

ABSTRACT

The aim of this study was to investigate the effects of High-Intensity Interval Training (HIIT), Aerobic Training (AT), Concurrent Training (CHAT) and Control group (CG) on selected physical, physiological, and skill performance variables among football players. Football demands a high level of fitness, combining speed, agility, endurance, and technical proficiency. To identify the most effective training method, the following objectives were formulated: To examine the effects of HIIT on selected performance variables; To assess the influence of aerobic training on physical and skill outcomes; To evaluate the combined effects of HIIT and AT (concurrent training); and to compare the effectiveness of these three training methods.

Hundred intercollegiate male football players aged 18–21 years, with at least two years of playing experience, were randomly divided into four equal groups (n=25 each): Group I (HIIT), Group II (AT), Group III (CHAT), and Group IV (CG). The intervention lasted for Twelve weeks, with each group undergoing its respective training protocol three days per week under controlled conditions. Physical variables assessed included Muscular strength, Muscular endurance, Speed, Power, Agility and Cardiovascular Endurance; physiological variables included heart rate and VO₂ max; and skill performance variables included, passing, kicking, dribbling and shooting.

Pre- and post-test data were collected, and Analysis of Covariance (ANCOVA) was employed to analyze the results, controlling for pre-test differences. The significance level was set at $p < 0.05$. All four groups showed statistically significant improvements in most measured variables. However, the Concurrent Training group (CHAT) demonstrated the most comprehensive enhancement across all physical, physiological, and skill performance domains, with several variables reaching high statistical significance.

In conclusion, Concurrent Training, which combines the strengths of both HIIT and aerobic training methods, was found to be the most effective in enhancing overall football performance.

Keywords : High-Intensity Interval Training, Aerobic Training, Concurrent Training, Football, Physical Fitness, Skill Performance, VO₂ max, ANCOVA, Objectives.