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Research article

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2014**A randomised placebo-exercise controlled trial of Kung Fu training for improvements in body composition in overweight/obese adolescents: the "Martial Fitness" study**

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[Author Information](#)[Publish Date](#)[How to Cite](#)[Email link to this article](#)**ABSTRACT**

The purpose of the study was to investigate if Chinese martial arts (Kung Fu, KF) might be effective for improving body composition, as well as being an appealing form of physical activity for inexperienced, sedentary, overweight/obese adolescents. Twenty subjects (age:  $13.3 \pm 1.8$  y; BMI percentile: 98.6(86.5 - 99.8); 60% girls) were randomly-assigned to the supervised KF or placebo (Tai Chi, TC) control group 3 d.wk<sup>-1</sup> for 6 months. We assessed body composition, including total and regional fat and lean mass, total and regional bone mineral density (BMD), percent lean and fat mass, body mass index and waist circumference, at baseline and after 6 months of training using anthropometry and dual-energy X-ray absorptiometry (DXA). Habitual physical activity and dietary intake were recorded as covariates via self-report at each time-point. As expected due to natural growth, significant increases in height, weight, total and lumbar BMD, and lean mass were seen in the cohort over time, with a trend for increased whole body fat mass, with no difference between groups. By contrast, percent fat and android fat mass via DXA did not increase in either group over time. The absence of a similar expected increase in central adiposity over 6 months could indicate a positive effect of participation in both programs on the metabolically critical abdominal adiposity in this cohort. Further research in this area is warranted to determine ways to increase uptake and compliance, and to see if longer-term martial

arts training not only maintains, but improves abdominal fat mass and related metabolic health indices in overweight/ obese adolescents.

**Key words:** Adolescents, Obesity, Exercise, Martial arts.

### Key Points

- Participation in our martial arts trial attenuated the increases in body fat mass expected due to growth in our overweight/obese adolescent group.
- All subjects allocated to the Kung Fu intervention were satisfied with their Kung Fu training, in contrast to our placebo-exercise (Tai Chi) subjects, suggesting that this form of exercise is worth investigating further for adherence and efficacy.
- This was the first randomized, placebo-exercise controlled trial to be conducted, examining the effects of martial arts training alone on body composition in sedentary overweight/obese adolescents. Larger, longer-term trials are required to confirm our findings.

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