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TITLE

ASSISTED REPRODUCTIVE TECHNOLOGY AND THE RISK OF PRETERM BIRTH AMONG SINGLETON LIVE-BIRTH IN TEHRAN, IRAN

AUTHOR/S

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ABSTRACT

Context: Preterm birth (PTB) is a leading cause of neonatal death and recent findings suggest that assisted reproductive technology (ART) may lead to PTB.

Objective: To examine the relationship between ART and PTB among singleton live-birth in Tehran province, Iran.

Methods: This cross-sectional study was conducted on 4704 pregnant women who gave singleton live-birth in Tehran province from 6-21 July 2015. The association between ART and PTB was evaluated using crude odds ratio and adjusted odds ratio. Finally, we evaluated the association between the cause of infertility and PTB among ART births.

Patient(s): Singletons born to women who conceived with or without ART.

Intervention(s): None.

Main Outcome Measure(s): Preterm (<37 weeks' gestation) and preterm/early term birth <39 weeks' gestation).

Result(s): The PTB rate was higher in ART singletons than non-ART singletons (10.1% vs 4.9%, $p < 0.001$); Moreover, PTB/Early term rate was also higher in ART singletons than non-ART singletons (54.0% vs 43.1%, $p < 0.001$). According to multivariate analysis (adjusted model), PTB and PTB/Early term were, respectively, 1.99 times and 1.39 times more likely to occur among ART singletons, compared with non-ART singleton. According to the results, cause of infertility was not associated with PTB ($p = 0.628$) and PTB/Early term ($P = 0.418$) in ART births.

Conclusions: Among singleton birth, PTB and PTB/early term rates were, respectively, two-fold and 1.4-fold higher in ART mothers than non-ART mothers after controlling for confounding factors.

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