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SUCCESSFUL BUT NOT SIMPLE: OBSTETRIC MORBIDITY AMONG ART SINGLETON PREGNANCIES

A National Population-Based Analysis, 2016–2019

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BACKGROUND

- ART use has risen alongside a shift toward singleton pregnancies.
- Even among singletons, subtle differences in obstetric morbidity may persist.
- We compared obstetric outcomes among ART singleton pregnancies to non-ART singleton pregnancies at the national level.

METHODS

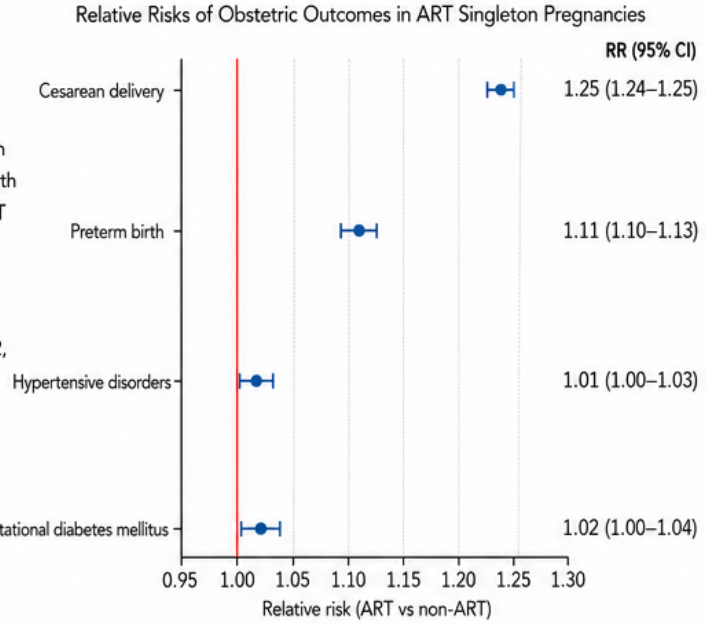
- Population-based retrospective cohort study using CDC WONDER Natality Expanded Files (2016–2019).
- Outcomes: cesarean delivery, preterm birth (<37 weeks), hypertensive disorders of pregnancy, gestational diabetes mellitus (GDM).
- Relative risks (RR) with 95% CI comparing ART vs non-ART singleton pregnancies were calculated.
- Statistical significance: $p < 0.05$.

KEY RESULTS

- Higher risk of cesarean delivery and preterm birth among ART singletons.
- No significant differences in hypertensive disorders or GDM.
- Findings remained consistent across the 4-year study period.

RESULTS

- Among 12,992,159 singleton births, 97,125 (0.75%) were conceived with ART.
- ART singleton pregnancies had higher risk of cesarean delivery (RR 1.25, 95% CI 1.24–1.25) and preterm birth (RR 1.11, 95% CI 1.10–1.13) compared with non-ART singletons.
- Risks of hypertensive disorders (RR 1.01, 95% CI 1.00–1.03) and gestational diabetes mellitus (RR 1.02, 95% CI 1.00–1.04) were similar between groups.
- Results were consistent across all years (2016–2019).



Even among singleton pregnancies, ART conception is associated with higher cesarean delivery and modestly increased preterm birth risks, but similar risks of hypertensive disorders and gestational diabetes compared with non-ART singleton pregnancies.

CONCLUSION

Among singleton pregnancies, ART conception is associated with higher cesarean delivery and modestly increased preterm birth at the national level.

Hypertensive disorders and gestational diabetes appear comparable between ART and non-ART singleton pregnancies in the contemporary ART era.

KEY TAKEAWAY

Successful ART singleton pregnancies may carry a distinct—but not uniformly elevated—obstetric morbidity profile.

DATA SOURCE

CDC WONDER
Natality Expanded Files

Data extracted: May 2026

United States, 2016–2019