
ORIGINAL ARTICLE

Impact of remote training on body composition, cardiopulmonary, strength, power, and kinematic in professional male soccer athletes during pandemic times

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ABSTRACT

BACKGROUND: The SARS-CoV-2 Pandemic provoked the worldwide interruption of sports training and competitions, imposing the challenge of maintaining athletes' physical fitness. We examined the impact of home-based remote training (RT) on the physical fitness of professional soccer players (PSP).

METHODS: The body composition (BC), cardiopulmonary fitness (CPF), strength, power, and 3D-kinematic joint movement of PSP soccer players were evaluated before and after five weeks of RT. The results obtained before and after RT were compared using a paired t-test, and the effect size was calculated by Hedge's g.

RESULTS: N=12 PSP (25.3±5.1 years old) were enrolled. No change was observed in BC or CPF, except for a minimal decrease in peak power output after RT. However, after RT, PSP increased concentric knee extension and eccentric hamstring strength, improved lower limb concentric and eccentric peak power, and enlarged knee flexion angles. A reduction in adduction maximal voluntary isometric contractions and an increase in knee varus were also observed.

CONCLUSIONS: Among this PSP sample, five weeks of RT promoted significant changes in several muscles' strength, power, and joint movement but not in BC and CPF. Studies such as this will render a wellspring to refine RT among elite athletes, aiming to promote a complete fitness adaptation.

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KEY WORDS: SARS-CoV-2; Physical fitness; Soccer.

The global health crisis caused by the SARS-CoV-2 Pandemic promoted adaptation in almost every daily life task.¹ Moreover, the worldwide call to action against COVID-19 demanded quick and never imagined resolutions, including the postponement of the Olympic Games.

The SARS-CoV-2 Pandemic has been the most striking event ever for the sports world. Even during wartimes, sports events outside of Europe kept running.² However, global sports organizations suspended championships without any return forecast this time. Furthermore, as training