

Comparing periodised protocols for the maintenance of strength and power in resistance-trained women

ABSTRACT

Purpose: The purpose of the study was to compare the effects of daily undulating periodisation (DUP) and session undulating periodisation (SUP) for maintaining strength and power over a 3-wk period in a group of resistance-trained women. DUP comprised one session each of strength and power training while SUP combined both strength and power training within each session. Both training programmes were equalised for training volume and intensity. **Methods:** Sixteen resistance-trained women were pre-tested for body mass, mid-arm and mid-thigh girths, one-repetition maximum (1 RM) dynamic squat (SQ) and bench press (BP), and power during countermovement jumps (CMJ) and bench press throws (BPT). The 1 RM SQ and BP data were used to assign the participants into groups for twice a week training. **Results:** A two-way (group x time) analysis of variance (ANOVA) with repeated measures for time found no significant changes in body mass, mid-arm girth, 1 RM BP and SQ, and BPT and CMJ power for both groups. However, significant changes in mid-thigh girth were found ($F_{1, 13} = 5.733, p = 0.032$). Pooled BP data indicated improved upper body strength (BP: $F_{1, 13} = 6.346, p = 0.025$) and decreased CMJ power ($p = 0.016$). **Conclusions:** Both DUP and SUP programmes increased upper-body strength and maintained lower-body strength adequately across a 3-wk phase probably because the participants were weaker in the upper-body and the lower-body had a reduced capacity for strength adaptations and improvements.

Keyword: Strength; Power; Periodisation; In-season maintenance