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BOOK OF ABSTRACTS



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WEARABLE SENSORS, DEVICES AND ELECTRONICS FOR TRAINING LOAD AND MATCH LOAD MONITORING: A SHORT REVIEW

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Abstract: Monitoring training and match load provides important insights about individual responses and fatigue-recovery status. Growing use of wearable sensors, devices and electronics in team sports as Football has allowed a most quick control of training and match demands. Following the Preferred Reporting Item for Systematic Reviews and Meta-analyses (PRISMA), a systematic search of relevant English-language articles was performed from earliest record to December 2020. The literature search was performed by seven online databases specifically Web of Science, PubMed, Medline, Science Direct, SCOPUS and SportDiscus. The literature search returned 12,497 and 22 full-text articles were reviewed after screening procedures. From the reviewed studies, the internal training load measures were reported in seven studies and the external training load were reported nine studies. With regard to internal load measures, nine studies reported heart-derived measures and six studies included perceived exertion. Measuring training impulse (TRIMP) with short-range telemetry system and ratings of perceived exertion (RPE) with Borg's category-ratio scale were the most common internal load indicators. Global positioning systems (GPS), local position measurement (LPM) systems and semi-automatic multiple-camera systems were vastly reported for assessing external training load providing gather football intermittent movements. High intensity movements represents a critical point to assess training and match demands. Integrating different wearable sensors, devices and electronics was reported as being a robust methodological approach. The micro-technology-derived measures have been largely selected to quantify training and match load (CV 1–2%).

Keywords: soccer; micro-technology; tracking systems; workload.

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