Impact of Virtual Reality (VR) Rehabilitation in Improving Balance, Mobility and Exercise Motivation of Patients in Acute Wards

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Why VR @ Rehab?

Objective

To evaluate the impact of bedside VR rehabilitation in improving balance, mobility and exercise motivation of patients in acute wards

- simulated training of functional tasks
- Decycling is pre-ambulation training

How VR @ Rehab?

Patients who were aged over 18, assisted or independent walkers before admission, medically stable and suitable for out of bed exercise

Control group (n=4)

Study group (n=4)

Daily routine
ambulatory training
+
Cycling exercise

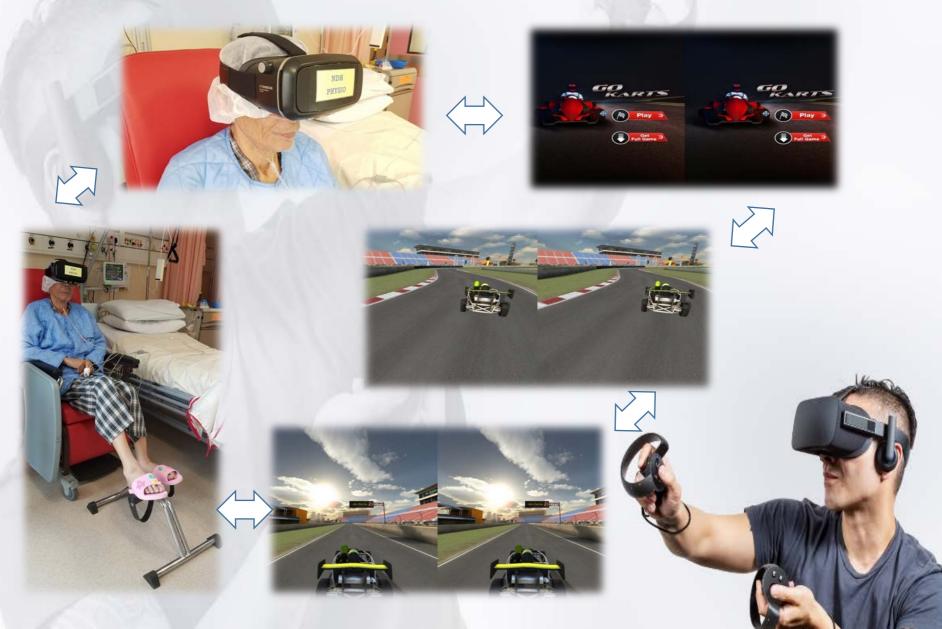
Daily routine
ambulatory training
+
Cycling exercise
+
Head-mounted VR
device playing karts
racing game

Outcome measures:

- 1. Walking distance
- 2. Functional reach distance in sitting
- 3. Functional reach distance in standing
- 4.Berg Balance Scales (BBS) scores
- 5. Exercise duration



How VR @ Rehab?



VR @ Rehab _ Effective?

Outcome Measures	Study Group	Control Group	P Value
Walking distance	96·00±66·51m	10·00±20·00m	p=0·029**
Functional reach distance (sitting)	12·75±14·55cm	1·00±1·15cm	p=0·057*
Functional reach distance (standing)	8·25±6·45cm	0·50±1·00cm	P=1·000
Berg Balance Scales (BBS)	13·25±10·31	1·25±2·50	p=0·057*
Exercise duration	900·92±340·74s	605·00±243·41s	P=0·200

**significant *tends to be significant

Conclusion:

Bedside VR rehabilitation has potential benefits in improving balance, mobility and exercise motivation of patients in acute wards. Further studies with larger patient population are warranted.

Reference:

1. Yin C, Hsueh YH, Yeh CY, Lo HC, Lan YT. A Virtual Reality-Cycling Training System for Lower Limb Balance Improvement. BioMed Research International, vol. 2016, 2016. http://dx.doi.org/10.1155/2016/9276508

