## - Menstruation / Medical awareness

## Pandemic periods: why women's menstrual cycles have gone haywire

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We will not look back on the past year as a vintage one for the human body. Since March 2020, many of us have experienced physical manifestations of stress that correspond to living through a global pandemic. From low energy and headaches to changes in mood and disrupted sleep, our rhythms are deeply upset. And many women have experienced changes to a fundamental rhythm: the menstrual cycle.



Rachel Burns has always experienced premenstrual syndrome (PMS), but it has been even more difficult to navigate in the past 12 months. "I always have a few days of feeling quite withdrawn before my period, but this has morphed into me feeling unreachable and anxious for over a week," says the 36-year-old from Kent. "My partner says the change is significant." Before Christmas, her PMS made her feel as if she were "going mad, like a panic attack I couldn't come down from". The effects of her period drag on now. She feels fluey, achy, "completely depleted, physically and emotionally". As a result, it can feel like she "only has one 'good' week" a month. "It's like being at sea within yourself," she says.

When the gynaecologist Dr Anita Singh (who writes and podcasts as the Gynae Geek) posted an informal survey on Instagram in May, asking if women had noticed changes to their cycles or hormonal symptoms, 65% of the 5,677 respondents said yes. A study (not yet peer reviewed) carried out by sports scientists and the bioanalytics company Orreco showed that 53% of 749 women surveyed on the characteristics of their menstrual cycle reported changes, such as changes in mood and longer cycles than usual.

To understand what may be happening, we need to think about the basic mechanisms of the menstrual cycle. In a 28-day cycle, ovulation will occur on about day 14. The empty follicle from which the egg pops out will form something called a corpus luteum – a temporary gland that produces high levels of the hormone progesterone (and lower levels of oestrogen) to prepare the uterus for pregnancy if the egg is fertilised. If it isn't, the corpus luteum breaks down, causing progesterone and oestrogen levels to fall. This begins about a week before the period, on day 21.

The drop in these hormones can affect brain chemicals including serotonin. Many women who experience bad PMS find that, once bleeding begins and hormone levels stabilise, their symptoms disappear. But hormones are only a part of the picture.

"PMS is not purely biological, because the same process of rising and falling oestrogen and progesterone happens to everyone who has a cycle and we are not all affected in the same way," says the consultant gynaecologist Dr Heather Currie, the associate medical director at Dumfries and Galloway Royal Infirmary. "Women with PMS do not have abnormal levels of hormones, but appear to be more sensitive to the changing levels of progesterone and oestrogen."

What causes some women to be more sensitive than others is a milliondollar question. There is early evidence to suggest that some women may have a genetic vulnerability to being affected by hormonal changes, particularly with premenstrual dysphoric disorder, a more severe experience of PMS. "The degree to which changing hormone levels will affect someone will probably be informed by her psychological wellbeing at that time," says Currie. "So, if we already know that life events can make PMS symptoms feel worse, that tells us something about what is happening during something as all-consuming and life-changing as a global pandemic."

George Pearce, 29, is a teacher in Southampton. She has had a 28-day cycle for many years and can "usually time my period to within one or two days". Things have changed. "I will bleed for a few days, then it stops. Then it will start again, then I won't bleed again for six weeks. It's like even my period can't be bothered!" Pearce says that she has never been a particularly anxious person, but feels "like a coiled spring. It's like a weird sort of hum. I'm ruminating on things more than usual, though, as I'm obviously spending a lot more time in my own head. There's nowhere else to go."

Persistent stress leaves us suspended in fight-or-flight mode. In threatening situations, a hormonal pathway in the body called the hypothalamic-pituitary-adrenal axis, which links the brain with the adrenal glands, encourages the release of the stress hormone cortisol – preparing us to respond to the threat.

However, if the brain is telling the body it needs to "respond" all the time (to anxious thoughts, changing circumstances, the stress of home schooling, the impact of loneliness, illness or bereavement), unregulated cortisol can suppress the normal levels of reproductive hormones in the body. This can lead to abnormal ovulation, which will disrupt the cycle – or even pause it altogether.

"It is important for women to try to recognise what else is going on in their lives that could be making their symptoms feel worse," says Currie. Even our experience of period pain, which can be simply understood as the walls of the womb vigorously contracting to help the lining shed, can be affected by our emotional state. Studies have also linked painful periods to working in insecure jobs with little emotional support, which speaks to evidence showing that stress can deepen our perception of pain. Pain can be stressful; stress can be painful. There is no membrane between the physical and emotional. The absence of our usual distractions and coping strategies make escaping – or accepting and getting on with – our thoughts more difficult. "There is no release valve," says Dr Sue Ward, a consultant gynaecologist and a vicepresident of the Royal College of Obstetricians and Gynaecologists. "So many of us are miserable. Any condition that has a psychological element will have surely been made worse by lockdown. It is a perfect storm and the body can tell the story of stress in so many ways."

Ward believes we shouldn't underestimate the impact of women being unable to get together and vent, either. "Being able to talk about our health and emotional issues with each other legitimises what we're thinking. Having the space to laugh takes the sting out of things. We seek solutions and affirmation from fellow women and so many of us haven't been able to have that." Domestic burdens and the inability to escape our partners may also make us feel exposed in a way we haven't before. During the second lockdown, Sarah Adams, 35, approached her GP to discuss what felt like worsening PMS. "I have experienced disconnection and sadness in the second half of my cycle for years, which I've known needed addressing, but the volume of my selfcritical voice this past year has become so loud that it can be scary." She attributes this, in part, to "not being able to take the feelings anywhere, like the library, swimming pool or pub".

Adams lives in east London and runs a shop with her boyfriend. Until they had to close, they purposely arranged their schedules so that they wouldn't work together all the time. Now, she says, they are "stuck together 24/7". "Women are so predisposed to analysing our own behaviour and thinking about how we are perceived. Self-doubt flourishes when we can't be around other women. You lose sense of what is normal or understandable."

The same is true for those who live alone. Sam Davies, 38, is a product manager who lives in Hertfordshire. She says she has always experienced some form of PMS. But living alone for the first six months of the pandemic "exacerbated everything. I kept having this overwhelming feeling of being stuck; with my feelings, in my house, alone." For Davies, PMS is usually characterised by depressive feelings. "I feel hopeless, headachey and very tearful, but also have quite angry, intrusive thoughts and misophonia [extreme sensitivity to sounds]." She is working with a private therapist, which is helping. "It's hard to know whether my PMS during lockdown has become worse because of changes in routine and higher stress levels, or whether my ability to cope generally has changed. Maybe it's both."

A perverse upside to the pandemic is that it has presented an opportunity to reappraise what "stress" actually means and how starkly it can affect the body. If our periods have gone haywire over the past year, this is probably a response to prevailing stress; a signal from the body to think about what tools and habits might nurture our emotional wellbeing. Once life returns to something resembling normal, routines are easier to maintain and we are able to calm down, it is likely that erratic menstrual cycles will calm down, too.

Names and some identifying details have been changed.

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