Professional experience affects inter-rater reliability of the Timed “Up- and-Go” test using video recording analysis in community-dwelling elderly people

Lin-Ling Huang¹, Chia-Wei Chang², Yang-Hua Lin¹, ²
¹Department of Physical Therapy, College of Medicine, Chang Gung University
²Graduate Institute of Rehabilitation Science, College of Medicine, Chang Gung University

Introduction

● The Timed “Up & Go” Test (TUG) is used to measure the ability of older people to perform sequential locomotor tasks that incorporate walking and turning.
● It is unknown how professional experience affects the inter-rater reliability of Timed “Up & Go” Test (TUG) scores.

Purpose

● To determine investigate whether professional experience as a physical therapist affects the inter-rater reliability of the Timed “Up and Go” Test in community-dwelling elderly people using video recording analysis of the action between the timing of the examiner.

Methods

● Sample
  • Community-dwelling elderly volunteers.
  • Able to follow instructions, sit alone rose from the chair and walk more than 10m
● Two Observers
  • An entry level undergraduate student of physical therapy
  • A licensed physical therapist with three-year experience
● Test Setting

Test procedures

● Clip the film into five separate sections by using Movie Maker clipped

Observer 1

Observer 2

 ICC p†

Sit to stand

1.6 ± 0.4  (0.89 - 2.19)

1.6 ± 0.5  (1.0 - 2.4)

0.908 < .01

Walking forward

2.7 ± 0.4  (2.1 - 3.2)

2.9 ± 0.4* (2.0 - 3.3)

0.972 < .01

Turn

2.2 ± 0.3  (1.5 - 2.4)

2.2 ± 0.4  (1.4 - 2.5)

0.960 < .01

Walking back

2.8 ± 0.4  (2.1 - 3.2)

2.9 ± 0.3* (2.3 - 3.2)

0.931 < .01

Sit down

3.2 ± 0.4  (2.7 - 3.6.4)

2.7 ± 0.4* (2.2 - 3.5)

0.418 .01

Total time

12.4 ± 1.4  (9.6 - 14.4)

12.1 ± 1.5* (9.2 - 14.0)

0.964 < .01

Note: 1. The unit is “second”
2. The numbers above are average ± SD (min – max)
* The data are analyzed by paired t test, p<0.05 represents artistically significant between observer 1 and 2.
† p is indicated to the significance of ICC.

Results

● Eight male participants (mean age 70.9 years, height 165.9 cm, weight 75 kg)
● The Timed “up and go” test using video recording showed good inter-rater reliability ( ICC r > .90, p < .01) except “turning” and “sit-down” section.

● There was significant difference between two observers with different professional experience of physical therapy (P<.05)

Conclusions

● The TUG measurements could be determined by using video recording with post hoc analysis.

● The inter-rater reliability of video recording with post hoc analysis for the TUG measurements in community-dwelling elderly people were high.

● The professional experience reflected the determination of turning and sit-down movements using video recording.

References


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