Does the menstrual cycle influence the relationship between anxiety sensitivity and pain sensitivity assessed from multiple stimulus modalities?

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Introduction
Anxiety sensitivity is a trait tendency to be fearful of anxiety-related symptoms (e.g., increased heart rate) which heightens the anxiety experience and the perception of somatic sensations. Accordingly, some research has found that anxiety sensitivity is associated with enhanced responsivity to experimentally-induced noxious stimuli. However, it is not clear whether anxiety sensitivity is associated with enhanced pain reactivity across multiple stimulus modalities. Indeed, pain reactions to different stimulus modalities are not highly correlated and most studies of anxiety sensitivity have focused only on the relationship to cold pressor pain. Furthermore, to our knowledge, no study has examined whether the relationship between anxiety sensitivity and pain varies by menstrual phase.

Objective
The present study examined whether the relationship between anxiety sensitivity and pain (evoked by ischemic, electrical, and mechanical stimuli) is moderated by menstrual phase.

Participants
41 Healthy Female Participants
Characteristics: White non-Hispanic (71%), married (73%), employed full-time (56%); average yrs education = 15 yrs (SD=1.79), average age = 31 yrs (SD=8.86); average menstrual cycle length = 29 days (SD=3.28); average length of luteal phase = 15 days (SD=3.48)
Exclusion Criteria:
- < 18 years of age
- Current acute illness
- Cardiovascular, neurological, and/or circulatory problems
- Recent use of analgesic, antidepressant, anxiolytic, or antihypertensive medication
- Recent psychological trauma
- Specific phobia of snakes or spiders (picture-viewing)
- Any chronic pain

Procedure
The present study examined whether the relationship between anxiety sensitivity and pain (evoked by ischemic, electrical, and mechanical stimuli) is moderated by menstrual phase.

Anxiety Sensitivity Index-Revised
- 36 item self-report measure that aims to determine the extent to which individuals fear arousal-related sensations arising from beliefs that the sensations have adverse consequences.

Data Analysis
Mixed models in SPSS were used. Testing order (follicular-luteal vs. luteal-follicular) was entered as an IV in all analyses.

Results
• Anxiety sensitivity was not associated with any of the Ischemic pain outcomes.
• Anxiety sensitivity was not associated with Mechanical Pressure-Pain.
• Anxiety sensitivity was positively associated with affective ratings of electric pain, but no other pain outcome.

Conclusions
• Results indicated anxiety sensitivity was positively associated with affective ratings of electric pain, but was unrelated to all other pain outcomes.
• Moreover, menstrual phase did not moderate the relationship between anxiety sensitivity and any pain outcome.
• Together, these data suggest that anxiety sensitivity has very little relation to pain reactions evoked by ischemic, electric, and mechanical stimuli, and does not demonstrate a stronger relation to pain during the luteal phase.