

<b>Paper Category:</b>	Diagnosis and Aetiology
<b>Paper Title:</b> (Arial Font; 14 Pt Size)	Relationship Between Time Response of Knee Extension Strength and Cognitive Function in Older Adults
<b>Abstract Body:</b> (Arial Font; 12Pt Size)	<ul style="list-style-type: none"> <li>• Background</li> <li>• Objectives</li> <li>• Method</li> <li>• Results</li> <li>• Discussions and Conclusions</li> </ul>
<p><b>Background</b> The relationship between muscle strength and cognitive function has been previously investigated. However, the association between lower extremity muscle response and cognitive function has not been adequately examined.</p> <p><b>Objective</b> This study aimed to examine the relationship between the time response of knee extension strength and cognitive function in older adults.</p> <p><b>Methods</b> A total of 327 patients (119 males and 208 females) with an average age of <math>77.5 \pm 9.0</math> years, who visited the Integrated Healthy Aging Clinic, were included in the study. For cognitive function assessment, mini mental state examination (MMSE) and Montreal cognitive assessment (MoCA, Japanese version) were used. Knee extensor muscle strength (isometric) indices, including muscle reaction time (RT), time constant for reaching maximum force (TC), rate of force development (RFD), and maximum value of force (MVF), were measured. Age-adjusted partial correlation coefficients were calculated to determine the association between knee extension strength indices and cognitive function scores.</p> <p><b>Results</b> RT demonstrated significant correlation with MMSE (<math>p &lt; 0.001</math>) and MoCA (<math>p &lt; 0.05</math>) in the right legs of females, MMSE (<math>p &lt; 0.05</math>) in the left legs of females, and MoCA (<math>p &lt; 0.01</math>) in the left legs of males. TC did not demonstrate significant correlation with MMSE or MoCA in either sexes or hand. RFD demonstrated significant correlation with MoCA (<math>p &lt; 0.05</math>) in the left legs of females and MMSE (<math>p &lt; 0.05</math>) in the left legs of males. MVF demonstrated significant correlation with MMSE and MoCA in the right legs of females (<math>p &lt; 0.01</math>) and both the legs of males (<math>p &lt; 0.01</math>).</p> <p><b>Discussions and conclusions</b> Nervous system-derived RT was more significantly associated with cognitive function in females than in males. RFD demonstrated significant association with cognitive function only in the left leg, whereas MVF demonstrated significant association for both legs in males and for only the right leg in females.</p>	

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