



# Digital menstrual tracking risks creating more harm than benefit

**Katharine Lee and colleagues** argue that digital menstrual tracking and cycle syncing pose risks to health as well as privacy and call for greater scrutiny of apps

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Digital menstrual tracking and cycle syncing are increasingly marketed to the general public as tools for the promotion of women's health and wellness.<sup>1,2</sup> As a mainstay of the femtech, or female technology, market, digital menstrual tracking apps have millions of users and are part of a proliferation of commercial ventures targeting women's health.<sup>1,3</sup> Beyond conventional uses for tracking fertility and pregnancy status, consumers use period tracking apps to understand and manage symptoms, including mental and physical health; predict when the next menstrual bleed will occur; gain a sense of control; understand bodily cues and verify experiences; and facilitate communication with healthcare providers.<sup>4,5</sup>

Digital menstrual tracking apps claim to scientifically analyse individual data to provide guidance that will improve health, wellbeing, and performance based on estimated menstrual cycle phase. But neither digital menstrual tracking nor related practices of cycle syncing—that is, synchronising physical activity and nutrition to menstrual cycle phases—have been convincingly shown to improve health or other performance outcomes. Moreover, these practices raise serious concerns, given their risks of harm.

The slick marketing of digital menstrual cycle tracking apps and the scientifically suspect practice of cycle syncing require critical interrogation and resistance. Women's health will be better supported by focusing on reducing inequities that continue to shape menstrual health and on improving access for all to physical activity, rest, safety, nutrition, and other resources that promote wellbeing.

## Evidence on meaningful health benefits is lacking

Sporting applications highlight the gap between scientific evidence and the marketing of digital tracking and cycle syncing. Apps are widely marketed with claims about the benefits of cycle syncing. However, decades of sports science research by experienced endocrinologists shows no generalisable effect of menstrual cycle phase on performance, injury risk, or health, and any effects found have been trivial and highly individualised.<sup>6,7</sup> A 2024 study of elite rugby players using rigorous cycle phase determination protocols found little evidence of a relation between menstrual cycle phase and numerous tests of performance.<sup>7</sup> Results of studies of menstrual cycle phase and risk of anterior cruciate ligament injury are also conflicting.<sup>8</sup> Similarly, research on phased based nutritional interventions to reduce menstrual cycle symptoms or improve

performance is generally inconclusive, highly individualised, or speculative.<sup>9,10</sup>

Even if menstrual phase corresponded with fluctuations in health, performance, or vulnerability to injury in individuals, digital technologies cannot reliably predict such variation. Digital apps generally predict menstrual phase based on the user's self-report of menstrual bleeding. Counting forward from the first day of bleeding, the app estimates the day of ovulation, fertile window, and future menstrual cycle phases.<sup>11,12</sup> Estimating cycle phase without measures such as hormonal assay confirmation is widely recognised to be highly imprecise,<sup>13,14</sup> although estimates can be improved by incorporating basal body temperature, assessing for changes in luteinising hormone, and including signals such as texture of cervical mucus.<sup>8</sup> Even in people with predictable menstrual bleeding, digital menstrual tracking cannot reliably detect cycle phase by simple counting because timing of ovulation is highly variable, hormones fluctuate from one cycle to the next, and anovulatory cycles are common.<sup>15</sup> Drawing valid conclusions about menstrual cycle phase requires measurement not guessing,<sup>14</sup> and most digital tracking apps do not meet this standard.

Menstrual symptoms can affect quality of life, and changes to the menstrual cycle can be a sign of other issues.<sup>16</sup> However, simple digital cycle tracking technologies alone are inadequate to diagnose menstrual disorders. For example, someone who presents with irregular or missing menstrual cycles could be experiencing relative energy deficiency in sport (REDs), a syndrome caused by severe and prolonged low energy availability that can affect people of any sex or gender. Early stages of REDs affect the menstrual cycle by causing a shortened luteal phase and anovulation,<sup>17</sup> but these early changes are not detectable using simple digital menstrual cycle tracking apps, and cycle syncing would not solve the overarching issue of insufficient nutrition for activity levels. Instead, monitoring nutrition, physical activity load, and recovery—factors relevant for everyone, regardless of whether they menstruate—is essential for timely diagnosis of REDs. Similarly, standard digital cycle tracking would not identify the underlying causes of painful periods in people with conditions such as endometriosis or adenomyosis without clinical examination or diagnostic imaging.

## Harms of digital cycle tracking

Distinct from their weak evidential base, digital menstrual tracking and cycle syncing approaches

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come with serious risks.<sup>18 19</sup> These apps and other femtech platforms have been criticised for their inadequate approaches to privacy.<sup>20 21</sup> They are not consistently subject to strong data privacy regulation,<sup>20 23</sup> and some actively aggregate and sell menstrual data.<sup>22</sup> This may expose app users to misuse of their health data by employers, corporations, or the state.<sup>18 21 24</sup> Where the use of apps is encouraged in a workplace setting, workers who are pregnant or attempting to conceive risk premature or involuntary disclosure and downstream material harms such as discrimination.<sup>20</sup> The collection and storage of menstrual data may carry additional risks in contexts where abortion is criminalised.<sup>19 21 24</sup>

The example of women's sport and wellness, where these apps have been heavily marketed, illustrates these risks. Some digital tracking platforms enable and advertise the integration of digital menstrual tracking by coaches. This form of surveillance and data gathering may lead to irrelevant and false conclusions, influencing eligibility criteria, decisions about diet or training, and other aspects of athlete-coach negotiations around career and competition.<sup>18 19</sup> The potential for these data to be used for coercive control and harassment contravenes calls for trauma informed practice.<sup>18 19 25</sup>

Such digital tracking may also introduce specific privacy risks or material harms for athletes who do not menstruate or who use cycle altering medications, particularly in the context of increased scrutiny of trans and intersex athletes.<sup>19 24</sup> These risks, while primarily documented and described in sport, are embedded in digital menstrual cycle tracking practices and are relevant beyond athletic contexts.<sup>21 22 26</sup>

The marketing of digital menstrual tracking and cycle syncing to users pursuing general wellness goals exposes broad swathes of the population to practices with limited scientific support and downstream risks of spurious health recommendations. For example, some cycle syncing recommendations advise limiting exercise to lower intensity activities such as yoga and walking during large portions of the menstrual cycle, which directly contradicts the physical activity guidelines of organisations such as the World Health Organization. In addition, some proponents of menstrual cycle tracking and cycle syncing encourage women to stop using hormonal contraceptives so they can monitor and align their activities with so called "natural" cycles, which could increase the likelihood of unintended pregnancy.<sup>2</sup>

Of course, many of the issues associated with menstruation have little or nothing to do with tracking cycle phase. Concerns about bloating, cramps, and menstrual flooding can be well managed without phase estimates. Access to menstrual supplies and appropriate facilities are critical but often unaddressed needs for many, particularly in the global south.<sup>27</sup> Digital menstrual surveillance will not fix clothing that shows leakage of menstrual effluent or that someone is wearing a pad. Similarly, apps will not provide supplies, places to change a tampon or pad, or facilities to wash reusable menstrual products. More broadly, cycle syncing will not address, and may actually entrench, structural sexism and longstanding stereotypes about women in the workplace.<sup>18 26</sup> Meanwhile, apps create digital labour for users,<sup>19 23</sup> and cycle syncing creates additional work as people adjust their daily practices in pursuit of promised benefits.

Like other forms of self-surveillance, digital cycle tracking can shift user understandings of the experiences they track.<sup>28 29</sup> This may lead to misattribution of valid health concerns as cycle effects<sup>30</sup> and unhealthy fixations on questionable cyclic exercise and nutrition interventions. Meanwhile, users may overlook established effective health behaviours such as sufficient rest, adequate and

consistent nutrition, and regular exercise. Digital cycle tracking and cycle syncing also do not build robust public policy for access to healthcare, safe environments, and broader social support services. Given the risks described above, cycle syncing technologies may distract from and even threaten efforts to advance women's health.

## Protection from commercial exploitation

Menstrual tracking apps are commercial wellness products. Like other femtech products, they use the language of women's empowerment and position themselves as the next stage of the women's health movement.<sup>1 31</sup> As many critics have argued, however, this empowerment marketing embraces a neoliberal model of health that emphasises individual responsibility for monitoring and managing the body, often at the expense of structural change.<sup>1 26 29</sup>

Meanwhile, menstrual tracking is part of broader trends in which powerful technology companies generate private profits and construct systems to collect personal data with minimal regulation.<sup>21 22</sup> Our analysis of digital menstrual tracking thus aligns with broader discussions of commercial determinants of health, which highlight the health effects of policy, regulation, and corporate actions and scrutinise their gendered consequences.<sup>32</sup> These apps have the potential for widespread impact on the wellbeing of women and girls. Yet, the evidence that these digital tools can actually help in the management of menstrual conditions, boost health, and provide insights into exercise and nutritional needs is lacking.

Many of the claimed benefits remain limited or uncertain, yet these technologies and practices are already being marketed, adopted, and endorsed. In a context where women and girls continue to face barriers because of gendered social and structural factors, it is tempting to celebrate this interest in menstrual cycles. Against a backdrop of androcentrism in science, this attention and investment in menstrual health may also seem to meet a long overlooked need. Yet selling apps and wellness programmes as a fix for longstanding gender inequalities in healthcare and physical activity offers ineffective tech solutions rather than public investments in health and developmental opportunities for women and girls.

Suggestions to address the risks of digital tracking include strengthening protections for consumer and employee data, improving user awareness of how data are used through practices such as transparent labelling, and advising clinicians to recommend apps to patients only when they meet stringent standards.<sup>20 21</sup> Others have emphasised the need to regulate misleading marketing and resist the commercial co-option of feminist activist rhetoric.<sup>31</sup>

Apps are not the only site where people may encounter cycle syncing content and its attendant risks, however.<sup>1 2</sup> A 2025 study found that many TikTok videos about cycle syncing made recommendations at odds with scientific evidence.<sup>2</sup> As the authors note, "Given the platform's influence on young audiences, it is essential to critically assess the accuracy of health related content."<sup>2</sup>

Tailoring health communications approaches to the social media environments where users encounter cycle syncing content may offer an opportunity to build the public's trust in more credible sources and counteract misleading narratives about hormones and health.<sup>33</sup> Meanwhile, it remains essential to set research and public health agendas that tackle gendered social factors, prioritise structural interventions, and resist commercial harms to women's health.

## Key messages

- Digital menstrual tracking is widely promoted to women and girls on social media and by technology companies focused on health and wellness
- Menstrual tracking apps claim to inform health and wellness beyond fertility as well as physical fitness and performance goals despite lack of convincing evidence
- Using digital cycle tracking technologies brings substantial risks to users, including wasted time and labour, unwanted surveillance, risks to health data privacy, potential criminalisation, and distraction from structural influences on health
- Digital menstrual tracking tools have the potential to reshape understandings of women's health and biology and compound existing inequities that continue to shape menstrual health and wellbeing
- Health practitioners, regulators, and the general public must be aware of and work to address the risks of these consumer technologies

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