

EDUCATION

More than 1 in 5 women have irregular menstrual cycles. What does that mean for abortion access?

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A new research paper on menstrual irregularity shows more than one in five women have highly irregular cycles that are linked to certain common health conditions and even the person's race, a finding that poses major implications for people living in states that are trying to ban abortions at six weeks or earlier.

Researchers at the University of Wisconsin-Madison and the National Institutes of Health published their study late last month in the Proceedings of the National Academy of Sciences journal, in which they analyzed a total of 1.6 million menstrual cycles, using anonymized data self-reported through a smartphone app by 267,000 people.

They found 22% of the people in their study had menstrual cycles that vary by a week or more, a finding that is consistent with other research on the topic, said Jenna Nobles, a UW-Madison demographer who led the study. Nearly all the study's subjects identified as women, she said.

The findings might not necessarily be breaking news to reproductive endocrinologists or even to people who menstruate — but seeing the data on a population level was striking, Nobles said.

"Less than 1% of cycles are 28-day cycles with day 14 ovulation, even though that is the stylized version of menstruation that we all learn about," she said.

Nobles conducted the research with UW-Madison graduate student Lindsay Cannon and NIH emeritus investigator Allen Wilcox, who is a physician and a renowned scholar of reproductive epidemiology. Wilcox's previous research has served as the foundation of

knowledge around topics including when in the menstrual cycle people get pregnant and how likely it is that people will have miscarriages.

The researchers say their findings have direct implications for the efforts by lawmakers in states such as Texas to effectively ban abortions after six weeks.

These laws are also called "heartbeat bills," because the six-week time frame is based on approximately when the "fetal heartbeat" is detectable. However, doctors say that term is misleading, because at six weeks gestation, a fetus does not have anything resembling a heart. Rather, what is being detected is electrical activity from a grouping of cells in the fetus that is picked up by the ultrasound machine.

Wilcox also noted that the six-week point is not six weeks into the pregnancy, but six weeks since the parent's last period. For some, that activity can be detected 35 to 37 days after the beginning of their last period, Nobles said.

"If we assume everybody has a 28-day cycle, the fetal heartbeat is about six weeks after the last menstrual period," Wilcox said. "That doesn't mean a woman had six weeks of pregnancy."

More: Wisconsin won't change its abortion laws now. But it's on the table depending on the outcome of the 2022 election.

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A menstrual cycle is considered to start on the first day of menstruation, or period bleeding. That phase can last anywhere from two to seven days, after which the internal lining of the uterus, which was shed during the period, starts to build up again. The phase in which the lining builds itself back up is the most variable part of the menstrual cycle, Wilcox said.

Because of this variability, the day of ovulation, which is when the ovary releases the egg and it begins its journey through the fallopian tube and into the uterus, can change from cycle to cycle.

Previous research has shown people can ovulate 10 days after their last period or 50 days after, with the average being around 14 or 15 days, Wilcox said. But the average is far from an assurance when it is clear that, even on an individual level, menstrual cycles shift often.

"Even women who say that their cycles are regular, which means (they know) proximally when to expect their next period, the day of ovulation can wander all over the ;

place," Wilcox said. "And ovulation is the beginning of pregnancy — when there is a pregnancy — because conception happens within one day of ovulation."

In essence, the analysis shows just how small the window for seeking out a legal abortion could be for millions living in states where laws like Texas' are enacted.

Missing a period is the first sign for most people who menstruate that they may be pregnant, prompting them to take a pregnancy test. For some, not being able to tell whether a period is delayed or missed could leave them with a matter of days in which to confirm they are pregnant and navigate the logistics of seeking out an abortion if they want one. And for others, the legal window could be missed altogether.

"Even before you get to the part where you need transportation and you need money to pay for an abortion and you need to get past the waiting period, even before you get there, there's this physiological aspect that precludes some people from having access to legal abortion (under these laws)," Nobles said.

A concern around unequal access

One of the most concerning findings of the research, according to Nobles and Wilcox, is the fact that some groups reported irregular cycles more than others, meaning some people will be more greatly constrained by early abortion laws than others.

The researchers found that people with certain medical conditions, such as Type 2 diabetes, polycystic ovary syndrome, obesity and thyroid and other hormone disorders report more variability in their cycles.

So do young people: The age group most likely to have such variability was 18- to 24-year-olds. The researchers note that is the age group with the highest rates of abortion in the U.S.

They also found that Hispanic women were more likely than white, Asian, multiracial and Black women to have irregular cycles, a finding that "surprised and worried" Wilcox, though he said he'd like to see it further researched and replicated.

The discrepancies between these groups and others are important to highlight, Nobles said. The affected groups represent millions of women, according to the paper: In the U.S., 16 million reproductive-age women are Hispanic, 5 million to 9 million have polycystic ovary syndrome and 30 million are obese.

There is already significant discussion over the social barriers that prevent some people from being able to access abortion — and reproductive care in general — than others, from finances to where they live in relation to a clinic to transportation issues.

Those barriers should remain the primary focus of discussion, Nobles said, but it's also important to acknowledge that simply the way people's bodies function could create another barrier to access.

"It's more that when we think about how equitable laws are and ... that health care should be equitably distributed and people should be able to access health care, if all of a sudden people can't access health care because of features of their physiology, that becomes a big problem," she said.

"It means that the law is going to impact young people more, it's going to impact Hispanic people more, it's going to impact people with these common medical conditions more," she said. "And that to me is a key consideration when we think about these laws and their potential impact."

A 'neglected' area of research

Last weekend, anti-abortion and abortion rights activists made their way to the steps of the U.S. Supreme Court to mark the 49th anniversary of the court's landmark *Roe v. Wade* decision, which stopped states from banning abortions before the point at which the fetus could survive outside the womb.

The anniversary comes as the court takes up several cases that will shape how people access abortion in the future. Two days before the anniversary, the court ruled Texas' could keep its abortion law in effect as the court deliberates the constitutionality of the ban. The court is also hearing a case on a Mississippi law that bans most abortions after 15 weeks of pregnancy, which the high court will likely use to revisit the *Roe v. Wade* ruling.

The Mississippi case, in particular, could have an impact on Wisconsin, because if *Roe v. Wade* is overturned in the process of upholding that law, Wisconsin would revert back to a 19th-century law that bans all abortions. The nearly two-century-old law has not been enforced because *Roe* is in effect.

It's unlikely that Wisconsin will enact laws like Texas' while Democratic Gov. Tony Evers is in office. But that could change if Republican candidate for governor Rebecca Kleefisch wins the election, as she has said she would sign a Wisconsin bill banning abortions after a fetal

"heartbeat" is detected, reducing the time frame people could seek abortions from 20 weeks under current law to about six.

Reproductive health researchers say broad studies like the one done by the UW-Madison/NIH team are important because there is a lack of research around female reproductive health in general.

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Alison Gemmill, an assistant professor at Johns Hopkins Bloomberg School of Public Health, is a demographer and reproductive epidemiologist who studies topics including fetal loss and women's ability to become pregnant. She was not involved in the team's research.

"When you read this (paper), it's so basic, but the fact that it's so ground-breaking shows how neglected this subject area has been, and the importance of just this basic, descriptive work," Gemmill said.

Having access to big data sets such as the one used by Nobles and her colleagues is key to expanding how much of this kind of research can happen, Gemmill said, because it is cheaper to collect and can represent larger cross-sections of society.

Wilcox, as a physician himself, noted that the study will also be helpful to health care providers, who are also treating patients while guided by a limited body of research. In the end, the hope is that the paper, and the ones that follow it, will help drive leaders in all fields to work toward more equitable reproductive health care.

"Part of the takeaway here for us is that some policymakers have not articulated a good understanding of how short that window is," Nobles said.

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