

## **Abstract: Fascia Congress 2015**

### **Title: Yoga for Chronic Low Back Pain and its Mechanism of Action: The YoMA Study**

Corey SM, Mehling W, Hall M, Goldman V, Sherman KJ, and Hecht FM.

**Purpose:** Chronic low back pain (cLBP) is a common problem with substantial economic costs but limited effective treatment. The Yoga for Chronic Low Back Pain and Its Mechanism of Action (YoMA) Study was a pilot pre-post single-arm study to assess the feasibility of quantifying potential mechanisms of action presumably underlying the benefits of yoga for non-specific chronic low back pain (cLBP).

**Methods:** Adults (18-65) with cLBP were recruited from the general population in the San Francisco Bay area for a yoga intervention specifically designed for treating cLBP. We measured outcomes at baseline, mid-intervention (6 weeks) and post-intervention (12 weeks). Outcome measures included: back-related function (Roland-Morris; primary outcome), pain intensity, pain medication usage, PROMIS physical function, pain catastrophizing (PCS), PROMIS anxiety, PROMIS depression, mindfulness (FFMQ), and interoceptive body awareness (MAIA). Repeated Measures ANOVA was performed to evaluate change from pre- to post-intervention. Exploratory regression analyses were performed to determine whether changes in potential mechanisms from baseline to mid-intervention (0-6 weeks) predicted improvement in pain-related outcomes post-intervention (0-12 weeks).

**Results:** Twenty-three study participants were enrolled and began the yoga intervention, and 17 study participants completed the intervention and final study visit. There was statistically significant improvement in the following outcomes post-intervention: pain-related disability (-3.28 points;  $p=0.005$ ), pain intensity (difference: -1.82 points;  $p=0.0012$ ), and pain catastrophizing (-4.81 points;  $p=0.0065$ ). In addition, there were increases in: physical function (+2.2 points;  $p=0.036$ ) and the body listening component of interoception (+0.42 points;  $p=0.020$ ). Mindfulness scores did not improve in the hypothesized direction for the majority of subscales. Exploratory regression analyses indicated that the decrease in pain catastrophizing from 0 to 6 weeks demonstrated a trend toward predicting improved pain-related disability ( $\beta=0.36$ ;  $p=0.059$ ) at 12 weeks. Increased body listening (a component of interoception) from 0 to 6 weeks predicted improved pain post-intervention ( $\beta=-1.18$ ;  $p=0.020$ ).

**Conclusions:** This study found improvements in pain and pain-related disability with a 12-week yoga intervention for cLBP, and demonstrated the feasibility of assessing potential mechanisms of action. Exploratory analyses showed evidence for pain catastrophizing and body listening as potential mechanisms to be evaluated in larger-scale randomized trials. However, this study was limited by its small size, participant attrition and lack of a control group.