

Trending in Multidisciplinary Research for Stroke Disease Management

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Abstract

Stroke is a clinical syndrome characterized by rapidly developing clinical symptoms and/or signs of focal, and at times global, loss of cerebral function, with symptoms lasting more than 24 hours or leading to death, with no apparent cause other than that of vascular origin according to World Health Organization definition. Currently, stroke is ranked at number five killers among Malaysian population as reported by the Ministry of Health (MOH). Thus, this mini review paper will highlight the trending in multidisciplinary research for stroke disease management throughout the different era. This is an important aspect to be understood further to fill in the knowledge gap for current research needs.

Keywords: Stroke; Health model; Management; Research gap

Introduction

Stroke can be classified into several categories such as transient ischemic attack (TIA), ischemic stroke and haemorrhagic stroke [1]. Recently, it is reported that there is an increasing trend of stroke occurrence and recurrent rate [2]. This is in lieu with the increasing pattern of chronic disease including hypertension, diabetes mellitus, heart disease, kidney dysfunction which has strong association with stroke disease development and recurrent rate.

However, many researchers are still unable to get the stroke recurrent rate data due to the unavailability of logistics and registry matters. Registry issues were common in developing country including Malaysia since not all public hospitals have sufficient information systems to keep track of the stroke patients once they are discharged into the community [3]. Furthermore, Malaysia along its neighbourhood such as Singapore, Thailand and Indonesia are currently experiencing aging

population which require more attention for medical and nursing care management of chronic disease [4]. Therefore, integrating the alternative treatment and lifestyle modification should be looked forward in this era of globalization.

Biomedical Model in Stroke Disease Management

If we look back in the early 1920s to late 1960s, most of the studies carried out are related to laboratory and clinical base which is known as biomedical model of health approach. During this era, focuses are more towards understanding the stroke disease development and its treatment modalities due to limitation of knowledge in stroke area. This model emphasizes on diagnosing and treating individuals separately from their lifestyle or living conditions. The aim of this model application is to restore or to cure one illness experience

into the pre-illness state as much as possible. Therefore in this era, more research funding were granted by the government to facilitate the physicians and other healthcare professionals in managing the stroke disease from the pharmacological approach, diagnostic and laboratory investigations.

However, physicians and scientists has started to notice that despite having the latest medical drugs on market to treat hypertension, diabetes mellitus and cardiovascular disease yet the adherence rate were still poor. This was reflected by fluctuated blood pressure, sugar and cholesterol level among the patients which leads to stroke attack if poorly control. The development of high technology medical device had further advance the understanding of the vascular and brain structure which provides invaluable findings on the pathophysiology of new or recurrent stroke.

In early 1970s and to date, more physicians and scientist have realized that certain types of stroke such as transient ischemic attack (TIA) or ischemic stroke are sometimes associated with one's lifestyle rather than the anatomical structure or physiological function alone [5]. Therefore, biomedical approach is no longer the sole guidance in understanding the stroke disease development. This demands more robust and widen scope of medical management and nursing care element integrated with other healthcare discipline to deliver quality healthcare services.

Integration of Biopsychosocial Model in Stroke Disease Management

A more holistic approach is required in understanding one's experience and behavioural response after diagnosed with stroke. In this case, a biopsychosocial model is relevant to compliment the biomedical model in explaining the needs of lifestyle modification modalities along with medical treatment. These includes practicing healthy diet, be physically active and consistently exercise, handling stress appropriately as well as controlling the blood pressure and glucose reading at optimum level [5,6]. By adopting the biopsychosocial model, more multidisciplinary experts are involved such as nurses, pharmacist, dietician, physiotherapist, speech or occupational therapist along with welfare bureau to ensure the stroke patients and their family members needs are catered holistically when problem arise.

For example, the nurses, pharmacist and dietician have vast role throughout the hospitalization to educate and

demonstrate self-care management on activities of daily living [7-9], medicine intake scheduling along with dietary modification to the stroke patients and their family members prior to discharge [7,8,10]. Meanwhile, the physiotherapist, speech or occupational therapists are responsible in restoring the physical and functional outcome during hospitalization or at the community setting. The role of welfare bureau is currently becoming prominent since financial and logistic issues are major concern for follow-up schedule [11].

Role of Private Entity and Alternative Therapy in Stroke Disease Management

Not to forget, non-government organization (NGOs) in Malaysia setting provides support group and recreational activities to improve the stroke patients and their family members' quality of life as a private entity. For instance, in Malaysia, we have National Stroke Association of Malaysia (NASAM) at national level and Persatuan Strok Kelantan (PESONA) at state level that involved multidisciplinary health professionals working together with volunteers throughout the stroke rehabilitation phase [12]. All of the role mentioned earlier is highlighted in biopsychosocial model to ensure holistic care is received by the stroke patients and family members.

Recently, the evolution of alternative and complimentary medicine has been accepted by more Malaysian [13]. However, more research is to be performed in these potential of stroke care such as acupuncture, massage therapy and chiropractic to determine the effectiveness of these approaches. Furthermore, stroke disease occurs throughout lifespan whereby the younger generation may have stroke during pregnancy due to coagulation problems which undetected in childhood [14]. Someone might get stroke attack at the late age (70s or 80s) with irreversible and detrimental outcome and having lesser chance of recovery.

Outstanding Questions for Future Stroke Disease Management

Perhaps, palliative care and hospice care may also become a potential area of further research for stroke patients and their family members who require such service or treatments to achieve quality of life. Another aspect for stroke rehabilitation in Malaysia should also integrates technology such as gaming and software programming to improve cognitive status or physical coordination of the stroke patients for recovery process[15].

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