

The Effects of Video-Assisted Exercise in Subacute and Chronic Hemiparetic Stroke

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Abstract

Background:

Patients after stroke had sedentary lifestyle and less exercise, so it hard to maintain their health and might increase fall risks. In order to decrease the chance of falling in daily activities, people after stroke need more balance, muscle power, stability, agility and movement coordination than people in normal. To achieve the goals of rehabilitation, we should improve muscle power of lower limbs and walking speed for people after stroke to enhance the ambulation and balance ability.

Methods:

29 post-stroke patients involved in exercise (men=20, women=19; age=56.9±12.3 year-old, stroke period=47.37±44.4 months). The exercise class goes one hour, twice a week for 12 weeks. The exercise includes warm-up, main exercise and cool-down. In exercise, we used group circuit training therapy to control the movement speed and repetition in exercise. The exercise program had coordination movements, strengthening and functional exercises. We measured 5-m walking speed, time up and go (TUG), before and after intervention and questionnaire for satisfaction after exercise.

Results:

In TUG, the reaction time is faster after intervention and has statistical significance (-2.68±4.85s, p<.05). In 5-m walking speed, walking speed is faster after intervention and has statistical significance (-2.79±5.89s, p<.05).

After Pearson correlation, we found correlation between TUG and 5-m walking speed after intervention (r=.977, p<.001). That showed people who had faster walking speed had more balance ability and coordination in TUG.

According to questionnaire for satisfaction, 90% of subjects satisfied in programs setting and physical activity improvement.

Conclusion:

12-week video-assisted exercise can increase walking speed and balance ability and coordination in chronic stroke. The group exercise not only increases the repetition for training program but also can increase the willingness of stroke patients for exercise. People after stroke may do exercise at moderate intensity at least 2 days a week for maintain functions of lower limbs and balance ability and walking ability.

Relevance to HPH:

In our clinical practice, the patients who attend in this group exercise exhibit better willingness also performance during exercise training. We suggested adding group exercise to chronic stroke patients can improve their aerobic performance; and this will promote their health. Our will is to create a healthy lifestyle for chronic patients.

Key words: video-assisted exercise, stroke

Table 1 Data of participants

gender	men,20	women,19
age (mean±SD)	56.9±12.3	
Time since stroke (mos)	47.37±44.42	
hemi side	L't,11	R't,18

Table 2 outcome measures

	baseline	post-intervention	difference	p-value
5-meter speed test	11.84±13.84	9.05±8.99*	-2.79±5.89	0.017*
Time up and Go test (TUG)	26.83±32.39	24.15±29.72*	-2.68±4.86	0.006*

* Significant after intervention, p<.05

* Significant between TUG and 5-m walking speed after intervention, p<.001

