

Letter to the Editor: The Role of the *Annals of Geriatric Medicine and Research* as a Platform for Validating Smart Healthcare Devices for Older Adults

In the midst of the undeniable trend of global population aging, fall down is major outcome of sarcopenia, frailty, and multimorbidity in older adults¹⁾ and a major roadblock to healthy aging with an independent lifestyle²⁾. Moreover, fall down has been an important culprit in the creation of socioeconomic burdens due to their adverse consequences requiring orthopedic surgery, rehabilitation, and care needs for geriatric syndromes and functional impairments following the initial events. Therefore, the clinical importance of screening people for high risk of falls by measuring physical performance in older people has been ever increasing³⁾, and the article by Kim et al.⁴⁾ is a timely examination of this issue for the field of geriatrics.

In this recent article, Kim et al.⁴⁾ showed that reaction time measured with a device using a touchscreen user interface correlates with every component of the Short Physical Performance Battery (SPPB)⁵⁾ and the Berg Balance Test (BBS)⁶⁾. As the reaction process of the protocol includes steps of perception, central processing of the information, and execution with resultant physical movement of the limb, the nature of the reaction time covers every facet of SPPB or BBS, making the correlation between the reaction time with the new device and SPPB or BBS plausible. Although the present study did not measure hard outcomes such as incidence of falls or functional impairment, we may infer the outcome relevance of this tool, taking into account a

previous report showing associations between finger tap reaction time and functional outcomes⁷⁾.

As a recent review in the journal suggested, smart medical devices will gradually become a part of the everyday life of older people, with the current wave of the so-called 'fourth industrial revolution'⁸⁾. Although previous literature showed that currently available smart healthcare devices are not quite yet ready for real-world application in terms of technological readiness⁹⁾, improving technologies with ubiquitously accessible information and communications technology will eventually bring these devices into the geriatric field. Subsequently, requirements to evaluate the efficacy, reliability, and safety of these new smart medical devices will skyrocket in the research field of geriatric medicine. In these circumstances, I hope that the *Annals of Geriatric Medicine and Research*, as the leading journal of clinical geriatrics in Korea, becomes the leading platform for the development and validation of novel smart healthcare devices for older adults.

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