NIH Funds Studies to Assess Potential Effects of COVID-19 Vaccination on Menstruation

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The National Institutes of Health has awarded one-year supplemental grants totaling $1.67 million to five institutions to explore potential links between COVID-19 vaccination and menstrual changes.

Some women have reported experiencing irregular or missing menstrual periods, bleeding that is heavier than usual, and other menstrual changes after receiving COVID-19 vaccines. The new awards support research to determine whether such changes may be linked to COVID-19 vaccination itself and how long the changes last. Researchers also will seek to clarify the mechanisms underlying potential vaccine-related menstrual changes.

The supplemental grants are funded by NIH's Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) and the NIH Office of Research on Women's Health.

"These rigorous scientific studies will improve our understanding of the potential effects of COVID-19 vaccines on menstruation, giving people who menstruate more information about what to expect after vaccination and potentially reducing vaccine hesitancy," said NICHD Director Diana W. Bianchi, MD.

Numerous factors can cause temporary changes in the menstrual cycle, which is regulated by complex interactions between the body's tissues, cells and hormones. Immune responses to a COVID-19 vaccine could affect the interplay between immune cells and signals in the uterus, leading to temporary changes in the menstrual cycle. Other factors that may cause menstrual changes include pandemic-related stress, lifestyle changes related to the pandemic, and infection with SARS-CoV-2 (the virus that causes COVID-19).

The new projects will build on existing research studies and leverage data from menstrual tracking applications to evaluate the potential impacts of COVID-19 vaccination on menstrual health among geographically and racially and ethnically diverse populations. One project will focus specifically on adolescents.

Researchers will assess the prevalence and severity of post-vaccination changes to menstrual characteristics including flow, cycle length, pain and other symptoms. These analyses will account for other factors that can affect menstruation—such as stress, medications and exercise—to determine whether the changes are attributable to vaccination. Several projects also seek to unravel the mechanisms underlying the potential effects of COVID-19 vaccines on the menstrual cycle by examining immune and hormonal characteristics in blood, tissue and saliva samples taken before and after COVID-19 vaccination.

The following institutions will conduct the research:

- Boston University; Principal investigator: Lauren A. Wise, ScD
- Harvard Medical School, Belmont, Massachusetts; Principal investigator: Laura Allen Payne, PhD
- Johns Hopkins University, Baltimore; Principal investigator: Mostafa Borahay, PhD
- Michigan State University, East Lansing; Principal investigator: Stacey Ann Missmer, ScD
- Oregon Health and Science University, Portland; Principal investigator: Alison B. Edelman, MD.

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