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Stratification of In-patient Stroke Rehabilitation by Modified Functional Ambulation Category

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Introduction

Stroke was the fourth leading cause of deaths in Hong Kong in 2014. Inpatient stroke rehabilitation services require high intensity of manpower and resources. By understanding the admission mobility level of stroke patients, rehabilitation teams could predict the discharge mobility level and functional gain of patients so as to facilitate appropriate care plan as well as shorten avoidable hospital stay of stroke patients.

Objectives

To stratify stroke patients according to admission mobility level in order to describe the discharge mobility level and functional gain of patients.

Methodology

This was a retrospective descriptive study. The investigator of this study reviewed medical records, physiotherapy treatment records and data from Clinical Management System of Hong Kong Hospital Authority of all patients who have received stroke rehabilitation in Tai Po Hospital within the period from 1st January 2011 to 31st December 2015. Patients' demographic characteristics as well as admission and discharge functional outcomes including Modified Functional Ambulation Category (MFAC), Berg's Balance Scale (BBS) and Modified Barthel Index (MBI) were obtained.

The correlations between admission MFAC, admission BBS, and admission MBI to discharge MFAC, discharge BBS and discharge MBI were based on Sperman's rank correction. Data was analyzed with the use of the SPSS –V20 statistical package (SPSS Inc., Chicago, LL).

Result

Result and Conclusion

We had reviewed 3,085 stroke patients with Tai Po Hospital who have received stroke rehabilitation from 2011 to 2015. There were 2,722 patients (88.2%) completed the stroke rehabilitation program. The mean age was 74.78. We found that admission MFAC is best predictor of discharge mobility level ($p = 0.84$) when compare to admission BBS ($p = 83$) and admission MBI ($p = 0.78$). The patients with admission MFAC level 2 (sitter) had maximum gain in MFAC (mean gain = 1.04). The patients with admission MFAC level 3 (dependent walker) had maximum gain in BBS (mean gain = 9.96) and MBI (mean gain = 10.22).

The MFAC profile was also worked out, this was a matrix which represents the predicted possibility of discharge mobility level (discharge MFAC) according to the admission mobility level of patients (admission MFAC). For example, stroke patients with admission mobility level as sitter (MFAC=2), the possibility of the mobility level upon discharge as a dependent walker (MFAC =3) was 23.9%, as an assisted walker (MFAC = 4) was 22.2%, as a supervised walker (MFAC = 5) was 10.1%, as an indoor walker (MFAC = 6) was 2% and as an outdoor walker (MFAC = 7) was 0% respectively.

Stratify stroke patients according to admission Modified Functional Ambulation Category is practical in in-patient stroke rehabilitation program to predict the discharge mobility level and functional gain of patients.