



## 力量和太极训练对改善膝骨关节炎病人运动能力及症状的作用

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## Effects of resistance and Tai Ji training on mobility and symptoms in knee osteoarthritis patients

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**摘要** 背景: 至今还没有相关研究曾比较过力量和太极训练对膝骨关节炎(OA)症状缓解的作用。本研究旨在评价为期10周的太极训练和抗阻力训练干预对改善老年OA病人症状和运动的作用。方法: 31名老年病人(60-85岁)随机分为3组: 10周太极组( $n = 12$ )、抗阻力训练组( $n = 13$ )和对照组( $n = 6$ )。所有参与者完成了西安大略大学和麦克马斯特大学(WOMAC)膝骨关节炎的指数功能评分,并在为期10周的干预前后进行了3项身体活动能力测试(6 min步行、计时起立行走、计时上下楼梯)。结果: 力量训练组成员的计时起立行走测试成绩( $p = 0.001$ )、WOMAC疼痛分项分数( $p = 0.006$ )、WOMAC僵硬分项分数( $p < 0.001$ )、WOMAC身体机能分项分数( $p = 0.011$ )均显著提高。太极组成员的计时起立行走测试成绩显著提高( $p < 0.001$ ),但WOMAC评分无显著变化。结论: 力量训练能有效改善膝关节OA病人的运动和症状,太极训练仅能改善运动能力,但不能改善OA症状。

关键词: 膝 骨关节炎 抗阻力训练 太极

**Abstract:** *Background:* No studies have compared effectiveness of resistance training and Tai Ji exercise on relieving symptoms of knee osteoarthritis (OA). The purpose of the study was to evaluate effects of a 10-week Tai Ji and resistance training intervention on improving OA symptoms and mobility in seniors with knee OA.

*Methods:* Thirty-one seniors (60-85 years) were randomly assigned to a Tai Ji program ( $n = 12$ ), a resistance training program ( $n = 13$ ), and a control group ( $n = 6$ ). All participants completed the Western Ontario and MacMaster (WOMAC) Osteoarthritis Index and performed three physical performance tests (6-min walk, timed-up-and-go, and timed stair climb and descent) before and after the 10-week intervention.

*Results:* The participants in the resistance training group significantly improved on the timed-up-and-go test ( $p = 0.001$ ), the WOMAC pain subscore ( $p = 0.006$ ), WOMAC stiffness sub-score ( $p < 0.001$ ), and WOMAC physical function sub-score ( $p = 0.011$ ). The Tai Ji group significantly improved on the timed-up-and-go test ( $p < 0.001$ ), but not on the WOMAC scores.

*Conclusion:* Resistance training was effective for improving mobility and improving the symptoms of knee OA. Tai Ji was also effective for improving mobility, but did not improve knee OA symptoms.

## Significant Points:

- The resistance training group showed significant improvement on the timed up-and-go test.
- The resistance training group showed significant improvement on the WOMAC pain sub-score, WOMAC stiffness sub-score, and WOMAC physical function sub-score of the knee OA patients.
- The Tai Ji group showed significant improvement on the timed up-and-go test.

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Key words: Knee Osteoarthritis Resistance training Tai Chi Tai Ji

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