The influence of whole body vibration training on the enhancement of quadriceps' force in rugby players

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Abstract

Background. Whole body vibration (WBV) is a concept which has become very popular over the last decades. As its name clearly states, WBV implies the exposure of the entire body to vibration.

Objective. The purpose of this pilot study is to provide preliminary data on the effects of WBV training on maximum isometric knee extensor strength in rugby players.

Methods. Data were collected from 10 male rugby players with ages ranging from 18-36 years randomly recruited from the Universitatea Cluj-Napoca rugby team. Mean age of the participants was 22.40 (±0.476) years. Mean height was 184.40 (±1.939) cm. Mean weight was 97.90 (±4.925) kg. They were equally divided into two groups: a Control group and a Vibration group. The subjects from the Vibration group were trained on the Fitvibe Excel Pro® vibration platform for three weeks (three times per week, 7 minutes per session). Pre and post training measurements of the maximum isometric knee extensor strength of both legs for all participants were performed on the KIN-COM® isokinetic dynamometer.

Results. After three weeks of WBV training, there was an increase in the maximum isometric strength of the right leg ($p=0.020$) of subjects from the Vibration group. A significant increase in maximum isometric knee extensor strength for both the right leg ($p=0.004$) and the left leg ($p=0.006$) was found in the rugby players exposed to WBV compared with a Control group.

Conclusions. In the case of rugby players, WBV training induces increases in the isometric force of quadriceps. The present study represents a preliminary approach on the effects of WBV in the case of athletes of performance.

Keywords: vibration training, rugby players, strength, knee extensors.