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Title: Short-form Sun-style Tai Chi as an exercise training modality in people with COPD: A randomised controlled trial

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Body: The aims of the study were, in people with COPD to: determine the effect of short-form Sun-style Tai Chi (SSTC) compared to usual medical care on exercise capacity, balance and quality of life (Part A) and investigate the exercise intensity of SSTC (Part B). Methods: Part A was a single blinded, randomised controlled trial with concealed, random allocation of participants to either the Tai Chi Group (TCG) or Control Group (CG) (usual medical care only) after confirmation of eligibility. Participants in the TCG trained for one hour, twice weekly for 12 weeks at a moderate dyspnoea or exertion level (score = 3 in a 10 point scale). Part B was a repeated measures design where participants who had completed training in TCG performed incremental shuttle walk test and SSTC while wearing a portable metabolic system. Exercise intensity of SSTC was determined by the percent of oxygen consumption (VO_2) reserve. Results: Of 42 participants (mean (SD) age 73 (8) years, FEV1% 59 (16)% predicted), 38 completed Part A of the study (19 in each group) and 15 completed Part B. Compared to control, SSTC significantly increased incremental shuttle walk distance (mean difference, 95% CI 55 metres, 31 to 80) and endurance shuttle walk time (384 seconds, 186 to 510); reduced medial-lateral body sway in semi-tandem stand (-12.4 mm, -21 to -3); and increased total score on the chronic respiratory disease questionnaire (11 points, 4 to 18). The exercise intensity of SSTC in COPD was 53 (18)% of VO_2 reserve. Conclusion: Short-form Sun-style Tai Chi was an effective training modality in people with COPD and the exercise intensity was moderate which met the recommendation for training in COPD.