Service Priorities and Programmes

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Submitting author: Mr Bryan Ping Ho CHUNG
Post title: Physiotherapist I, TPH, NTEC

Early Stratification of Stroke Rehabilitation by Modified Functional Ambulation Category

Chung PH (1), Lau FO (1)
(1) Physiotherapy Department, Tai Po Hospital

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Introduction

Stroke rehabilitation in inpatient setting requires high intensity of manpower and resources. Early stratification of patients with stroke could facilitate early discharge plan and reduce avoidable length of stay in hospital. However, in present clinical setting, stratification of patients with stroke is usually based on complex functional scores, such as Modified Barthel Index (MBI) and Functional Independence Measure (FIM) which are time-consuming and require special trainings. In Hong Kong and Korea, a simple and easy-to-use scale named Modified Functional Ambulation Category (MFAC) is used to classify walking capacity of patients recently. MFAC is a 7-point Likert scale ranging from no ability to walk or sit (MFAC 1, lyer) to the ability to walk independently on level, non-level surfaces, stairs and inclines (MFAC 7, outdoor walker). Using MFAC to stratify patients with stroke may be a new direction to simplifier the stratification process of stroke rehabilitation.

Objectives

The objective of the study was to explore the feasibility of using Modified Functional Ambulation Category (MFAC) to stratify patients in inpatient stroke rehabilitation.

Methodology

This was a retrospective, descriptive study of the demographic, functional outcomes of patients with stroke in an inpatient rehabilitation centre. A total of 2,722 patients completed a stroke rehabilitation program from 2011 to 2015 were recruited. The patients were divided into 7 groups, from MFAC 1 to MFAC 7, according to their admission MFAC. The between-group difference in functional outcomes at admission and discharge including Modified Rivermead Mobility Index (MRMI) and Modified Barthel Index (MBI) as well as MRMI gain, MRMI efficiency, MBI gain and MBI efficiency were analyzed.

Result

Subjects with admission MFAC 2 - 3 had a highly significant ($p < 0.001$) MRMI gain (6.2 and 6.6 respectively) and subjects with admission MFAC 3 - 5 had highly significant ($P < 0.001$) MRMI efficiency (0.34, 0.40 and 0.39 respectively). The subjects with admission MFAC 2 - 5 had a highly significant ($p < 0.001$) MBI gain (9.7, 10.2, 9.3 and 7.0 respectively) and the subjects with admission MFAC 4 - 5 had a highly significant ($p < 0.001$) MBI efficiency (0.70 and 0.72 respectively). Both admission MFAC and admission MBI had strong correlations with discharge MFAC ($r = 0.84$, $P < 0.0001$ and $r = 0.78$, $P < 0.0001$ respectively), discharge MRMI ($r = 0.82$, $P < 0.0001$ and $r = 0.78$, $P < 0.0001$ respectively) and discharge MBI ($r = 0.78$, $P < 0.0001$ and $r = 0.94$, $P < 0.0001$ respectively). This study showed MFAC could be a stratification tool of patients with stroke in inpatient rehabilitation which could as strong as MBI in prediction of discharge functional mobility and basic ADL. The study also found that patients with moderate disability on admission in term of MFAC had the greatest mobility gain and basic ADL gain from inpatient stroke rehabilitation.