A Neuroscience Education seminar for patients with Chronic Pelvic Pain changes pain knowledge

Ms Angela James¹, Dr Judith Thompson², Dr Patricia Neumann³, Dr Kathy Briffa²

¹Sydney Pelvic Clinic, ²Curtin University, ³iCAHE, University of South Australia

BACKGROUND

• CPP affects 14% of the female population (Mathias et al 1996)

• Defined as: “chronic or persistent pain perceived in the structures related to the pelvis” (Engeler et al 2012)

• Subgroups of CPP include Bladder Pain Syndrome, Genito-Pelvic Pain/Penetration Disorder, Vulvar Pain Syndrome

• Up-regulated nervous system
Neuroscience Education

In chronic LBP
- Change erroneous beliefs
- Reduce fear and anxiety
  (Butler & Moseley 2003)
- Facilitate coping
- Improve outcomes in pain treatment
  (Jensen et al 2001)
Not yet investigated in CPPS

The Explain Pain Protectometer
Butler & Moseley 2015

AIMS

1. To assess the change in general pain knowledge after NE seminar

2. To explore whether perceptions about the reasons for the onset and persistence of CPP change after NE seminar
METHODS

- Repeated measures study
- Participants:

<table>
<thead>
<tr>
<th>INCLUSION</th>
<th>EXCLUSION</th>
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<tbody>
<tr>
<td>Women</td>
<td>Gynaecological conditions such as infections, inflammatory conditions or tumours</td>
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<tr>
<td>Diagnosed with CPP</td>
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<tr>
<td>All CPP sub-groups included</td>
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<td>&gt; 6 months duration</td>
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- Informed consent

To measure the change in pain that occurs after a NE seminar for patients with CPP

SEMINARS

- Developed by Dr Patricia Neumann, based on Explain Pain concepts
- Adapted for women with CPPS
- 90 minutes, with 10 minute interval
- 3 seminars – Adelaide (2) and Sydney (1)
Seminar content

<table>
<thead>
<tr>
<th>FIRST SECTION</th>
<th>SECOND SECTION</th>
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<tbody>
<tr>
<td>1. Overview of the neurobiology of pain,</td>
<td>1. Translating new knowledge and concepts into an individualised management program</td>
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<td>2. Why pain becomes chronic</td>
<td>2. Self-management strategies including:</td>
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<tr>
<td>3. The brain’s role in pain</td>
<td>i) Exercise</td>
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<td>4. Neuroplasticity and nerve sensitization</td>
<td>ii) Relaxation</td>
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<tr>
<td>5. CPP specific information:</td>
<td>iii) Addressing thought virus’s</td>
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<tr>
<td>i) Pelvic organ cross-talk</td>
<td>3. Power of neuroplasticity</td>
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<tr>
<td>ii) The embarrassment and taboos</td>
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<td>iii) the impact of pain on sexual function and on partner relationships</td>
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OUTCOME MEASURES

- Neurophysiology of Pain Questionnaire (NPQ)
  - 12 item True/False questionnaire

- 3 open free response questions analysed using SOLO taxonomy:
  1. Why do you think your pelvic pain started?
  2. Why do you think your pelvic pain hasn’t gone away?
  3. What do you think contributes to your pelvic pain?
PROCEDURES

- NPQ and open free response questions were sent 48 hours before NE seminar
- Post NPQ and open free response questions collected immediately after seminar

SOLO ANALYSIS

- SOLO taxonomy is a hierarchical model used to provide a qualitative measure of the depth of learning
- Not content specific and has general validity
- Key Features were identified
KEY FEATURES

<table>
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<tr>
<th>1. Stress levels</th>
<th>7. Fear provoking thoughts</th>
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<tr>
<td>2. Mood changes</td>
<td>8. Increased work levels</td>
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<tr>
<td>3. Anxiety/depression</td>
<td>9. Negative perception around sex/pain/outcomes</td>
</tr>
<tr>
<td>4. Up-regulated nervous system</td>
<td>10. Anticipating pain</td>
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<tr>
<td>5. Poor sleep quality</td>
<td>11. Ruminating pain thoughts</td>
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<tr>
<td>6. Reduced physical activity</td>
<td>12. Repeated pain experience</td>
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DATA ANALYSIS

- Pre-post NPQ % scores compared using paired t-test
- Pre-post SOLO scores compared using Wilcoxon signed rank test
- Data were analysed using SPSS v 22
- p-value <0.05
RESULTS

- 25 participants
- 21 complete data sets
- NPQ scores increased significantly from mean (SD) 61.3 (15.3)% pre-seminar to 80.0 (11.0)% post-seminar (p < 0.001)

RESULTS – SOLO ANALYSIS

- 38% of participants increased SOLO scores (p=0.02)
- Important shifts were observed

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<tr>
<th>PRE SEMINAR ANSWERS</th>
<th>POST SEMINAR ANSWERS</th>
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<tr>
<td>&quot;hip issue&quot;</td>
<td>&quot;protective mechanism that has been developed in my body/brain&quot;</td>
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<tr>
<td>&quot;scarring and inflammation&quot;</td>
<td>&quot;reactions towards the pain&quot;</td>
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<td></td>
<td>&quot;expectation of pain, not being able to relax&quot;</td>
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DISCUSSION

- NE improved pain knowledge in patients with CPP
- Similar to literature for other chronic pain groups
- May be important for treatment adherence & outcome
- Low cost intervention for group learning
- Possible benefits for partners and relationships
- Topics for future research

CONCLUSION

- NE seminar specifically designed for CPP is an effective management strategy in changing patients pain knowledge and perception
Thank you!

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