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Therapeutic Self-care Demand in the Prevention of Post-Mastectomy Lymphedema: A Case Review

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Abstract

Mastectomy with axillary lymph node dissection is the surgical procedure of choice necessary for the treatment of breast cancer, and women are susceptible to develop upper limb edema known as lymphedema. Therefore, it becomes essential for nursing and given its importance, to provide educational support for the prevention of lymphedema, which is the main potential complication with serious repercussions on the quality of life of women. In the following clinical case, an initial assessment was obtained according to Dorothea Orem's General Theory of Self-Care Deficit, a care plan was executed using the North American Nursing Diagnoses Association taxonomy, Nursing Outcomes Classification, Nursing Interventions Classification, Educational support, the demands of therapeutic self-care were evaluated to determine whether or not a self-care deficit exists. The patient was followed up for 20 days and, when evaluating the results, it was determined that the patient increased her knowledge and the demands of therapeutic self-care, managing to satisfy the requirements of self-care thanks to the educational support of Nursing.

1. Introduction

A possible pathology secondary to the treatment of breast cancer is lymphedema of the extremity homolateral to the surgery and affects approximately one in four mastectomized women, causing functional deterioration, psychological distress and interferences in their quality of life.

Postmastectomy upper limb edema has been described as "the most unpleasant and frequent non-lethal complications and the only one with functional loss for the affected upper limb." [1]

It is caused by the inevitable injuries to the lymphatic collectors and / or by the surgical removal of axillary lymph nodes. Typically, this type of edema produces a feeling of tension, weight, decreased muscle strength, blockage of joint movements and sometimes pain throughout the upper limb and back. [2]

It is extremely important to identify the activities to be performed by the patient for the prevention of radical postmastectomy lymphedema modified with axillary lymph node dissection to reduce the presence of the problem, since once the damage to the lymphatic system has been demonstrated, it can not be repaired.

2. Case Presentation

2.1. Patient Data

Age: 75 years; date of evaluation: 3 May 2012; Department: Lymphedema Clinic.

Diagnosis: Left breast cancer (BC), infiltrating ductal carcinoma; clinical stage: III-B; treatment: surgery (Sx), chemotherapy (CHT) and radioterapy (Rx).

Post-surgical diagnosis: Radical modified mastectomy (MRM).

As ethical control through informed consent, the approval and signature of the patient is obtained.

2.2. Assessment

Initial assessment was performed according to Dorothea Orem's Self-Care Theory. The case is presented for the detection of nursing diagnoses and for the realization of a specific plan of care for the patient, according to the criteria of Tirado Pedregosa and using the three most used languages, Nursing Diagnostics: Definitions and classification - North American Nursing Diagnoses Association (NANDA), the Nursing Outcomes Classification (NOC), and the Nursing Interventions Classification - (NIC). [3]

Female, widow, lives with a daughter with whom she has a good relationship. She was operated on in March 2012 with left MRM with axillary lymph node dissection (17 nodes). First visit to the lymphedema clinic of the State Institute of Cancerology Colima, Mexico, being evaluated by the nurse specialist in manual lymphatic drainage therapy; In the serial measurement of the perimeter of both upper limbs the degree of lymphedema of the patient was determined, resulting in a degree 0 (zero) or latent according to the classification of postmastectomy lymphedema.

The patient says that during the process of her surgery and other treatment, was not informed by the health staff about the possible complications and how to prevent them, but that was one of the patients who came to the lymphedema clinic who informed her about the subject, to the clinic. The patient is calm, optimistic and tries to worry as little as possible.

2.3. Basic Conditioning Factors

Originally a resident of the municipality of Tecoman Colima, Mexico, the patient finished primary school, a Catholic religion, lived with one of her daughters, a widow for 4 years, retired with a monthly income of \$ 1,600 Mexican pesos (\$100 USD). State Institute of Cancerology to consultations and treatment for breast cancer, submitted to left MRM, in treatment of CHT and Rx, being entitled to the

popular insurance that is part of the System of Social Protection in Health (SPSS) of Mexico.

2.4. Health Process

2.4.1. Personal History

Denies allergies, complete Immunization scheme; after MRM, 15 adjuvant CHT sessions are indicated with Paclitaxel, Zoledronic Acid, Fluorouracil, Doxorubicin and Cyclophosphamide, at the end of this, Rx.

2.4.2. State of Health: Personal

Hypertension 4 years ago in treatment of captopril, good food intake in quantity and quality, denied drug addiction, and denotes good personal hygiene. Begins in 2012 with diagnosis of BC.

2.4.3. Changes in Health Status

The reason for the consultation was to schedule a first time appointment to the lymphedema clinic, referring to not knowing anything and having doubts about the possible problem that would face lymphedema. It mentions that it tries at all times to be positive and to worry as little as possible, carrying out the prescribed indications.

2.4.4. Universal Requirements for Self-care

1) Air supply

At auscultation, clean lungs, well ventilated, without respiratory difficulty, respiratory rate 18 x', heart rate 75 x', arterial tension 135/90 mmHg and body temperature 36.2°Celsius.

Physical examination shows a scar on his thorax (left side) of approximately 20 cm resulting from MRM, a central venous catheter (port-a-cath) is located under the right subclavian.

2) Water supply

It consumes approximately 5-6 glasses of purified water a day, the municipality in which it lives is quite warm and when the temperature rises, refers more consumption of oral liquids to the accustomed ones; Their skin and mucous membranes are hydrated.

3) Food supply

The feeding pattern, three times a day, based on foods rich in protein, carbohydrates, vitamins, fiber and low in sodium; Normal peristaltic noises, height 1.54 m and weight of 64 kg. Good dental hygiene, without problems for the process of crushing or swallowing of food. During his treatment of Qt he lost approximately 5 kg, now he begins to gain weight little by little.

4) Elimination

The patient describes that the characteristics of his urine are light yellow, with no gross hematuria data, frequency of 6 times a day, rising at night 1-2 times to urinate. Evacuation of soft stools, odor and color characteristics without the presence of blood, once a day, without difficulty, abdomen tender to palpation.

5) Balance between activity and rest

Not hospitalized, it presents slight limitation of movement

in the left upper limb at 70° of possible 90°, as well as numbness around the surgical wound (Table 1), although belonging to the stage of development of older adults shows sufficient energy and strengths to perform the activities you

want, perform occasional walks, sleep 6 to 8 hours a day, without taking a nap and having no trouble falling asleep, waking up just to go to the bathroom to urinate; 2 second capillary filling.

Table 1. Nursing Care Plan.

Level	Speciality	Department				
2°	Oncology	Lymphedema Clinic	Nursing Care Plan			
Domain 4: activity / rest Class 5: self-care						
			Nursing Agency			
			Results	Indicators	Measurement range	Daily target score
				Questions (160001)		Keep to 4
			Self-Care Deficit (NANDA)	Adhesion behavior (NOC 1600 p. 235)	Evaluates the accuracy of the health information received	4
			Diagnosis. Provision for improving self-care (00182) p. 150	Domain: Health (160003)	1 Never proven	4
			She expresses wishes to increase awareness of strategies for self-care	Knowledge and Behavior (IV)	2 Rarely demonstrated	16
				Balancing the Risks and Benefits of Health Behavior (160004)	3 Sometimes proven	Will increase
				Class: health behavior (Q)	4 Frequently proven	5
					5 Always proven	5
				Refers to the use of strategies to maximize your health (160009)		5
						20
Nursing Intervention Clasifications (NIC)						
Field: 3 behavioral Class: (S) education of patients						
Intervention: Empowerment of learning arrangement (NIC 5540 p. 653)				Totally compensatory	Nursing System	Educational support
Activities:					Partially compensatory	
a) Address specific patient concerns						x
b) Helping the patient to realize that there are treatment options						x
c) Helping the patient to realize the ability to prevent disease						x
d) Helping the patient to become aware of susceptibility to complications						x
e) Help the patient achieve the ability to control the progression of the disease						x

Source: Hernández-Blanco ML, Silvia Magaña G. Teoría general del déficit de autocuidado. In: Andrade-Cepeda RM, López España JT (eds). Proceso de Atención de Enfermería. Guía interactiva para la enseñanza. México, Ed. Trillas 2012: 129-144.

2.4.5. Maintenance Between Social Interaction Loneliness Balance

Mother of 8 children, lives with a daughter, maintains a harmonious relationship, socializes with all her children, family and neighbors, does not present any cognitive or sensorial deterioration, plays the role of housewife although since she was diagnosed with BC her family care her and do not let she does all the activities of the home. She is considered a kind, pleasant and friendly person, does not belong to any social group.

2.4.6. Prevention of Hazards to Life, the Functioning of Human Well-Being

There were no barriers that interfere with communication during the interview, their verbal communication is clear, precise, concise, congruent, fluid and is oriented in time and space; Use glasses for reading only.

It has the necessary security and protection measures that allow it to avoid accidents in the home; Its colony is urbanized and quiet.

2.4.7. Promotion to Normality

Feel the impetus for activities that help improve your health, such as preventing the appearance of lymphedema in her left arm, feeling good about herself, showing a positive attitude towards her illness and the treatments that the patient

had received and will receive. The woman frequently goes to her appointments and treatments with her doctors and nurse.

2.5. Development Requirements

An older adult, retired, is economically dependent on her daughter, mentioning that the money she receives for her retirement is not enough and for this reason her daughter helps her with the sustenance of the home, and for her will decided to follow up on the treatment receives her illness, she counts on the support of his children; According to Piaget the patient is in the stage of formal operations. It indicates being calm in the situation and thanks God for being alive.

2.6. Self-care Requirements for Health Diversion

The patient knows about his current condition, mentioning it as "breast cancer", also about the surgery performed by "modified radical mastectomy" and the removal of the 17 axillary nodes; However, the patient does not know about one of the main complications of the surgery, "lymphedema", but shows interest in knowing about it and performing self-care activities (Table 2), since another patient talked with her in the hall of the institute who mentioned that had lymphedema because of the mastectomy and the type of treatment received, is why decided to go to the lymphedema clinic, where could help him, as worries that may present this

complication at some point.

According to Dorothea Orem's theory, the dependent care agency corresponds to the patient and the nursing system

would be partially compensatory and educationally supportive.

Table 2. *Self-care activities.*

Level	Speciality	Department				
2°	Oncology	Lymphedema Clinic	Nursing Care Plan			
Domain 4: Activity / Rest Class 2: Activity / Exercise						
Self-Care Deficit (NANDA)		Results	Indicators	Nursing Agency		Daily target score
Diagnosis: deterioration of physical mobility (00085)				Measurement range		
p. 127				1 Severe deviation from the normal range		
Related with: Impaired physical condition, joint stiffness		Joint motion (NOC 0206 p. 514)	Left shoulder (020612)	2 Substantial deviation from the normal range		Keep to 4
Manifested for: Limitation of independent, intentional physical movement of the body of one or more extremities (left arm modified radical mastectomy + axillary lymph node dissection)		Domain: functional health (I)		3 Moderate deviation from normal range		4
		Class: mobility (C)		4 Mild deviation from the normal range		Will increase 5
				5 Without normal range deviation		5
Nursing Intervention Classifications (NIC)						
Field: 1 Physiological: Basic Class: (A) Activity and exercise control				Nursing System		
Intervention: physical therapy: join movility (NIC 0224 p. 751)				Totally compensated	Partially compensated	Educational support
ACTIVITIES:						
A) To determine the limitations of joint movement and to act on the function					x	
B) Collaborate with physiotherapy in the development and execution of an exercise program					x	
C) Encourage the performance of bow-movement exercises according to a regular and planned program						x
D) Teach the patient to perform passive or active bowel movement exercises systematically						x
E) Determine progress towards the goal set						x
Field: 3 Behavioral Class: (R) Helps to cope with difficult situations						
Intervention: advice (NIC 5240 p. 153)				Totally compensatory	Nursing System Partially compensatory	Educational support
ACTIVITIES:						
A) Favor the development of new skills					x	
B) Encouraging the substitution of unwanted habits for desired habits					x	
C) Reinforce new skills					x	

Source: Hernández-Blanco ML, Silvia Magaña G. Teoría general del déficit de autocuidado. In: Andrade-Cepeda RM, López España JT (eds). Proceso de Atención de Enfermería. Guía interactiva para la enseñanza. México, Ed. Trillas 2012: 129-144.

3. Discussion

Cancer is one of the leading causes of death worldwide; In 2008, it caused 7.6 million deaths corresponding to 13% of the total, and breast cancer in the same year reported a mortality rate of 13.7% and an incidence of 22.9%. [4] According to the International Agency for Research on Cancer, in 2006, 429,900 new cases were diagnosed in Europe, with a standardized incidence rate of 110 cases per 100,000 women, every 35 minutes a woman is diagnosed of breast cancer in Spain. [5] In Mexico the national epidemiological information on mortality from breast cancer are statistics from the National Institute of Statistics and Informatics, INEGI, where the number of deaths and their causes are recorded; The epidemiological picture of BC in the Mexican population was transformed in the last 50 years and breast cancer has become a public health problem, so that it can be estimated that BC will be the main cause of death in Mexican women. [6] At the end of the 20th century, 3026 deaths per year were BC, 4176 in 2004, a 38% increase in a decade [7], and consequently one of its main complications, lymphedema.

In the current set of treatments for BC patients undergo a

mastectomy in which, most cases perform an axillary lymph node dissection; Post-operative infections, self-care deficit, little or no educational support, and therapeutic self-care measures make lymphedema possible and risky.

The American Cancer Society describes lymphedema as "accumulation of lymphatic fluid in adipose tissue just below its skin". [8] The Spanish Cancer Association mentions that: "Lymphedema is the accumulation of fluid rich in proteins (lymph) in an extremity as a result of an overload of the lymphatic system, in which the accumulated lymph volume exceeds the drainage capacity of the lymphatic system". [9]

In 2005 global data on the incidence of lymphedema in studies reported from 20-25%. [9] The Mexican Ministry of Health, in its clinical practice guide on the diagnosis and treatment of BC in second and third level of care, mentions as evidence that in 200 women treated for BC in 20-25% presented lymphedema secondary to mastectomy and the women who were treated with radiotherapy presented it in 35%. [10]

At the same time, it is considered a chronic and at the same time incapacitating disease, which can appear at any moment, months or years after the mastectomy, suffering an increase in volume, pain, tension and heaviness in the

involved member, which will affect without doubt the quality of life of patients.

Given the importance of this complication, there is no doubt that the best way to attack lymphedema is and will be prevention. To carry it out, it is essential to educate the patients, to know the definition, to prevent and treat lymphedema. Unfortunately the information that mastectomized women receive about the risk of developing lymphedema, its prevention and treatment during this process, the content of the disease becomes poor and non-specific.

Dorothea Orem provided the "General Theory of Self-Care Deficit", with which it is feasible to apply in all roles and to all types of patients, focused mainly for the nursing to ask the following, What do and what should do the nursing professionals? Why do nurses do what they do? And What are the outcomes of nursing interventions?, this will have to be reflected in the context of the professional, teaching, clinical and research exercise. [11]

For this reason, it is very important to show the clinical practice of nursing in our patients, because according to Dorothea Orem nursing intervention will take place when the demands of therapeutic self-care exceed their abilities, then nursing intervenes when the patient accepts that she has a deficit for Taking care of himself, because of this condition nursing care becomes necessary. [11] In this theory Orem considers the demand for therapeutic self-care as the quantity and type of actions or activities that the person performs or should perform in a given time to achieve the requirements of self-care [12], focusing on the "capacity of people to promote, maintain and recover health from a global perspective of the individual.

When evaluating the results obtained in the nursing care plan, it was determined that the patient increased knowledge and the demands of therapeutic self-care according to the NOC, managing to satisfy the requirements of self-care thanks to the educational support of Nursing.

4. Conclusion

It is essential that patients with breast cancer undergoing surgery receive information for the prevention of lymphedema, as well as establish a routine program of prevention and nursing management for lymphedema.

References

- [1] Diaz HO. Método red como alternativa en el tratamiento del linfedema posmastectomía. *Rev Cubana*. 2000; 39 (1): 38-46.
- [2] Petrek JA, Lerner R, Harris JR, Lippman ME, Morrow M, Osborne K. *Lymphedema: Diseases of the breast*. Philadelphia: Lippincott Williams & Wilkins, 2000. pp. 1033-40.
- [3] Tirado-Pedregosa G, Hueso-Montoro C, Cuevas Fernandez-Gallegos M, Montoya Juarez R, Bonill-de las Nieves C, Schmidt Río-del Valle J. Como escribir un caso clinico en Enfermeria utilizando Taxonomia NANDA, NOC, NIC. *Index Enferm*. 2011; 20 (1-2): 111-115. <http://dx.doi.org/10.4321/S1132-12962011000100023>
- [4] World Health Organization. Cancer. Descriptive note No. 297, GLOBOCAN 2008 (IARC) Section of Cancer Information, 2012. Available in: <http://www.who.int/mediacentre/factsheets/fs297/es/>. Accessed 2 June 2015.
- [5] Real-de la Cruz MP. Plan de cuidados en mujer mastectomizada. *Prevencion de linfedema. Evidentia*. 2008; 5 (19). Available in: <http://www.index-f.com/evidentia/n19/413articulo.php>. Accessed 2 June 2015.
- [6] Instituto Nacional de Estadística, Geografía e Informática (INEGI). *Anuario Estadístico de los Estados Unidos Mexicanos*, eds. 1999- 2005. Available in: http://www.inegi.gob.mx/prod_serv/contenidos/espanol/biblioteca/default.asp?c=694. Accessed 2 June 2015.
- [7] Brandan ME, Villaseñor-Navarro Y. Deteccion del cancer de mama: estado de la mamografía en Mexico. *Cancerologia* 2006; 1 (2006): 147- 162. Available in: <http://www.incan.org.mx/revistaincan/elementos/documentos/Portada/1172289111.pdf>. Accessed 2 June 2015.
- [8] American Cancer Society. Lymphedema: What Every Woman With Breast Cancer Should Know. 2011. Available in: <http://www.cancer.org/espanol/buscar/index?QueryText=Lo+que+toda+mujer+con+cancer+de+seno+debe+saber&Page=1>. Accessed 2 June 2015.
- [9] Asociacion Española contra el Cancer. Lymphedema: prevention and treatment. 2005. Available in: <https://www.pfizer.es/Assets/docs/publicaciones/linfedema.pdf> f Accessed 2 June 2015.
- [10] National Centre of Technological Excellence on Health (CENETEC). Guide of clinical practice. Diagnosis and treatment of breast cancer in second and third level of attention. Secretaria de Salud 2009. Available in: http://www.cenetec.salud.gob.mx/descargas/gpc/CatalogoMae stro/232_IMSS_09_Ca_Mama_2oN/EyR_IMSS_232_09.pdf. Accessed 2 June 2015.
- [11] Hernandez-Blanco ML, Silvia Magaña G. General Theory of déficit of self-care. In: Andrade-Cepeda RM, López España JT (eds). *Nursing Care Process. Interactive guide to teaching*. Mexico, Ed. Trillas 2012: 129-144.
- [12] Marriner Tomey. *Models and theories in nursing*. 6ª ed. Elsevier Mosby 2007: 267-286.