 Associations of Walking Function and Physical Activity with Community Ambulation in People with Chronic Stroke

Hideyuki TASHIRO, PT
Department of Rehabilitation, Saitama Cooperative Hospital
Course of Rehabilitation, Graduate School of Health and Social Services, Saitama Prefectural University

Takuya ISHO, PT
Department of Rehabilitation, National Hospital Organization Takasaki General Medical Center
Gunma University Graduate School of Health Sciences

Fumihiko HOSHI, PT, PhD
Department of Physical Therapy, School of Health and Social Services, Saitama Prefectural University

Purpose: The purpose of this study was to examine the association of walking function and physical activity with community ambulation in people with chronic stroke, and to investigate whether walking function is a predictor of community ambulation.

Methods: The study included 54 subjects with chronic stroke who were living at home. The subjects were classified according to the level of ambulation using the Functional Ambulation Classification of the Hospital at Sagunto (FACHS). Comfortable walking speed (CWS), maximal walking speed (MWS), and 6-minute walking distance (6MWD) were used to determine walking function, and the life-space assessment (LSA) was used to determine physical activity. Linear correlations were calculated between clinical measurements, and a multiple comparison procedure was used to compare the means of each outcome variables between the three groups classified using the FACHS. Furthermore, receiver operating characteristic curve analysis was performed to obtain cut-off points of the walking tests for discriminating between community ambulators and non-community ambulators.

Results: There were moderate correlations between the FACHS and CWS, MWS, and 6MWD. Additionally, a significant strong correlation was found between the FACHS and the LSA score. CWS, MWS, and 6MWD were significantly higher for community ambulators compared with neighborhood and household ambulators. Moreover, the LSA score was significantly different between the groups. The optimal cut-off values for community ambulators were 0.61 m/s for CWS, 0.71 m/s for MWS, and 213 m for 6MWD.

Conclusion: Community ambulation was associated with walking function, and was related to physical activity. Walking speed and distance could predict independent community ambulation in people with chronic stroke.