Effect of plyometric-resistance training on body composition, physical fitness in teenage basketball players pre and post PHV

Mohadeseh Pur Asgharian Langroudi*,

An important variable in investigation of agility during puberty is the age of reaching peak high velocity, which like other agility indicators is under the effect of different factors such as physical condition and type. The purpose of this study was to investigate the effect of plyometric-resistance training on body composition and physical fitness of young female basketball players pre and post PHV. The subjects this study was thirty people that ed as by available sampling method. Thirty participants were ed as the sample by available sampling method. After PHV calculation by using Mirwald formula (2002), subjects were divided into two groups pre PHV (n=13; mean age: 12.53±0.38 years, height: 145.15±4.79 cm) and post PHV PHV (n=17; mean age: 14.24±0.62 years, height: 153.58±4.84 cm), (2002). Regarding the age of the subjects, the exercise protocol consisted of resistance and plyometric exercises for 8 weeks and 2 sessions per week. Body composition factors (body mass index (BMI), waist to hip ratio (WHR) and body fat percentage (BF)) and physical fitness indices (hand strength, upper body strength, explosive power, aerobic power, flexibility, speed and agility, static and dynamic balance) were measured at intervals before and after the intervention of plyometric-resistance training. Statistical analysis was performed using SPSS software version 22. According to the findings of the present study, there was no significant change in body composition factors before and after training intervention in any of the experimental groups and there was no significant difference between the two groups. Intervention of plyometric-resistance training in both groups resulted in significant improvement in hand strength, upper body strength, explosive power, aerobic power, speed and agility. There was a significant increase in post-PHV group. No statistically significant difference was observed in static and dynamic balance before and after exercise intervention in any

of the experimental groups. There was a significant difference between the two experimental groups in hand strenght. In general, results of the study has shown that resistance-plyometric training have a greater impact on the post-PHV group, and this type of training program can be used as an effective method to enhance the child's power and strenght.

Keywords : Resistance Training, Plyometric, PHV, Children and Teenagers, Basketball