

Pain Threshold, Tolerance and Catastrophization in Women with Dyspareunia

Jennifer A. Bivens, Hilary N. Billings, Jenna M. Dilauro, Lea Thaler, Marta Meana
University of Nevada, Las Vegas

ABSTRACT

•This study examined the impact of pain and sexual stimuli on the experience of experimentally induced pain, as well as pain threshold, tolerance and catastrophization levels in women with dyspareunia compared to control women.

INTRODUCTION

- Dyspareunia, defined as recurrent pain in the genital/pelvic region during sexual intercourse, is a highly prevalent female sexual dysfunction, affecting up to 22% of women between the ages of 18 and 24, by some estimates.
- Women with dyspareunia display a general sensory dysregulation, manifested as higher sensitivity to touch and pain stimuli at non-genital sites, such as the arm, leg, and inner thigh.
- Previous research has shown that women with dyspareunia share many of the same cognitive tendencies associated with other chronic pain conditions (e.g., pain catastrophization, somatosensory amplification).
- Questions remain regarding the relationship between cognitive variables and pain experience in dyspareunia. Are there specific cues that affect pain threshold and tolerance? How are pain threshold and tolerance related to cognitive variables such as catastrophization?
- The answers to these questions could have important implications for the treatment of this distressing sexual dysfunction.

METHOD

- Twenty-nine women with dyspareunia and sixty control college women between the ages of 18-29 participated.
- Participants were assigned to one of three conditions in which they viewed pictures depicting physical pain, sexual activity, or neutral objects.
- Participants then underwent a cold-pressor test to assess pain threshold and tolerance of the non-dominant hand.
- Participants completed questionnaires related to pain catastrophization, sexual functioning and somatosensory amplification.

QUESTIONNAIRE MEASURES

Sample items from the questionnaires

Pain Catastrophization Scale (PCS)

“I keep thinking how badly I want the pain to stop.”

Mental Health Inventory (MHI-18)

“During the past month, how often did you feel that you had nothing to look forward to?”

Female Sexual Function Inventory (FSFI)

“Over the past 4 weeks, how would you rate your level of discomfort or pain during or following vaginal penetration?”

The Somatosensory Amplification Scale (SSAS)

“I am often aware of various things happening within my body”

RESULTS

ANOVAs

•3x2 for pain threshold and tolerance: Significant results for Group: ($p < .05$) Dyspareunia group had lower threshold and tolerance than control women.

Significant Group Differences

•**FSFI** total score ($p = .000$), with dyspareunia group ($M = 21.57$, $SD = 6.37$) reporting more dysfunction than the control group ($M = 28.09$, $SD = 6.63$).

•**PCS** total score ($p < .05$), with dyspareunia group ($M = 9.59$, $SD = 3.98$) reporting higher levels of rumination than the control group ($M = 7.63$, $SD = 10.89$).

Significant Correlations within Dyspareunia Group

•Positive correlations between pain intensity rating (scale of 1-10) and PCS magnification $r = .409$, $p = .005$ and pain distress rating and SSAS total $r = .516$, $p = .001$.

•Positive correlations between pain score and arousal $r = .373$, $p = .005$, satisfaction $r = .387$, $p = .005$, and total $r = .510$, $p = .001$, (note: higher pain scores indicate less dysfunction)

DISCUSSION

- Analyses of the stimuli reveal that women with dyspareunia had significantly lower pain threshold and tolerance levels than control women.
- Women with dyspareunia displayed higher levels of pain catastrophization and dysfunction than control women.
- In the dyspareunia group only, the higher the woman's propensity for pain catastrophization, the lower her pain tolerance. Interestingly, in the dyspareunia sample, a negative correlation was found between pain catastrophization and the length of time a woman had been experiencing pain during intercourse, indicating that pain catastrophization might be highest shortly after dyspareunia onset.
- The findings further contribute to the body of research demonstrating generalized sensory dysregulation in women with dyspareunia, and highlight the relationship between pain catastrophization, sexual function, and the experience of pain in women with dyspareunia.