Changes in Patient Reported Symptoms During the Natural Progression of Osteoarthritis

Matthew C. DeWolf
*University of Massachusetts Medical School, matthew.dewolf@umassmed.edu*

Patty S. Freedson
*University of Massachusetts Medical School, patty.freedson@umassmed.edu*

David C. Ayers
*University of Massachusetts Medical School, David.Ayers@umassmemorial.org*

*See next page for additional authors*

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Authors
Matthew C. DeWolf, Patty S. Freedson, David C. Ayers, and Patricia D. Franklin

Keywords
Osteoarthritis, Physical activity, WOMAC, SF-36

Comments
Poster presented on Senior Scholars Program Poster Presentation Day at the University of Massachusetts Medical School, Worcester, MA, on April 30, 2014. Medical student Matthew C. DeWolf participated in this study as part of the Senior Scholars research program at the University of Massachusetts Medical School.

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Changes in Patient Reported Symptoms During the Natural Progression of Osteoarthritis

Matthew C. DeWolf MSIV, Patty Freedson PhD, David C. Ayers MD, Patricia D. Franklin MD MBA MPH
Department of Orthopedics and Physical Rehabilitation, University of Massachusetts Medical School

BACKGROUND
Arthritis is the leading cause of disability and second most costly chronic condition in the United States (1 & 2). Physical Activity is a challenge in patients with OA (3).

We quantitated the patient-reported changes in pain and function during the natural progression of OA and correlated these metrics with objective activity monitors.

MATERIALS & METHODS
50 patients who were undergoing non-operative management of OA were enrolled. Visit Intervals: Baseline, 3 months, 6 months, 9 months

Data Collection:
• Basic Demographics
• Patient Reported Outcomes: SF-36, WOMAC, Charlson Co-Morbidity Index
• Objective Measures: ActiGraph and activPal* (worn for 7 days after visit)

RESULTS

Patient - reported Measures:
◆ WOMAC Function: Average=68; NO change over time (0-100; moderate limitations)
◆ SF-36: Average PCS = 38; NO change over time (0-100; moderate limitations)
◆ If WOMAC Pain Score <80 (moderate pain); average SF36 PCS =36
◆ If WOMAC Pain Score >80 (mild pain); SF36 PCS =42.5

Basic Demographics
◆ Average Age: 57 years
◆ 80% had 1 or fewer medical co-morbidities
◆ 4% used an assistive device
◆ Average BMI: 33.85

Activity Monitor:
◆ Trend of increased % day sedentary, decreased steps/day.
Table 1.

Patient-reported function did not change over a 9-month period. However, preliminary objective activity data suggests a decline.

Further analyses will correlate patient-reported measures with objective measures recorded by activity monitors to determine if objective monitors are preferable to detect early changes in activity due to OA.

Table 1: Objective data from activPAL™ the initial 19 patients enrolled.

<table>
<thead>
<tr>
<th></th>
<th>%SED</th>
<th>%STAND</th>
<th>%STEP</th>
<th>STEPS</th>
<th>STEP RATE (steps per minute)</th>
<th>MPVPA (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>62.8 ± 2.39</td>
<td>28.0 ± 1.98</td>
<td>9.2 ± 0.78</td>
<td>6446 ± 570</td>
<td>37.7 ± 0.94</td>
<td>52.6 ± 4.79</td>
</tr>
<tr>
<td>3-Mos</td>
<td>63.0 ± 2.40</td>
<td>28.0 ± 1.99</td>
<td>8.1 ± 0.79*</td>
<td>5359 ± 572*</td>
<td>36.6 ± 0.94*</td>
<td>42.6 ± 4.80*</td>
</tr>
<tr>
<td>6-Mos</td>
<td>62.6 ± 2.40</td>
<td>28.7 ± 1.98</td>
<td>8.7 ± 0.78</td>
<td>5608 ± 570</td>
<td>37.3 ± 0.94</td>
<td>47.1 ± 4.79*</td>
</tr>
<tr>
<td>9-Mos</td>
<td>67.1 ± 2.40*</td>
<td>24.7 ± 1.99</td>
<td>8.1 ± 0.79*</td>
<td>5322 ± 572*</td>
<td>37.3 ± 0.94</td>
<td>43.5 ± 4.80*</td>
</tr>
</tbody>
</table>

*Significantly different from baseline (p<0.05)

REFERENCES:

DISCUSSION
◆ Patient-reported function did not change over a 9-month period. However, preliminary objective activity data suggests a decline.
◆ Further analyses will correlate patient-reported measures with objective measures recorded by activity monitors to determine if objective monitors are preferable to detect early changes in activity due to OA.