

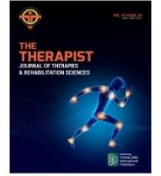


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Guest Editorial

## Virtual Reality in Stroke Patients

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### ABSTRACT

Nowadays video games are very useful in rehabilitation for stroke patients as they keep engaged in exercise and enhance motivation. Virtual reality is a technology that involves changing the original globe by artificial or manufactured one that makes the participant admit that he/she is in another world. It consists of computer-based virtual environments in which people interact and experienced as they are doing in real life. It integrates input devices, software platforms, stereoscopic displays, and motion tracking hardware. In recent studies, therapy that is based on video games is going to be useful in both clinical and research settings. Video games training requires different levels of action from participants that are provided to the subject with multisensory feedback. This training consists of several times repeated goal-oriented tasks with providing an enriched environment that delivers a chance of learning new skills and solving both cognitive and motor tasks. The tool used for video gaming is Xbox Kinect. It is a device that uses infrared camera sensors to perceive subjects' movements. Video game devices subject can see VR images without the need for a special controller, immediate feedback is provided, and real-time movement is captured. The application of Xbox is clinically investigated in stroke rehabilitation. Different games are used in video gaming activity including Wii Fit, Wii Sports, and Kinect Sports. The main consoles used for these games are Microsoft Xbox with Kinect sensor and Nintendo- Wii. This gaming system engages patients in different sports which include physical activity. Games of different categories are arranged that are performed in different positions like sitting or standing, some may involve the upper limb and some involve the lower limb. Interactive video gaming exercises are considered an innovative technology that appears quite promising for the maintenance of strength and balance training in elderly people instead of stroke patients also. Video gaming exercises have a major role in the rehabilitation of patients suffering from various neurological conditions. These exercises play their role in providing an enjoyable and motivating environment that engages patients for a long time. Nowadays it is considered to be more popular than conventional therapy. Apart from balance and gait training, it is useful in the betterment of functional outcomes. Patients usually get fed up with daily routine activity including conventional physical therapy. There is no adherence of patients which is the main barrier to the schedule of rehabilitation. So, video gaming exercises play their role in engaging patients for a long period.

