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Gait parameters across three attentional loading conditions during timed up and go test: A comparative study between age-matched healthy individuals and stroke survivors**Harsh Agarwal**

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BACKGROUND: The benefits of this study is that it may improve motor functions along with cognition and activity limitation which occurs with ageing. The results of the study can be used judiciously, in the management of motor function of old adults as well as stroke survivors.

PURPOSE: To determine the effects of attentional loading conditions Timed Up and Go Test on Gait Parameters in age-matched healthy older adults and stroke patients.

METHODS: A sample of 30 subjects was recruited and randomly assigned into 2 groups- Group1-experimental group including stroke survivors and Group 2-control group including age-matched healthy individuals . Both groups received attention demanding task (Single task condition,Dual motor task condition and Dual cognitive task condition) along with Timed Up and Go Test.

RESULTS: Repeated measures analysis of variance(ANOVA) was used to analyze gait parameters across 3 attentional loading conditions(single,dual-motor,and dualcognitive task condition) between groups.A post hoc Bonferroni comparison was performed when the repeated measure ANOVA test revealed a significant difference($P<0.05$).TUG TIME comparison between group 1 and group 2 showing MEAN \pm SD of TUGS,TUGDT and TUGCB as 17.21 \pm 1.31 and 13.74 \pm 3.72, 18.52 \pm 1.40 and 13.68 \pm 0.91, 18.52 \pm 1.40 and 15.74 \pm 2.03 respectively. On comparison of Mean TUGS of group 1 and group 2 , 't' value was 3.40 and 'p' value was 0.002. Hence there was significant difference in Mean TUGS between group 1 and group 2. On comparison of Mean TUGDT of group 1 and group 2 , 't' value was 11.14 and 'p' value was 0.001. Hence there was significant difference in Mean TUGDT between group 1 and group 2.On comparison of Mean TUGCB of group 1 and group 2 , 't' value was 4.34 and 'p' value was 0.001. Hence there was significant difference in Mean TUGCB between group 1 and group 2. NUMBER OF STEPS comparison between group 1 and group 2 showing MEAN \pm SD of NSS,NSDT and NSCB as 15.26 \pm 1.94 and 13.33 \pm 1.44 , 15.26 \pm 1.94 and 14.00 \pm 1.36 ,15.86 \pm 1.76and 14.86 \pm 1.72 respectively.On comparison of Mean NSS of group 1 and group 2 , 't' value was 3.08 and 'p' value was 0.005. Hence there was significant difference in Mean NSS between group 1 and group 2. On comparison of Mean NSDT of group 1 and group 2 , 't' value was 2.066 and 'p' value was 0.048. Hence there was significant difference in Mean NSDT between group 1 and group 2.On comparison of Mean NSCB of group 1 and group 2 , 't' value was 1.56 and 'p' value was 0.128. Hence there was no significant difference in Mean NSCB between group 1 and group 2. WALKING VELOCITY comparison between group 1 and group 2 showing MEAN \pm SD of WVS, WVDT and WVCB as 35.13 \pm 2.55 and 49.40 \pm 5.56, 33.53 \pm 2.13 and 43.93 \pm 2.78, 32.53 \pm 2.26 and 38.53 \pm 4.71 respectively.On comparison of Mean WVS of group 1 and group 2 , 't' value was 9.02 and 'p' value was 0.001. Hence there was significant difference in Mean WVS between group 1 and group 2. On comparison of Mean WVDT of group 1 and group 2 , 't' value was 11.46 and 'p' value was 0.001. Hence there was significant difference in Mean WVDT between group 1 and group 2.On comparison of Mean WVCB of group 1 and group 2 , 't' value was 4.44 and 'p' value was 0.001. Hence there was no significant difference in Mean WVCB between group 1 and group 2.

CONCLUSION: In this study, we accept that there is significant difference in gait parameter during Timed Up and Go Test across three attentional loading conditions between age-matched healthy individuals and stroke patients.

Biography

Harsh Agrawal has completed his Bachelors in Physiotherapy from Institute of Technology and Science in year 2012 and Masters in Neurology from the same institute in year 2014. He has a work experience with renowned Multispeciality NABH accredited Hospitals of India like Apollo Hospital, Delhi and Medanta Hospital, Gurgaon. He is a certified Manual Therapist and has done full time course from Indian Academy of Fitness Training. Presently he is working as a Senior Consultant at Portea Medical and Healers at Home and is a life time Member of IAP, MTFI and IAFT.

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