

Evaluation of Balance Performance and Injury Prevalence among Racket Sport Players in University of Peradeniya

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Static and dynamic balance are crucial for fine motor skills in racket sports players. Balance training was found to enhance performance and reduce injuries among racket sports players. However, evidence comparing balance performance and injury prevalence among Sri Lankan racket sports players is scarce, indicating a need for further investigations. Firstly, this study aimed to evaluate the static and dynamic balance, injury prevalence and patterns of injuries among male and female badminton, table tennis and tennis players in University of Peradeniya. Secondly, the association between balance performance and injury prevalence was evaluated. This research was conducted as a cross-sectional descriptive study. 71 registered racket sports players in University of Peradeniya were included in the sample and 8 players were excluded due to acute injuries, recent surgeries, or chronic diseases. Single leg stance test and star excursion balance test were used to assess the static and dynamic balance respectively. To assess the injury prevalence, the 'Injury Prevalence Questionnaire' was employed after receiving the authors' permission. One-way ANOVA was used to compare the balance performance between racket sports teams. Chi squared test was used to evaluate correlations between balance performance and injury prevalence. The results revealed that the static balance of all racket sports players is lower than normative values. Therefore, it was unable to find a correlation between static balance and injury prevalence. Regarding dynamic balance, despite more players having below-norm dynamic balance, a significant positive correlation was found between left postero-medial dynamic balance and injury prevalence (p value=0.016). However, there was no significant difference between static and dynamic balance performance among three racket sports teams. Among all racket sport players, injury prevalence was recorded highest in ankle (29.69%) followed by knee (17.2%), lower leg (12.5%) and back (10.9%). Although balance performance shows no significant differences across the three sports, badminton, tennis, and table tennis players exhibit below-standard balance performance. A positive correlation exists between certain dynamic balance measures and injury prevalence, suggesting the need for targeted interventions to enhance balance and prevent injuries in these athletes.

Keywords: Dynamic balance, injury prevalence, racket sports, static balance