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Covid-19 and women's reproductive health

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By Katharine Handel

In this issue of the AIMS journal, we have heard stories from women who experienced pregnancy, birth, and life with a newborn during the lockdowns brought about by the Covid-19 pandemic. Alongside these women, there were those who experienced another phenomenon: a change in their menstrual cycle. I have personal experience of this because I was one of them. Ironically, as life became more monotonous, there was at least one element of surprise, though it was of a most unwelcome kind. My cycle length, which had sat around 23 days since the birth of my son nearly three years previously, suddenly started to vary to between 20 and 42 days. Initially, I didn't connect this to the pandemic because I'd suffered from irregular periods as a teenager and also during my early twenties. However, when I learned that other women were experiencing the same thing and that the pandemic and its associated lockdowns were potentially the cause, I became curious. What was going on?

When I looked more closely, I found that there is a link between increased stress and changes to the menstrual cycle. Constant stress can lead to unregulated levels of the hormone cortisol, which is usually only released in order to respond to perceived threats. Excess cortisol can suppress the reproductive hormones in the body, disrupting the menstrual cycle and leading to increased symptoms of PMS. In this way, mental and emotional stress are also expressed in the body.

Although a lot of research in this area is still in its initial stages, there have been some studies. An informal survey by Dr Anita Singh via her Instagram account showed that 65% of the women who responded said that their cycles or hormonal symptoms had changed[1], and she is currently carrying out a more formal study[2]. Another study of female healthcare providers in Turkey who had previously been experiencing regular menstrual cycles found an association between symptoms of ill mental health brought on by the Covid-19 pandemic, including anxiety, stress, and depression, and an increased likelihood of an irregular menstrual cycle, with 273 of the 952 participants reporting changes to their cycles[3]. Another paper, which is awaiting peer review, shows a significant association between increased stress and worrying about family and personal health, along with stress about job security, and changes in menstrual symptoms[4]. Finally, there is some evidence that Covid-19 itself can cause changes to menstrual cycles, although as the sample size in this study was quite small, more research is needed[5].

These studies demonstrate the disruption that a situation of high and constant stress can cause to the menstrual cycle. And the lockdowns certainly brought plenty of additional stress: aside from worries about the virus itself, other factors such as employment insecurity and associated financial strain, the need to combine working from home with childcare and/or homeschooling, fears about obtaining adequate supplies and medications, and isolation from normal support networks also played a role in making life more stressful. Given that in many families, women bore the brunt of many of these difficulties [6], it's perhaps not surprising that many of us experienced changes to our menstrual cycles.

When we look back on this time, it is likely we will find that the pandemic's effects on women will extend beyond the menstrual cycle to affect other phases of their reproductive lives. Some parallels may be drawn from other events in recent history, such as data gathered from the Spanish flu pandemic in the early twentieth century and in the aftermath of the 9/11 terror attacks in 2001, both of which had notable consequences for pregnant women and their babies[7]. The long-term implications of the changes that women have experienced during the Covid-19 pandemic and their potential knock-on effect to women's reproductive health are yet to be determined, and it is clear that more research is needed[8]. This highlights both an increased need for awareness of how stressful situations can affect women's menstrual cycles and one of the many gaps in our knowledge of the workings of the female body [9]. The increasing reports that the Covid-19 vaccine causes disruption to women's menstrual cycles have highlighted another blind spot in this area that requires further research[10]. Speaking personally, as someone who was considering trying to conceive during this time, the changes to my cycle brought additional challenges and uncertainty, but also increased insight into how my body responds to stress – a timely reminder of the connection between mental and physical health, and the importance of taking

care of both.

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[1] gynaegeek on Instagram: www.instagram.com/p/CAHxSfXJ6WD.

[2] gynaegeek on Instagram: www.instagram.com/p/CCG4Yz4JBR-.

[3] Takmaz T et al. (2021), 'The impact of COVID-19-related mental health issues on menstrual cycle characteristics of female healthcare providers,' *Journal of Obstetrics and Gynaecological Research* 47(9):3241–3249. doi.org/10.1111/jog.14900.

[4] Bruinvels G et al. (2021), 'How lifestyle changes within the COVID-19 global pandemic have affected the pattern and symptoms of the menstrual cycle,' *medRxiv* 2021.02.01.21250919. doi.org/10.1101/2021.02.01.21250919.

[5] Khan SM et al. (2021), 'SARS-CoV-2 infection and subsequent changes in the menstrual cycle among participants in the Arizona CoVHORT Study,' *American Journal of Obstetrics and Gynecology* S0002-9378(21)01044-9. doi.org/10.1016/j.ajog.2021.09.016.

[6] Office for National Statistics, 'Parenting in lockdown: Coronavirus and the effects on work-life balance': www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/parentinginlockdowncoronavirusandtheeffectsonworklifebalance/2020-07-22; Office for National Statistics, 'Coronavirus (COVID-19) and the different effects on men and women in the UK, March 2020 to February 2021' www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/coronaviruscovid19andthedifferenteffectsonmenandwomenintheukmarch2020tofebruary2021/2021-03-10

[7] Catalano R et al. (2005), 'Sex ratios in California following the terrorist attacks of September 11, 2001,' *Human Reproduction* 20(5):1221–1227. doi.org/10.1093/humrep/deh763; Brown R (2020), 'The intergenerational impact of terror: Did the 9/11 tragedy impact the initial human capital of the next generation?', *Demography* 57(4):1459–1481. doi.org/10.1007/s13524-020-00876-6; Beach B, Clay K & Saavedra M H (2020), 'The 1918 influenza pandemic and its lessons for COVID-19,' *NBER Working Papers*

27673; Helgertz J & Bengtsson T (2019), 'The long-lasting influenza: The impact of fetal stress during the 1918 influenza pandemic on socioeconomic attainment and health in Sweden, 1968–2012,'*Demography* 56:1389–1425. doi.org/10.1007/s13524-019-00799-x.

[8] Phelan N, Behan LA, and Owens L (2021), 'The impact of the COVID-19 pandemic on women's reproductive health,' *Frontiers in Endocrinology* (Lausanne) 12:642755. doi.org/10.3389/fendo.2021.642755.

[9] Author's note: Researchers who have been studying the menstrual cycle over a long period of time have also noted the disruption that the pandemic is likely to cause to their research: see Prado RCR, Silveira R & Asano RY (2021), 'SARS-CoV-2 (COVID-19) pandemic and a possible impact in the future of menstrual cycle research,' *Health Science Reports* 4(2):e276. doi.org/10.1002/hsr2.276.

[10] Male V (2021), 'Menstrual changes after covid-19 vaccination,'*BMJ* 374:n2211. doi.org/10.1136/bmj.n2211.