CORRELATIONS BETWEEN FUNCTIONAL BALANCE AND GAIT PARAMETERS DURING TIMED UP AND GO TEST UNDER DUAL-TASK CONDITIONS AMONG OLDER ADULTS
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Abstract
The combination of physical, cognitive, and sensory challenges can make outdoor walking difficult for older adults. This study aimed to determine whether the gait parameters during the Timed Up and Go (TUG) test under dual-task conditions correlate with the functional balance level. A total of 255 older persons participated in this cross-sectional study. Functional balance was assessed using the Berg Balance Scale (BBS) before the TUG test. The TUG test was conducted under single-and two dual-task conditions (dual-motor and dual-cognitive). The time and number of steps were used to quantify gait parameters. Spearman's rank correlation coefficient was used to assess the relationship among variables. The gait parameters (time and number of steps) of the TUG test were significantly different between task conditions (both, p = 0.001). Post hoc analysis with the Wilcoxon signed-rank test showed that the gait parameters in dual-motor and dual-cognitive tasks were significantly longer than in single-task conditions (p = 0.001). A strong negative rank correlation was found between the time and the number of steps taken to complete the single task condition and functional balance. There was a low negative correlation between the time taken to complete the dual-motor task and dual-cognitive task conditions and functional balance. These findings suggest that functional balance may be an influential domain of successful dual-task TUG in older adults. © 2023, Faculty of Medicine, University of Malaya. All rights reserved.

Author Keywords
Aged; Attention; Gait; Postural Control

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aged, article, attention, Berg Balance Scale, cognition, controlled study, correlation coefficient, cross-sectional study, female, gait, human, human experiment, male, post hoc analysis, quantitative analysis, timed up and go test, Wilcoxon signed ranks test

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