilk offers major health advantages for newborns and infants.⁵ Among the many advantages of human milk feeding, those of particular relevance when considering policy during the COVID-19 pandemic include improved immunocompetence in all infants and reduced necrotising enterocolitis and sepsis in preterm infants. Contraindications to breastfeeding are rare and include maternal infection with HIV or Ebola. Other conditions that require airborne precautions, such as active tuberculosis or measles, preclude direct breastfeeding but allow for provision of expressed breastmilk. A number of factors are critical in developing a recommendation regarding breastfeeding and these include the potential for COVID-19 to cause either significant illness or even mortality in newborns, the possibility of transmission of the virus via breastmilk or breastfeeding and the presence of the virus at other maternal body sites. At the time of the AAP guideline, little was known regarding these issues and therefore a recommendation was offered to avoid direct breastfeeding, but to allow and promote provision of expressed breastmilk while employing strict infection precautions. This considered guidance is another form of advocacy for the rights of the infant to a healthy start to life, without incurring excessive risk.

Since the time of the AAP guideline, evidence has accumulated that has led to publication of a second generation of guidelines from professional organisations. It is now recognised that children in general and neonates in particular do not appear to suffer the same incidence or severity of disease as adults.⁶ Indeed, in late July, 2020, a study of 120 infants born to COVID-19 positive mothers from New York City was reported. All were treated with careful infection

precautions, most roomed-in and breastfed and all were negative for COVID-19 at 5-7 days of life. None had symptoms attributable to COVID-19.⁷ Likewise, vertical transmission from mother to foetus appears to be extremely rare. The question of transmission of the virus via breastmilk is important. Recently, Tam et al have convincingly described a case of COVID-19 disease in an 8-month old breastfed infant where virus RNA was repeatedly detected in breastmilk that was collected with sterile collection techniques.⁸ Two more similar case reports have found transmission of RNA detected by PCR, although none of these studies attempted to grow the virus in culture in order to establish the presence of infectious virus.^{9,10} Thus, with the current state of our knowledge, all efforts should be made to provide breastmilk if possible. If the mothers' condition allows, breastfeeding may be considered with certain minimum precautions including use of a face mask during nursing, careful hand and breast hygiene and maintaining appropriate distancing when not feeding. These decisions should be discussed with the family whenever possible.

The issue of profiling is complex and clearly involves not only medical considerations but also social, political and local issues that complicate the decisions involved in targeting high-risk populations.

Finally, guidelines for neonatal care in the COVID-19 era must take into account only the best current evidence as it becomes available.

CONFLICT OF INTEREST

None.

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