## Virtual Tai Chi program for patients with irritable bowel syndrome with constipation: Proof-of-concept feasibility trial

Kyle Staller<sup>1, 2</sup>, Mary Paz<sup>3</sup>, Ramel Rones<sup>4</sup>, Eric A. Macklin<sup>5</sup>, Isabelle Garcia-Fischer<sup>1, 2</sup>, Helen Burton Murray<sup>1, 2</sup>, Braden Kuo<sup>1, 2</sup>

1 Division of Gastroenterology, Massachusetts General Hospital and Harvard Medical School, Boston, Massachusetts, USA

2 Center for Neurointestinal Health, Massachusetts General Hospital, Boston, Massachusetts, USA

3 Institute of Health Professions, Massachusetts General Hospital, Charlestown, Massachusetts, USA

4 Mind Body Consultant, Tufts Medical Center, Mass General Hospital, Dana Farber Cancer Institute, Boston, Massachusetts, USA

5 Biostatistics Center, Massachusetts General Hospital and Harvard Medical School Boston, Boston, Massachusetts, USA

Abstract: Background: Satisfaction with current treatment options for irritable bowel syndrome with constipation (IBS-C) is low, with many patients turning to complementary treatments. Tai Chi is a mind-body medicine practice with proven efficacy in other functional disorders. As a proof-of-concept, we tested the feasibility and preliminary clinical outcomes associated with a Tai Chi program designed for IBS-C. Methods: A total of 27 IBS-C patients participated in a single-arm trial of 8 sessions of Tai Chi delivered weekly over 7 weeks via live videoconferencing in group format. Clinical improvement was assessed via change in IBS Symptom Severity Score (IBS-SSS) from baseline to 4 weeks posttreatment (week 11) with secondary outcomes exploring symptom ratings, IBS-related quality of life (IBS-QOL), GI-specific anxiety, abdominal distention, and psychological factors. Key Results: Despite substantial dropout (n = 7; 26%), the treatment protocol had moderate to excellent feasibility for other criteria. Treatment satisfaction was excellent. Exit interviews confirmed high satisfaction with the program among completers, but a high burden of data collection was noted. One participant experienced an adverse event (mild, exacerbation of sciatica). There was a significant improvement in intra-individual IBS-SSS between baseline and posttreatment (average change -66.5, 95% CI -118.6 to -14.3, p = 0.01). Secondary outcomes were notable for improvements in other IBS symptom scoring measures, IBS-QOL, measured abdominal diameter, and leg strength. Conclusions and Inferences: Our data

provide preliminary evidence of the feasibility of a Tai Chi intervention for IBS-C, show promise for improving outcomes, and identify more streamlined data collection as an area for further program improvement.

Key words: clinical trial, complementary therapies, functional colonic diseases, Tai Ji