

Timing of Mother-to-child Transmission of SARS-CoV-2: Living Systematic Review and Meta-analysis (Update)

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Background

Previous results on mother-to-child transmission of SARS-CoV-2, published by the PregCOV-19 Living Systematic Review Consortium, showed evidence that mother-to-child transmission (MTCT) of the virus is possible, but thought to be rare^{1,2}.

As the COVID-19 pandemic continues to evolve, further evidence has become available to update our findings. Use of the 2021 WHO classification³ (Figure 2) system of timing and likelihood of vertical transmission in cases of SARS-CoV-2 positive neonates born to positive mothers has allowed us to address our main research question (Figure 1):

What is the likelihood and timing of SARS-CoV-2 transmission from infected mothers to their neonates?

Figure 1: Main research question the living systematic review aims to address

References

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- World Health Organisation. Definition and categorisation of the timing of mother-to-child transmission of SARS-CoV-2: Scientific Brief. 2021
- Hoy D, Brooks P, Woolf A, Blyth F, March L, Bain C et al. Assessing risk of bias in prevalence studies: modification of an existing tool and evidence of interrater agreement. *J Clin Epidemiol*. 2012;65(9):934-9.

Methods

Design	Living systematic review and meta-analysis
Data Collection	Systematic search of preprint servers and major databases on a weekly-basis from December 2019-April 2022
Inclusion Criteria	Cohort study, case series or case report of pregnant and/or recently pregnant women presenting to hospital with a confirmed COVID-19 diagnosis, with their fetus’ or neonate’s SARS-CoV-2 infection status confirmed by RT-PCR or serological testing
Data Analysis	Two independent reviewers screened studies, extracted data (using WHO classification of likelihood and timing ³) and undertook quality assessment (using Hoy et al. risk of bias tool ⁴).

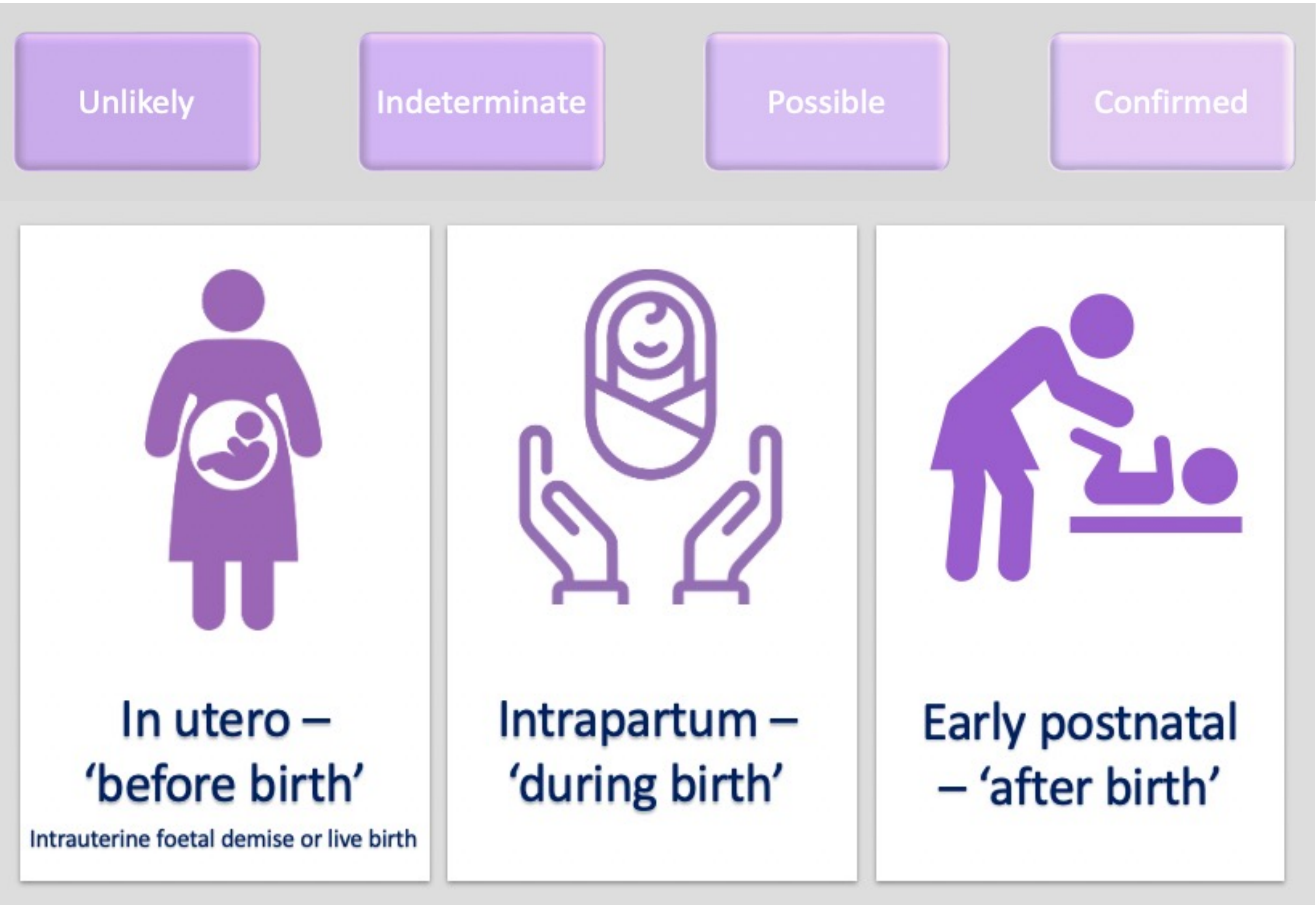


Figure 2: WHO classification definitions of likelihood (above) and timing (below) of mother-to-child transmission of SARS-CoV-2 were used

Results



From 643 included studies, **1036** babies were classified using the WHO system

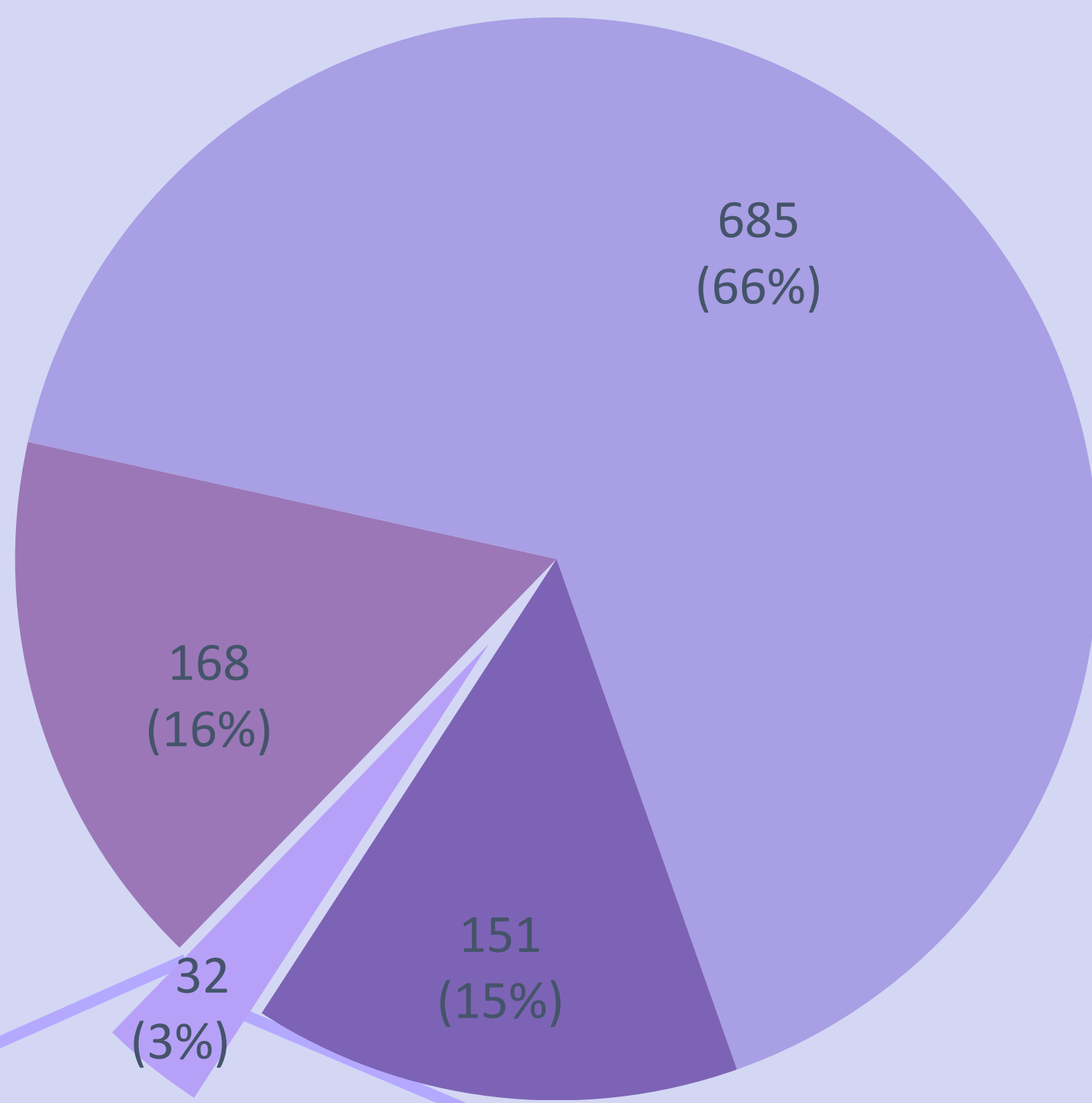
Likelihood of MTCT in 1036 babies:

Confirmed

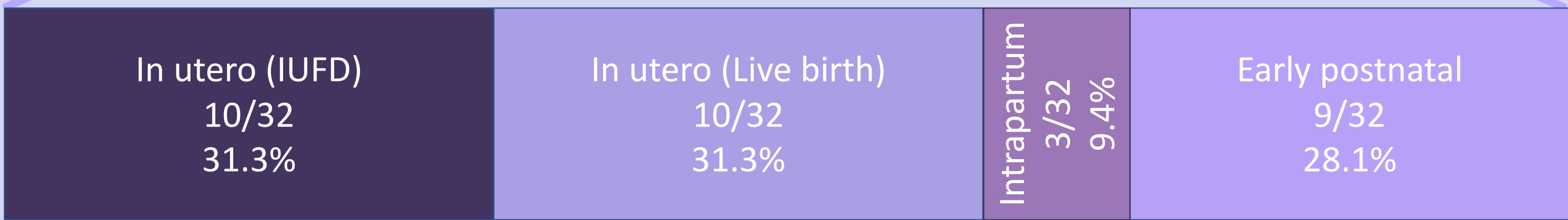
Possible

Indeterminate

Unlikely



Timing of 32 Confirmed Cases:



Conclusion

Evidence continues to confirm vertical transmission of SARS-CoV-2 is possible, however this is rare.