

A study of developing standard data of cognitive function using Processing Speed Test in Japanese healthy volunteers

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Objective: The Processing Speed test (PST) is a self-administered, iPad®-based screening tool for cognitive dysfunction in multiple sclerosis (MS) patients. The purpose of this study is to collect and develop the standard data of PST on Japanese healthy volunteers in order to utilize it for cognitive function tests on Japanese patients with MS.

Methods: This PST study was a single arm, cross-sectional study conducted in Japanese healthy subjects who were enrolled in August 2019 and obtained a written consent form to participate in this study. The primary endpoint was the distribution of PST scores and the secondary endpoints were distribution of PST scores stratified by age, educational status, and gender.

Result: Of 254 subjects who participated in this study, 242 subjects with Mini Mental State Examination score ≥ 27 were analyzed. Of these subjects, the mean age was 44.2 years, 51.2% were male and 60.7% were educated over 13 years (vocational school, university, or more educated). Overall mean PST score (\pm SD) was 61.8 ± 10.0 , and median was 62.0 (min 37, max 88). The mean PST score (\pm SD) with their age, and the score for each age were 69.6 ± 8.8 (20-29 years, n=52), 64.9 ± 10.9 (30-39 years, n=45), 63.5 ± 6.1 (40-49 years, n=46), 57.1 ± 8.7 (50-59 years, n=44) and 54.3 ± 6.7 (60-65 years, n=55), respectively. The mean score (\pm SD) with education over 13 years was 63.9 ± 9.8 and with education less than 12 years was 58.7 ± 9.7 , respectively. Mean PST scores by gender were 61.6 ± 10.9 in male and 62.0 ± 9.1 in female, respectively.

Conclusion: In order to utilize it for cognitive function test on Japanese patients with MS, the mean PST score (\pm SD) in Japanese healthy volunteers was reported and stratified by age, educational background, and gender.

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