Validation of the Functional Pain Scale with Hospitalized Patients

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Background

An estimated 100 million Americans experience chronic pain (Institute of Medicine, 2011). An increasing number of hospitalized adults report suffering from chronic pain lasting more than 3 months. While pain intensity is one dimension of the pain experience, as a single measure it oversimplifies the multi-dimensional experience of chronic pain (Pasero, Quinlan-Colwell, Rae, Broglio, & Drew; Schiavenato & Craig, 2010). Persons suffering with chronic pain have difficulty assigning meaningful verbal and numeric descriptors to pain (Dijkers, 2010). The Centers for Disease Control and Prevention (CDC) guideline for prescribing opioids for chronic pain supports assessment of function and quality of life in addition to intensity (Dowell, Haegerich, Chou, 2016). The Functional Pain Scale addresses function and aspects of quality of life but has not been validated in an acute care setting (Gloth, Schive, Stober, Chow, & Prosser, 2001).

Methods

Study Design
A cross-sectional design was used.

Sample & Setting
- Adult patients (n = 51) with chronic pain on 2 medical/surgical units at a 167-bed Midwest tertiary care hospital participated in the study
- Ages ranged from 20 – 88 years
- See Table 1 for demographic data

Results
- Participant (n=51) means indicated moderate pain  (NRS = 4.8; FPS = 4.0; PEG = 7.2)
- Convergent validity was not supported for the NRS and FPS (moderate correlation) or with the PEG and FPS (weak correlation) See Table 2.
- The FPS was able to discriminate between pain and pain-related anxiety, depression, fear, and helplessness on the APS-POQ-R
- There were no significant correlations between the FPS and the APS-POQ-R activity interference subscale.

Select References


Conclusions/Limitations
- This study was conducted as a parallel study to one at a large medical center in the eastern United States. Results from both studies have been published.
- Thirty-one participants expressed a scale preference, with 65% preferring the FPS (n = 20).
- Limitations include use of a convenience sample that was predominately Caucasian, small sample size, and inability to generalize to patients with acute pain.

Implications
- Growing numbers of hospitalized patients with chronic pain require a multidimensional assessment tool
- Using a multidimensional scale requires nurses to broaden their perspective about how an assessment tool guides pain management
- Further testing of the FPS with a larger sample is required to further establish validity and reliability

Data Analysis
- Descriptive statistics were calculated for all variables of interest
- Relationships between variables were described by correlation analysis

Procedures
- The study was approved by the IRB using the expedited review process.
- Potential participants were identified using an EPIC-generated pain report
- Consent - A Letter of Information fully describing the study was given to the patients and verbal expressed consent was obtained
- Instruments – Functional Pain Scale (FPS)
- Previously reported criterion-related validity and interrater reliability 0.95; Pain, Enjoyment, General Activity Scale (PEG) demonstrated construct validity and r = 0.60 – 0.95; Numeric Rating Scale (NRS) demonstrated construct validity, r = 0.96; APS-POQ-R demonstrated construct validity, Cronbach alpha = 0.78

Table 1 Sample Demographics

<table>
<thead>
<tr>
<th>Variable</th>
<th>n (%)</th>
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</thead>
<tbody>
<tr>
<td>Female</td>
<td>32 (62.8%)</td>
</tr>
<tr>
<td>College educated*</td>
<td>23 (45.1%)</td>
</tr>
<tr>
<td>Caucasian</td>
<td>46 (90.2%)</td>
</tr>
<tr>
<td>Admitted for pain control</td>
<td>19 (37.3%)</td>
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<tr>
<td>Both acute and chronic pain</td>
<td>26 (51%)</td>
</tr>
</tbody>
</table>

* Attended some college or earned degree(s).

Table 2 Correlations with FPS

<table>
<thead>
<tr>
<th>Variable</th>
<th>N = 51</th>
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</thead>
<tbody>
<tr>
<td>Numeric Rating Scale</td>
<td>r_s = 0.45 p = .001</td>
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<tr>
<td>PEG</td>
<td>r_s = 0.28 p = .05</td>
</tr>
<tr>
<td>Anxiety*</td>
<td>r_s = 0.01 p = .90</td>
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<tr>
<td>Depressed mood*</td>
<td>r_s = 0.09 p = .44</td>
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<tr>
<td>Fear*</td>
<td>r_s = 0.06 p = .56</td>
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<tr>
<td>Helpless*</td>
<td>r_s = 0.21 p = .07</td>
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FPS = functional Pain Scale
PEG = Pain, Enjoyment, General Activities Scale
*NCorrelations between FPS and select items from the APS-POQ-R

Figure 1 Functional Pain Scale

Figure 2 Comparison Scale – PEG Scale

Select References

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Figure 3 Functional Pain Scale