

# Impact of inactive COVID-19 vaccination on the live birth and neonatal outcomes of infertile couples with in vitro fertilization treatment

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## Abstract

**Objective:** To assess the influence of vaccination on reproductive outcome treatment of in vitro fertilization (IVF) treatment. **Design:** A retrospective cohort study. **Setting:** A university-affiliated reproductive medical center. **Population:** The study included a total of 1105 couples who underwent 1269 IVF treatment cycles with fresh cycles from March.1.2021 to January.1.2022. 215 vaccinated couples, 677 unvaccinated couples, 101 couples with female vaccinated only, and 112 couples with male vaccinated only. **Methods:** 1105 couples were divided into four groups according to the inactivated COVID-19 vaccination status of both partners: Group A, both partners were vaccinated; Group B, only female partners were vaccinated; Group C, only male partners were vaccinated; Group D, neither of them was vaccinated. To compare the live birth and neonatal outcomes among different vaccinated couples or unvaccinated couples. **Main Outcome Measure(s):** The primary outcome was a live birth rate and secondary outcomes were a low birth rate and preterm birth rate. **Result(s):** The results showed that there are no significant differences in live birth rate and neonatal outcomes among different groups. The logistic regression model applied demonstrated that the different vaccination statuses of infertile couples had no effects on the live birth rates. **Conclusion(s):** The COVID-19 inactive vaccine did not affect the couples' reproductive outcome in IVF treatment. To prevent serious complications related to COVID-19 infection during pregnancy and the perinatal period, active immunization with vaccines is available before pregnancy.

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