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The effect of experienced pain on intra- and post-operative adjustment in women undergoing a diagnostic medical procedure

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Pain

- An unpleasant sensory or emotional experience, associated with actual or potential tissue damage or described in terms of such damage (IASP, 1979)
- Is often feared and experienced by surgical patients (e.g., Sjöling et al., 2003)
Cervical Screening and Colposcopy

- Large percentage of women report fear and anxiety following abnormal smear results
- Many women also report anticipatory anxiety prior to colposcopy
- Heightened anxiety can lower pain threshold and lead to pain and discomfort
Study to Reduce Anxiety During Colposcopy

Interested in reducing the impact of the colposcopy procedure itself

164 first-time patients assigned to one of four conditions
- Relaxation
- Distraction
- Sensory Focus
- Control

Outcomes: physiological measures, observation of distress, anxiety, mood, pain
Results – Intraoperative adjustment

- Observation of distress $F(2, 152) = 5.59, p = .005$
  - Low pain have less distress-behaviours than high pain
- Also main effect for attention $F(3, 152) = 3.13, p = .028$
  - Relaxation less distress-behaviour than Control
# Intra-operative adjustment

<table>
<thead>
<tr>
<th>Source</th>
<th>d.f.</th>
<th>SBP F</th>
<th>DBP F</th>
<th>HR F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attention&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3, 151</td>
<td>2.14</td>
<td>&lt;1</td>
<td>1.31</td>
</tr>
<tr>
<td>Level of Pain&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2, 151</td>
<td>3.31*</td>
<td>&lt;1</td>
<td>3.50*</td>
</tr>
<tr>
<td>Attention x Level of Pain</td>
<td>6, 151</td>
<td>&lt;1</td>
<td>1.18</td>
<td>&lt;1</td>
</tr>
</tbody>
</table>

<sup>a</sup> Attention – relaxation (RELAX), cognitive distraction (DISTR), sensory focus (FOCUS) and control (CTRL)

<sup>b</sup> Level of pain – Low Pain, Medium Pain, and High Pain

*p<.05, **p<.01, ***<.001
# Post-colposcopy adjustment

**Table 2.** Summary of one-way ANOVA of anxiety and mood measures following colposcopy (N = 164)

<table>
<thead>
<tr>
<th>Source</th>
<th>d.f.</th>
<th>State Anxiety F</th>
<th>PA F</th>
<th>NA F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attention</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3, 152</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
</tr>
<tr>
<td><strong>Level of Pain</strong>&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2, 152</td>
<td>5.78**</td>
<td>9.827***</td>
<td>2.01</td>
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<tr>
<td><strong>Attention x Level of Pain</strong></td>
<td>6, 152</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>1.35</td>
</tr>
</tbody>
</table>

<sup>a</sup> Attention – relaxation (RELAX), cognitive distraction (DISTR), sensory focus (FOCUS) and control (CTRL)

<sup>b</sup> Level of pain – Low Pain, Medium Pain, and High Pain

*p<.05, **p<.01, ***<.001
Discussion

Those that report the highest amount of pain are observed during the procedure to engage in more distress-related behaviours, including verbalisations, body movements, moaning and groaning and also have higher physiological reactions.

Following the procedure they report higher state anxiety and lower positive affect.
Discussion

- The distraction intervention failed to affect self-report measures, although differences in distress-related behaviour were observed.

- Pain experienced during colposcopy was found to impact negatively on adjustment both during the colposcopy and in the postoperative period.