In-Season External and Wellness Variations in Professional Women Soccer Players

External intensity quantification assessment across the season allows coaches to a better load adjustment during training sessions by avoiding excessive fatigue and helping to be in the best shape possible to the match. The internal intensity monitoring in soccer has been used more in recent years in men's football; however, in women's soccer, the existing literature is still scarce.

The aims of this study were threefold: (1) to describe the variations in external intensity periods of distance and accelerometry based measures across the early and mid-competitive; (2) to describe the weekly variations of training monotony, training strain and acute: chronic workload ratio through session Rated Perceived Exertion (s-RPE); (3) to describe weekly variations of Hooper Index [stress, fatigue, Delayed Onset Muscle Soreness (DOMS) and sleep]. Nineteen players (24.1 ± 2.7 years) from a Portuguese BPI League professional team participated in this study. All variables were collected in a 10-week in-season period with three training sessions and one match per week during the 2019/20 season.

There were no differences between all parameters in playing positions or player status. Considering the overall team, the results showed that there were some associations between Hooper Index (HI) categories and s-RPE like stress or fatigue (0.693, $p < 0.01$), stress or DOMS (0.593, $p < 0.01$), stress or s-RPE (−0.516, $p < 0.05$) and fatigue or DOMS (0.688, $p < 0.01$). In conclusion, the study revealed that there is a higher TL on the first training days of the week compared to the last and that the games are very intense. It also shown that higher levels of fatigue and DOMS occur concurrently with better nights of sleep. The data showed that the higher the players' reported stress, the lower the observed s-RPE, thus possibly indicating a mutual interference of experienced stress levels on the assimilation of training intensity by elite women soccer players.

Keywords: training load, external load, female, football, internal load, muscle soreness, stress, fatigue, sleep, perceived exertion