International Journal of Healthcare Education & Medical Informatics
CHETPHYSIOCON 2024 Conference
1-June-2024

To Find The Effect of Aerobic Exercise and Core Strengthening on Adductor Muscle Strength and Performance in Female Football Players

S Malini[1], Senthil Purushothaman[2]

[1]Undergraduate, [2]Professor, Chettinad School of Physiotherapy, Chettinad Hospital and Research Institute, Chettinad academy of Research and Education, Kelambakkam, Tamil Nadu, India.

Email Id: senthilp101010@gmail.com

Abstract

Background of the study: The repetitive movements and overuse inherent in soccer contribute significantly to injuries, including ACL injuries and Groin Pain Syndrome (GPS). These conditions are exacerbated by inadequate physical conditioning and neuromuscular deficits, which are more prevalent in women. Effective interventions, such as dietary supplements and core stabilization exercises, play a vital role in enhancing performance and reducing injuries. Additionally, the Adductor Strengthening Programme (ASP) has shown promise in mitigating groin problems. Despite the benefits of aerobic exercise for cardiovascular health and muscle function, the specific impact of core-targeted exercises on competitive soccer performance remains unclear, highlighting the need for further research to optimize training protocols for female athletes.

Methodology: A total of 40 subjects were selected for the study obtaining informed consent. Subject who fulfilled the following inclusion and exclusion criteria were randomly to one of the two groups. Each group comprised of 20 subjects between the age group 18-23 years. The experimental group was given aerobic exercise and core strengthening on adductor muscle strength for 8– week treatment course. The study parameters include VAS (Visual analog scale), MMT (Manual Muscle Testing), six minute run test and SPEED score used for the pre-test and post-test comparison done between the experimental and control group.

Result: Both the experimental and control groups demonstrated significant improvements in all measured outcomes. However, the experimental group showed slightly higher enhancements in physical performance measures. While there were no significant differences between the groups in VAS (pain) and MMT (muscle strength) improvements ($p > 0.05$), the experimental group exhibited significantly greater improvements in the Six-Minute Run (median improvement of 390.00 meters, $Z = -5.060$, $p = 0.000$) and SPEED scores (median reduction of -4.68, $Z = -5.344$, $p = 0.000$). These results suggest that the aerobic intervention was more effective in enhancing physical performance compared to the control intervention.

Conclusion: Overall, the aerobic intervention was found to be more effective in enhancing physical performance of Soccer player.