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Dual and single task obstacle crossing training could similarly improve functional ability in ambulatory patients with spinal cord injuryKitiyawadee Srisim^{1, 2}, Sugalya Amatachaya¹, Pipatana Amatachaya^{1, 3}, Preeda Arrayawichanon¹, Thiwabhorn Thaweewannakij¹ and Lugkana Mato¹¹Khon Kaen University, Thailand²Thailand Research Fund, Thailand³Rajamangala University of Technology, Thailand

Ambulatory patients with spinal cord injury (SCI) face with a high risk of falls due to stumble over a small obstacle. Common walking rehabilitation for these patients likely involves single-task over-ground training, but the effects cannot ensure their functional walking and risk of fall of the patients. Dual-task training has been widely used in patients with cognitive impairments. However, little evidence is known for patients with SCI who had intact brain functions but suffer from sensorimotor deteriorations. Therefore, this study investigated immediate effects of single-task and dual-task obstacle crossing training (STOC and DTOC) in twenty-two ambulatory subjects with SCI. Subjects were randomly assigned to train using STOC or DTOC training for 30 minutes, with two-day washout period. The findings showed significant improvement in single-task and dual-task 10-meter walk test, timed up and go test (TUGT), and five time sit-to-stand test following both training programs ($P < 0.05$). However, the levels of changes were not significantly different between the training programs ($P > 0.05$), except for the TUGT that had a tendency toward significant differences between the programs ($P = 0.06$). The findings may suggest benefit of STOC and DTOC for ambulatory individuals with SCI. However, the nearly significant improvement in the TUGT may suggest the benefit of DTOC on the improvement of a complex functional task test needed in daily activity. However, outcomes were immediately assessed; a further intervention study in subjects with various SCI characteristics would confirm the effectiveness of STOC and DTOC training for these individuals.

Biography

Kitiyawadee Srisim is currently pursuing her PhD in the Human Movement Sciences program, Faculty of Associated Medical Sciences, Khon Kaen University, Khon Kaen, Thailand. She is a Physiotherapist and interested in patients with neurological disorders.

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