

Efficacy of virtual reality in upper limb rehabilitation in persons with spinal cord injury – a pilot randomized controlled trial

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Study Design: This study involves pilot randomized controlled trial.

Purpose: To compare the efficacy of virtual reality intervention (using Nintendo Wii™) along with conventional Occupational Therapy with Conventional Occupational Therapy alone in improving upper limb function in spinal cord injury.

Overview of Literature: The use of virtual reality has gained importance in the rehabilitation sector over the last few years. The Nintendo Wii® has the potential to encourage upper limb function while participating in an interesting and engaging activity, which is important in long-term interventions, such as spinal cord injury.

Methods: 22 subjects with spinal cord injury participated in the study. They were randomly assigned to two groups.

Group-I received 30 minutes virtual reality intervention (using Nintendo Wii®) and 30 minutes of conventional therapy whereas, Group-II received conventional therapy only for 30 minutes, 3 days a week for four weeks. One hand of each subject was identified as the target hand based on the inclusion criteria. All subjects were assessed at baseline, two weeks, four weeks and at six weeks follow-up. Functional ability of the target hand was assessed using the CUE Questionnaire and the gross motor dexterity using the Box and Block Test. The level of independence in ADL was assessed by SCIM-SR and QOL by WHOQOL-BREF.

Results: After four weeks of intervention period, there was no significant difference revealed between the groups in improving hand function. The mean scores were higher for Group-I in comparison to Group-II with a higher percent change (31.5% in CUE and 51.7% in BBT) in Group-I.

Conclusion: This study concluded that virtual reality along with conventional therapy produces similar results in upper limb function as conventional therapy alone.

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