

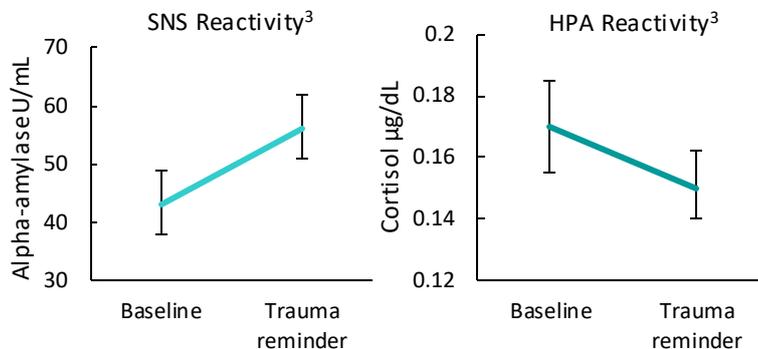
PTSD and psychological trauma: Changes through the menstrual cycle

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The obscure **physiological and psychological changes that occur through the menstrual cycle** are dynamic and complicated. By **identifying patterns and causal relationships involved in menstruation** we could develop a deeper understanding of the associated effects on mental health and manage the impact this may have on comorbidities like PTSD in people who menstruate.

Oestradiol (a type of oestrogen) influences stress and anxiety levels and can initiate fear responses.¹

Therefore...



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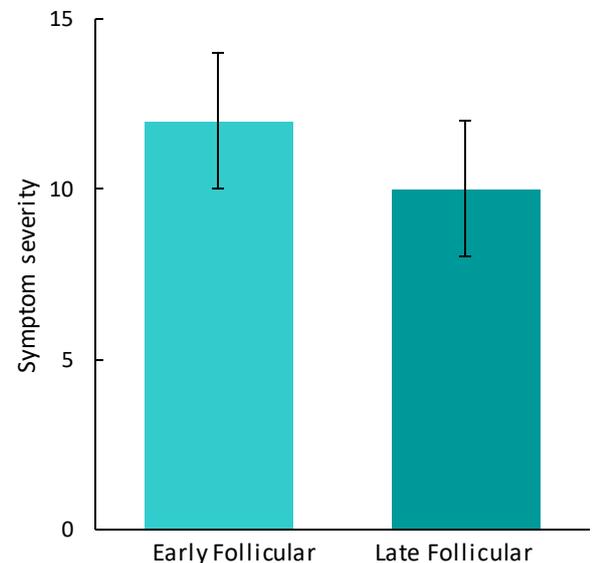
“When you can explain what's happening biologically, it often becomes less threatening.”²

Mental health conditions, such as post-traumatic stress disorder (PTSD), are going to be affected and possibly severely altered during menstruation, when oestradiol levels fluctuate over a short period of time.

Investigating whether oestradiol or the stress biomarkers cortisol and salivary alpha-amylase affect trauma responses in menstruating women.¹

| | |
|------------------|---|
| Objective | ❖ To assess the influence of oestradiol levels on daily affective experiences and trauma-related symptoms in 40 trauma-exposed, naturally cycling premenopausal women |
| Methods | <ul style="list-style-type: none"> ➤ Researchers measured oestradiol, cortisol and alpha-amylase levels in participants' saliva ➤ Participants described the trauma they went through and the PTSD symptoms they experienced in the past month ➤ For 10 days across the high- and low-oestradiol period of their menstrual cycles, participants answered 5 daily questionnaires to report their feelings and a PTSD symptom checklist |
| Results | <ul style="list-style-type: none"> ✓ Lower oestradiol levels were linked with greater self-reported symptom severity among participants ✓ After telling their experience of trauma, participants with low oestradiol levels had lower cortisol and higher alpha-amylase levels – a pattern observed with maladaptive stress responses ✓ Participants had greater variability in daily moods and more severe PTSD symptoms during the low-oestradiol period of their menstrual cycle |

Total PTSD symptom severity by menstrual cycle phase³



What we think:

- **Women are underrepresented in PTSD research**, and these findings could have implications for diagnosing and treating PTSD in women.²
- This study suggests that there is cyclical variation in the intensity of PTSD symptoms with the menstrual cycle, so **diagnostic assessments** need to take account of the phase of the menstrual cycle and preferably occur **in the follicular phase of the cycle** in order to be sufficiently sensitive.
- This research can give **women with PTSD a clearer understanding of their own health conditions and symptoms**.
- However, investigating menstruation and mental health conditions, such as PTSD, is further complicated **as menstruation can affect mental health, and mental health conditions in turn can impact menstruation**.

1. Rieder, J. K., Kleshchova, O., and Weierich, M. R. Estradiol, stress reactivity, and daily affective experiences in trauma-exposed women. Psychological Trauma: Theory, Research, Practice, and Policy (2021). <https://doi.org/10.1037/tra0001113>

2. American Psychological Association. PTSD symptoms vary over course of menstrual cycle, research finds: Finding could have implications for diagnosis, treatment, study suggests. ScienceDaily (2021). <www.sciencedaily.com/releases/2021/10/211028093308.htm>.

3. Rieder, J. Estradiol and Daily Affective Experiences in Trauma-Exposed Women. CUNY Academic Works (2019). https://academicworks.cuny.edu/gc_etds/2989