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## **Isokinetic Strength of Knee Extensors is Associated with Balance in Middle-aged Women**

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**ABSTRACT** The aim of this paper was to identify the relationship between the strength of the knee extensors and postural stability in middle-aged population. The study involved forty women (age  $56.3 \pm 4.7$  years; weight  $77.2 \pm 18.3$  kg; height  $164.3 \pm 5.6$  cm). Relative concentric extension peak torque (ConEPTR) and average work (ConEAW) were expressed to assess bilateral strength of the knee extensors. Balance was evaluated during a 30s quiet stand with open eyes. Mean velocity of the centre of pressure (COP) in the medial-lateral direction and anterior-posterior direction was measured. Mean velocity of COP in the medio-lateral direction significantly ( $p < .05$ ) correlated with ConEAW; mean velocity of COP in the anterior-posterior direction significantly ( $p < .05$ ) correlated with ConEPTR. The findings suggested that the strength of the lower limb muscles in middle-aged women contributed to a better balance and consequently to a decreased fall risk later in life.