노인재활

게시일시 및 장소 : 10 월 18 일(금) 08:30-12:20 Room G(3F)

질의응답 일시 및 장소 : 10 월 18 일(금) 10:00-10:45 Room G(3F)

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Validation of a Multi-Sensor-Based Kiosk for Short Physical Performance Battery

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Objectives
We aimed to validate a multi-sensor-based kiosk (eSPPB kiosk) which can perform automated measurement of the short physical performance battery (SPPB).

Design
Prospective, cross-sectional study.

Setting
Rehabilitation clinic of a tertiary hospital

Participants
Ambulatory outpatients aged 65 or older (N = 40)

Measurements
The eSPPB kiosk was developed to measure the three components of the SPPB: standing balance, gait speed, and chair stand test with embedded sensors and algorithms. Correlations between the total and component-specific scores of the eSPPB and manually-measured SPPB (mSPPB), assessed by a physical therapist, were assessed. Further, correlations between SPPB parameters and geriatric functional measures were also evaluated.

Results
This study included 40 participants with a mean age of 74.4 ± 6.5 years, mean total eSPPB score of 10.1 ± 2.1, and mean total mSPPB score of 10.2 ± 2.1. The intraclass correlation coefficient between the eSPPB and mSPPB total score was 0.97 ($P < 0.001$), and the kappa agreement was 0.79 ($P < 0.001$). The intraclass coefficients between the components of eSPPB and mSPPB were 0.77 ($P < 0.001$), 0.88 ($P < 0.001$), and 0.99 ($P < 0.001$) for standing balance, gait speed, and chair stand test, respectively.

Conclusion

The newly developed kiosk might be a viable method for performing SPPB in elderly individuals.