Exploring differences in Veterans and Non-veterans at the Chronic Pain Management Unit

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Extensive research has been conducted on the relationship between Post-Traumatic Stress Disorder (PTSD) and chronic pain.

Pain is defined as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage” (Merskey & Bogduk, 1994).

The current clinical focus is that chronic pain is a biopsychosocial problem involving multidimensional aspects (Turk & Okifuji, 2002; Olason, 2004; Strong, J., Unruh, A., Wright, A., & Baxter, G., 2002). Together, these factors shape the way people construct the meaning of pain and the way in which they cope with it. These interconnections influence the extent to which pain interferes with one’s roles and responsibilities in everyday activities. As a result, individuals with chronic pain may suffer from depression, anxiety, physical de-conditioning, interpersonal conflicts, social isolation, unemployment and disrupted lifestyles.
According to the Diagnostic and Statistical Manual of Mental Disorders IV-TR, “diagnostic criteria for PTSD includes a history of exposure to a traumatic event, in which two criteria are met, as well as symptoms from each of the three symptom clusters: intrusive recollections, avoidant/numbing symptoms, and hyper-arousal symptoms. A fifth criterion concerns duration of symptoms and a sixth assesses functioning” (American Psychiatric Association, 2000)

Individuals suffering from PTSD often report chronic pain, which is believed to be their most common physical complaint (Shipherd et al., 2007)

Studies have demonstrated that both PTSD and chronic pain can worsen the symptom severity of one another (Otis et al., 2003)
In general, the rate of PTSD increases with each patient referral for the examination of a chronic pain problem, usually resulting from a traumatic event (Otis et al., 2003).

War veterans undergo extreme physical exertion and high susceptibility to injury, which increases their likelihood of a chronic pain diagnosis when they return home (Lew, H.L., Otis, J.D., Tun, C., Kerns, R.D., Clark, M.E., & Cifu, D.X., 2009).

Combat returnees frequently report symptoms of both chronic pain and PTSD or acute combat stress disorder (Lew et al., 2009).

In comparison to pain patients who do not suffer from PTSD, those afflicted by both diagnoses tend to report greater difficulty coping with life, higher pain levels, and added psychological discomfort (Otis et al., 2003).

The primary goal of these programs is to assist patients’ return to normal functional status by reducing pain and pain-associated disability, promoting maximal physical functioning in daily activities, facilitating return to work, and enhancing meaningful family and social relationships.
The Chronic Pain Management Unit (CPMU) at Chedoke Hospital, Hamilton Health Sciences, Hamilton, Ontario, Canada is an multidisciplinary, multimodal four-week program with a cognitive-behavioral orientation. Most of the activities in the CPMU are designed to teach and enable patients to adopt a self-management approach to their chronic pain problems (Hapidou, 1994). The primary focus is on learning self-help methods and stopping overdependence on medications. Goal setting, active exercises, stress management, relaxation, vocational counselling, family intervention, and coordinating return to work are essential components of the CPMU (Hapidou, E.G., Safdar, S., & Mackay, K. D., 1997; Hapidou, 1998; Williams, R., Hapidou, E.G., & Cullen, 2003).
Previous studies in this program demonstrate:

Introduction Cont’d

Purpose

-To examine the differences in profiles of veterans and non-veterans

Hypotheses

1. Veterans and non-veterans will improve at discharge (based on expected trends).
2. Veterans will score differently than non-veterans on pain-related measures due to increased anxiety and fear-related symptoms stemming from combat exposure.
Method

Subjects

- Subjects in this study had completed the CPMU program
- Patient information was extracted from the CPMU Database
- N=30 (24 males, 6 females)
- Mean age = 43 years (SD= 9.26 years; min-max = 22-63 years)
- Veterans (n-=15) and Non-veterans (n=15) matched for:
  - Age
  - Gender
  - Time of Admission
  - Pain Duration
## Patient Demographics

<table>
<thead>
<tr>
<th></th>
<th>Veterans (n=15)</th>
<th>Non-Veterans (n=15)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (in years)</strong></td>
<td>40.6 years</td>
<td>44.7 years</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td>Males (n=12)</td>
<td>Males (n=12)</td>
</tr>
<tr>
<td></td>
<td>Females (n=3)</td>
<td>Females (n=3)</td>
</tr>
<tr>
<td><strong>Program</strong></td>
<td>Day (n=2)</td>
<td>Day (n=6)</td>
</tr>
<tr>
<td></td>
<td>Residential (n=13)</td>
<td>Residential (n=9)</td>
</tr>
<tr>
<td><strong>Insurance</strong></td>
<td>WSIB (n=0)</td>
<td>WSIB (n=11)</td>
</tr>
<tr>
<td></td>
<td>Other (n=15)</td>
<td>Other (n=4)</td>
</tr>
<tr>
<td><strong>Litigation</strong></td>
<td>Litigation (n=1)</td>
<td>Litigation (n=4)</td>
</tr>
<tr>
<td></td>
<td>No Litigation (n=14)</td>
<td>No Litigation (n=11)</td>
</tr>
<tr>
<td><strong>Years in Canada</strong></td>
<td>Born in Canada (n=11)</td>
<td>Born in Canada (n=13)</td>
</tr>
<tr>
<td></td>
<td>Outside of Canada (n=4)</td>
<td>Outside of Canada (n=1)*</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td>Married or Common-law (n=6)</td>
<td>Married or Common-law (n=8)</td>
</tr>
<tr>
<td></td>
<td>Single (n=4)</td>
<td>Single (n=5)</td>
</tr>
<tr>
<td></td>
<td>Divorced, Separated, or Widowed (n=5)</td>
<td>Divorced, Separated, or Widowed (n=2)</td>
</tr>
<tr>
<td></td>
<td>Group 1</td>
<td>Group 2</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>---------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>Occupation</td>
<td>Military Personnel (n=3)</td>
<td>Military Personnel (n=0)</td>
</tr>
<tr>
<td></td>
<td>Retired Military Personnel (n=3)</td>
<td>Retired Military Personnel (n=0)</td>
</tr>
<tr>
<td></td>
<td>Retired-Other (n=1)</td>
<td>Retired-Other (n=0)</td>
</tr>
<tr>
<td></td>
<td>Other (n=8)</td>
<td>Other (n=15)</td>
</tr>
<tr>
<td>Employed</td>
<td>Employed (n=6)</td>
<td>Employed (n=2)</td>
</tr>
<tr>
<td></td>
<td>Unemployed (n=9)</td>
<td>Unemployed (n=13)</td>
</tr>
<tr>
<td>Last Employed (months)</td>
<td>58.07 months*</td>
<td>47.86 months</td>
</tr>
<tr>
<td>Years of Education</td>
<td>13.10 years</td>
<td>11.14 years*</td>
</tr>
<tr>
<td>Pain duration (months)</td>
<td>137.13 months</td>
<td>108.46 months</td>
</tr>
<tr>
<td>Number of injuries</td>
<td>1 injury (n=2)</td>
<td>1 injury (n=7)</td>
</tr>
<tr>
<td></td>
<td>2 injuries (n=4)</td>
<td>2 injuries (n=2)</td>
</tr>
<tr>
<td></td>
<td>3+ injuries (n=9)</td>
<td>3+ injuries (n=6)</td>
</tr>
</tbody>
</table>
Program Evaluation

- Assessment of patient progress at the CPMU is similar to that used in many rehabilitative programs (Arnstein, P., Vidal, M., Wells-Federman, C., Morgan, B., & Caudill, M., 2002; Lang, E., Liebig, K., Kastner, S., Neundorfer, B., & Heuschmann, P., 2003; Lorig et al., 2001).

- At admission and discharge, patients are assessed on:
  - Pain intensity, disability, depression, anxiety, coping strategies, readiness to adopt a self-management approach to pain, acceptance, program satisfaction and goal attainment.
Measures

- Pain Intensity Scale (PIS)
- Center for Epidemiological Studies Depressed Mood Scale (CES-D)
- Pain Catastrophizing Scale (PCS)
- Clinical Anxiety Scale (CAS)
- Patient Questionnaire (PQ)
- Pain Disability Index (PDI)
- Pain Stages of Change Questionnaire (PSOCQ)
- Chronic Pain Acceptance Questionnaire (CPAQ)
- Chronic Pain Coping Inventory (CPCI)
- Pain Program Satisfaction Questionnaire (PPSQ)
- Self-Evaluation Scale (SES)
- Tampa Scale of Kinesiophobia (TSK)
- Subjective Happiness Scale (SHS)
- Minnesota Multiphasic Personality Inventory-2 (MMPI-2)
Two-way ANOVA with repeated measures on one factor was conducted on each of the session variables for veterans and non-veterans.

Paired t-tests were used for MMPI-2 scores and discharge only variables to determine if there were any significant differences in scores between veterans and non-veterans.

SPSS-17 was used to analyze the data.
Results

**CES_D**

- **Score**
  - Admission: High score
  - Discharge: Lower score

- Session:
  - Admission
  - Discharge

Note: * indicates statistical significance.
Results

The bar chart illustrates the comparison of PCS scores between Veteran and Non-Veteran groups at Admission and Discharge sessions.

- **Veteran Group**
  - Admission: Score around 25
  - Discharge: Score around 20

- **Non-Veteran Group**
  - Admission: Score around 30
  - Discharge: Score around 20

The chart shows a higher PCS score for the Non-Veteran group at both Admission and Discharge sessions compared to the Veteran group.
Results

PDI

Score

Session

Admission

Discharge

*
Results

CAS

Admission

Discharge

Score

Session

All Subjects
Results

**TSK**

<table>
<thead>
<tr>
<th></th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission</td>
<td>44</td>
</tr>
<tr>
<td>Discharge</td>
<td>47</td>
</tr>
</tbody>
</table>

- All Subjects

* Indicates a significant change.
Results

**CPAQ_AE**

![Bar chart showing admission and discharge scores](chart.png)
Results

CPAQ_PW

Score

Admission

Discharge

Session

All Subjects
Results

**CPAQ_T**

- Admission: Score
- Discharge: Score

*Note: All Subjects*
Results

PSOCQ_PCON

Score

Admission
Discharge

Session

All Subjects
Results

**PSOCQ_ACT**

<table>
<thead>
<tr>
<th>Session</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission</td>
<td></td>
</tr>
<tr>
<td>Discharge</td>
<td>4</td>
</tr>
</tbody>
</table>

- All Subjects
Results

CPCI_GAR

Admission * Discharge

Score

52.5
53
53.5
54
54.5
55
55.5
56
56.5
57
57.5

Session

All Subjects
Results

CPCI_TP

Score

23
22.5
22
21.5
21
20.5
20
19.5
19
18.5

Veteran

Non-Veteran

Group

Session

Admission

Discharge
Results

CPCI_ES

Admission

Discharge

Score

Session

*
Results

CPCI_REL

Score

<table>
<thead>
<tr>
<th>Session</th>
<th>Admission</th>
<th>Discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>All Subjects</em></td>
<td></td>
<td></td>
</tr>
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</table>
Results

CPCI_COP

<table>
<thead>
<tr>
<th>Session</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission</td>
<td>44</td>
</tr>
<tr>
<td>Discharge</td>
<td>56</td>
</tr>
</tbody>
</table>

- * indicates a significant difference.
Results

CPCI_PACING

Score

Session

Admission

Discharge

All Subjects
Results

CPCI_SSS

<table>
<thead>
<tr>
<th>Group</th>
<th>Score</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veteran</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Veteran</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Score values range from 0 to 35.
- Session indicates Admission and Discharge.

Veteran group has higher scores compared to Non-Veteran group.
Results

MMPI-L Scale: Veterans and Non-Veterans

Score

Veteran

Non-Veteran

Group

Veterans and Non-Veterans

48
50
52
54
56
58
60
Results

MMPI-Ma Scale: Veterans and Non-Veterans

Score

Veteran

Non-Veteran

Group
“This clinic and the dedicated people that work here never lay claim to make your life pain free. But if you have an open mind and a willingness to learn you can learn just how every day life can affect your pain levels. With the techniques and knowledge learned here, it just might make your day a little easier and a little easier is a good thing on a daily basis. My deepest thanks and gratitude to the staff”
Limitations

- Small sample size
- Local sample
- Unable to include gender in analysis
Conclusions

1. Scores on the PCS and CPCI provide evidence suggesting that veterans experience more anxiety and fear-related symptoms than non-veterans.

2. Veteran PCS scores may reflect heightened anxiety based on combat exposure, which would play a role in catastrophizing thoughts.

3. Veteran CPCI scores may reflect:
   - Distrust of others based on past traumas
   - Isolation and avoidance behaviours, characteristic of PTSD

4. Dominantly, veteran and non-veteran scores improved at discharge, which supports the effectiveness of the CPMU program.
Clinical Implications

- Help clinicians to better understand pain adjustment

- Changes within treatment programs
THANK YOU FOR YOUR SERVICE
Thank You!


References


