

Functional Status of Post Stroke Survivors

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ABSTRAK

Di peringkat global, strok adalah punca utama penyakit kecacatan jangka panjang. Ketidakupayaan di kalangan pesakit strok mempengaruhi aktiviti kehidupan harian mereka. Tujuan terapi pemulihan adalah untuk membantu mangsa-mangsa strok untuk mendapatkan kembali keupayaan berfungsi. Kajian ini bertujuan untuk menentukan hubungan antara tempoh masa strok dengan status keupayaan berfungsi dalam kalangan pesakit strok di salah sebuah hospital pengajaran di Kuala Lumpur. Satu kajian keratan rentas dijalankan, melibatkan 109 orang pesakit strok yang menghadiri Klinik Pemulihan dalam tempoh masa empat bulan. Data mengenai tempoh masa strok diambil daripada rekod pesakit manakala keupayaan berfungsi dinilai melalui Indeks Barthel Diubahsuai (MBI). Keputusan menunjukkan min umur pesakit adalah 61 tahun (SD = 13,86, julat: 22-87 tahun), dengan 118 lelaki dan 81 pesakit wanita yang mempunyai tempoh masa dengan median 12 bulan selepas strok (julat: 1-79 bulan). Prevalens 123 (63.1%) daripada mangsa strok didapati tidak bergantung dalam aktiviti kehidupan harian mereka. Ujian Chi-kuasa dua menunjukkan terdapat hubungan yang signifikan di antara tempoh masa strok dengan tahap kebergantungan berfungsi, $\chi^2(2, n = 195) = 6,455, p < 0.05, phi = 0,182$. Pesakit dalam tempoh masa strok daripada 13-24 bulan adalah lebih berdikari (52.1) daripada ≤ 12 bulan dan ≥ 24 bulan.

Kata kunci: taraf keupayaan berdikari, kehilangan keupayaan selepas strok, mbi, aktiviti kehidupan harian, pemulihan terapi

ABSTRACT

Globally, stroke is the commonest cause of long-term disability. The residual disabilities among post stroke patients affect their daily living activities. The aim of rehabilitation therapy is to help stroke survivors to gain back their functional

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ability. The present study aimed to determine the relationship between post stroke duration with functionality status of post-stroke survivors at a teaching hospital in Kuala Lumpur. A cross-sectional study involved one hundred nine five post stroke patients who attended the Rehabilitation Clinic over a 4-month period. The data on post stroke duration was revealed from patient's checklist. Their functional status was assessed with Modified Barthel Index (MBI). Results showed the mean age of participants was 61 years (SD=13.86, range:22-87 years), with 118 males and 81 females having a median duration of 12 months post-stroke (range: 1-79 months). The prevalence 123 (63.1%) of stroke survivors are found to be dependent in their daily living activity. A Chi-square test for independence indicated there was significant relationship between post-stroke duration with levels of functioning, $\chi^2(2, n=195) = 6.455, p < 0.05, \phi = 0.182$. Patients in post-stroke duration of 13-24 months were independent (52.1) than ≤ 12 months and ≥ 24 months.

Keywords: functional status, post-stroke disability, mbi, activities of daily living, rehabilitation therapy

INTRODUCTION

The sudden development of a focal neurological deficit is namely defined as stroke. The common cause of stroke is either embolic arterial occlusion or bleeding in the brain (Internet Stroke Center 2008). Kapral et al. (2005) found that approximately 80% of all strokes were ischaemic and 20% were haemorrhagic. Moreover, stroke can cause a prolonged disability among the post stroke survivors that can significantly affect their activity daily living. This is due to the result of stroke-related damage to important part of the neurological domains such as sensory and motor (Heart and Stroke Foundation of Ontario & Registered Nurses Association of Ontario 2005.). According to Rosamond et al. (2008), approximately 15% to 30% of stroke survivors have permanent disability. Despite, medical and surgical treatment for stroke having improved over years, rehabilitation therapy plays a major role

to regain the functional ability of stroke survivors.

The aim of rehabilitation therapy for the stroke survivors is to return them to the society with functional abilities. This could be achieved by recovery of the stroke deficits that may include deficits in cognition and functional abilities (Bendz 2003; World Health Organization 2002). On the other hand, the effect of stroke disability which causes impairments to physical and neurological that leads to handicapped individuals (Burton 2000). Therefore, the goal of rehabilitation therapy is to maximize the functional ability for stroke survivors (World Health Organization 2002). In line with this goal, many stroke survivors start their rehabilitation therapy as soon as possible after experiencing the event. This is to regain their mobility as soon as possible that will allow them to be safely functioning in their home environment.

MATERIALS AND METHODS

The present study was conducted among consecutive stroke survivors who visited a rehabilitation clinic at one of the teaching hospital in Kuala Lumpur Malaysia. The participants were recruited from October 2009 to January 2010. Only patients with first-time stroke with CT scan showed lesions compatible with their neurological symptoms were included. Prior to the collection of data, the researchers performed a Mini Mental State Examination (MMSE) to assess their cognitive level of functioning. Those patients with severely impaired of cognitive functioning (MMSE<24), severe aphasia, language problems (unable to understand the Malay, English or others language) even after being assisted by researcher or the patient's proxy, children with stroke, stroke patients with other neurological problems such as meningitis and, those with less than one month post-stroke duration were excluded from this study.

An explanation about the study was given to all the patients and a written consent was obtained from them. The study was approved by the Medical Research Ethics Committee of the Universiti Kebangsaan Malaysia Medical Centre. Those patients that met the inclusion criteria were be assessed on their disability with Modified Barthel Index (MBI) questionnaire. The MBI assessment scale was used to assess the basic functional status. This questionnaire consisted of ten activities of daily living. Out of ten daily living activities, eight were self-care activities which included feeding, transfer from chair to bed and back, grooming,

toileting, bathing, dressing, bowel continence and bladder continence. The other two activities were mobility-related activities such as walking or propelling a wheelchair on a level surface 50 yards with or without devices or prostheses, ascending and descending stairs. The MBI scale was used to define the level of functional dependency and further it can be subcategorized into five levels of functional dependency. The additional data on their post stroke duration was revealed from clectship.

All the data collected for this study were analyzed by using the Statistical Package for Social Sciences (SPSS) version 16.0 for Windows®. Descriptive statistics was performed to determine the socio-demographic characteristics such as age, gender, ethnicity, and living arrangement and clinical characteristics like post-stroke duration and levels of functioning. The criterion for statistical significance was identified by a two-tailed probability value of $p < 0.05$.

RESULTS

SOCIO-DEMOGRAPHIC CHARACTERISTICS

The mean age of 195 participants was 61 years (SD= 13.86, range = 22-87). Majority of participants were Chinese 100 (51.3). There were 189 (96.92 %) still supported and stayed with their spouses/relatives.

CLINICAL CHARACTERISTICS

The participants had duration of post-stroke which range from minimum 1 month to maximum 79 months with

Table 1 : The level of dependency of post stroke survivors (n = 195)

Level of dependency	Frequency	Percentage
Severe dependent	33	(16.9 %)
Moderate dependent	43	(22.1 %)
Mild dependent	27	(13.8 %)
Minimal dependent	20	(10.3 %)
Dependent	123	(63.1 %)
Independent	72	(36.9 %)

median of 12 months. Their functional status was showed in the Table 1.

THE RELATIONSHIPS BETWEEN POST STROKE DURATION WITH FUNCTIONAL STATUS

A Chi- square test for independence indicated there was significant relationship between post-stroke duration with functional status, $\chi^2(2, n=195) = 6.455, p < 0.05, \phi = 0.182$. Those patients between the duration of post-stroke 13-24 months were independent (52.1) than ≤ 12 months and ≥ 24 months.

DISCUSSION

In the present study, the functional status in performing their daily life activity were categorized into two categories. The participants were categorized into dependent and independent stage. The present study found that most of the participants were still fall into the group of dependent. This was due to most of them being in the duration of acute rehabilitation process. This fact was similar to an earlier study by Eriksson et al. (2008) where they found 73.1% of those post stroke survivors in the early

phase to be still in the independent stage. They were involved in acute stage of rehabilitation and still depend to other for their daily living activities. Thus, the early stage of stroke was the common period for stroke survivors to have the deterioration of their functioning status.

It was found that the duration of post-stroke had an impact on functional status among the post- stroke survivors. In this study, the post stroke survivors of 13–24 months had better tolerance and high independency compared to those in less 12 months or more 24 months of post stroke duration. This study was similar to Elmstahl et al. (1996) whereby they found the post stroke survivors after one year of rehabilitation therapy had better functional status. This is due to the stroke survivors tend to recover better after one year of the rehabilitation process. However, their functional status tend to decline after 24 months of post stroke duration. One of the common reasons this could happen was due to aging process of the stroke survivors and the reduced of rehabilitation therapy activity (Wolfe et al. 2002).

CONCLUSION

In conclusion, the post-stroke survivors those follow-up the rehabilitation therapy process more than one year have better functional status on their activity daily life. However, it depends on the severity of the stroke. Thus, those with mild stroke have better recovery outcome after a year of rehabilitation therapy.

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