

PP 03 - Timed Up and Go performance and risk of falls in older people with diabetes mellitus

A. H. Wettasinghe^{1*}, W. D. N. Dissanayake², L. Allet³, P. Katulanda⁴, S. R. Lord⁵

¹Department of Allied Health Sciences, Faculty of Medicine, University of Colombo

²Department of Physiology, Faculty of Medicine, University of Colombo

³Department of Community Medicine, University of Geneva, Geneva, Switzerland

⁴Department of Clinical Medicine, Faculty of Medicine, University of Colombo

⁵Neuroscience Research Australia, UNSW, Randwick, Sydney, Australia

Background: Timed Up and Go test (TUG) and the TUG performed with a secondary cognitive task (c-TUG) were developed for older people but are increasingly used as a mobility assessment for people with diabetes mellitus (DM). However, it is unclear whether the TUG is useful for identifying fall risk in people with DM.

Objectives: Aims of this study were to: (i) test the TUG performance among DM older adults (ii) determine whether the TUG is a good prognostic measure for falls; (iii) determine whether performing the TUG with a secondary cognitive task improves its prognostic ability.

Methods: Community-dwelling people with DM (n=103) were assessed with an interviewer-administered questionnaire, underwent the TUG and c-TUG tests. For the c-TUG test participants were asked to do the TUG, while counting backward in threes from a randomly chosen start number between 60 and 100 (c-TUG test). Participants were then followed up for falls for six months. Falls were defined as unexpected events which resulted in the participant unintentionally coming to the ground, floor or other lower level.

Results: Times for participants, (n=103, mean age±SD, 61±6) to complete the TUG and c-TUG were 7.8±1.8 and 12.4±4.6 seconds respectively. Men took less time to complete tests than women (n=68; 66%): 7.0±1.4s vs 8.2±1.9s ($t=-3.15$, $df=101$, $p=0.220$) for TUG and 10.7±2.9s vs 13.3±5.1 for c-TUG ($t=-2.88$, $df=101$, $p=0.01$). Binomial regression analyses revealed that each 1s increase in TUG and c-TUG times increased the risk of falling by 29% and 13% respectively. Complementary ROC comparisons contrasting non-fallers and 1+ fallers indicated the areas under the curve for the TUG (0.60; 95%CI=0.49-0.71) and c-TUG (0.62; 95%CI=0.50-0.73) tests were very similar - χ^2 for difference = 0.05, $df=1$, $p=0.82$).

Conclusions: Slow TUG and c-TUG times correlated with risk of falls in older people with DM. Results indicate that TUG has only moderate diagnostic value in relation to falls. Performing c-TUG had no added value with regard to discriminating fallers from non-fallers.

Keywords: Timed Up and Go test, accidental falls, diabetes.

*Email: asha@med.cmb.ac.lk