EFFECTS OF ORDER AND SEQUENCE OF RESISTANCE AND ENDURANCE TRAINING ON BODY FAT IN PREPUBESCENT GIRLS

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Introduction: There is a large number of studies reporting the efficacy of school-based programs to increase physical activity and improve the body composition among young people (Kriemler et al., 2003). Strength-only or endurance-only training vs. combined strength and endurance training are usually used for fat mass and weight loss programs (Akbarpour et al., 2011; Santos et al., 2012). However, there are some doubts on the best program to use. The aim of the current study was to investigate the effect of different methods of training on body fat percentage in prepubescent girls.

Methods: One hundred twenty-six girls (10.95 ± 0.48 years) were randomly assigned into five experimental groups to perform different training protocols per week for 8 weeks: Resistance-only (R), endurance-only (E), concurrent distinct endurance-resistance (CDER), concurrent
parallel endurance-resistance (CPER), concurrent parallel resistance-endurance (CPRE), and a control group (C).

**Results:** Body fat percentage significantly decreases from pre- to the post-training only in the CPRE (p<0.001) and CPER (p<0.05) groups. There was an increase in the control group.

**Conclusions:** Performing concurrent resistance and endurance training in the same session is more helpful than endurance or resistance training alone or combined resistance and endurance training in separate sessions for reducing body fat percentage of prepubescent girls. Also, the order of concurrent parallel resistance and endurance training did not influence the body fat percentage. These results have a meaningful interest to optimized school-based fat loss exercise programs in childhood.

**References**

