

## P11

### Effects of cognitive, motor, and visual dual-task on spatio-temporal gait parameters in patients with functional motor disorders

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**Background:** Functional motor disorders (FMD) are highly disabling neurological conditions grounded on abnormal attentional focus, beliefs/expectations, and sense of agency [1-2]. Gait disorders increase disability in daily living activities [3]. Understanding their pathophysiology is key to improve rehabilitation management. Our recent posturographic study showed that motor dual-task (m-DT) with eyes closed improves postural control in patients with FMD. No studies have been performed on the effects of different dual-task on gait in FMD [4].

**Objective:** To assess spatio-temporal gait parameter changes in a sample of FMD and healthy controls (HC) using a dual-task protocol under different attentional conditions.

**Material and Methods:** 31 patients with FMD (age,  $43.37 \pm 15.16$  years) and 53 healthy controls (age,  $43.67 \pm 15.12$  years) were enrolled. We calculated the dual-task effect (DTE, %) on spatio-temporal gait parameters (i.e., gait speed, step and stride length, the width of the base of support) measured during the single task, m-DT, cognitive dual-task (c-DT), visual dual-task (v-DT)(IBM® SPSS® Statistics version 26.0 for Macintosh).

**Results:** There was a significant between-group mean change in gait speed DTE ( $p=0.038$ ), step length ( $p=0.003$ ), and stride length ( $p=0.005$ ) (higher DTE values for FMD than HC), and significant Task x Group interaction on gait speed ( $p=0.024$ ), stride length ( $p=0.013$ ), and base of support width ( $p=0.008$ ). In the FMD group, the mean gait speed and stride length DTE were increased by 10.87% and 24.40% on the m-DT and c-DT, respectively. In the HC group, they were raised by 3.41% and 15.46%. Interestingly, similar DTE effects were found for the v-DT ( $p=1$ ) in both groups denoting an enhancement in gait performance.

**Conclusions:** This study provides novel preliminary evidence to benefit from a visual dual-task to improve spatio-temporal gait parameters in patients with FMD. These findings are relevant for the management of gait disorders in patients with FMD.

## References

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