Facilitating Early Rehabilitation in Acute Stroke Patients Using an Occupational Therapy Assistant

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Introduction

> Stroke patients in the acute setting generally spend 53% of their therapeutic day resting in bed and a further 28% of their time sitting with minimal to nil physical activity.

Bernhardt et al. (2004)
Introduction

> Earlier and more aggressive therapies are associated with better outcomes

Horn et al. (2005)
Introduction

So why the disparity?

> Limited resources and staffing levels.

> Healthcare system is challenged to provide an adequate number of appropriately skilled health care workers.

Lizarondo et al. (2010)
Introduction

Why do stroke patients benefit from Occupational Therapy?

> Occupational therapy plays an integral part in the rehabilitation of stroke patients

Horn et al. (2005)

> Consistent Occupational Therapy is associated with significantly improved functional outcome and greater rates of discharge home

Legg et al. (2007)
Introduction

**Aim of the study**

- To evaluate the effectiveness of using an Occupational Therapy Assistant to provide earlier and more intensive rehabilitation to acute stroke patients by measuring functional performance and quality of life outcomes.
Introduction – Case Study

Introducing Mrs Butler…

> 60 year old female

> Presents to Emergency Department with a left upper limb weakness
Case Study

OT sees the patient on day 2

Intensive therapy recommended

Who’s going to assist with the therapy??
> The patient?
> The family?
> Nursing staff?
Method

Research Design
> A non-blinded, parallel-group superiority study
> Ethics approval granted by the Royal Adelaide Hospital Research Ethics Committee.
> Admission and discharge assessments

Setting and Participants
> Royal Adelaide Hospital, Stroke Unit
> Participants
  > >18; Stroke Unit; Stroke diagnosis
  > N = 52 (26 control, 26 intervention)
Method

Control
> Standard Occupational Therapy intervention

Intervention
> Standard Occupational Therapy intervention
> Daily Occupational Therapy Assistant therapy
  • Personal activities of daily living
  • Upper limb therapy
  • Functional mobility
Method

Outcome measures

> **Primary**: Modified Barthel’s Index (MBI)
  - Objective measure
  - 10 items scored on a 5 point scale
  - Total score out of 100

> **Secondary**: EuroQol EQ-5D-3L (EQ-5D)
  - Subjective measure
  - Five dimensions
  - Visual analogue scale

> **Other**: Length of stay; discharge destination
Results

![Modified Barthel Index](chart)

- **Intervention**
- **Control**

**Activity of Daily Living**

- Personal hygiene
- Bathing self
- Dressing
- Ambulation
- Bed/chair transfer

**Improve in Mean MBI Score**

0 0.5 1 1.5 2 2.5 3 3.5 4

SA Health
Results

Modified Bathel Index Scores

<table>
<thead>
<tr>
<th>Total score</th>
<th>Intervention</th>
<th>Control</th>
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<tbody>
<tr>
<td></td>
<td>20.6</td>
<td>10.1</td>
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Improvement in Mean MBI score
Back to Mrs Smith…

> If in the intervention group:
  • Capacity to see her daily to perform pROM UL exercises
  • Resulted in multiple positive outcomes
  • Had a head start on therapy in rehab

> If in control group
  • OT able to see her briefly a couple of times a week
  • Very limited input from family and nursing staff
  • Some spontaneous improvements
Results

Quality of life measure
> Improved VAS scores for control and Intervention however no significant difference between groups

Length of stay and discharge destination
> No significant difference between groups
Discussion

Limitations

> Non-randomised allocation
> Non-blinded examiners and subjects
> High exclusion rate
> Missed data
> Changed therapist
Discussion

> More evidence is needed
> Investigation on the longer term effects on the stroke population
> The monetary effect on the health care system
> Occupational Therapist vs Occupational Therapy Assistant
Mrs Smith

Back to Mrs Smith one last time…

> Able to reach her rehab goals earlier
Acknowledgements

> Royal Adelaide Hospital Allied Health, Pharmacy and Nursing Clinical Research Grant

> Data Management and Analysis Centre, University of Adelaide

> Occupational Therapy Department, Royal Adelaide Hospital

> Royal Adelaide Hospital Stroke Unit
References


