Anxiety sensitivity, pain sensitivity, and the menstrual cycle

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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 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=7.9), average age = 31 yrs (SD=8.8), average menstrual cycle length = 29 days (SD=3.28), average length of luteal phase = 15 days (SD=3.48)
• Exclusion Criteria:
  - <18 yrs of age
  - Failure to regularly cycle within 2 months of study inclusion
  - Use of hormone preparations within past 6 months
  - Recent use of analgesic medication

Procedure
• 36 item self-report measure that aims to determine the extent to which individuals fear anxiety-related sensations arising from beliefs that the sensations have adverse consequences.

Pain Sensitivity: McGill Pain Questionnaire
• McGill Pain Questionnaire (MPQ): Self-report measure used to rate experience of pain during sensitivity testing. See subscales below.
• MPQ Sensory - reflects sensory aspect of pain experience (e.g., throbbing, burning).
• MPQ Affective - reflects affective aspect of pain experience (e.g., tingling, fearful).

Results: Mechanical Pressure Pain
• Anxiety sensitivity was not associated with Mechanical Pressure-Pain.

Results: NFR Threshold
• Anxiety sensitivity was not associated with NFR Threshold.

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 late-luteal phase.