

The effect of a 24-session Pilates training programme on core strength, leg power and flexibility of school-level sprinters

Srimali I.G.I.¹, Weerasinghe S.^{1*}

¹*Department of Sports Science, Faculty of Applied Sciences,
University of Sri Jayewardenepura, Gangodawila, Nugegoda, Sri Lanka*

This research was conducted to determine the effect of Pilates training on core strength, leg power and flexibility of school-level sprinters. The major objective was to compare the effect of Pilates training on core strength, leg power and flexibility of male and female school-level sprinters. Under-16 male (n=12) and female (n=18) sprinters participated in 24 sessions of Pilates training, three times per week. Each exercise session focused on the core strength, leg power and flexibility, and those characters of each of the participants were measured before and after the training programme. Core strength was assessed using trunk flexor endurance test, trunk extensor endurance test, right trunk lateral endurance test and left trunk lateral endurance test. Leg power was assessed using the vertical jump test. Flexibility was measured using the sit-and-reach test. Pre- and post-test results were compared using the Wilcoxon Signed-Ranks Test. Mann-Whitney U-test was used to compare improvements in test parameters of male and female subjects. Strength, leg power and flexibility of both male and female sprinters were significantly greater ($P < 0.05$) after the 24-session Pilates training programme compared to before training. The improvement in leg power, flexibility, trunk flexor endurance, right-trunk lateral endurance, and left-trunk lateral endurance was not different ($P > 0.05$) in male and female groups. The improvement in trunk extensor endurance was greater ($P < 0.05$) in males compared to females. It can be concluded that the 24-session Pilates exercise programme was equally effective in improving core strength, leg power and flexibility of both male and female Under-16 sprinters.

Keywords: *Core strength, flexibility, leg power, Pilates training*

*Corresponding author: sashie@sjp.ac.lk