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Comparative Analysis of Plyometric Training Effects on Functional Performance Metrics in Football: A Randomized Controlled Study

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The purpose of this study was to examine the effects of an eight-week plyometric training (PT) program on selected skill-related performance parameters in male football players. A total of forty male football players (Except Goalkeepers) (aged 18.5 ± 0.5 to 22.4 ± 0.5 years) were randomly divided into two groups: a plyometric training group ($n = 20$) and a control group ($n = 20$). The PT group engaged in bilateral and unilateral lower-limb plyometric exercises three times per week in addition to their routine football training. In contrast, the control group continued with only their standard team-based football sessions. Performance metrics including 30-meter sprint speed, dribbling ability, agility with ball, and shooting accuracy were assessed before and after the intervention period. Post-intervention analysis revealed significant improvements ($p < 0.05$) in sprint speed, dribbling, and agility with ball performance in the PT group, indicating the effectiveness of plyometric exercises in enhancing functional, football-specific movements. The study found no meaningful difference in shooting accuracy between the two groups. These results indicate that although plyometric training can significantly boost explosive power and skill performance in dynamic situations, it may not directly improve precision-based actions like shooting. The research highlights the value of well-designed plyometric exercises in football training programs for enhancing overall performance during matches.

Keywords: Speed, Agility, Dribbling, Unilateral and Bilateral Plyometric training

Author: Dr WILLIAM, Rajesh (Manipal Academy of Higher Education, Manipal, Karnataka, India)

Co-author: Mr ANWAR ALI, Syed (Manipal Academy of Higher Education, Manipal, Karnataka, India)

Presenter: Dr WILLIAM, Rajesh (Manipal Academy of Higher Education, Manipal, Karnataka, India)

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