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

Dynamics of training and competition demands in top-class male rink hockey: a case study of the 2021 Rink Hockey European Championship

António, F.1, Pedro, D.M.2, João, N.R.1, Farzad, Y.1, João, V.D.S.3, Bruno, T.1

1.University of Beira Interior: 2.Polytechnic Institute of Castelo Branco: 3.Lusófona University

INTRODUCTION:
To improve players' performance in team sports such as rink hockey, it is important to manage the training process ensuring positive adaptation according to competitive demands. Therefore, monitoring training load (TL) to appropriately adjust between stress and recovery during training microcycles and minimize the risk of developing non-functional overreaching is crucial to develop athletes' physiological adaptations. This research aimed to investigate the training load through external (EL) and internal load (IL) dynamics across the preparation and competition of a top-level national team during the 2021 Rink Hockey European Championship.
METHODS:
An observational study was carried out during the preparation and competition phases of the 2021 Rink Hockey European Championship from the 1rst until the 20th of November 2021. A non-experimental descriptive method was used to characterize the training sessions and training matches during the two (2) preparation weeks (TW-2 - two training weeks preceding the competition and TW-1 – one week before the competition) and the competitive games of the competition week (CW). The preparation weeks were characterized by training sessions (TMD-3, TMD-2, TMD-1) and 2 training matches (TMD). In total, players participated in 12 rink training sessions, 4 training matches, and 3 international competitive games during the three weeks of the study. A two-way mixed design ANOVA was utilized to compare EL and IL across microcycles during training sessions and competitions. A Spearman-Rho correlation test was used to understand the relationship between players' EL and IL during training sessions and competitive matches.
RESULTS:
In general, results revealed significantly higher values between training match day -3 (TMD-3) to TMD-1 for Player Load (PL) ($p \leq 0.05$) distance covered (DT) and high-speed skating (HSS; ≥18 km) ($p \leq 0.001$). Competition weeks (CW) also revealed significantly higher values in comparison with training weeks (TW-2 and TW-1). Interestingly, during competition, high impacts (Himpt; 8-10 g) ($p \leq 0.001$, $r=0.64$) and decelerations (DEC; [-10 -3]m/s2 (n)) ($p \leq 0.001$, $r=0.43$) had a greater influence on players' session RPE (s-RPE) than in training weeks.
CONCLUSION:
Our results suggest that training sessions do not represent the game demands, for example, HImpt and DEC appear to induce physiological impacts in players, but the same does not occur in the training sessions. Such results highlight the need to understand the competitive dynamics of the sport and the use of the most appropriate metrics to monitor the preparation process.

Topic: Training and Testing

Presentation Poster

European Database of Sport Science (EDSS)

Supported by SporTools GmbH

34991