

28th ECSS Anniversary Congress, Paris/France, 4-7 July 2023

COVID-19 lockdown effect on weight and fat mass in French elite athletes

NGUYEN-BOUSSUGE, S.

INSEP

INTRODUCTION:

Medical-technical staff around athletes had to adapt to minimize the negative effects of 2020 Covid-19 lockdown on performance [1], as well as changes in body composition associated with isolation [2]. Our objective was to evaluate the effects of the COVID-19 lockdown on mass and body fat in French elite athletes.

METHODS:

122 French elite athletes (23.3 ± 5.2 years old; 43% of female athletes) training at the National Institute of Sports (INSEP) during the 2019/2020 season and from 17 different sports were included. Weight and fat mass data from the medical consultation, the post-confinement anthropometric assessment and a questionnaire were compared with their pre-confinement values. The influence of gender, training load, nutrition management and injuries was also explored.

RESULTS:

The statistical analysis shows a significant increase in weight (71.23 ± 13.75 vs. 72.03 ± 14.50 ; $P = .002$) and in fat mass (15.01 ± 6.28 vs. 15.86 ± 6.42 ; $P < .001$) during lockdown. Regarding the gender, only men significantly increased their weight (77.61 ± 12.92 vs. 78.80 ± 13.89 ; $P = .002$) but women and men increased their body fat by $+0.9 \pm 2.7\%$ and $+0.8 \pm 2\%$ respectively. Athletes whose training load decreased between before and during lockdown gained significant weight (70.17 ± 12.98 vs. 71.12 ± 13.85 ; $P = .002$) and fat mass (14.52 ± 5.86 vs. 15.56 ± 6.21 ; $P < .001$). Athletes who were not injured during lockdown gained significant weight (70.72 ± 14.40 vs. 71.45 ± 14.83 ; $P = .01$) and fat mass (14.82 ± 6.61 vs. 15.76 ± 6.64 ; $P < .001$). Finally, weight was significantly increased in athletes reporting difficulties in weight and nutrition management (70.41 ± 15.84 vs. 71.81 ± 16.59 ; $P = .004$) compared to athletes not reporting difficulties ($P = NS$).

CONCLUSION:

Changes in the sport practice and lifestyle of elite athletes had a negative impact on the management of their body composition. If this type of isolation occurs again, vigilance must be exercised to at least maintain the training load and accompany athletes who have difficulties in managing their weight and their diet. It also appears that athletes injured prior to lockdown were already deconditioned compared to non-injured athletes. Thus, particular attention should be paid to the management of weight and fat mass from the beginning of the athletes' injury.

Topic: Health and Fitness

Presentation Poster

European Database of Sport Science (EDSS)

Supported by SporTools GmbH



35165