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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 1. Summary of one-way ANOVA of physiological measures during colposcopy (N = 164)

<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(^a)</td>
<td>3, 151</td>
<td>2.14</td>
<td>&lt;1</td>
<td>1.31</td>
</tr>
<tr>
<td>Level of Pain(^b)</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>

\(^a\) Attention – relaxation (RELAX), cognitive distraction (DISTR), sensory focus (FOCUS) and control (CTRL)

\(^b\) Level of pain – Low Pain, Medium Pain, and High Pain

*p<.05, **p<.01, ***p<.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>Attention(^a)</td>
<td>3, 152</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Level of Pain(^b)</td>
<td>2, 152</td>
<td>5.78(^**)</td>
<td>9.827(^***)</td>
<td>2.01</td>
</tr>
<tr>
<td>Attention x Level of Pain</td>
<td>6, 152</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>1.35</td>
</tr>
</tbody>
</table>

\(^a\) Attention – relaxation (RELAX), cognitive distraction (DISTR), sensory focus (FOCUS) and control (CTRL)

\(^b\) 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.