

CASE REPORT

Intervention of the Rehabilitation Nurse in Person after Stroke: Case Report

Intervención presencial de la enfermera rehabilitadora tras accidente cerebrovascular: reporte de caso

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ABSTRACT

Introduction: in Portugal, one of the main causes of incapacity and disability is Cerebrovascular Diseases, constituting one of the main causes of death and morbidity.

Objective: to describe the benefits of implementing a Rehabilitation Nursing plan in a person with sequelae of a Stroke.

Case Report: this is a case report that you followed the EQUATOR Network Case Report Guidelines. With the implementation of the Rehabilitation Program, there were improvements in the patient with Stroke at various levels, namely in body balance, muscle strength and self-care capacity.

Conclusion: the functional recovery of a patient with a stroke is directly related to the intervention of the Rehabilitation Nurse, promoting their autonomy and independence in daily life activities.

Keywords: Rehabilitation Nursing, Case report, Stroke, Balance; Activities of Daily Living.

RESUMEN

Introducción: en Portugal, una de las principales causas de incapacidad e invalidez son las Enfermedades Cerebrovasculares, constituyendo una de las principales causas de muerte y morbilidad.

Objetivo: describir los beneficios de implementar un plan de Enfermería de Rehabilitación en una persona con secuelas de un Accidente Cerebrovascular.

Reporte de caso: este es un informe de caso en el que usted siguió las Pautas de informes de casos de la red EQUATOR (CARE). Con la implementación del Programa de Rehabilitación se obtuvieron mejoras en el paciente con Accidente Cerebrovascular en diversos niveles, concretamente en el equilibrio corporal, fuerza muscular y capacidad de autocuidado.

Conclusión: la recuperación funcional de un paciente con accidente cerebrovascular está directamente relacionada con la intervención de la Enfermera de Rehabilitación, promoviendo su autonomía e independencia en las actividades de la vida diaria.

Palabras clave: Enfermería de Rehabilitación, Reporte de caso, Accidente cerebrovascular, Equilibrio; Actividades de la Vida Diaria.

INTRODUCTION

A Cerebral Vascular Accident (CVA) is a suddenly triggered clinical event that occurs in the brain and involves focal or global neurological impairment.⁽¹⁾

There are two known types of stroke: ischemic and hemorrhagic. The signs and symptoms that occur during a stroke vary, as they depend on several factors, including the location and extent of the injury, the person's risk factors, among others.⁽²⁾ There are several factors that determine stroke, and most authors divide them into two groups: modifiable and non-modifiable.^(2,3)

Stroke is the fourth leading cause of disability among adults.⁽⁴⁾ After a stroke, people experience a number of changes based on the anatomical sequelae, including fatigue, pain, emotional disturbances, difficulty with balance and communication. In addition, many stroke survivors depend on their families for emotional support, rehabilitation and carrying out daily activities such as eating and hygiene.⁽⁵⁾

It has become clear that people after a stroke should be followed up in rehabilitation programs, as they reduce the prevalence of their sequelae⁽⁴⁾ and, when started early, there is a reduction in complications, which can even lead to residual functional incapacity, thus promoting a better quality of life.⁽⁶⁾

That said, Rehabilitation Nursing and the work of the specialist rehabilitation nurse have specific skills, based on knowledge that enables them to care for people with acute illnesses or their sequelae, and chronic illnesses, with the aim of restoring their maximum functionality and independence.⁽⁷⁾

The general objective of this study is to describe the benefits of implementing a rehabilitation nursing plan for a person with stroke sequelae.

CASE REPORT

J.M., male, 80 years old, living in the Lisbon region, married and father of two children. Retired (driver), previously autonomous and independent. Personal history: Hypertension, Folate Deficit and Ferropenia, Atheromatous Occlusion of the Left Middle Cerebral Artery, Atrial Fibrillation, Status Post Retro Pubic Prostatectomy and Iatrogenic Hypothyroidism.

On 13/02/2024, he went to the ER after being found slumped over in the bathroom with a loss of strength in his left hemibody (after suspending anti-coagulation to perform a supra-pubic prostatectomy). He was diagnosed with an ischemic stroke in the territory of the lenticulostriate arteries of the right MCA.

In order to implement a rehabilitation program, a thorough neurological examination must be carried out and the rehabilitation plan implemented (table 1). Initially, an assessment of mental state, cranial pairs, sensitivity, muscle strength and balance was carried out, which made it possible to identify the nursing diagnoses and determine the gains sensitive to rehabilitation nursing care.^(3,8)

As far as the mental state assessment is concerned, the client is vigil, oriented in person and space, disoriented in time (wrong day, right month and year). Euthymic mood, but with periods of emotional lability in relation to his current illness. Language changes (names 8/8, repeats, fluent speech, easy understanding of simple and complex orders, no changes in writing or reading). Short- and long-term memory (repeats 3 different words immediately and after 5 minutes).

As for the cranial nerves in terms of visual fields and eye movements, he apparently has no ophthalmoparesis, but as a field defect he has left hemianopsia with abolition of the threat reflex. The tongue protrudes to the right, the nasolabial fold is erased to the left and the labial commissure deviates to the right.

Regarding sensitivity, left hemihypostasis was detected (general superficial tactile and thermal sensitivity). Left central facial paresis is also evident.

Regarding motor deficits after application of the Medical Research Council (MRC) scale,⁽⁸⁾ he had a degree of muscle strength of 0 in all segments of the left upper limb and a degree of muscle strength of 1 in all segments of the left lower limb. On assessing muscle tone, application of the Ashworth scale⁽⁸⁾ showed maintenance of muscle tone in the left hemibody without evidence of spasticity.

Finally, dependence in activities of daily living was assessed using the Barthel index.⁽⁸⁾ Initially he had 10 and after one month of intervention he had a score of 40 on the Barthel index. Regarding balance using the Tinetti index,⁽⁸⁾ static sitting was maintained and standing was non-existent. Inability to walk, wheelchair with support from others and partial help with transfers (figure 1).

Table 1. Rehabilitation Nursing Care Plan

Foci/Diagnostics	Objective	Interventions
Confusion	<ul style="list-style-type: none"> Improve orientation. 	<ul style="list-style-type: none"> Evaluate the progress of orientation; Perform cognitive training through memory, orientation and calculation exercises.
Facial Paresis	<ul style="list-style-type: none"> Determine evolution of strength. 	<ul style="list-style-type: none"> Evaluate the evolution of muscle strength-contraction; Perform the orofacial exercise technique (10 rep 5 times).

Left hemiparesis Application of the MRC scale and all segments of the left hemisphere	<ul style="list-style-type: none"> Determine the evolution of muscle strength. Improve muscle strength. 	<ul style="list-style-type: none"> Perform the active-assisted and assisted-resisted muscle-articular exercise technique; Active-assisted/assisted-resisted mobilization of all segments of the left hemibody (abduction/adduction; flexion and extension); Muscle strengthening exercises with pedal support without resistance; Vertical and crossed self-mobilization of the left upper limb (extension and flexion exercises).
Compromised Sensitivity	<ul style="list-style-type: none"> Determine sensitivity evolution; Improve sensitivity, 	<ul style="list-style-type: none"> Assess sensitivity; Didactic game with different textures and temperatures and circuits; Exercise with clothes pins.
Dressing or undressing compromised	<ul style="list-style-type: none"> Determine the progression of dressing and undressing. 	<ul style="list-style-type: none"> Evaluate progress in dressing and undressing; Teach strategies to improve self-care autonomy.
Compromised transfer	<ul style="list-style-type: none"> Determine the progress of the transfer; Ensure transfer activities. 	<ul style="list-style-type: none"> Evaluate the progress of the transfer; Teach transfer techniques; Transfer technique training (bed-CR-chair).
Compromised static sitting balance	<ul style="list-style-type: none"> Determine development; Improving static balance; Prevent falls. 	<ul style="list-style-type: none"> Evaluate the development of static balance; Manage the physical environment to prevent falls; Teach postural correction using the checkered mirror; Sit/stand exercise with support on a flat surface (10 times).
Compromised dynamic sitting balance	<ul style="list-style-type: none"> Determine balance development; Improve static balance; Prevent falls. 	<ul style="list-style-type: none"> Evaluate the development of static balance; Manage the physical environment to prevent falls; Balance training through multidirectional imbalance exercises.

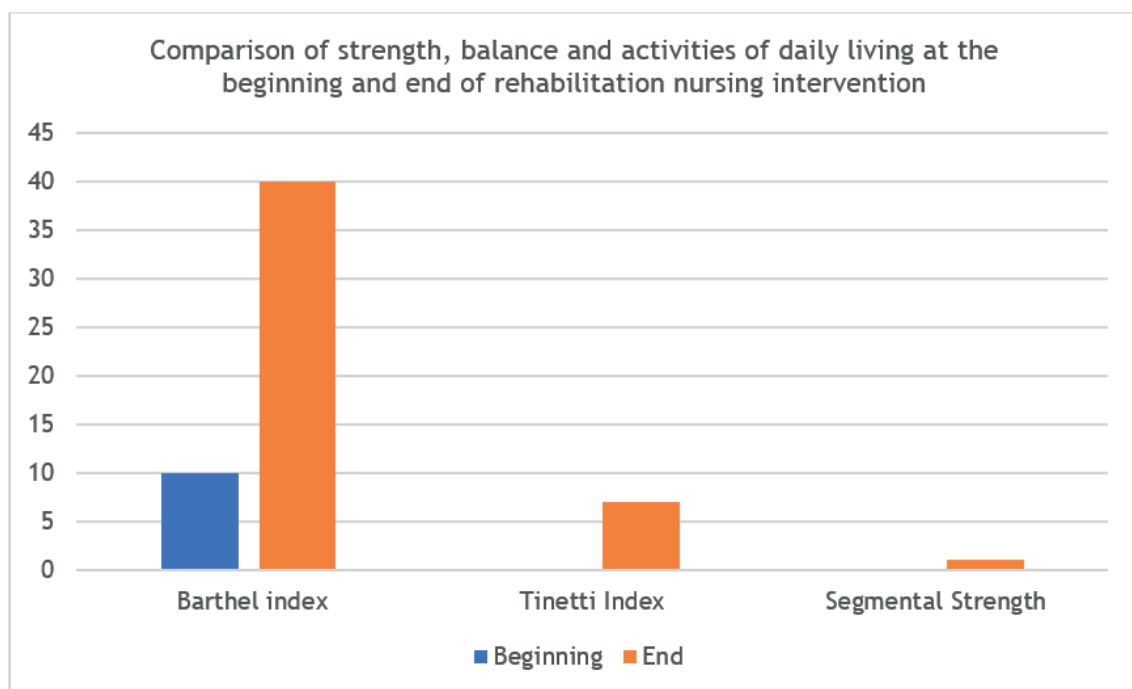


Figure 1. Evolution of strength, balance and activities of daily living

DISCUSSION

The facial paresis was not resolved, but it was attenuated and the facial exercises were essential. When a stroke occurs, functional recovery depends on a number of factors, including the severity of the stroke, the etiology, location and extent of the lesion, and since the client had lesions in both hemispheres, there are characteristics that make it difficult to carry out the rehabilitation plan, including attention deficit and emotional lability. Not only the continuity of the intervention, but also how early it is, contributes to the recovery of functionality, independence and the client's reintegration as a citizen.^(3,7)

We know that for an elderly person, two weeks in bed can mean the loss of around half of their muscle mass, which is equivalent (according to experimental studies) to a loss of 4 % or 5 % per week in healthy individuals.

⁽⁹⁾ Early intervention by rehabilitation nurses, both in terms of bed mobilization and early rising, prevents complications and ultimately falls, isolation and dependency.^(7,9)

However, the fact that the facial paresis on the left has not completely reversed, and that there has been a slight improvement in muscle strength, may indicate that a longer intervention period than one month may be necessary.

At the beginning of the rehabilitation program, Mr. J.M. had the idea of walking again, a perspective that had to be deconstructed over time, investing on the other hand in training the client to perform exercises that will make his day-to-day life easier, making him more independent. At this point, the nurse-client relationship is fundamental in motivating the client not to give up.

CONCLUSIONS

This case report showed that the intervention of the Rehabilitation Nurse Specialist brought specific gains, particularly in terms of muscle strength and, consequently, balance, as well as improving the performance of basic activities of daily living.

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INSTITUTIONAL REVIEW BOARD STATEMENT

The study was conducted in accordance with the Declaration of Helsinki and approved by the Institutional Review Board (or Ethics Committee) of Escola Superior de Saúde Atlântica n. 10 ESSATLA 2024 (approved at 10 July 2024) for studies involving humans.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

AUTHORSHIP CONTRIBUTION

Conceptualization: Rita Afonso, Luís Sousa.

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Methodology: Rita Afonso; Cristiana Pinto, Sandy Severino, Luís Sousa.

Drafting - original draft: Rita Afonso, Luís Sousa.

Writing - proofreading and editing: Rita Afonso, Cristiana Pinto, Sandy Severino, Luís Sousa.