Psychological and physical predictors of improvements in impairment in sexual functioning in women being treated for chronic pelvic pain

ABOUSSOUAN AB, BS
HUFFMAN KL, PHD, MS
JIMENEZ XF, MD
CLEVELAND CLINIC
CHRONIC PAIN REHABILITATION PROGRAM

Gold Standard: Interdisciplinary Programs

- Chronic Pelvic Pain (CPP) is often refractory to surgical and medical interventions

- The European Association of Urology and the International Association for the Study of Pain promote interdisciplinary approaches
  - Address both psychological and physical factors

Kames, *Pain*. 1990; 41(1), 41-46
What are target outcomes in CPP?

- Sexual Disability
- Pain Severity
- Mood
  - Depression
  - Anxiety
- Catastrophizing
- Physical Disability

CPP specific interdisciplinary programs show robust improvements in these outcomes
- Minimal data on improvements in physical disability

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ter Kuile et al., Arch Phys Med Rehabil, 2010. 7(5), 1901-1910
Bryant et al., J Pain Res, 2016. 9, 1049-1056
Fry et al. Psychother Psychosom, 1991. 55, 158-163

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Gaps in current literature

- Whether CPP patients benefit from non-pelvic specific interdisciplinary chronic pain rehabilitation programs (ICPRP) is unknown.

- Additionally, the physical and psychological factors which predict improvements in sexual function are unknown.

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Kames et al., Pain, 1990; 41(1), 41-46
Objectives

- The aim of this study is to:
  1. Determine if women with CPP benefit from treatment in a non pelvic specific ICPRP
  2. Investigate whether either subjective or objective improvements are predictors of improvements in impairment in sexual functioning
     - Ex: pain and psychological factors or physical therapy measures

Cleveland Clinic ICPRP

- 3-4 week intensive program from 8-5 daily
- Interdisciplinary approach
- Treatment includes
  - Medication management
  - Occupational Therapy
  - Physical Therapy
  - Individual, Group, and Family Psychotherapy
  - Cognitive behavioral group interventions
  - Optional monthly aftercare
Study Design

- Retrospective data analysis
- Women with CPP who completed the Cleveland Clinic ICPRP between the years of 2011-2016
- Subjective and objective measures were obtained at admission to and at discharge from the program

Subjective Measures

<table>
<thead>
<tr>
<th>Impact in Sexual Functioning</th>
<th>Depression and Anxiety</th>
</tr>
</thead>
<tbody>
<tr>
<td>◦ Pain Disability Index (PDI)$^1$—sexual functioning subscale</td>
<td>◦ Depression, Anxiety, and Stress Scale (DASS)$^3$</td>
</tr>
<tr>
<td>Pain Severity</td>
<td>Pain Catastrophizing</td>
</tr>
<tr>
<td>◦ Numeric Rating Scale (NRS)$^2$</td>
<td>◦ Pain Catastrophizing Scale (PCS)$^4$</td>
</tr>
</tbody>
</table>

2. Hatrick et al., Pain Pract, 2003, 3(4), 310-316
3. Lovibond et al., The DASS; 1996
Objective Measures

- **Timed Up and Go (TUG)**¹
  - Time to rise from a chair, walk 3 meters, walk back to chair and return to sitting position.

- **6 Minute Walking Test (6MWT)**²
  - Miles walked in 6 minutes

- **Stair Climbing Test (SCT)**
  - Steps climbed in 1 minute

1. King et al., *J Rheumatol*, 1999; 26 (10), 2233-7

Analysis

**Treatment outcomes:**
- Matched paired t-tests were used to compare baseline scores to discharge scores for all eight measures, significance at $p < .05$

**Predicting Post Treatment Impairment in Sexual Function:**
- Two hierarchical linear regressions, one for subjective measures and one for objective measures, examined factors predicting post treatment impairment in sexual function, significance at $p < .05$.
  - **Subjective:**
    - At step one, adjusted for baseline scores of depression, anxiety, pain severity, and catastrophizing, and marital status.
    - At step two, change scores for the above independent variables were added.
  - **Objective:**
    - At step one, adjusted for baseline scores of TUG, 6MWT, and SCT, and marital status.
    - At step two, change scores for the above independent variables were added.
Results: Demographics

- 72 women with CPP
- 95.83% white
- 55.56% married
- Mean age of 43±12.69
- 87.50% had multiple chronic pain conditions.

Results: Subjective Treatment Outcomes

- Improvements from admission to discharge were significant for all subjective measures (p=.000)

![Graph showing improvements in various subjective measures from admission to discharge.](Image)
Results: Objective Treatment Outcomes

- Improvements from admission to discharge were significant for all objective measures ($p=.000$)

![Graph showing improvements in objective measures](image)

- $TUG: n = 64$; $Stairs: n = 61$; $Walk: n = 70$

Results: Predicting Post Treatment Impairment in Sexual Functioning

- **Subjective:**
  - Improvements in depression ($p=.048$) and pain severity ($p=.026$) predicted post treatment levels of impairment in sexual functioning

- **Objective**
  - Improvements in the timed up and go ($p=.001$) predicted post treatment levels of impairment in sexual functioning
### Conclusions

- Non-pelvic specific program effectively treat multiple facets of pain and disability in women with CPP
- Both objective and subjective domains integral to understanding and treating sexual dysfunction
- Impact may be to widen the accessibility of effective treatment resources to women suffering from CPP

### Predicting Post Treatment Impairment in Sexual Functioning

<table>
<thead>
<tr>
<th>Subjective Variables</th>
<th>Final Level</th>
<th>Δ Depression</th>
<th>t</th>
<th>SE</th>
<th>Sig</th>
<th>R</th>
<th>ΔR²</th>
<th>Sig</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Final Level</td>
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<td>-2.02</td>
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<td>Δ Anxiety</td>
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<td>.15</td>
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<td>Δ Pain</td>
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<td>Δ Catastrophizing</td>
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<td>.03</td>
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</table>

<table>
<thead>
<tr>
<th>Objective Variables</th>
<th>Final Level</th>
<th>Δ UPGO</th>
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<th>SE</th>
<th>Sig</th>
<th>R</th>
<th>ΔR²</th>
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<tbody>
<tr>
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<td>Final Level</td>
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<td>Δ Walk</td>
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<tr>
<td></td>
<td>Δ Stairs</td>
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<td>-.62</td>
<td>.03</td>
<td>.54</td>
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</tbody>
</table>

Note: Δ indicates change score of admission - discharge
Limitations and Future Research

- Limitations of study include the small sample size, data from a single center, and the generalized definition of CPP

- Future research should:
  - Confirm these results with larger sample sizes.
  - Non-specific programs should be compared to pelvic specific programs