Title: Relevance of location to outcome of stroke rehabilitation

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Abstract

Background: Rehabilitation after stroke is a process that plays an important role in improving and/ or enhancing recovery beyond what would have occurred spontaneously. The choice of environment for provision of rehabilitation services, mode of organization and delivery of services is pertinent to the outcome of rehabilitation. Yet limited information exists on the best way to organise stroke rehabilitation and the relative cost of such services. The involvement and empowerment of patients are inherent and integral to the rehabilitation process. Health policy should therefore be directed at the adoption of rehabilitation settings that stimulate the involvement of patients in their own rehabilitation process and at an affordable cost.

Keywords: Stroke, Rehabilitation, Care environment

Introduction

Stroke is a global public health problem associated with high mortality, disability and cost of care with the resultant burden on healthcare resources (Claesson et al.., 2000). It is a major health problem in low income and middle income counties and accounts for almost 50% of the total disease burden for the last decade (Strong et al., 2007). Along with the projected increase in stroke survivors living with disability is the expected burden of disease on the survivors' family, the community and the healthcare system. The associated high economic cost of stroke care has made the reduction of stroke-related disability a priority (Weinstein et al., 2003). Rehabilitation offers the opportunity for such reduction.

Evidence has shown that rehabilitation can make a difference in clinical outcomes for stroke survivors by improving neurological recovery and enhancing performance of activities of daily living. The objective of stroke rehabilitation is to enable individual patients to achieve their full potential and to maximize the benefits from training in order to attain the highest possible degree of physical and psychological performance (Kollen et al., 2006). The task of how to organise and deliver rehabilitation services is a major issue facing healthcare policy makers because the structure of a rehabilitation unit (namely: geographic location, system of care and staffing) can significantly affect the processes of care and ultimately the patient's outcome (Teasell et al., 2009).

Issues relating to cost-effectiveness and optimization of healthcare resources, patient outcome and reintegration into the community have been variously examined. In spite of the growing demand to explore the use of alternative care environments for the provision of rehabilitation services, little or no consensus exists on the appropriate way to organize stroke rehabilitation. Yet, the impact of the environment in which rehabilitation occurs cannot be overemphasized. The environment must allow for patients' and their caregivers' involvement in the rehabilitation process. Thus, there is a need to identify and remove contextual barriers to patient involvement in the rehabilitation process so that the setting for rehabilitation might not in itself undermine the effectiveness of the rehabilitation (Holmqvist and von Koch, 2001).

In many countries, including Nigeria, the hospital is the default environment for the provision of stroke rehabilitation services. Rehabilitation in the hospital may be on an in-patient or out-patient basis. In-patient service in the hospital is often the right choice in the acute stage of a stroke event because it allows for proper monitoring of the patient and early detection of complications. Traditionally, such care was provided within departments of general medicine or neurology, and patients were managed alongside a range of patient groups with other diagnoses. However, there was a higher risk of the stroke survivor developing complications and an increase in the length of hospital stay of the stoke survivor. This has led to the evolution of organised or specialised inpatient care for stroke that is characterized by a co-ordinated multidisciplinary rehabilitation team. Stroke units have positively and significantly changed the outcome of stroke patients (Indredavik et al., 2000).

Out-patient rehabilitation stroke services are usually provided in hospitals. Hospital rehabilitation is often time-limited and inappropriate, expensive, inefficient and does not meet the needs of most people with disabilities. According to Mackey et al. (1996), the hospital is not functioning as a learning environment since patients spend more than 70% of their time in activities largely unrelated to physical outcomes. The increasing cost of hospital-based rehabilitation makes many to look in the direction of

Home-based Rehabilitation – (HBR) (Eldar, 2000). Consequently, health policy has shifted focus from institutional to community-based care.

Introducing rehabilitation services at a local or community level removes or minimizes the many obstacles that are associated with traditional institutional care, such as difficulty of travel and its expenses and barriers that limit resumption of past activities have led to improvement in quality of life (Boyce, Koros, and Hodgson, 2002). It also ensured that adequate and appropriate rehabilitation services were made available to a greater proportion of the population with disabilities (Boyce, Koros, and Hodgson, 2002). Stroke rehabilitation for people living in the community is delivered either in a centre, day hospital setting or in the actual home of the patient. Community hospitals, loosely defined as small hospitals with few on-site diagnostic facilities or specialized services, are long established components of healthcare provisions (Young and Donaldson, 2001). Community-based exercise programmes can improve and retain mobility, functional capacity, balance and impact on the performance of activities considered meaningful to the stroke survivors.

Stroke rehabilitation within the community (centres / hospitals) may result in different outcomes compared to rehabilitation in the respective homes of patients. Forster and Young (2011) argued that HBR has the potential to be more patient-centered. This may be because there is no need for traveling by the patient and therefore no anxiety associated with preparing the person to leave the home, or the possibility that HBR is more likely to address the life-restricting issues for the individual patient with a focus on the rehabilitation domain of participation rather than the less patient-centred domain of activity limitation. However, HBR may lack sufficient treatment intensity, may not be sufficiently multidisciplinary, may put too many demands on caregivers, or may be impractical in a cramped environment (Forster and Young, 2011).

Conclusion

The potential burden of stroke on the individual, the family, the community and the healthcare system has made it imperative for clinicians and policy makers to develop and evaluate practical, yet effective alternative care environments for stroke rehabilitation within the community to enhance access. These settings must be cost-effective without compromising clinical outcomes. Such settings may significantly improve access to rehabilitation services by stroke survivors in low-income countries like Nigeria.

Conflict of interest: None declared.

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