

# Study finds that COVID-19 vaccines do not cause infertility

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New findings by Boston University School of Public Health investigators indicate that COVID-19 vaccination does not impair fertility—but males who become infected by the coronavirus may experience short-term reduced fertility.

COVID-19 vaccination in either partner does not appear to affect

fertility, according to new research led by Boston University School of Public Health (BUSPH) investigators.

Published in the *American Journal of Epidemiology*, the prospective study of couples trying to conceive found no association between COVID-19 vaccination and fecundability—the probability of conception per menstrual cycle—in female or [male partners](#) who received the Pfizer-BioNTech, Moderna, or Johnson & Johnson vaccines.

In contrast, the findings indicate that COVID-19 infection among males may temporarily reduce fertility—an outcome that could be avoidable through vaccination.

"Many reproductive-aged individuals have cited concerns about fertility as a reason for remaining unvaccinated," says study lead author Dr. Amelia Wesselink, research assistant professor of epidemiology at BUSPH. "Our study shows for the first time that COVID-19 vaccination in either partner is unrelated to fertility among couples trying to conceive through intercourse. Time-to-pregnancy was very similar regardless of vaccination status."

Wesselink and colleagues analyzed [survey data](#) on COVID-19 vaccination and infection, and fecundability, among female and [male participants](#) in the BUSPH-based Pregnancy Study Online (PRESTO), an ongoing NIH-funded study that enrolls women trying to conceive, and follows them from preconception through six months after delivery. Participants included 2,126 women in the US and Canada who provided information on sociodemographics, lifestyle, medical factors, and characteristics of their partners from December 2020 to September 2021, and the participants were followed in the study through November 2021.

The researchers calculated the per menstrual cycle probability of

conception using self-reported dates of participants' last menstrual period, typical menstrual cycle length, and pregnancy status. Fertility rates among female participants who received at least one dose of a [vaccine](#) were nearly identical to unvaccinated [female participants](#). Fecundability was also similar for male partners who had received at least one dose of a COVID-19 vaccine compared with unvaccinated male participants. Additional analyses that considered the number of vaccine doses, brand of vaccine, infertility history, occupation, and geographic region also indicated no effect of vaccination on fertility.

While COVID-19 infection was not strongly associated with fertility, men who tested positive for COVID within 60 days of a given cycle had reduced fertility compared to men who never tested positive, or men who tested positive at least 60 days prior. This data supports previous research that has linked COVID-19 infection in men with poor sperm quality and other reproductive dysfunction.

"These data provide reassuring evidence that COVID vaccination in either partner does not affect fertility among couples trying to conceive," says study senior author Dr. Lauren Wise, professor of epidemiology at BUSPH. "The prospective study design, large sample size, and geographically heterogeneous study population are study strengths, as was our control for many variables such as age, socioeconomic status, preexisting [health conditions](#), occupation, and stress levels."

The new data also help quell concerns about COVID-19 vaccines and fertility that arose from anecdotal reports of females experiencing [menstrual cycle](#) changes following vaccination.

**More information:** Amelia K Wesselink et al, A prospective cohort study of COVID-19 vaccination, SARS-CoV-2 infection, and fertility, *American Journal of Epidemiology* (2022). [DOI: 10.1093/aje/kwac011](https://doi.org/10.1093/aje/kwac011)

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