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Birth Defect Outcomes in Pregnancies Conceived through In Vitro Fertilisation

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To the Editor:

We read the recent paper by Xiong and colleagues[1] with interest. The authors analysed data from the Society for Assisted Reproductive Technology Clinic Online Reporting System (SART CORS) database for 141 030 births from pregnancies conceived through in vitro fertilisation (IVF). They reported that the odds of preterm delivery, stillbirth, and neonatal death across the two groups of intracytoplasmic sperm injection (ICSI) were similar; however, the ICSI group had a slightly increased risk of birth defects (adjusted odds ratio 1.2, 95% confidence interval 1.2, 1.3).

Although we agree that recent increase in the use of ICSI in couples without male factor infertility is concerning, we contend that the birth defect associations must be cautiously interpreted. The SART database captures outcomes through the first month of life, while the minimum standard for US birth defect programmes is recording of birth defect diagnoses through the first year of life.[2] Also, ascertainment of birth defects in the SART database is not standardised, and may include report by either parents or providers. The sensitivity of birth defects reported in SART CORS is at best 50%, and recommendations to discontinue reporting of birth defect data in SART CORS have been expressed.[3]

Using records from CDC's National Assisted Reproductive Technology Surveillance System (NASS, a national database inclusive of SART CORS data)[4] that were linked to vital statistics and state birth defects registries in Florida, Massachusetts, and Michigan, we found an overall birth defects prevalence rate among ART live births (6.1%) at least twice that reported by Xiong et al.[5] Given that the study by Xiong included all major birth defects, it is likely that the overall prevalence is similar to that found in our study, suggesting that a substantial proportion of birth defects among infants in their study were not reported. Furthermore, their assumption that under-reporting of birth defects was non-differential is questionable.

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Declaration

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

We also note that the proportion of missing race/ethnicity data is not reported in Xiong's study. It is well known that race/ethnicity data in the SART CORS database are missing for over a third (35%) of births.[6] Xiong included missing values as a separate category in multivariable analyses, a practice that may introduce more bias than complete case analysis.[7] We therefore remain concerned about the validity of the findings of Xiong.

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