DOI.10.7860/JCDR/2026/90232.23780 Abstract No.: 10

Effect of Plyometric Training on Performance Variables in Wrestlers: A Systematic Review

SURAJ GANPAT SHINDE[1], NITESH MALHOTRA[2]

ABSTRACT

Introduction: Wrestling is high demand sports requiring strength, power, speed, agility, balance, and endurance. Plyometric exercises enhance muscle power, agility and neuromuscular efficiency; however, systematic evidence on their specific effects in wrestlers is limited.

Aim: The purpose of this review is to compile and synthesise the body of data on the effects of plyometric training on wrestlers' performance variables.

Materials and Methods: A systematic literature search (2015 and 2025 of PubMed, Google Scholar, ResearchGate, Wiley Online Library, TRIP Database, and Cochrane Library identified trials on Plyometric interventions in wrestlers from all competitive levels including strength, power, agility, speed, balance, or coordination. Study quality was evaluated using the Cochrane Risk of Bias assessment tool and the PEDro score, and due to heterogeneity in intervention and outcomes, narrative synthesis was performed.

Results: Thirteen studies were included in the study. Plyometric exercises consistently improved muscle strength, power, agility, balance, coordination and endurance across age and competitive levels, with a 6-12-week programme (2-3 sessions/week) effective on land or in water, likely due to enhanced motor control, neuromuscular activation and stretch-shortening cycle efficiency.

Conclusion: Plyometric exercises are a safe, inexpensive, and highly effective way to improve strength, power, agility, coordination, and endurance, improving performance and lowering the chance of injury.

Keywords: Agility, Anaerobic capacity, Athletic conditioning, Balance, Explosive strength, Neuromuscular performance, Power, Wrestling.

PARTICULARS OF CONTRIBUTORS:
1. M.P.T Sports, School of Allied Health Sciences, Manav Racha International Institute of Research and Studies, Sector-43, Surajkund Road, Faridabad, Haryana, India.
2. Head, School of Allied Health Sciences, Manav Racha International Institute of Research and Studies, Sector-43, Surajkund Road, Faridabad, Haryana, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:
Nitesh Malhotra,
Professor, Department of Physiotherapy, School of Allied Health Sciences, Manav Rachna International Institute of Research and Studies, Faridabad-121004, Haryana, India.
Email: nitesh.saha@mriu.edu.in