



Enriched Environment

The 'Activity Arcade'

Inpatient Neuro-Rehabilitation Unit

The Royal Melbourne Hospital

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HRT 1617 Sub-acute Improvement group

23-24 November 2016

Brisbane



Key Problem

What we observed?

- A great part of the our patients day was spent **alone & inactive**
- **< 20%** of the day engaged in motor activities
- No formal structure for 2/3 of the day
- Patients with **lower levels** of ability are **less active**
- **In public rehab units – each patient receives 5 minutes of UL therapy only**

The solution?

Aim of this innovation

To conduct an **RCT** over 12 months, with blinded care providers & outcome assessors to compare the **effectiveness of EE activities program** – the ‘Activity Arcade’ with usual activities provided in an inpatient neuro-rehabilitation unit

Key Changes Implemented

- Several workstations with computer/television based sensor and game technology for upper and lower limb exercises, such as:

Able-X, Able-M, Mitii, Nintendo Wii

- Library with reading materials (books, audio books, magazines, newspapers etc.)
- Music station
- Life size mirrors for visual-perceptive deficits



Key Changes Implemented

- Simulated shopping corner with groceries
- EFTPOS machine for making payments
- Automatic bank teller machine
- Board games, puzzles, chess
- Painting, wood workshop and other activities



Outcomes

Outcome Measures:

- Neurological Impairment Scale (NIS), Multidimensional Health Locus of Control (MHLC) form C, Depression, anxiety & Stress Scale (DASS), MoCA, Function Independence Measures, Rosenberg Self-Esteem Scale, QoL (EQ – 50D) and Client Satisfaction Survey

Outcomes at Discharge? (The treatment group showed improvement in the following)

- **Cognitive function (DASS):** ‘total’, ‘depression’ & ‘anxiety’ subscales, MoCA
- **Personal belief (MHLC):** ‘internal & doctor’ subscales
- **Individual self-esteem:** RSES
- **Activities:** FIM motor: ‘self-care’, ‘mobility’ subscales

Outcomes at 3-months post discharge? (The treatment group showed improvement in the following)

- **Cognitive functions:** DASS: ‘total’, ‘stress’ subscales
- **Locus of control:** MHLC ‘internal,’ ‘doctor’ subscales
- **Activities:** FIM motor: ‘mobility’ subscales

Lessons Learnt

- Enriched Environments can benefit patients throughout the disease continuum
- To explore service models and integrated Multidisciplinary Rehab with Enriched Environment programs to address patient needs
- More research in the effectiveness of specific components of the interventions is needed

J Rehabil Med 2015 Preview

ORIGINAL REPORT

**AN ENRICHED ENVIRONMENTAL PROGRAMME DURING INPATIENT
NEURO-REHABILITATION: A RANDOMIZED CONTROLLED TRIAL**

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