ABSTRACT

Background: The concept of periodization. In variants and its subsequent developments, and now applied at almost all high-level strength training programs. Although there are many books and scientific articles promoting the importance of training program periodization, there are only a limited number of experimental studies that compare two of the more commonly used periodization models: the traditional and the block periodization.

Purpose: The purpose of this study was to compare the traditional and the block periodization models of resistance training in strength and power athletes.

Methods: Twenty-four experienced resistance trained men were randomly assigned to either a block periodization training program (BP: age = 24.2 ± 4.6 years; body mass = 78.5 ± 11.0 kg; height = 177.6 ± 4.9 cm) or to a traditional periodization training program (TP: age = 25.0 ± 5.0 years; body mass = 75.5 ± 11.3 kg; height = 180.7 ± 4.7 cm). Each group trained for 15 weeks, consisting of 3 training sessions per week, each session lasting 60 minutes. The intensity of training loads was determined in each periodization model using a planned distribution of training loads to help athletes reach peak performance at the most important competitions of the year.

Participants in BP were more likely (79.8%) to increase the area under the force-time curve and the recruitment of high threshold motor units. This effect may enhance optimal loads can shift towards a lower percentage of 1-RM during phases with emphasizing speed-power, whereas a greater extent than TP with equal volume, however, no differences were detected in other models. The squat jump (SJ) and the countermovement jump (CMJ) were used to assess lower body performance and body composition measures. Both periodization models incorporated a planned distribution of training loads to help athletes reach peak performance at the most important competitions of the year. In the BP group, participants performed 5 sets of 3 - 4 reps at 85 - 90% of 1RM with 5 minutes of recovery between sets. During the fourth week of training, power was assessed by a 1-RM bench press using a Smith Machine. Bench press testing was performed 5 days after the last week of training. The last week of each mesocycle was dedicated to recovery and assessments with only two light training sessions per week. The single week of lower intensity training at the end of each mesocycle in TP may not be of sufficient duration to stimulate specific maximal adaptations in comparison to a concentrated five-week training phase seen during BP. This study suggests that the block periodization model can emphasize specific adaptations leading to the use of lower loads more than traditional periodization programs.

RESULTS

No changes in body composition were seen from PRE (35.18 ± 3.93% body fat) to POST (35.18 ± 3.93%) in either BP or TP. In addition, there were no significant interactions for mean force (NF) and fat mass percentage (%FM) between groups following the 15 weeks of training.

PURPOSE

Considering the lack of study comparing traditional to block periodization models, it is the purpose of this study to compare the effects of the traditional versus block periodization on maximal strength and power in highly trained subjects.