

Unravelling the epidemiology and clinical impact of SARS-CoV-2 infection in neonates

Hannah J. Sutton¹  | Peter A. Dargaville^{2,3}  | Naomi E. Spotswood^{3,4,5} 

¹School of Medicine, University of Tasmania, Hobart, Tas, Australia

²Menzies Institute for Medical Research, University of Tasmania, Hobart, Tas, Australia

³Department of Paediatrics, Royal Hobart Hospital, Hobart, Tas, Australia

⁴Maternal, Child and Adolescent Health Program, Burnet Institute, Melbourne, Vic, Australia

⁵Department of Medicine, Faculty of Medicine Dentistry and Health Sciences, University of Melbourne, Melbourne, Vic, Australia

Correspondence: Naomi E. Spotswood, Neonatal and Paediatric Intensive Care Unit, Royal Hobart Hospital, Hobart, Tas., Australia.
Email: naomi.spotswood@ths.tas.gov.au

1 | COMMENTARY

The impact of the SARS-CoV-2 pandemic has transformed the means by which health care is delivered, including perinatal care. Given neonates have unique vulnerabilities to acquiring infections,¹ determining optimal practices to prevent and respond to neonatal SARS-CoV-2 infections has been an area of much discussion and debate amongst perinatal healthcare providers.

Published information on the clinical characteristics and mode of acquisition for neonatal SARS-CoV-2 infection was scarce earlier in the pandemic, largely limited to case reports. An early cohort study from China revealed higher disease severity in young infants than older children, by criteria which defined severe and critical cases as including early respiratory and in some cases gastrointestinal symptoms, or progression to severe respiratory or systemic illness, respectively.² Gale et al.'s paper presents data from a peak period of SARS-CoV-2 infection in the United Kingdom (UK) and is an important contribution to our understanding of the incidence, disease severity and transmission modes for neonatal SARS-CoV-2 infection. This study found that COVID-19 disease severe enough to require hospitalisation was rare in neonates, at 5.6 per 10 000 livebirths. While many infections were mild, the study confirms a higher propensity to severe disease in neonates than older children.^{2,3} 42% of cases were defined as severe, albeit using criteria that may include neonates who, while unwell, would not necessarily require intensive care.²

Data on transmission modes for neonatal SARS-CoV-2 infection have been limited and conflicting. World Health Organisation (WHO) guidelines endorse keeping mother and baby together in cases of maternal SARS-CoV-2 infection.⁴ However, confusion as to the likelihood of viral transmission may have influenced adherence to these guidelines, with a number of cases where separation of mothers and babies occurred, including in this cohort. This study confirms that vertical transmission is rare and that transmission by close contact is unlikely to occur with maternal SARS-CoV-2 infection, even where a mother with active infection co-rooms with her baby. This finding supports the ongoing implementation of WHO guidelines to keep mothers and babies together, a practice important for bonding, the establishment of feeding, and newborn survival.⁵ Nosocomial transmission did occur, underscoring a need for stringent infection control procedures for all centres which provide care for patients with SARS-CoV-2 infection.

This paper also highlights inequality in disease incidence for SARS-CoV-2 for babies of Black, Asian and Minority Ethnic (BAME) groups, with an incidence three to four-fold that of individuals classified as having white ethnicity. This finding is not isolated to neonates, with a disproportionately high disease incidence amongst individuals of BAME groups amongst pregnant women and wider adult populations.^{6,7} This observation is a substantial public health concern that likely speaks to the influence of social determinants of health.

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Providers of perinatal health care still have much to learn about SARS-CoV-2. Ongoing collection and analysis of comprehensive perinatal epidemiologic data will remain paramount for our capacity to respond this pandemic in a manner that is well-informed, evidence-based and effective in optimising the health and well-being of all mothers and babies affected.

CONFLICTS OF INTEREST

None to declare.

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ORCID

Hannah J. Sutton  <https://orcid.org/0000-0002-7492-2150>

Peter A. Dargaville  <https://orcid.org/0000-0002-4142-477X>

Naomi E. Spotswood  <https://orcid.org/0000-0002-1044-4604>

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