



Do Racial and Ethnic Disparities Impact Medically Assisted Reproduction?

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In a recently released article in *Pediatrics*, Dr. Sarka Lisonkova and colleagues report on associations between maternal race/ethnicity and adverse birth outcomes among women who conceived using medically assisted reproduction (MAR) ([10.1542/peds.2021-055855](https://doi.org/10.1542/peds.2021-055855)). MAR includes both assisted reproduction technology (ART), defined as “all fertility treatments in which eggs or embryos are handled,” e.g., in-vitro fertilization and (the less well known) intracytoplasmic sperm stimulation, and non-ART MAR, e.g., intrauterine insemination and ovarian stimulation. Currently, unacceptable racial/ethnic inequities in morbidity and mortality with respect to infant and maternal birth outcomes are well described in the US population: rates of infant and maternal mortality are 2-3-fold higher among non-Hispanic Black as compared to non-Hispanic White mothers, for example.^{1,2} The authors of this study aimed to examine whether these inequities extend to maternal and neonatal outcomes among mothers conceiving by MAR. They hypothesized that since women who can access these expensive medical technologies either via insurance coverage or personal funding are more likely to be affluent, racial/ethnic disparities in outcomes would be much smaller due to narrower gaps in maternal socioeconomic status.

This population-based study included all singleton births in the US from 2016 and 2017, and used publicly available birth, death, and fetal death certificates from the National Center for Health Statistics. Based on self-reported information about conception and treatments, women could be grouped as having conceived 1- by spontaneous conception (no MAR), 2- with ART, or 3- with non-ART MAR. The US National Vital Statistics Reports terminology were used to elicit self-reported maternal race and ethnicity. The primary

outcome was neonatal death, defined as infant death within 28 days of birth. The Methods section walks the reader through additional outcomes and the details of the analysis. In all, 7,545,805 singletons could be included in the study, of whom 56,395 (0.8%) were conceived by ART and 37,074 (0.5%) were conceived by non-ART MAR. While there were expected differences between the groups, with lower proportions of those of racial/ethnic minorities, younger age, and lower educational level in the MAR groups, the differences in birth outcomes by race/ethnicity were statistically significant and concerning.

There are many findings to explore in this article, and you will find much beyond the headlines. For starters, we know that the rate of neonatal death among non-Hispanic Blacks is two-fold higher, and among Hispanic Whites is 1.1-fold higher, than among non-Hispanic White women *for those conceiving spontaneously, i.e., without MAR*.² But in this study, these differences were magnified for those using MAR: for example, among non-Hispanic Black women as compared to non-Hispanic White women, *rates of neonatal death were 4.1-fold higher for those using ART and 3.3-fold higher for those using non-ART MAR*. Study results show inequities in other outcomes and among other race/ethnicity groups. The higher risks for child and mother associated with MAR in general do not explain these disparities, and the authors are careful to outline the limitations of their study including lack of detail about MAR treatments such as the use of selective fetal reduction (*the practice of reducing the number of fetuses in a multiple pregnancy*). Well described aspects of structural racism, both healthcare related and societal, may be responsible for these findings.³ For example, patient health care access and health provider bias can differentially and negatively impact minoritized expectant women, and both maternal pregnancy stress and “weathering,” which is repeated exposure to socioeconomic adversity, discrimination and political marginalization that harm health, may each play a role.⁴ Research is needed into both causes and mitigating solutions, and my hypotheses may not bear out, but these findings should not be ignored. Kudos to the authors for their seminal work in studying this little explored area of maternal-child health.

References:

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