COVID-19 Vaccinations and Infertility Claims

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Rumors have been circulating online suggesting that the COVID-19 vaccines have a negative impact on human fertility. However, experts say such claims are unfounded.

"There is absolutely no evidence, and no theoretical reason, that any of the vaccines can affect the fertility of women or men," says guidance published by the Association of Reproductive and Clinical Scientists (ARCS) and the British Fertility Society (BFS).

The American College of Obstetricians and Gynecologists (ACOG) has also issued a statement debunking claims that the COVID-19 vaccines currently available in the U.S. are a cause of infertility, noting that they have been "scientifically disproven."

According to ACOG, the two mRNA vaccines—manufactured by Pfizer-BioNTech and Moderna respectively—are not a cause of infertility, given their mechanism of action and safety profiles.

These vaccines use a single-stranded molecule known as messenger RNA (mRNA) to provide the body with a set of genetic instructions for producing the SARS-CoV-2 spike protein, which the virus uses to enter human cells.

Your body generates the protein, stimulating the immune system to generate antibodies against COVID-19. This prepares the body's defensive response should it ever encounter the real virus.

These vaccines do not enter the nucleus of the body's cells and do not alter human DNA, meaning they cannot cause any genetic changes. The mRNA itself is extremely short-lived and easily degraded.

The vaccine produced by the Johnson & Johnson-owned pharmaceutical company Janssen, meanwhile, is based on more traditional technology, but also does not affect human fertility.

This vaccine uses a modified adenovirus—a common virus that causes cold-like symptoms. Scientists alter the virus so that it carries pieces of genetic material from the SARS-CoV-2 spike protein.

"Adenovirus vector vaccines such as the Janssen COVID-19 vaccine cannot replicate following administration, and available data demonstrate that it is cleared from tissues following injection," ACOG said. "Because it does not replicate in the cells, the vaccine cannot cause infection or alter the DNA of a vaccine recipient and is also not a cause of infertility."

Among the misinformation spreading online in relation to this issue is a video post claiming that a COVID-19 vaccine produced by GlaxoSmithKline (GSK) contains ingredients that will cause infertility, and that the sperm of immunized men can make unvaccinated women sterile—ultimately leading to a global population decline.

But these claims have been debunked. The company does not have a COVID-19 vaccine and experts say that the biological arguments made in the video are unfounded.

GSK is not producing its own COVID-19 vaccine. Instead, it is working with several organizations developing COVID-19 vaccines by providing access to its adjuvant technology. An adjuvant is an ingredient sometimes added to vaccines that enhance the immune response of the body. None of the collaborations GKS is involved with has yet produced a vaccine that is available to the general public.

Nevertheless, the video refers to two ingredients purported to be in the GSK shot that affect hormones called human chorionic gonadotropin (hCG) and gonadotropin-releasing hormone (GnRH). HCG is a hormone produced during pregnancy, while GnRH is involved in the reproductive system of men and women.

But a GSK spokesperson told AFP that its adjuvant does not contain any ingredients that would affect the function of these hormones. addition, none of the vaccines authorized for emergency use in the United States contain any hCG or GnRH antagonists.

Kate White, an obstetrics and gynecology professor at Boston University School of Medicine, told AFP: "There's no vaccine in the world that can cause infertility."

In addition, scientists also debunked the claim that the shot could damage and kill male sperm, which could then cause infertility in women.

John Amory, a professor of medicine at the University of Washington School of Medicine, told AFP: "There is no possible way that dead sperm from any cause would make a woman infertile."

Both the ACOG statement and ARCS/BFS guidance recommend that people of reproductive age who are eligible should get vaccinated, including women who are contemplating or trying to have a baby. People who are undergoing any kind of fertility treatment can still be vaccinated, but the ARCS/BFS guidance suggests individuals may want to consider the timing.

"It may be sensible to separate the date of vaccination by a few days from some treatment procedures—for example, egg collection in IVF—so that any symptoms, such as fever, might be attributed correctly to the vaccine or the treatment procedure," the guidance states.