ST VINCENT'S HOSPITAL MELBOURNE

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Patient self-directed upper limb practice: Increasing the opportunity for recovery

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Background

- Stroke is a leading cause of adult disability [1]
- Loss of upper limb (UL) function post stroke significantly impacts an individual's participation in occupations [2]
- Research reveals potential for occupation based UL intervention via use of repetitive task practice [3]

Clinical Practice Guidelines: 2010

6.3.5 Upper limb activity		Grade
a)	People with difficulty using their upper limb(s) should be given the opportunity to undertake as much tailored practice of upper limb activity (or components of such tasks) as possible. Interventions which can be used routinely include:	
	• constraint-induced movement therapy in selected people	A [548]
	• repetitive task-specific training	B [487]
	• mechanical assisted training.	B [586]

Project Aim

To increase patients' UL practice time through implementing a self directed UL therapy program.

Phase 1:

- To identify the time patients engage in UL therapy within an inpatient rehabilitation ward, and
- To identify evidence based recommendations for UL therapy within our OT service to ensure best practice.

Phase 2:

- To identify best practice in increasing patient adherence with self-directed exercises, and
- To develop an adherence package and patient self directed UL kits, for use on our rehabilitation ward.

Methods

Phase 1:

Literature review

- Repetitive task practice

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Data collection and analysis

- Therapist time use
- Documentation audit
- Staff survey
- Activity track
- Resources review

Phase 2:

Literature review

-Increasing adherence to self-directed exercise

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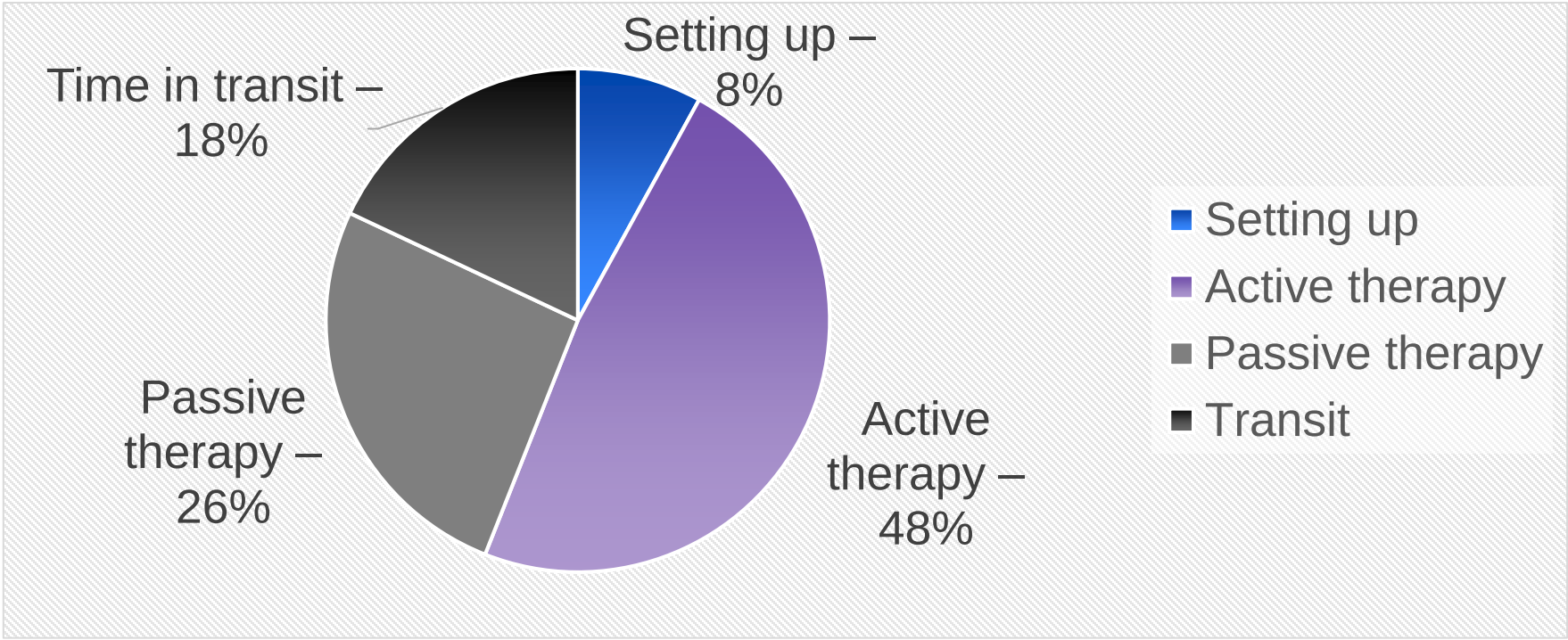
Product development

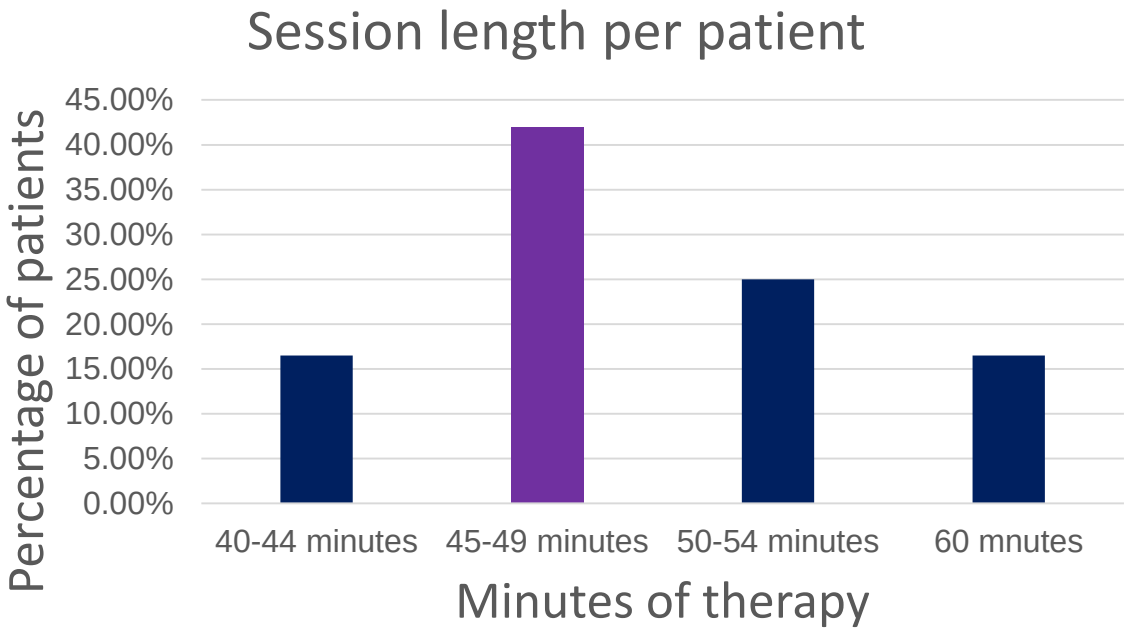
Results – Phase 1 Literature Review

- Increased amounts of repetitive task practice after stroke may improve upper limb impairment [3]
- Required components to promote the effectiveness of repetitive task practice: relevant, variable, repetitive, part and whole tasks, and positive and timely feedback [4]
- Unclear specific dosage for one-on-one task therapy sessions and self-directed programs
- Dosage should be guided by providing 60 minutes of active engaged one-on-one therapy and supplemental independent homework program [5]

Results – Activity Tracking



Results – Upper Limb Therapy Time



Average time per session: 49 minutes

Suggesting 24 minutes of active therapy per session

Results - Therapist Survey Results

Qualitative themes emerged from the OT survey:

- Cessation of sessions when pain and fatigue were indicated
- Producing quality, controlled practice in comparison to lengthy sessions
- Acknowledging client centred goals, and the need to encourage meaningful tasks within upper limb therapy

Data collected indicated that:

- 50% of OTs use both component and functional based tasks within repetitive task practice
- 60% of OTs indicated they allow rest breaks once fatigue is noted
- 60% of therapists report homework is given to patients with both written and pictorial instructions

Results – Phase 2 Literature Review

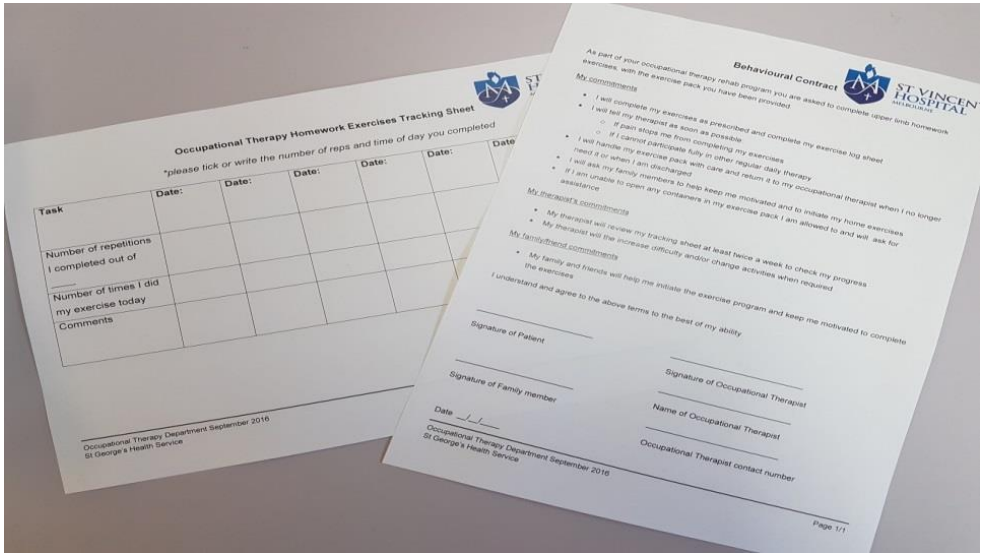
- 2-5 exercises are the optimal number of exercises to prescribe for patient adherence [6]
- Behavioural contracts and goal development increased adherence by creating responsibility for practice [7, 8]
- Recording progress and exercise completion (repetitions and sets) increased adherence [9, 10]

Outcomes – Phase 2

Product development

Adherence packs were developed for use with patients consisting of:

- Behavioural contract
- Homework exercise tracking sheet



Outcomes – Phase 2

Product development

- Nine UL practice kits were developed
  - Fine motor
  - Gross motor
  - GRASP program

Kits were designed for patients to use independently within the ward environment.

A master exercise booklet was developed with handouts for both therapists and patients.

Future Directions

- A pre/post implementation study (phase 3) will investigate the impact of the UL practice kits and adherence package on patient directed UL practice time
- Incorporation of stakeholder feedback, including patients, significant others and therapists
- Ongoing UL practice kit analysis and modification

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