pathophysiologic basis of KOA is multifaceted and includes impaired muscle function, reduced proprioceptive acuity, and the psychological traits of chronic pain. Tai Chi is an ancient Chinese exercise that uses an integrated mind-body approach to enhance muscle function, balance, flexibility, and reduce pain, depression, and anxiety. Tai Chi may thus be especially suited to the therapy of KOA.

Methods: We used a random number list to randomize 40 eligible individuals (age >55 yr; BMI ≤40 kg/m² with knee pain on most days of the previous month and tibiofemoral OA K/L grade ≥2) to Tai Chi (10 modified forms from classical Yang style) or an attention control (stretching and wellness education). The 60-minute intervention sessions occurred twice-weekly for 12 weeks. The primary endpoint was change in the WOMAC pain score (VAS) at 12 weeks. Secondary endpoints included WOMAC function, patient and physician global assessments (VAS), timed chair stand, balance tests, knee proprioception (Biometrics electrogoniometer), depression (CES-D index), self-efficacy, and health-related quality of life (SF-36). We repeated these assessments at 24 and 48 weeks to test durability of response. The Tai Chi and control groups were compared by intention-to-treat using t-tests.

Results: Patients who continued Tai Chi practice after 12 weeks reported durable benefits in WOMAC pain [between-group difference −150.2 (SD 116.6), p = 0.04] at week 24 and −185.3 (SD 54.1), p = 0.001 at week 48 and WOMAC function [between-group difference −572.7 (SD 257.8), p = 0.02] at week 48.

Conclusions: Tai Chi is efficacious for treatment of pain and physical impairment in people with severe KOA. Further studies should be performed to replicate these results and deepen our understanding of this therapeutic modality.