Competitive training load: could it be excessive in pre-adolescent taekwondo athletes?

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The assessment of internal training load (ITL) using the session rate of perceived exertion (Session-RPE) has been already experienced in youth Taekwondo (Haddad et al., 2014). Nevertheless, no studies investigated the reliability of this method in pre-adolescent performing pre-competitive (PC; learning aim) and competitive (C; successful aim) training. Thus, this study aimed to evaluate the reliability of the Session-RPE (CR-10 scale; Foster et al., 1996) to monitor the ITL of youth taekwondo athletes during PC and C training sessions. Five female (age:12.0±0.7y; height:1.54±0.08m; body mass:48.8±7.3kg) and four male (age:12.0±0.8yrs; stature:1.55±0.07m; body mass:47.3±5.3kg) pre-adolescent taekwondo athletes were monitored during 17 training sessions (100 individuals training sessions) within 35-days. The summated heart rate zone method (Edwards et al., 1993) was used as a reference measure of ITL; the CR-10 scale was administrated immediately (1st min) and 30 minutes (30th min) after training session. The values of Edwards' and Session-RPE method were regressed (P≤0.05). Higher values emerged for PC (1st min: r=0.67, R2=0.45, P<0.001; 30th min: r=0.70, R2=0.48, P<0.001) than C (1st min: r=0.52, R2=0.27, P<0.001; 30th min: r=0.50, R2=0.25, P<0.001) level, highlighting that only youth female (r=0.74, R^2=0.55, P<0.001) and male (r=0.71, R^2=0.51, P=0.007) taekwondo athletes performing PC training sessions, and evaluating their ITL at the 30th min, were able to report substantial (i.e., r≥0.70) correlations. Therefore, in line with the literature (Foster et al., 1996), only the 30th min RPE evaluation confirmed to be able to guarantee an optimal consideration of the whole session. Moreover, the unsatisfactory C reliability suggests that the related training load could be excessive with respect to the pre-adolescent taekwondo athletes' skills.

References

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Keywords

RPE, heart rate, situational sports, monitoring training.