Introduction

Shoulder pain is the third largest musculoskeletal complaint for which patients seek consultation with a primary care provider.1 Treatment based classification systems have been developed to assist clinicians in selection of the most effective interventions.2,3 There have only been a few researchers who have examined classification systems for shoulder disorders.4,5 An algorithm has been derived utilizing observational data from clinical practice and inclusive of an irritability classification proposed by Kelley et al.6 However, there is no existing evidence demonstrating the reliability or validity of the two embedded scales (irritability classification and movement classification) in the algorithm.

Methods

DESIGN

A prospective, single-session, repeated measures design pilot study including patients with shoulder pain in an outpatient physical therapy setting.

PARTICIPANTS

Data collectors included four selected physical therapists (PTs) within the St. Luke’s University Health Network. A convenience sample of consecutive patients presenting for physical therapist consultation with chief complaint of shoulder problems were recruited from the outpatient physical therapy clinics of St. Luke’s Physical Therapy from July 2013 – November 2013.

EXCLUSION CRITERIA

- < 18 years old
- Pain or symptoms distal to elbow
- History of shoulder surgery on the symptomatic side
- Cervical spine origin of symptoms
- Not literate in the English language
- Unable to complete the FOTO questionnaire

Procedure

- Consent
- Quick DASH & FOTO outcome measures, NPRS
- Cervical screen (AROM, PROM, Spurling’s)
- Active & passive flexion, IR ROM measured by two clinicians
- Level of irritability assigned by each clinician

Statistical Analysis

- Descriptive statistics were used to describe the characteristics of the subjects.
- Frequencies were utilized for categorical variables and medians with standard deviations for continuous variables
- Inter-rater reliability evaluated using the KAPPA statistic.

Table 1

Irritability Levels6

<table>
<thead>
<tr>
<th>Level of Irritability</th>
<th>FOTO vs. Quick DASH Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Irritability</td>
<td><img src="image1.png" alt="Graph showing FOTO vs. Quick DASH correlation for High Irritability" /></td>
</tr>
<tr>
<td>Moderate Irritability</td>
<td><img src="image2.png" alt="Graph showing FOTO vs. Quick DASH correlation for Moderate Irritability" /></td>
</tr>
<tr>
<td>Low Irritability</td>
<td><img src="image3.png" alt="Graph showing FOTO vs. Quick DASH correlation for Low Irritability" /></td>
</tr>
</tbody>
</table>

Results

- 18 subjects included (25 recruited, 7 excluded)
- Mean age = 62.5 years
- Mean acuity = symptoms >6 months (per FOTO classification)

INTER-RATER RELIABILITY (Kappa)

- Irritability levels = HIGH (92.3% agreement)
- FOTO = HIGH (>91.6% agreement)
- Quick DASH = HIGH (92.3% agreement)
- Agreement between FOTO & Quick DASH = 70% agreement

INTRA-RATER RELIABILITY

- Rules as written: kappa = 0.92 (93% agreement)
- Best judgment: kappa = 0.88 (89% agreement)

Limitations

- Limited to symptoms originating from shoulder region
- Geographic representation
- Convenience sample
- Demographics of patients
- Observation bias
- Overlap between categories: FOTO & Quick DASH
- Pain assessment during ROM measurements
- Training
- Duration of data collection
- Sample size

References