



Service Priorities and Programmes
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Effect of different combination of physiotherapy treatment approaches on functional outcomes of stroke patients

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Introduction

Motor impairment after a stroke is one of the most adverse consequences of the disease. Different physiotherapy approaches have been developed over the years to facilitate motor recovery and functional improvement of patients with stroke. The most commonly used approaches by physiotherapists included Bobath concept, Proprioceptive Neuromuscular Facilitation (PNF), motor learning approach, functional approach and the orthopaedic approach. The theoretical background and the treatment strategies of different approaches were different. Although different physiotherapy approaches have an impact on the result of the early rehabilitation of stroke patients, there were less research studies to conclude which physiotherapy approach was more effective in promoting their functional recovery. Recently, Cochrane review showed that physiotherapy intervention, using a combination of different approaches, including the neurophysiological approach, motor relearning approach, and orthopaedic was more effective than control group in the recovery of functional independence following stroke.

Objectives

The purpose of this study was to compare the functional outcomes of different combination of physiotherapy treatment approaches for first-time stroke patients.

Methodology

This was a retrospective comparative study conducted in a local extended inpatient hospital. All participants were first-time stroke patients admitted to a stroke rehabilitation programme of the hospital. Their premorbid mobility level was independent walker. Medical records and physiotherapy treatment records of forty-five female participants were reviewed. The participants were divided into three groups according to their in-charged physiotherapists who provided different combinations of physiotherapy treatment approaches. The physiotherapists were interviewed to analyze the components of their treatment approaches provided to the

participants. The improvement of each participant was evaluated before and after the stroke rehabilitation programme. Berg's Balance Scale (BBS), Modified Barthel Index (MBI) and Modified Rivermead Mobility Index (MRMI) were compared among these three groups to investigate if there was any significant difference after the treatment.

Result

Results showed that there was different combination of approaches used by different physiotherapist. The physiotherapy approaches used by the physiotherapists were functional approach, Bobath approach, motor learning approach, orthopaedic approach and Proprioceptive Neuromuscular Facilitation (PNF). The major treatment approaches applied in Group A was functional approach, Group B was Bobath approach and Group C was motor learning approach. In comparison of change functional outcome scores (i.e. MBI, MRMI and BBS) between the 3 groups by ANOVA test, there was no statistically significant difference ($p > 0.05$). In comparison of within-group differences, the t-tests revealed that Group A, Group B and Group C had statistically significant improvement in MBI ($p < 0.017$). Group A and Group C had statistically significant improvement in MRMI ($p < 0.017$). Among the 3 groups, only Group C had statistically significant improvement in BBS ($p < 0.017$). A different combination of treatment approaches may generate a different degree of functional outcome in stroke rehabilitation but the difference was not significant.