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CUIDADOS DE ENFERMAGEM DE REABILITAÇÃO À PESSOA SUBMETIDA A PRÓTESE PARCIAL DA ANCA: ESTUDO DE CASO

REHABILITATION NURSING CARE FOR THE PERSON UNDERGOING
PATIAL HIP PROSTESIS: CASE REPORT

REHABILITACIÓN DE LA FUNCIÓN RESPIRATÓRIA EN LA PERSONA
SOMETIDA A PRÓTESIS PARCIAL DE CADERA: ESTUDIO DE CASO

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RESUMO

Introdução: A fratura do fémur é uma das lesões traumáticas mais frequentes na população idosa. A estabilização cirúrgica destas fraturas é o tratamento de eleição, permitindo a mobilização e carga precoces, sendo o processo de reabilitação essencial para a restituição da função e melhoria da qualidade de vida. O Enfermeiro Especialista em Enfermagem de Reabilitação é o profissional que apresenta competências para conceber, implementar e monitorizar planos de Enfermagem de Reabilitação diferenciados que permitem ajudar as pessoas a maximizar o seu potencial funcional, a sua autonomia e a sua independência.

Objetivo: Identificar os benefícios de um programa de Reabilitação Motora Funcional e Treino de Atividades de Vida Diária, à pessoa submetida a Prótese Parcial da Anca.

Método: Estudo de Caso descritivo único que respeita as *guidelines CARE (CASE REport)*. Após a avaliação inicial, foi implementado um programa de Enfermagem de Reabilitação dirigido aos diagnósticos identificados e consoante os objetivos previstos no período pós-operatório decorrente do procedimento cirúrgico.

Resultados: Verificaram-se ganhos de força muscular e na amplitude articular dos segmentos musculoesqueléticos do membro inferior intervenido. Houve melhoria do equilíbrio estático e dinâmico e da capacidade funcional para a realização das Atividades de Vida Diárias e de Autocuidado sendo que, de um ponto de vista global, foram obtidos ganhos mais evidentes nos autocuidados “Higiene”, “Transferir-se” e “Andar com auxílio de marcha”.

Conclusão: O programa de Enfermagem de Reabilitação implementado contribuiu para a melhoria da funcionalidade da pessoa submetida a Prótese Parcial da Anca.

Descritores: Fratura do Fémur; Enfermagem; Reabilitação; Autocuidado

ABSTRACT

Introduction: Femur fracture is one of the most common traumatic injuries in the elderly population. Surgical stabilization of these fractures is the treatment of choice, allowing for early mobilization and weight-bearing, with the rehabilitation process being essential for restoring function and improving quality of life. The Rehabilitation Nursing Specialist is a professional qualified to design, to implement, and to monitor specialized rehabilitation nursing plans that help individuals maximize their functional potential, autonomy, and independence.

Aim: To identify the benefits of a Functional Motor Rehabilitation program and Activities of Daily Living (ADL) training for a patient undergoing Partial Hip Prosthesis.

Method: Single descriptive Case Study adhering to CARE (CASE REport) guidelines. After initial

assessment, a Rehabilitation Nursing program was implemented, focusing on the identified diagnoses and objectives established for the postoperative period following the surgical procedure.

Results: Gains were observed in muscle strength and joint range of motion of the musculoskeletal segments of the intervened lower limb. Improvements were noted in static and dynamic balance and functional capacity for performing ADLs and self-care, with more evident gains were obtained in self-care “Hygiene”, “Transfer” and “Walking with gait aid”.

Conclusion: The implemented Rehabilitation Nursing program contributed to improving the functionality of the patient who underwent a Partial Hip Prosthesis.

Descriptors: Nursing; Rehabilitation; Femur Fracture; Selfcare

RESUMEN

Introducción: La fractura de fémur es una de las lesiones traumáticas más frecuentes en la población anciana. La estabilización quirúrgica de estas fracturas es el tratamiento de elección, permitiendo una movilización y carga tempranas, siendo el proceso de rehabilitación esencial para la recuperación funcional y la mejora de la calidad de vida. El Enfermero Especialista en Enfermería de Rehabilitación es el profesional capacitado para diseñar, implementar y monitorizar planes especializados de Enfermería de Rehabilitación que ayudan a las personas a maximizar su potencial funcional, autonomía e independencia.

Objetivo: Identificar los beneficios de un programa de Rehabilitación Motora Funcional y Entrenamiento en Actividades de la Vida Diaria (AVD) para una persona sometida a Prótesis Parcial de Cadera.

Método: Estudio de Caso descriptivo único realizado siguiendo las directrices CARE (CASE REport). Tras una evaluación inicial, se implementó un programa de Enfermería de Rehabilitación enfocado en los diagnósticos identificados y en los objetivos establecidos para el período postoperatorio derivado del procedimiento quirúrgico.

Resultados: Se observaron mejoras en la fuerza muscular y el rango de movimiento articular de los segmentos músculo-articulares de lo miembro inferior intervenido. Hubo avances en el equilibrio estático y dinámico, así como en la capacidad funcional para realizar AVD y autocuidado, destacándose especialmente los progresos en los autocuidados de “Higiene Personal”, “Transferir” y “Caminar con ayuda de marcha”.

Conclusión: El programa de Enfermería de Rehabilitación implementado contribuyó a la mejora de la funcionalidad de la persona sometida a Prótesis Parcial de Cadera.

Descriptores: Fractura de Fémur; Enfermería; Rehabilitación; Cuidados personales

INTRODUCTION

Demographic changes in the population have been evident in recent years, what is not only due to the increase in longevity and the elderly population, but also due to the reduction in the birth rate and the young population. Associated with all the scientific and technological developments in the health area, we have also seen an increase in average life expectancy ⁽¹⁻³⁾.

People's well-being may be affected by a multitude of situations that lead to loss of autonomy and dependence ^(2,3). Falls are a major cause of hospitalization because they often result in loss of independence and functionality ⁽⁴⁾. As they are traumatic and multifactorial events, usually involuntary and unpredictable, falls cause injuries with consequences for the patient, the caregiver and also for society ⁽⁵⁾.

Since the femur is the bone with the greatest capacity to transmit load during movement, fractures of this bone are one of the most common traumatic injuries. This type of fracture is considered a major public health problem, as it is generally associated with long periods of hospitalization, intensive health care, prolonged rehabilitation and difficulties associated with returning home due to dependence and changes in functionality ⁽⁶⁾. The incidence of this type of fracture increases after the age of 60, and age, gender, sedentary lifestyle, physical disability, changes in balance and cognitive capacity are among the risk factors associated with these injuries ^(7,8).

Hip arthroplasty is a surgical procedure widely used in people with femur fractures, improving functionality by relieving pain, reducing joint stiffness and restoring lower limb function ⁽⁶⁾. Partial hip arthroplasty is a type of prosthesis that only replaces the head of the femur and is suitable when the acetabulum is intact. This prosthesis can be cemented or uncemented, with the former offering some advantages, such as: lower incidence of pain and periprosthetic fracture, less dependence on walking aids, greater mobility, shorter recovery time and lower rate of acetabular erosion. On the other hand, uncemented arthroplasty has a shorter surgical time and blood loss, and fewer complications related to the application of cement ⁽⁹⁾.

This type of procedure has several surgical approaches that, over the years, have become increasingly less invasive. The classically used access route is the lateral route, described by Kevin Hardinge, and offers excellent exposure of the acetabular cavity and proximal end of the femur, facilitating the insertion of the prosthesis components ⁽⁹⁾.

After surgery, care should be planned to increase the person's independence ⁽⁹⁾. Only 60% of elderly people are able to fully recover their gait to the pre-fracture level after 6 months of recovery, and around 25% end up dying from other health problems within the first year after the fracture ^(6,8).

In this sense, the importance of the intervention of the Specialist Nurse in Rehabilitation Nursing [SNRN] becomes clear, as a professional who has the skills to design, implement and monitor differentiated Rehabilitation Nursing [RN] plans based on the real and potential problems of the person ⁽¹⁰⁾.

In this sense, this Case Study was developed on a person who underwent Partial Hip Prosthesis. Given the marked morbidity and mortality associated with this type of fracture ⁽¹¹⁾, this clinical case becomes even more relevant and interesting, allowing an in-depth analysis of the results obtained and drawing parallels with the most recent scientific evidence.

The general objective of the study was defined as: to identify the benefits of a therapeutic plan that included motor functional reeducation [MFR] sessions for the person undergoing Partial Hip Prosthesis. To this end, the specific objectives of the SNRN were defined as: To identify changes in the functionality of the person being cared for; To perform a diagnostic assessment of RN; To plan RN interventions; To implement RN interventions; To evaluate the results of RN care.

METHODOLOGY

The case study is a research method that allows studying group or individual phenomena in real contexts. As it is empirical research in which the boundaries between a phenomenon and the context are not clear, the aim of the case study is to explore, to describe and to explain an event based on the research problem ⁽¹²⁾. Thus, in line with the aforementioned and using the references of Yin and Stake, the present study is organized into six stages: Definition of the problem; Definition of the case; Theoretical basis; Preparation of the study protocol; Data collection; Analysis and discussion of the results ⁽¹⁰⁾.

In this study, a patient who was hospitalized and underwent Partial Hip Prosthesis is presented, and the therapeutic plan established during the hospitalization is addressed. This plan was initiated on the first postoperative day, with the results achieved being monitored and 3 assessment moments (initial, intermediate and final assessment) being carried out, where the assessment instruments used were applied.

A request for authorization was made to the Ethics Committee of the hospital where the inpatient service is located, and the request was granted. Ethical issues were considered in order to guarantee the rights of protection against harm and discomfort and of self-determination, respecting the principles of Beneficence and Non-Maleficence. The ethical principles of Fidelity, Truthfulness, Justice and Confidentiality ⁽¹³⁾ were also complied with. As such, the person being cared for will be identified as Mrs. X. All information was obtained through consultation of the patient's clinical file,

observation and physical examination, and through a structured interview with the patient and their family member. Free and informed consent was obtained before data collection.

CASE PRESENTATION

Anamnesis

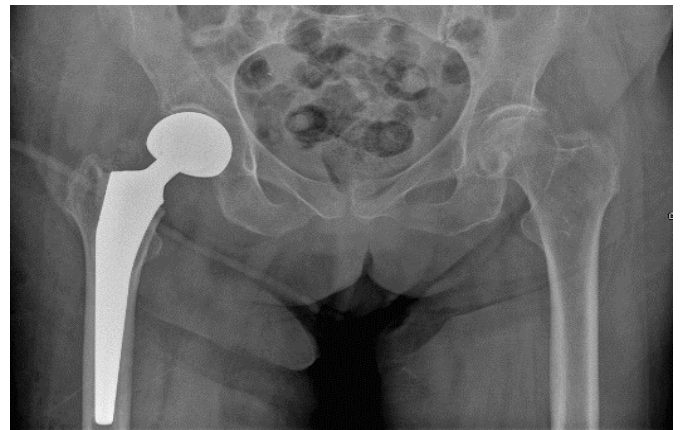
This case study concerns a 70-year-old woman living in Portimão. She is a Portuguese national and it is not known about her religion. She has been a widow for 3 years and has two daughters living in Lisbon. She was admitted to the emergency department due to moderate pain, shortening and rotation of the right lower limb, after having fallen from her

own height at home. Upon admission, Mrs. X was calm, conscious and oriented. She complained of pain in the right lower limb of intensity 8, according to the numerical pain scale. An X-ray of the hip was performed, which revealed a sub-capital fracture of the femur on the right (Figure 1). She was subsequently transferred to the Inpatient Department, where she underwent reduction, stabilization and immobilization of the right lower limb, and was placed on complete bed rest with 3 kg of skin traction. After 10 days, she underwent surgery via Hardinge to place a cemented right partial hip replacement, under general anesthesia, which was uneventful. A new hip X-ray was performed on the 1st postoperative day (Figure 2).

Figure 1: Hip X-ray (preoperative).



Figure 2: Hip X-ray (post-operative).



As for her personal history, Mrs. X has high blood pressure and a cataract in her right eye (surgically treated in 2008). She is not aware of any allergies.

With regard to performing activities of daily living [ADLs], Mrs. X was independent until she was admitted to the emergency department. She lives in a single-story house. She has no economic or ergonomic difficulties in terms of social, family or housing.

Mrs. X remained hospitalized and is awaiting discharge to the National Network of Integrated Continuing Care – Convalescence Unit, to continue her rehabilitation program.

Rehabilitation nursing assessment

The rehabilitation plan began on the first postoperative day, and the respective interventions were implemented until the day Mrs. X was discharged from the hospital, completing seven SNRN intervention sessions.

With regard to the assessment of muscle strength, this was performed using the Medical Research Council [MRC] Strength scale, which aims to grade strength levels between 0 and 5, where at level 0 the person has no visible or palpable muscle

contraction and, at level 5, has normal strength ⁽¹⁴⁾. Mrs. X's muscle strength limitation resided mainly in the lower limb that was operated on, and intervention at the upper limb level was also a priority in order to facilitate the use of walking aids.

To assess muscle tone/spasticity, the modified Ashworth Scale was used, performing passive mobilization of the limbs and evaluating their resistance during movement ⁽¹⁴⁾. In this assessment, Mrs. X presented overall maintained muscle tone.

To assess the range of motion of the lower limb that underwent surgery, a universal goniometer was used. This assessment follows an assessment protocol that includes the following aspects: joint movement, position, joint stabilization, axis, and fixed and mobile arm positioning. This result is read in comparison with existing physiological reference values ⁽¹⁴⁾. The Barthel Index was completed after direct observation and was used to assess Mrs. X's level of independence in performing ten basic activities of living. The total score of this assessment is divided into intervals that correspond to different levels of dependence: between 0-20 (total dependence); between 21-60 (severe dependence); between 61-90 (moderate dependence); between

91-99 (very mild dependence); and 100 (no dependence) ⁽¹⁴⁾. In the first assessment, Mrs. X had a score of 25/100, which is a predictor of severe dependence. The Morse Falls Scale was applied to understand the risk of falling. On this scale, the total score ranges from 0 to 125 points, and people are divided into three groups according to the final score: 0-24 (no risk of falling); 25-50 (low risk of falling); and ≥ 51 (high risk of falling). The use of this scale, together with the clinical assessment of the person and the therapy instituted, determines the risk of falling and the need to establish an individualized care plan adjusted to each person's situation ⁽¹⁵⁾. In this assessment, Mrs. X obtained a score of 60/125, which corresponds to a high risk of falling.

The Qualitative Pain Scale was used to assess and quantify Mrs. X's pain during the RN sessions.

Rehabilitation nursing diagnoses

The data obtained through the anamnesis have complemented the data acquired in the physical examination of the person, thus guiding the implementation of the RN program. Thus, and according to the recognized deficits and needs, the following

RN diagnoses were identified, based on the ICNP 2019 language ⁽¹⁶⁾ and the Documentary Standard for Rehabilitation Nursing Care ⁽¹⁷⁾.

- Decreased muscle movement in the right lower limb;
- Potential to improve the ability to use an assistive device for self-care: hygiene;
- Potential to improve the ability to use an assistive device for self-care: clothing;
- Potential to improve the ability to use an adaptive technique for self-care: going to the toilet;
- Potential to improve the ability to use an adaptive technique for moving;
- Potential to improve the ability to walk with a walking aid;
- High risk of falling present;
- Pain present.

MFR sessions and ADL training

Once the assessment was carried out and the RN diagnoses were identified, RN interventions were planned to be implemented during the hospitalization and are shown in Table 1.

Table 1: RN diagnostics and interventions

Nursing diagnosis	
Decreased Muscle Movement in the Right Lower Limb	
Nursing interventions	<ul style="list-style-type: none"> - To assess strength, muscle tone and degree of joint range of motion; - To instruct on the importance of performing muscle movement: - To instruct on performing isometric contractions of the quadriceps, gluteus and abdominal muscles (3 sets of 10 repetitions, 2x/day); - To perform polysegmental muscle-joint mobilization techniques: passive type in the cox-ofemoral segment and knee and active assisted type in the tibiotarsal joints and phalanges of the toes of the right foot (never performing adduction beyond the sagittal midline, hip flexion greater than 90° and lateral rotation of the hip); and active and resisted active type in the upper limbs and left lower limb - (3 sets of 10-15 repetitions, 2x/day, progressing according to tolerance); - To instruct and train therapeutic exercise: bridge (3 sets of 5-10 seconds, 2x/day, progressing according to tolerance); - To encourage active mobilization of free joints; - To perform early standing.

Nursing diagnosis	
Potential to improve ability to use assistive device for self-care: hygiene	
Nursing interventions	<ul style="list-style-type: none"> - To assess knowledge of hygiene techniques and the ability to perform this self-care; - To encourage participation in the hygiene of areas of the body that can be reached and hygiene of areas of the body that cannot be reached; - To instruct and train the use of support devices for bathing (safety bars and long-handled sponges to avoid luxating movements); - To instruct and train to prevent complications during hygiene (preferably showers and sitting on a high stool or shower chair); - To encourage participation in self-care.
Potential to improve ability to use assistive device for self-care: clothing	
Nursing interventions	<ul style="list-style-type: none"> - To assess knowledge to perform this self-care and ability to dress/undress; - To instruct and train the technique of dressing (starting on the side being treated) and undressing (starting on the opposite side); - To request the person's collaboration according to their capabilities; - To instruct and train on support devices for dressing and undressing (long-handled clamps for dressing the lower limbs or "handles" fixed to clothing, long-handled shoehorn, shoes without laces, with low and wide heels and rigid, non-slip soles); - To encourage the person to dress/undress.
Potential to improve ability to use adaptive technique for self-care: going to the toilet	
Nursing interventions	<ul style="list-style-type: none"> - To monitor and encourage adequate nutritional and water intake; - To ensure a regular bowel movement pattern; - To assess knowledge of toileting techniques and provide instruction on support devices (side bars for support similar to an armchair and toilet seat raiser); - To provide instruction and training on toilet use techniques (sitting and standing techniques); - To encourage participation in toilet use.
Potential to improve ability to use adaptive technique to move	
Nursing interventions	<ul style="list-style-type: none"> - To assess knowledge of the transfer technique and the ability to perform self-care; - To teach and instruct on preventing complications during movements; - To train the transfer (keep the operated limb extended and place a pillow between the knees); - To ask the person whether to get up at home on the non-operated side or the healthy side, teaching accordingly; - To instruct and train the transfer (train: rolling to the transfer side, weight on the elbow, sitting on the bed, static and dynamic balance while sitting, assuming the orthostatic position with the aid of a walker, static and dynamic balance in an orthostatic position, rotating on the axis of the healthy leg with the aid of a walker, sitting in the wheelchair with controlled descent and avoiding hip flexion greater than 90°); - To encourage the person to move.

Nursing diagnosis	
Potential to improve walking ability with walking aid	
Nursing interventions	<ul style="list-style-type: none"> - To assess knowledge about the technique of walking with a walking aid (walker); - Instruct and train active resisted polysegmental musculoarticular exercises in the upper limbs to gain muscle strength; - To teach about walking aids (correct adjustment of the same with the support of the hands at the height of the greater trochanter and the support of the forearm 2-3 cm below the elbow; and the safety conditions of the walking aids with the rubber in good condition); - To teach, instruct and train about walking with a walking aid (3-point gait: 1st walker, 2nd operated leg, 3rd healthy leg); - To instruct and train maneuvers of changing direction with the use of a walker, with rotation about the axis of the healthy leg; - To teach about safety conditions for walking with a walking aid (removal of obstacles, comfortable footwear that is well-adapted to the feet); - To teach about adapting the home to walk with a walking aid (remove rugs and runners that do not adhere to the floor, remove loose cables from the floor, arrange furniture).
High risk of falling present	
Nursing interventions	<ul style="list-style-type: none"> - To assess the risk of falling (every 7 days); - To optimize the physical environment (keep the bed on a low level, lock the bed and wheelchair, install an accessible walker); - To instruct and train exercises: polysegmental musculoarticular exercises; and static and dynamic balance exercises in an upright position; - To instruct and train the technique of transferring and walking with a walking aid; - To instruct on optimizing safety conditions (correct use of walking aid, appropriate footwear, type of floor, lighting, paths without obstacles).
Pain present	
Nursing Interventions	<ul style="list-style-type: none"> - To assess the presence of pain and assess the person's pain; - To assess knowledge about non-pharmacological techniques for pain relief (cryotherapy and massage); - To perform relaxation techniques (respiratory functional reeducation: technique of dissociation of respiratory times with increased respiratory times, global costal opening) and therapeutic massage; - To manage analgesia; - To respect the limit of joint amplitude in polysegmental musculoarticular mobilization exercises and rest times.

RESULTS

The rehabilitation program outlined was implemented during 7 sessions and 3 assessment moments were carried out: initial assessment on the first day, intermediate assessment halfway through the intervention program and final assessment on the last day of intervention. Table 2 shows the schedule of the RFM Intervention Plan proposed for Mrs. X.

Table 2: MFR intervention plan timeline

	Session						
	1	2	3	4	5	6	7
RN Assessment	•			•			•
Isotonic exercises: free/assisted/resisted active mobilizations of the healthy limbs.	•	•	•	•	•	•	•
Isotonic exercises: passive/active/assisted active mobilizations of the operated limb.	•	•	•	•	•	•	•
Therapeutic activity training: bridge		•	•	•	•	•	•
Self-care training: turning, sitting and transferring		•	•	•	•	•	•
Seated balance training		•	•	•	•	•	•
Adaptation to orthostatism training			•	•	•	•	•
Walking training with walking aid			•	•	•	•	•
Climbing/descending stairs							

During the days in which the intervention plan was implemented, Mrs. X was always calm, conscious and focused in all four areas.

As regards muscle strength, there was an overall improvement. Table 3 shows the results of this assessment at three different time points.

Table 3: Results of muscle strength assessment

Musculoarticular segment	Assessment					
	Initial	Intermediate	Final	Initial	Intermediate	Final
Left Upper Limb			Right Upper Limb			
Shoulder	4/5	4/5	5/5	4/5	4/5	5/5
Elbow	4/5	4/5	5/5	4/5	4/5	5/5
Hand	4/5	4/5	5/5	4/5	4/5	5/5

Musculoarticular segment	Assessment					
	Initial	Intermediate	Final	Initial	Intermediate	Final
Left Lower Limb			Right Lower Limb			
Ball and socket joint	3(+)/5	4/5	4/5	1/5	2/5	2 (+)/ 5
Knee	3(+)/5	4/5	4/5	1/5	2 (+) /5	3/5
Tibiotarsal	3(+)/5	4/5	4/5	2/5	3/5	3 (+) /5

Regarding joint amplitudes, there was a progressive increase, as can be seen through the analysis of Table 4, indicating an overall partial recovery.

Table 4: Results of the joint range of motion assessment

		Initial assessment	Intermediate assessment	Final assessment
Musculoarticular segment		Joint range of motion of the right lower limb		
Ball and socket joint	Flexion	0°	25°	30°
	Extension	0°	0°	0°
	Abduction	0°	0°	0°
	Medial Rotation	0°	0°	0°
Knee Joint	Flexion	0°	40°	60°
	Extension	0°	0°	0°
Tibiotarsal joint	Plantar Flexion	20°	26°	29°
	Dorsiflexion	4°	5°	7°

In carrying out self-care, Ms. X showed an overall improvement in her participation and execution of the same:

- In the final assessment of Self-Care “Hygiene” “Clothing”, she only needed full help to wash/dry her body surface from her knees to her feet and to dress the lower half of her body;

- As she was confined to a bed due to urinary retention during her hospitalization, it was not possible to fully complete the instruction and training for Self-Care: Going to the Toilet. Regarding bowel elimination, she always used the bedpan as a resource;

- To move herself, Mrs. X needed partial help in the final assessment; however, she already carried consistent weight on her lower limbs and rotated around the axis of her healthy leg;

- In the final assessment regarding walking with a walking aid, Mrs. X performed this training using a walker, demonstrating adequate gait.

Regarding the risk of falling, Mrs. X presented a high risk of falling throughout her hospitalization, and did not experience any episodes of falling.

Regarding pain, Mrs. X reported that the pain progressively improved throughout her hospitalization,

and in the final assessment she was “Pain-Free” at rest, after and during the interventions.

The Barthel Index showed a final score of 55/100 in the final assessment, with gains being made, mainly in the self-care areas “Hygiene”, “Moving” and “Walking with a walking aid”.

From an overall point of view, Mrs. X has the physical and cognitive potential to become more autonomous and independent.

DISCUSSION

From an orthopedic perspective, surgical stabilization of proximal femur fractures is the treatment of choice and should allow early mobilization and weight-bearing ^(18,19). The rehabilitation process associated with the postoperative period of these surgeries should include a multimodal program with a multidisciplinary approach, focused on improving the quality of life and emphasizing the person's capacity and maximizing their independence. Early intervention prevents complications and reduces hospitalization time, so an assessment of functionality should initially be included, with determination of rehabilitation potential, and an assessment of the socio-family and community resources ^(18,19).

In addition, the person's motivation, involvement and awareness of the limitations imposed by the surgery and the rehabilitation process itself are crucial to achieving gains. In this context, the SNRN is fundamental in the development and implementation of targeted and early initiated RN programs ⁽¹⁸⁾.

In this case study, although the SNRN approach and intervention were initiated as early as possible, this was not an ideal situation. The design of RN care should include the preoperative period with teaching and instruction of exercises and strategies for carrying out activities inherent to self-care, minimizing anxiety and possible complications arising from the transition process, promoting the involvement of the person in their rehabilitation process ^(18,20).

In addition, and according to current literature, surgical intervention should be performed within the first 48 hours after the injury, in order to minimize complications arising from prolonged immobilization ⁽¹⁸⁾. However, it was found that this situation did not occur in this specific case, with Mrs. X having undergone surgery 10 days after the injury.

From this perspective and with regard to fractures of the proximal end of the femur, this case study is in line with the current situation in the Portuguese context ⁽¹¹⁾, in which there is a delay in the ideal timing of surgery, as well as in the beginning of the rehabilitation process.

Up until the date of admission, Mrs. X did not present a degree of dependence that would limit her autonomy in ADLs. However, the fracture resulting from her fall was responsible for the development of a high degree of dependence, requiring full assistance in ADLs.

The most recent literature states that a rehabilitation program in the postoperative period should focus on “joint mobilization, muscle strengthening, prevention of dislocation, verticalization and gait training, and ADL training” (4). In this sense, the design of the RN diagnoses considered not only the objectives expected in the postoperative period resulting from this type of surgery, but also the needs identified in the initial assessment carried out on Mrs. X, allowing the RN program to be adapted to the real needs recognized.

Orthopedic and trauma surgery is associated with postoperative pain, resulting from nociceptive stimulation of musculoskeletal tissue and inadequate analgesia, which ultimately causes physical and psychological effects on the individual ⁽²¹⁾. Since painful stimuli delayed the individual's recovery, it was essential to reduce Mrs. X's pain throughout her hospital stay, allowing her to adhere to the rehabilitation program.

Isometric and isotonic exercises are an integral part of postoperative care plans, and the literature recommends that mobilization training be included in all joint segments, according to joint range of motion and pain tolerance ⁽⁷⁾. In addition to these exercises, the first stand-up is also a determining factor in recovering muscle strength lost during the pre-surgery immobilization period ⁽²²⁾.

As regards gains in mobility and musculoskeletal movement, these were generally favorable. The number of repetitions and sets gradually increased, followed by an increase in generalized strength that allowed gains to be made in terms of improving static and dynamic balance in the standing position, using the walking aid, achieving a safer and more effective gait, and improving the performance of ADLs and self-care.

The literature points to the importance of teaching and training ADLs due to the maximization of the person's functionality and quality of life ⁽²³⁾. The RN must adapt their interventions in order to alleviate the detected problem, often resorting to technical aids or support products, which are essential for the well-being, autonomy, integration, and quality of life of people, allowing for more independent and more comfortable activity, with less pain and energy expenditure ⁽²³⁾. The use of support products is integrated here with significant relevance, since the use, for example, of a bench or chair with support attached to the shower, side support bars and a long-handled brush would allow Mrs. X to become independent in “Hygiene” Self-Care, just as a pair of tweezers or a hook would allow her to dress the lower part of her body and a long-handled shoehorn to put on her shoes, without compromising the integrity of the prosthesis. Teaching and supervising the use of support products is extremely important to enhance the person's maximum functional capacity ⁽²⁵⁾.

The identification of architectural barriers that the person has in their home should also be

a concern when approaching the SNRN, providing adaptive responses in order to prevent complications and promote the person's independence⁽⁷⁾.

With regard to training to go up and down stairs, the rehabilitation program implemented was not sufficient for Mrs. X to be able to perform this training safely, since it was only possible to perform gait training using a walker.

The lack of some material resources (such as tweezers, shoehorn and long-handled sponge) was a factor that limited the implementation of certain interventions. The fact that the program did not include days off and weekends also conditioned the results obtained. However, and despite the existing limitations, it was found that there was an overall improvement in Mrs. X's degree of dependence. Although it was not sufficient to return to her previous health condition, the implemented interventions proved to be essential and decisive in achieving the proposed objectives, requiring only more time and material resources to carry them out.

This case study contributes to the development of knowledge about RN by providing an understanding of the needs and challenges faced by a person undergoing Partial Hip Replacement. The data presented here can serve as a comparison for future RN programs carried out for people undergoing this type of surgical procedure. In addition, this study also emphasizes the need for and importance of more frequent RN care, aiming at the completeness and perfection of the therapeutic plan and, consequently, better results and health gains, enhancing the reintegration and recovery of the person, reducing disability, incapacity and disadvantage.

FINAL THOUGHTS

Early rehabilitation in people undergoing partial hip replacement helps to avoid complications, especially those resulting from the period of immobility in bed to which the person is subjected, especially in the pre-operative period. The holistic approach integrated in this care plan, associated with the use of valid, sensitive and appropriate assessment instruments to measure functionality, allowed the adaptation of RN interventions, with a view to health gains.

In response to the general objective outlined for this case study, it was demonstrated that it was possible to identify functional gains after the application of an MFR and ADL Training program to the person undergoing partial hip replacement. The gains achieved by the SNRN intervention contributed to obtaining health benefits, promoting independence and maximum satisfaction of the person and improving their functionality. Although the results obtained are dispersed and very specific to certain areas, the overall improvement in the health status and dependence of the person being cared for is notable, thus demonstrating the importance

of specialized SNRN intervention for people with orthotraumatic disorders.

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 Data curation: A, J
 Formal analysis: A, J
 Investigation: A
 Methodology: A
 Project Administration: A
 Resources: A, J
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