

## Nursing Interventions and Rehabilitation Activities for Stroke Patients

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### Introduction

Nurse caring for stroke patients involves multitasking as the condition itself is quite complex and challenging. In this light, many nurses, ranging from staff nurses to more advanced clinicians such as Nurse Practitioners (NPs) and Clinical Nurse Specialists (CNSs) are directly involved in improving patient outcomes. NPs and CNSs are clinicians who have undertaken expert relevant educational programmes to postgraduate level. Thus, the role of these experts within the greater healthcare team is to improve standards of patient care within a higher level of accountability and professional autonomy. They also may devise and implement a personalised plan of care after an initial assessment [1].

Generally, nursing interventions during the acute stages following a stroke aim at preventing secondary brain injury (intracranial hypertension), maintaining the airways (due to paralysis of the pharynx muscles), providing general body support (vital signs, fluid and electrolyte balance) and anticipating the occurrence of complications (atelectasis, pneumonia). On admission to the ward, a general assessment of the patient's condition should determine his/her baseline neurological status and appropriate positioning, whilst identification of level of consciousness should be carried out immediately, as it is one of the most sensitive indices of neurological status [2].

Previous research also shows that intensive nursing input has considerable potential to benefit stroke patients, especially in terms of well-being [3].

### Aim

The aim of this short communication is to summarize, illuminate and debate nursing input during the acute and rehabilitation phases after stroke.

### Discussion

In order to facilitate early patient recovery, advanced nursing care should include the routine practice of a wide range of specific nursing interventions such as continence management, pressure area care, swallowing management and early mobilisation [4].

Other routine nursing interventions also include the maintenance of normotensive blood pressure without the use of hypotensive drugs unless systolic blood pressure is over 220 mmHg or diastolic blood pressure, above 120 mmHg. It is also paramount to provide immediate treatment for hyperglycaemia especially as this is a common risk factor and known to be related to severity of stroke and a worse prognosis [5]. Hyperglycaemia is recorded in nearly half of all patients during the acute stage of stroke and 50% of these would be known diabetics. Thus,

glucose infusions should not routinely be used [6]. Other important nursing interventions include the prevention of pulmonary thromboembolism and early antiplatelet therapy. Physical and respiratory therapy should also be encouraged throughout the patient's hospital stay. Therefore, understanding clinical symptomatology in relation to the neuroanatomy and factors contributing to complications is crucial for the effective nursing management of stroke patients [7].

Summers et al., in their comprehensive report, which is part of the American Heart Association recommendation statements and guidelines, suggest that nurses throughout the stroke patient's hospitalisation, from triage in the Accident and Emergency to discharge from the rehabilitation ward, have a vital role in caring, treating and training stroke patients [8]. They also help the patients' families understand the course of the disease, its limitations and the possible trajectory of improvement and recovery.

However, the boundaries between nursing stroke care tasks such as mobilisation, positioning, feeding and early multidisciplinary rehabilitation in stroke patients overlap, as most nursing interventions have rehabilitative functions too, the aim being to help the patient to regain his/her independence [9]. Yet, several authors claim that the role of nursing in stroke rehabilitation is diffuse, lacking clarity and focus [10,11].

Traditionally, the core nursing care objective for the stroke patient's rehabilitation largely derived from the 'orthodox' medical model and from mainstream compensatory nursing principles. These were aiming to restore more of a unilateral pattern of function, assuming that the hemiplegic side is going to function rather poorly, due to the relatively 'permanent' effects of the stroke [12].

Yet, the traditional neurodevelopment approaches were challenged by Mathiowetz and Haugen who proposed the Contemporary Task-Oriented Approach which is based on a systems model of key motor control emphasising that effective therapeutic intervention depends on identification of areas that are critical to improve for the stroke patient's occupational performance [13]. Moreover, conventional physical rehabilitation therapies have also been challenged by Donaldson et al., who devised a comprehensive treatment schedule aiming at producing improved compensation sensorimotor recovery after stroke [14].

Finally, Pollock et al., claim that there is insufficient evidence to conclude that any one physiotherapeutic approach is more effective in promoting recovery of stroke disability [15]. Therefore, they expound using a mix of components of different therapeutic approaches such as the Bobath Technique, Proprioceptive Neuromuscular Facilitation, Motor Relearning Programme, the Contemporary Task-Oriented Approach and others, which are more effective than no physical engagement at all. Yet, as rehabilitation should commence as early as

possible after stroke, nurses in stroke rehabilitation should be reassured of the importance of their therapeutic role in encouraging and assisting the patient to persevere activating his affected side as nurses are with the patient longer than any other health care professional. Thus, nurses involved in stroke care should have a good grasp of all aspects of interventions and techniques that optimise patient recovery. For example, to date, bilateral treatment is recommended so that both sides of the body can gain strength and achieve coordinated movement, therefore the nurse as part of an integrated health care team should 'harmonize' nursing care activities accordingly.

## Conclusions

From the above, it is clear that these and other interventional approaches differ in aims, assumptions, principles, underlying theories and consequently, in education, practice and research foci. However, all approaches have advantages and disadvantages, as well as strong advocates and opposers.

The bulk of the literature advocates that the traditional approach of focusing only on the non-affected side is redundant. This is because it is repetitive, segmented and merely an extension of basic nursing care activity extended to any patient, whatever the medical diagnosis, and such activities lack any framework or rehabilitative rationale essential to the continuity of care which is needed by stroke patients.

The nurse, therefore, should be aware of the wider essential care aspects for the stroke patient in order to enhance quicker recovery and improved long term prospects. After all, the nurse in stroke recovery in particular is a key player in the wider rehabilitation team.

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