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Abstract

Are starters accumulating significantly higher load than non-starters? Load, Wellness, and Training/Match Ratios Quantification of a European Professional Soccer Team

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The study aimed to (i) compare accumulated load and wellness between starters and non-starters of a European professional soccer team; (ii) analyse the relationships between wellness and load measures, and; (iii) compare training/match ratio (TMr) of external and internal load between starters and non-starters. Ten players were considered starters, while seven were classified as non-starters over a 16-week period in which six training sessions and match day (MD) were considered in each weekly micro-cycle. The following

measures were used: wellness (fatigue, quality of sleep, muscle soreness, stress, and mood); load (rated of perceived exertion (RPE), session-RPE (s-RPE), high-speed running (HSR), sprinting, accelerations (ACC) and decelerations (DEC)). Accumulated wellness/load were calculated by summing all training and match sessions, while TMr was calculated by dividing the accumulated load by match data for all load measures. The main results showed that non-starters presented higher significant values for fatigue ($p < 0.019$; $g = 0.24$) and lower significant values for duration ($p < 0.006$; ES = 1.81) and s-RPE ($p < 0.001$; ES = 2.69) when compared to starters. Moreover, positive and very large correlations were found between quality of sleep and RPE, stress and deceleration, mood and deceleration (all, $p < 0.05$). Finally, non-starters presented higher values in all TMr than starters, namely, RPE ($p = 0.001$; $g = 1.96$), s-RPE ($p = 0.002$; $g = 1.77$), HSR ($p = 0.001$; $g = 2.02$), sprinting ($p = 0.002$; $g = 4.23$), accelerations ($p = 0.001$; $g = 2.72$), decelerations ($p < 0.001$; $g = 3.44$), and duration ($p = 0.003$; $g = 2.27$). In conclusion, this study showed that non-starters produced higher TMr in all examined variables despite the lower match and training durations when compared with starters, suggesting that physical load was adjusted appropriately. Additionally, RPE and a higher number of decelerations may contribute to decreased wellness, namely, quality of sleep, stress and mood for non-starters.