

Large study provides reassurance that COVID-19 vaccination does not affect fertility or early pregnancy

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Vaccination against COVID-19 did not affect fertility outcomes in patients undergoing in-vitro fertilization (IVF), a new study has found.

The findings, which were published in *Obstetrics & Gynecology*, add to the growing body of evidence providing reassurance that COVID-19 vaccination does not affect fertility.

Investigators at the Icahn School of Medicine at Mount Sinai (Icahn Mount Sinai), New York City, and Reproductive Medicine Associates of New York ([RMA of New York](#)) compared rates of fertilization, pregnancy, and early miscarriage in IVF [patients](#) who had received two doses of vaccines manufactured by Pfizer or Moderna with the same outcomes in nonvaccinated patients.

"This is one of the largest studies to review fertility and IVF cycle outcomes in patients who received COVID-19 vaccinations. The study found no significant differences in response to ovarian stimulation, egg quality, [embryo development](#), or pregnancy outcomes between the vaccinated compared to unvaccinated patients." said Devora A. Aharon, MD, first author of the study. Dr. Aharon is a fellow in [reproductive endocrinology](#) and infertility at Icahn Mount Sinai and RMA of New York. "Our findings that vaccination had no impact on these outcomes should be reassuring to those who are trying to conceive or are in early pregnancy."

The study involved patients whose eggs were collected from the ovaries and fertilized by sperm in a laboratory, creating embryos that were frozen and later thawed and transferred to the womb, and patients who underwent medical treatment to stimulate the development of eggs. The two groups of patients who underwent frozen-thawed embryo transfer—214 vaccinated and 733 unvaccinated—had similar rates of pregnancy and early pregnancy loss. The two groups of patients who underwent ovarian stimulation—222 vaccinated and 983 unvaccinated—had similar rates of eggs retrieved, fertilization, and embryos with normal numbers of chromosomes, among several other measures.

The authors of the study anticipate that the findings will ease the anxiety of people considering pregnancy. "By leveraging science and [big data](#), we can help reassure patients of reproductive age and enable them to make the best decisions for themselves. It will give people comfort to know that the COVID-19 vaccine does not affect their reproductive potential," said senior author Alan B. Copperman, MD, FACOG, division director and clinical professor of obstetrics, gynecology and reproductive science at Icahn Mount Sinai and director of RMA of New York, which is recognized internationally as a leading center of reproductive medicine.

The patients in the study were treated at RMA of New York between February and September 2021. Patients undergoing IVF treatment are closely tracked, enabling the researchers to capture early data on the implantation of embryos in addition to [pregnancy](#) losses that might be undercounted in other studies.

The publication of the new study coincides with the surge of the highly contagious Omicron variant. Previous studies have found that COVID-19 vaccination helped protect pregnant people—for whom COVID-19 substantially increases the risk of severe illness and death—from severe illness, conferred antibodies to their infants, and did not raise the risk of preterm birth or fetal growth problems.

More information: "In Vitro Fertilization and Early Pregnancy Outcomes After Coronavirus Disease 2019 (COVID-19) Vaccination" *Obstetrics & Gynecology* (2022). [DOI: 10.1097/AOG.0000000000004713](#)

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