



Impact of virtual reality games as an adjunct treatment tool on upper extremity function of spastic hemiplegic children

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Abstract: Aim: This study was conducted to investigate effect of virtual reality games (VRG) as an adjunct treatment tool on upper extremity function in management of spastic hemiplegic children. **Methods and subjects:** the study was conducted on forty spastic hemiplegic cerebral palsied children; ranged in age from 5 to 10 years old. They were divided into two equal groups; the control group that received selected physical therapy program and the study group that received the same program in addition to VRG. Both groups were evaluated with Peabody Developmental motor scale PDMS-2 and Abilhand Kids questionnaire.

Results Object manipulation and visual-motor skills of PDMS-2 and upper limb functions were measured before and four months post treatment. Significant results in both groups were noted in all measuring variables. Object manipulation, visual-motor skills and upper limb functions were significantly improved in study group post treatment compared to control one.

Discussion and Conclusion significant improvement of object manipulation, visual motor skills and upper limb functions in study group post treatment are related to active participation of children in simulating environment, driven their active motivation and enhance their participation through self-competition activities. VRG can enhance active participation of children with motor deficits in majority of upper limb activities through consideration of child personality and changing of environmental factors.

Key words Hemiplegic children; virtual reality games; upper extremity function.