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CASE REPORT

Rehabilitation Nursing Care to a person with Immobility Syndrome due to Intestinal Pseudo-Obstruction: Case Report

Cuidados de Enfermería de Rehabilitación a una persona con Síndrome de Inmovilidad por Pseudo-Obstrucción Intestinal: Caso Clínico

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ABSTRACT

Introduction: Intestinal Pseudo-Obstruction is a chronic condition that, when associated with immobility syndrome, can translate into the loss of independence, decreased functional capacity and reduced quality of life. The management of the disease, the consequences and the expectations of the person being cared for are a permanent challenge for Rehabilitation Nursing.
Objective: to describe the benefits of implementing a Rehabilitation Nursing program to the person with immobility syndrome due to chronic intestinal pseudo-obstruction.
Case Report: descriptive study, case report type of a person with immobility syndrome due to chronic intestinal pseudo-obstruction. After identifying the nursing diagnoses, a care plan was developed based on Nursing Ontology, and an individualized rehabilitation program was implemented, in a home setting.
Conclusion: with the implementation of the program, there were gains in increased muscle strength, improved balance, increased tolerance to activity and independence in activities of daily living. The improvements of the implementation of this rehabilitation program corroborate that the Rehabilitation Nurse should include in their intervention plans exercises focused on re-education to exertion and muscle strengthening to mitigate the complications resulting from prolonged immobility and the underlying disease, motivating and involving the person in care.

Keywords: Rehabilitation Nursing; Exercise; Intestinal Pseudo-Obstruction; Case Report.

RESUMEN

Introducción: la Pseudo-Obstrucción Intestinal es una patología crónica que, al asociarse al síndrome de inmovilidad, puede producir pérdida de independencia, disminución de la capacidad funcional y disminución de la calidad de vida. El manejo de la enfermedad, sus consecuencias y las expectativas de la persona tratada constituyen un desafío permanente en la intervención de la Enfermera Especialista en Enfermería de Rehabilitación.
Objetivo: describir los beneficios de implementar un programa de Enfermería de Rehabilitación a la persona con síndrome de inmovilidad por pseudoobstrucción intestinal crónica.
Reporte de caso: estudio descriptivo, tipo reporte de caso de una persona con síndrome de inmovilidad por pseudoobstrucción intestinal crónica. Luego de identificados los diagnósticos de enfermería, se elaboró

un plan de cuidados basado en la Ontología de Enfermería y se implementó un programa de rehabilitación individualizado, en el ámbito domiciliario.
Conclusión: con la implementación del programa se obtuvieron ganancias en aumento de la fuerza muscular, mejora del equilibrio, mayor tolerancia a la actividad e independencia en las actividades de la vida diaria. Los avances de la implementación de este programa de rehabilitación nos permiten corroborar que la Enfermera Especialista en Enfermería de Rehabilitación debe incluir en sus planes de intervención ejercicios enfocados a la reeducación al esfuerzo y al fortalecimiento muscular para mitigar las complicaciones derivadas de la inmovilidad prolongada y las condiciones subyacentes. enfermedad, motivando e involucrando a la persona en el cuidado.

Palabras clave: Enfermería de Rehabilitación; Ejercicio Físico; Pseudo-Obstrucción Intestinal; Reporte de Caso.

INTRODUCTION

Chronic intestinal pseudo-obstruction (CIPO) is a rare disease characterized by defective propulsive activity of the gastrointestinal tract, in which the signs and symptoms mimic mechanical intestinal obstruction even though this is not the case.[1] t represents the most severe form of enteric dysmotility disorders, with around 1/3 of patients with CIPO developing chronic intestinal failure, requiring total parenteral nutrition.[1]

The vast majority of people with disorders that result in chronic intestinal failure have abdominal pain that is difficult to control, fatigue, intolerance to exertion and therefore reduced physical activity.[2,3] In CIPO, all these factors, combined with high morbidity and recurrent hospitalizations, contribute to a loss of strength and muscle mass, which will have repercussions in terms of loss of independence, reduced functional capacity and decreased quality of life.[4] The need for parenteral nutrition, the effects of the disease and prolonged hospitalizations make it conducive to the development of immobility syndrome, defined as the disturbance of physiological, psychological or social dimensions secondary to inactivity and loss of physical condition, leading to complications that compromise health, particularly musculoskeletal ones.[5]

The implementation of exercise programs has gained emphasis in the management of loss of strength and muscle mass, with aerobic exercise and resistance training being recommended to prevent complications associated with muscle disuse.[6]

CASE REPORT

A 45-year-old woman referred to the Integrated Continued Care Team with a diagnosis of CIPO, in connection with probable enteric myopathy and immobility syndrome, undergoing total parenteral nutrition. A recent history of prolonged hospitalization in the intensive care unit for acute cholecystitis complicated by respiratory failure, requiring ventilatory support. She was emaciated and tired easily on slight exertion. She lives at home, adapted to her condition, with her husband and two children. She walks with tripod support, only going out for appointments. Motivated to adhere to the Rehabilitation Nursing (RN) plan.

The initial rehabilitation nursing assessment was carried out, data was collected and nursing diagnoses identified based on the Ontology:

- Barthel Index to assess the degree of independence in performing ADLs (Activities of Daily Living);[7]
- Functional Independence Measure (FIM) to assess functionality;[7]
- Lawton & Brody Index to measure the degree of dependence in Instrumental Activities of Daily Living;[7]
- *Timed Up and Go Test (TUGT) to assess mobility, balance, gait and walking stability;*[7]
- *Medical Research Muscle Scale modified for greater responsiveness in assessing muscle strength.*[7]

Due to muscle weakness and intolerance to activity resulting from hospitalization and the underlying pathology, which condition independence in ADLs, the person was included in the RN care program to strengthen muscles, stimulate mobility, increase tolerance to activity and promote functional independence.

The motor rehabilitation and functional re-education plan was based on intensity, frequency, time, type, volume and progression (FITT-VP), according to the person's tolerance, twice a week for 4 weeks, in a home setting. It included aerobic exercises (treadmill), upper and lower limb strength training (isometric exercises, with dumbbells and elastic bands), balance training (pelvic sway and chair standing and sitting) and respiratory training (ventilatory control, costal re-education with a stick). During the sessions, the numerical pain scale, modified Borg scale, heart rate and peripheral oximetry were assessed.

Since the implementation of the program, there has been a progressive increase in exercise tolerance, which is reflected in: increased session duration, increased aerobic training time (5' to 12'), increased muscle

strength training volume (increased number of repetitions) and progression to include new exercises, with stabilization of the subjective perception of effort assessed using the Borg scale at score 7, even with the increase in training volume.

Table 1. Evaluation Instruments

	Instruments	Initial assessment		Final evaluation	
Functionality	FIM	90/126		120/126	
	Barthel Index	65/100		90/100	
Balance	Simple Balance Assessment Scale	Ineffective dynamic standing balance		Effective dynamic and static standing balance	
	TUGT	21,67 seconds		10,8 seconds	
Muscular Strength Upper limb	mMRC	Right	Left	Right	Left
	Elbow flexión	4	4	5	5
	Shoulder flexión	-4	-4	+4	+4
	Shoulder abduction	-4	-4	+4	+4
Muscular Strength Lower limb	mMRC	Right	Left	Right	Left
	Knee extension	-4	+3	+4	+4
	Thigh abduction	-4	-4	+4	+4
	Thigh adduction	4	4	+4	+4

DISCUSSION

According to the evidence, personalized rehabilitation programs started early and continued after hospital discharge promote independence in people with immobility syndrome, regardless of the underlying cause.[8]

The RN program included aerobic training exercises, strength training, respiratory training and balance training, based on the nursing diagnoses identified, with the aim of mitigating the complications arising from prolonged immobility and the underlying disease, motivating and involving the person in the care.

Studies investigating the effect of home exercise programs on people with enteric failure indicate that aerobic exercise and strength training should be initiated to overcome the consequences of immobility and muscle disuse,[6] which showed positive results in terms of increased strength, muscle mass and a reduction in the time taken to complete the TUGT.[9]

Aerobic exercise training on a treadmill improves cardiorespiratory capacity and activity tolerance, allows the mobilization of large muscle groups and desensitizes muscle fatigue, and can be applied to unconditioned people, as long as the intensity is adapted to their tolerance, keeping the level of effort during the session between 4 and 7 hours.[10] The results showed a progressive increase in the ability to perform the exercises, increasing the time, the volume of training and the progression to standing exercises, reducing the subjective perception of effort score.

Home exercise programs, implemented by Rehabilitation Nurse Specialists (RNS) for people with chronic illness, have shown gains in muscle strength, functional capacity, perceived improvement in physical condition and satisfaction with the care provided.[11]

Periods of exacerbation of chronic pain influenced the exercise sessions, resulting in greater tiredness, so it was imperative to liaise with the family health team for support in managing it. A multi-specialty approach is essential when monitoring patients with CIPO, as care is needed to manage nutrition, pain, tiredness, musculoskeletal symptoms and, often, psychological support.[1]

CONCLUSIONS

This case report has highlighted the importance of a rehabilitation program, implemented by the RNS, which includes strategies to prevent or minimize immobility syndrome in people with CIPO, aimed at improving and/or maintaining muscle function through exercise prescription and training. The results reflect the aim of the study and reveal gains that are sensitive to the care provided by the RNS in terms of increased activity tolerance, muscle strength, balance and independence in ADLs.

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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. 8 ESSATLA 2024 (approved at 12 July 2024) for studies involving humans.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

AUTHORSHIP CONTRIBUTION

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