

Is there vertical transmission of SARS-CoV-2 in pregnancy?

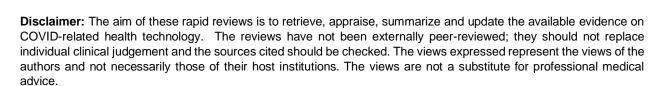
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KEY FINDINGS

There is limited evidence on the vertical transmission of SARS-CoV-2 in pregnancy.

- SARS-CoV-2 is primarily transmitted person-to-person via respiratory droplets and contact routes.
- Vertical transmission is uncertain.
- There is limited and conflicting evidence on vertical transmission of SARS-CoV-2 in pregnancy.
- Guidelines do not totally exclude the probability of vertical transmission.



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RESULTS

Karimi-Zarchi et al. included 1 online news and 3 case series were included in the review [2]. A total of 31 pregnant women with COVID-19 were reported. No COVID-19 infection was detected in neonates.

The Panahi et al. included 13 articles with a total of 37 pregnant mothers with COVID-19 and 38 newborns (2 twins) [3]. Five of the studies were case reports or series. Other studies were correspondence, commentary or letters to the editor. There was no report of vertical transmission.

Schwartz included 5 case reports/series China with a total of 38 pregnant mothers with COVID-19 (only 37 were confirmed by RT PCR) and 39 newborns (1 twin) [4]. There was no report of vertical transmission.

Mullins et al. included 23 studies with a total of 30 neonates [5]. Among 25 tested neonates, all were negative for COVID-19.

All the 12 case reports/series, with a pooled total of 41 neonates, reported no SARS-CoV-2 in pharyngeal swabs of neonates [6-17] born to mothers with COVID-19. IgM antibodies and cytokines levels (e.g. Interleukin-6, IL-6) immediately after birth were elevated in 3 neonates [14-15]. IgM antibodies do not cross the placenta from the mother to the neonate because of their large structure. Cytokines such as IL-6 are elevated in patients with COVID-19. These markers of possible in-utero infection conflict with the negative pharyngeal swabs.

CONCLUSION

There is limited and conflicting evidence on vertical transmission of SARS-CoV-2 from mother to fetus. Larger studies are needed for a robust evidence on vertical transmission in pregnancy.

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