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facilities, as well as in response to any further updates on SARS-CoV-2 and COVID-19.

We declare no competing interests.

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- Alfaraj SH, Al-Tawfiq JA, Memish ZA. Middle East respiratory syndrome coronavirus (MERS-CoV) infection during pregnancy: report of two cases & review of the literature. J Microbiol Immunol Infect 2019; 52: 501-03.
- Wong SF, Chow KM, Leung TN, et al. Pregnancy and perinatal outcomes of women with severe acute respiratory syndrome. Am J Obstet Gynecol 2004; 191: 292–97.
- 3 Chen H, Guo Juanjuan, Wang C, et al. Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: a retrospective review of medical records. Lancet 2020; published online Feb 12. https://doi. org/10.1016/S0140-6736(20)30360-3.
- 4 Favre G, Pomar L, Musso D, Baud D. 2019-nCoV epidemic: what about pregnancies? Lancet 2020; 395: e40.
- Musso D, Ko AI, Baud D. Zika virus infection after the pandemic. N Engl J Med 2019; 381: 1444–57.
- 6 WHO. Laboratory testing for 2019 novel coronavirus (2019-nCoV) in suspected human cases. Interim guidance. Geneva: World Health Organization, 2020.

COVID-19 in pregnant women

With interest, we read the recommendation on the management of pregnant women with suspected severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) by Guillaume Favre and colleagues.¹ Some of the recommendations made in the flowsheet of their Correspondence have long-term consequences (eg, termination of pregnancy, no breastfeeding)

of an unforeseeable extent, are harmful when applied to the general population (eq, early cord clamping in extremely preterm infants, no breastfeeding, separation of the mother from the newborn), are not proven to reduce the risk of transmission in other viral illnesses (eq, early cleaning of the newborn), and are contradictory to the current recommendations by the US Centers for Disease Control and Prevention (CDC) for the management of coronavirus disease 2019 (COVID-19; eq, testing of asymptomatic people, no breastfeeding).

In case reports and in the largest case series on COVID-19 in children published so far,² three neonates and 230 children with confirmed COVID-19 diagnosis are reported. There were no deaths, most patients had mild disease (including all three neonates), and severe illness was limited to patients with underlying illness.

Extrapolation from other studies of human coronavirus infections3 gives conflicting data with no harm reported in infants born to mothers with SARS-CoV and severe adverse courses in women infected with Middle East respiratory syndrome coronavirus. Current data suggest that vertical transmission of SARS-CoV-2 is at least uncommon.45 and the clinical course of infants born to infected mothers varies in the two publications. Serious illness was reported by Zhu and colleagues;5 however, all of these neonates tested negative, so the cause of their illness remains unclear.

On the basis of these data, we feel that clear recommendations, as proposed in the appendix of the Correspondence by Favre and colleagues, cannot and should not be made, although we realise that during the worrisome actual situation such recommendations are very sought after. However, making recommendations that can affect a large number of people requires a

sound foundation. In the absence of such a foundation, the medical and academic community should explain to the best of their knowledge what they know and what the knowledge gaps are, rather than trying to fill these gaps with unsound speculation.

We admit that the choice on which side to err is not an easy one if we simply do not know the risks associated with COVID-19 in pregnant women and neonates. Therefore, as long as national authority quidelines or evidencebased recommendations do not yet exist, clinical practitioners need to screen the literature and review their actions on a daily basis. We appeal to national and international disease control authorities such as CDC and WHO to improve and update their guidelines for specific patient groups, so that everyone can rely on the best data available.

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- Favre G, Pomar L, Qi X, Nielsen-Saines K, Musso D, Baud D. Guidelines for pregnant women with suspected SARS-CoV-2 infection. Lancet Infect Dis 2020; published online March 3. https://doi.org/10.1016/ S1473-3099(20)30157-2.
- 2 Lu Q, Shi Y. Coronavirus disease (COVID-19) and neonate: what neonatologist need to know. J Med Virol 2020; published online March 1. DOI:10.1002/jmv.25740.
- Schwartz DA, Graham AL. Potential maternal and infant outcomes from (Wuhan) coronavirus 2019-ncov infecting pregnant women: lessons from SARS, MERS, and other human coronavirus infections. Viruses 2020; 12: e194.
- 4 Chen H, Guo J, Wang C, et al. Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: a retrospective review of medical records. Lancet 2020. https://doi.org/10.1016/S0140-6736(20)30360-3.
- 5 Zhu H, Wang L, Fang C, et al. Clinical analysis of 10 neonates born to mothers with 2019-nCoV pneumonia. *Transl Pediatr* 2020; 9: 51-60.

For more on the **guidelines** see https://www.cdc.gov/coronavirus/2019-ncov/hcp/inpatient-obstetric-healthcare-guidance.html and https://www.unicef.org/stories/novel-coronavirus-outbreak-what-parents-should-know



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