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## RESEARCH

## Evaluation of functional capacity in care of tissue injuries of adults and elderly patients

Avaliação da capacidade funcional no cuidado de lesões tissulares de pacientes adultos e idosos

Evaluación de la capacidad funcional en el cuidado de lesiones de tejidos de pacientes adultos y ancianos

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## ABSTRACT

**Objective:** To validate the informative booklet as Educational Technology (ET) on care for the elderly with dementia by nurses and nursing students. **Method:** Transversal observational study quantitative, in which the setting was a higher education institution in the state of Rio de Janeiro, whose subjects were teachers and nursing students with data collection period of 04/04/12 to 30/06/12. **Results:** The validation of the booklet was satisfactory in the analysis of the evaluators, as most of the responses received adequate concepts did not show significant variations. Regarding the valuation parameter in their assessment items in large part the booklet has reached agreement on the concepts the goal. **Conclusion:** The validated primer can contribute to the care of people with dementias, preventing complications, development of skills of its users and promotes nursing autonomy and motivation to create new educational technologies. **Descriptors:** Elderly, Dementia, Nursing, Educational technology.

## RESUMO

**Objetivo:** Validar a cartilha informativa como Tecnologia Educacional (TE) sobre os cuidados ao idoso com demências pelos enfermeiros e acadêmicos de enfermagem. **Método:** Pesquisa quantitativa, observacional do tipo transversal, na qual o cenário foi uma instituição de ensino superior do estado do Rio de Janeiro, cujos sujeitos foram docentes e acadêmicos de enfermagem com período de coleta de dados de 04/04/12 a 30/06/12. **Resultados:** A validação da cartilha foi satisfatória na análise dos avaliadores, pois a maioria das respostas recebeu conceitos adequados não apresentando variações importantes. Quanto ao parâmetro de valoração em seus itens de avaliação em grande parte a cartilha possui concordância nos conceitos atingindo a meta proposta. **Conclusão:** A cartilha validada pode contribuir para o cuidado a pessoas com demências, prevenindo complicações, desenvolvimento de habilidades de seus usuários e favorece a autonomia e a motivação da enfermagem para inventar novas tecnologias educacionais. **Descritores:** Idoso, Demência, Enfermagem, Tecnologia educacional.

## RESUMEN

**Objetivo:** Validar el folleto informativo como Educación Tecnológica (ET) sobre el cuidado de los ancianos con demencia por enfermeras y estudiantes de enfermería. **Método:** Estudio cuantitativo transversal-observacional, con escenario en una institución de educación superior en el estado de Río de Janeiro, cuyos temas fueron los profesores y estudiantes de enfermería en el período de 04/04/12 hasta 30/06/12. **Resultados:** La validación del folleto ha sido satisfactoria en el análisis de los evaluadores, ya que las respuestas recibieron conceptos adecuados y no mostró variaciones. En cuanto al parámetro de valoración en la evaluación de sus elementos se ha llegado a un acuerdo sobre los conceptos de la meta. **Conclusión:** El folleto puede contribuir para atención de personas con demencias, la prevención de complicaciones, el desarrollo de habilidades de sus usuarios y promueve autonomía de la enfermería y motivación para crear nuevas tecnologías educativas. **Descriptor:** Anciano, Demência, Enfermería, Tecnología de la Educación.

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## INTRODUCTION

The care of patients with wounds, whatever its causes, is a hive of activity and requires specific nursing interventions based on scientific evidence. The elderly, because the physiological changes associated with skin fragility and mobility difficulties, become susceptible to the development of skin lesions.

It is growing the interest in the treatment and resolution of these lesions from nurses and also the managers of clinics, hospitals and rehabilitation centers. Given the wide variety of products available in the market, the nurse work stands the choice of the dressing and management of care directed to the patient, taking the worry of making informed decisions in scientific knowledge and reflection.<sup>1</sup>

Technological development and innovation in the treatment of skin lesions have been March promote health and wellness for adults and especially seniors with chronic conditions, providing a recognized area of nursing performance, but is need for in-depth research to prove with comprehensive income and tracking the effectiveness of new products, as proposed in this study.

The nursing assignments for patient care within the nursing process, as planned from a standardized language, allow better assess the effectiveness of care, re-organize care and assess the results achieved.<sup>2</sup>

These will include technological sustainability conscious, analyzing the responses of individual and standard functionality related to skin injury, a comprehensive overview of the subject, considering the variables involved in the effectiveness and efficacy of this product effective in healing the injury.

Depending on the context, the technology can be: tools and machines that help solve problems, techniques, knowledge, methods, materials, tools and processes used to solve problems or at least facilitate their solution, a method or process and construction work (such as technology manufacturing, technology infrastructure or special technology), or the application of resources to solve problems.

Thus, careful lesions involves an area of complexity in health, including aspects from the wound assessment and individual choice of products and processes of nursing care, associating contexts of technology for their fundamental scientific and social development.

It is worth mentioning that this study belongs to the Action Section n. 06/2011 Procad, of the project: *"Innovation in Nursing in the Treatment of tissue damage - Systematization, Technology and Inclusion Functionality"* through MCTI/CNPq/MEC/ CAPES.

Therefore the **objective** of this study is to evaluate and analyze the functional capacity and social support and their impact on the care of the tissue damage of adult and elderly patients.

The rationale of this study is to encourage through the so-called Law of Technological Innovation, the Brazilian government wants to stimulate the creation of specialized environments and cooperative innovation between scientific and technological

institutions in order to maintain and promote the health of patients, in which case this study patients with regard to tissue damage.

As we come to share the same environment at the university, aiming at nursing care to these clients generate economic and social benefits to its participants and the communities due to the collaboration between its participants.

## METHOD

A clinical observational research study of cross type. The research site is the Antonio Pedro University Hospital (HUAP) in Outpatient Wound Repair and the Clinical Research Unit of the Federal Fluminense University, located in Niterói/RJ.

Study subjects are adults and elderly patients with tissue damage seen at HUAP and health services in the region of Rio de Janeiro, randomized by simple statistical calculation that meet the inclusion criteria of the study, and who consent to participate in the survey according to the ethical precepts.

The inclusion criteria of the subjects are: female patients and male adults and seniors who have tissue damage, patients who agree to participate voluntarily in the study giving their written consent in accordance with Resolution 196 of 1996 patients in health for the application of the instruments. Exclusion criteria of subjects are: patients who fail to attend for periodic treatment of tissue damage and does not agree to participate.

The instruments for data collection were:

a) Research protocol that contains the identification data of patients and performs the evaluation of patients with venous ulcers;

b) Lawton Scale (IADL), that assesses the degree of dependence to perform Instrumental Activities of Daily Living, contains the conditions provided that the elderly have to answer the phone, getting out of the house, shopping, meal preparation, performing housework, medication administration and use of money. Has values with scores above 21 are classified as independent, and below this value are related to addiction. Importantly, the individual may be able to perform certain functions, but not done by choice, or by environmental factors or cultural issues made during life, as would be the case of men in achieving the domestic activities.<sup>3</sup>

c) Katz Scale (ADL)<sup>4-5</sup> - being a more descriptive that assesses performance in activities of daily living. That is, their functional capacity, dividing it into routine activities such as bathing, dressing, eating, personal hygiene, continence and transferring.<sup>6</sup> Their result is given by letters representing the number of missed activities, in which the letter A represents no activity lost, B, an activity lost until the letter G representing loss of seven activities of daily living.

d) The Berg Balance Scale (BBS)<sup>7</sup> - is a functional assessment of balance performance based on 14 common items everyday that assess postural control, including stable and anticipatory and require different strength, balance dynamic and flexible

When we summarize and analyze the tests proposed in the study group we will be able to declare the broad functional diagnosis of patients seen in the services of skin lesion, contributing to an action planning integral to this subject.

After completion of data collection, the same data were treated statistically in percentage, so as not to miss the importance of the results in numbers, through quantitative analysis. Therefore, in this study, responses were grouped and categorized to form a database using simple percentage and frequency Microsoft Office Excel 2003.

After statistical analysis, we analyzed the results by category, according to the evaluation aimed adequacy of information content to the detriment of clients assisted in the search landscape.

This project was submitted for review by the Ethics Committee of the University Hospital Antonio Pedro, promoting institution, which are linked to the School of Nursing and the Master's program in Academic Science in Health Care It was approved as having registration number 04826812.4.0000.5243 being this study in accordance with Resolution 196 of 1996 of the National Health Council in its Item IV of the Consent.

The period of data collection occurred from October 2012 to December 2013.

The benefits to patients of this study is the possibility of reducing the wound by teaching social and coping skills, adoption of adherence behavior therapy, and functional capacity. There are important elements of the subject's participation in family care, resulting in better prognosis for the patient from the treatment outcome progression from an integral perspective.

## RESULTS

Participants were 20 patients at the University Hospital Antonio Pedro and doing monitoring in the outpatient wound repair. Regarding gender, we have 40% of men and 60% women. This fact makes us say that a large part of this service assisted clientele is female.

In your old item, any patient was not interviewed 20-29 years old (0%), 30-39 years old 5%, from 40 to 49 years old 20%, 50 to 59 years old 25%, which shows us a percentage of 50% of adult patients. In the age group 60-69 years old we have 30%, 70 to 79 years old 15% and 80-89 years old 5% also found that there is a quantitative 50% of elderly patients in this unit.

This information is important because with the identification of problems related to adult clientele can identify and plan nursing care aimed at preventing the progression of lesions presented leading them to return to their work activities. With respect to the elderly client exists the possibility of maintaining the quality of life aimed at their reintegration in their activities of daily living and instrumental as well as a socially more active and participatory in terms of functionality.

Item found in the color: white 25%, black 35% and 40% brown. In item schooling have the following results: 1st degree complete in 40% of participants, 1st degree incomplete in

35%, grade 2 in 15% complete, 10% incomplete 2nd, none of the patients declared illiterate, however, there was not a participant in this study with the third degree.

Regarding marital status 50% are married, 25% single and 25% are widowed. Occupation in item no patients pleaded no source of income. Thus, retirees have 60%, 30% pensioners, employees and active labor market 10%.

Item in household income, all respondents reported income from 1 to 2 minimum wages.

Item identified in medical diagnosis in the medical records of 30% were recorded and identified: Hypertension, Diabetes Mellitus Type II, venous ulcers and systemic lupus erythematosus.

**On anamnesis and physical exam we had found the following data:** 35% had major complaint wounds in his left leg. However, 5% on the dorsum of the left foot; client had no wound of the plantar aspect of the left foot. Already 20% of the patients had wounds in the right leg and 5% on the dorsum of the right foot; 5% of the plantar aspect of the right foot, lateral malleolus in 10%, 20% in left malleolus.

Regarding risk factors 15% of patients had a **family history** of venous disease, and of this amount 25% had varicose veins, 25% had deep venous thrombosis, 60% had phlebitis, 5% had previous venous surgery and 20% had surgery or leg fracture.

Reported long periods of standing or sitting 90% of which 10% reported smoking making use since the age of 15 and more than 20 cigarettes per day. None of the respondents were alcoholics.

In item pathological history of patients with diabetes had 45%, with 5% of heart disease and arterial insufficiency respectively. Also found as pathological antecedents in the study participants: venous insufficiency (90%), leprosy (5%), hypertension (90%), varices (65%), previous surgery (50%) reported that they performed; deep vein thrombosis (20%), stroke (5%), phlebitis (60%) presented. In other pathological antecedents 5% reported systemic lupus erythematosus (SLE).

The signs of venous disease, all showed edema and 70% had varicose veins, 30% had eczema, no patient had flebectária crown, 75% had hiperpigmentação and none had lipodermatosclerosis

**Scale of instrumental activities of daily living Lawton - (IADL):** Item in phone, 95% are able to see the numbers, dial, make and receive calls without assistance and 5% are able to answer the phone but need a special phone or help finding the numbers or dial. None is completely unable to use the phone.

Travel in item 85% are able to drive your own car, or travel alone by bus or taxi and 15% are able to travel exclusively followed. Of all respondents pleaded no completely unable to travel.

As for making purchases 85% are able to shop if provided transport and 15% are able to shop exclusively followed. Of all respondents neither is completely unable to shop.

In preparing meals 55% said they were able to plan and cook full meals and 45% declared able to prepare small meals but unable to cook full meals alone. No patient was declared completely unable to prepare any meal.

In item housework all declared capable of performing light housework but need help with the heavy tasks.

In item 95% reported medication able to take medication dose at the right time and 5% said they are able to take medicine but need reminders or someone to prepare. Of all respondents pleaded no completely unable to take medicine alone.

As for money management 80% declared able to manage their purchasing needs, writing checks and paying bills and 20% declared able to manage their purchasing needs of daily life but need help with checks and paying bills. Of all respondents pleaded no completely incapable of managing money.

The sum of the values of Scale Instrumental Activities of Daily Living have 5% of patients with 14 points, 16 points with 5%, 5% with 17 points, 18 points with 5%, 30% with 19 points and 50% of patients with 20 points.

**Scale of Activities of Daily Living - Katz (ADLs) have:** Item in bath 95% do not need assistance in and out of the shower without assistance and 5% receive assistance to wash only one part of the body (back or legs). Of all respondents receive no assistance to wash over a part of the body and no declared not bathe alone.

About 95% clothing dress completely unassisted (strip the clothes from the closet and clothes, including underwear and clothing drive, as the use of fasteners, suspenders and vests) and 5% dress without assistance, receiving aid only to tie his shoes. Of all respondents stated that receives no assistance to dress or undress of the closet and declared that there is no dress alone.

As for personal hygiene all declared to go to the bathroom without assistance, cleaning up and arranging the clothes. Stated in item transfer all lying down and getting out of bed and sit down and rising from a chair without assistance may be used to aid objects as cane and walker.

In item 95% continence declared sphincter control (urinary and fecal) for complete system and only 5% said occurrence of occasional "accidents" as the sphincter control. Of all respondents said no need supervision in sphincter control or is incontinent. As for the power feed all declared themselves without assistance.

**Scale Evaluation Berg Balance - index TINETTI have:** Item in sitting balance, all showed balance. As for raising item, 80% use their arms. Of all patients was unable to raise any.

In attempts to get up, 45% of patients required a single attempt and 55% required more than one attempt. Of all respondents were able to raise all.

The item so raises (first 5 seconds) 65% were stable but with support and 35% were stable without support. All respondents were able to balance.

As for the balance while standing, 60% of patients and 40% remained balanced equilibrated with a support or support base greater than 12 cm. There was no episodes of imbalance with any patient.

In test item 3 times (the examiner pushes lightly external patient to stand feet together), 80% remained balanced and grabbed 20% or waved their arms. No patient began to fall after the test.

About item eyes closed, 95% remained balanced and occurred in 5% and instabilities. At 360 ° rotating item, 60% maintained continuous steps, 40% had episodes of discontinuous steps, 65% remained stable (balanced) and 35% occurred episodes of instability (unbalanced).

Sitting in item 80% remained safe and smooth movements and 20% used their arms and abrupt movements. All patients remained no unsafe altogether.

## DISCUSSION

The results reveal that patient's care with wounds, whatever its causes, is a hive of activity and requires specific nursing interventions based on scientific evidence. The elderly, because the physiological changes associated with skin fragility and mobility difficulties, become susceptible to the development of skin lesions.

The growing aging population, coupled with existing chronic diseases and the change in the age structure, requires public policies and attitudes of health care as defined in approach, with emphasis on interdisciplinary work in order to preserve the independence, participation, care, self-satisfaction and the possibility of this patient work in diverse social contexts.<sup>8</sup>

Since this is a chronic disease, it is essential that the customer also knows his illness and be a co-participant in the treatment process, and want to know when to expect in every situation, contributing thus to their own adaptation to new realidade<sup>9</sup> as seen in the results of the instruments used (protocol, ladder ADL, IADL scale and the scale Berg).

These results chronic wounds can pose a dilemma for the difficult diagnosis and treatment in the population. Thus, the benefits of a short-term rehabilitation should include not only the return or adjustment to their daily activities, but also investment in the training of professionals involved in care, such as nurses and dietitians are able to meet the needs of this clientele. Should incorporate realistic goals of care for wound healing and ensure excellent communication with team members, patients and families to achieve the benefits of a proper treatment.<sup>10</sup>

In this sense, to attend to the changes resulting from the aging process of each subject met, we will providing exclusive assistance, based on the real needs that are in effect at the time of care, which are reported by patients or observed by the nurse.

Another aspect observed in patients with chronic diseases are often away from their work activities because of their health conditions among which the very presence of lesions. This separation tends to generate financial difficulties reflected in health care, as in many cases, patients fail to attend health facilities for lack of financial value to move to the location of the query. This generates commitment of care and is difficult to track effectively the therapeutic.

Within the strategy, the nurse can plan activities that should be developed to better meet what is required for each home visit and proposed recommendation that emerged in this study. Soon, the nurse tends to run a comprehensive care focused on the actions of basic assistance, epidemiological and health surveillance. The nurse as a team member of the Family Health Strategy to conduct home visits, promotes help and monitoring therapeutic targeting the enhancement of health levels, resulting in the prevention of health complications.

When performing home visits for monitoring of injuries, the nurse with his critical and reflective tends to go beyond providing care directed to injury. He reflects on the family dynamics, the conditions in which this patient resides and thereby promotes significant contributions to the provision of care.

Nurses tend to contribute to the promotion of self-care, as well as for the improvement of care for adults and seniors by family members and caregivers, these elderly generating a sense of well being and development of adaptive processes to health problems. However, if health issues are not addressed properly, can generate negative impact on the health system, taking into account the demands epidemiological.<sup>11</sup>

These recommendations point to continuing education as a mechanism for health care for the adult and elderly and emphasize the need to encourage the practice of activities that encourage dependency of the elderly, as well as the need to claim from nurses to work collaboratively to resource provision of care.

When dealing with an injury, the nurse aims to promote effective healing of the lesion and in these cases the patient perform essential self-care guidelines, aimed at preventing possible complications and reduce relapses. However, the role of the nurse in the venous ulcer patients, beyond the issues of prevention and diagnostic evaluation of risk, his role extends to providing educational support and mental patients.<sup>12</sup>

When developing educational support to patients, the nurse seeks to guide them to look for ways that lead to adaptive overcoming their clinical condition, designing effective recovery and therefore result in improved quality of life.<sup>9</sup>

This educational support is essential to the conduct adopted aiming recovery are followed in order to make the treatment effective and satisfactory conditions biopsychosocial patient.

It is important to patient education, and competence of the nursing staff assisting this client in learning to recognize the different structures and defining characteristics of different clinical conditions in the wound bed.<sup>13</sup>

## CONCLUSIONS

We can also conclude that the benefits of short-term rehabilitation in adults and elderly patients with tissue damage, also through interdisciplinary resources, provide social and economic returns to these clients.

Considering the results so we can consider that we must turn its attention to the health of the individual with chronic injury as a whole, and not only as a carrier of venous ulcers.

Nursing professionals must invest in vocational skills to better serve their clientele, preventing possible complications arising from inefficiencies in differentiating characteristics of lesions, ie, the confusion between venous and arterial ulcers. Since the characteristics of these lesions are distinct and should be recognized by nurses so that they

can draw a therapeutic exercising his autonomy as a qualified professional, treasuring their practice.

With the aid of instruments of data collection is possible to glimpse the prevention of complications that can lead to amputation early adult and elderly clients, to ensure also an excellent communication with members of the care team, patients and families, ensuring accessibility and continuity of care.

This reflection can allow exchanges possibilities that end demystifying our previous beliefs and allowing us to grow not as spectators, but those who are in the process of continuous construction of knowledge in nursing care to this clientele.

The important thing is that the activities in this field of action, allow opportunities for institutional commitment to accept and encourage family participation in the rehabilitation of patients. Moreover, with the formation of their individual and social identity, there is a unique possibility in search of autonomy and independence in their means to an individual nursing care to adult and elderly patients with tissue damage.

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