



Revista da Escola de Enfermagem da USP

ISSN: 0080-6234

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Universidade de São Paulo

Brasil

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Revista da Escola de Enfermagem da USP, vol. 43, núm. 1, março, 2009, pp. 223-228

Universidade de São Paulo

São Paulo, Brasil

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Analysis of prevention and treatment of the pressure ulcers proposed by nurses

ANÁLISE DA PREVENÇÃO E TRATAMENTO DAS ÚLCERAS POR PRESSÃO PROPOSTAS POR ENFERMEIROS

ANÁLISIS DE LA PREVENCIÓN Y DEL TRATAMIENTO DE LAS ÚLCERAS POR PRESIÓN PROPUESTO POR ENFERMEROS

Adriana Bessa Fernandes Medeiros¹, Consuelo Helena Aires de Freitas Lopes², Maria Salete Bessa Jorge³

ABSTRACT

Pressure ulcers are still considered a serious problem, especially in elderly people and in situations of chronic-degenerative diseases. The purpose of this study was to identify the literature production about actions of prevention and treatment performed by nurses published from 1999 to 2004, describing the knowledge produced about the theme. This is a descriptive literature review of nursing journals indexed in LILACS and MEDLINE about the theme from 1999 to 2004. Data collection occurred from May to June, 2005. Afterwards, the material was read exhaustively, which yielded three aspects to be studied: prevention of pressure ulcers, treatment of pressure ulcers and nursing care of pressure ulcers. It was also concluded that there is need for research involving the work of the nurses in the clinical evaluation of the client and the development of systematized prevention programs.

KEY WORDS

Pressure ulcer/prevention & control.
Pressure ulcer/therapy.
Nursing care.

RESUMO

A úlcera por pressão ainda é considerada um problema grave, especialmente em pessoas idosas e nas situações de adoecimento crônico-degenerativo. O objetivo do estudo consistiu em identificar as produções bibliográficas sobre ações de prevenção e tratamento realizadas por enfermeiros publicadas no período de 1999 a 2004, descrevendo o conhecimento produzido na temática. Trata-se de levantamento bibliográfico descritivo de periódicos de enfermagem indexados na LILACS e MEDLINE, acerca da temática no período de 1999 a 2004. A coleta de dados ocorreu entre os meses de maio a junho de 2005. Procedeu-se o exame do material que compreendeu leitura exaustiva, o que proporcionou a identificação de três aspectos estudados: prevenção das úlceras por pressão, tratamento das úlceras por pressão e cuidados de enfermagem às úlceras por pressão. Concluiu-se ainda a necessidade de pesquisas envolvendo a atuação do enfermeiro na avaliação clínica do cliente e no desenvolvimento de programas de prevenção sistematizados.

DESCRIPTORES

Úlcera de pressão/prevenção & controle.
Úlcera de pressão/terapia.
Cuidados de enfermagem.

RESUMEN

La úlcera por presión, es todavía considerado un problema grave, especialmente en personas ancianas y en las situaciones de enfermedades crónicas degenerativas. El objetivo del estudio consistió en identificar las producciones bibliográficas sobre las acciones de prevención y tratamiento realizadas por enfermeros y publicadas en el período de 1999 a 2004, describiendo el conocimiento producido sobre el tema. Se trata de levantamiento bibliográfico descriptivo de periódicos de enfermería indexados en el LILACS y MEDLINE, acerca de la temática, en el período de 1999 a 2004. La recolección de datos se realizó entre los meses de mayo a junio de 2005. Se procedió a examinar el material con una lectura exhaustiva, lo que proporcionó la identificación de tres aspectos estudiados: prevención de las úlceras por presión, tratamiento de las úlceras por presión y cuidados de enfermería de las úlceras por presión. Se concluyó que todavía existe la necesidad de realizar investigaciones sobre la actuación del enfermero en la evaluación clínica del cliente y en el desarrollo de programas de prevención sistematizados.

DESCRIPTORES

Úlcera por presión/prevenición & control.
Úlcera por presión/terapia.
Atención de enfermería.

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INTRODUCTION

Pressure ulcer is still considered a severe problem, especially for the elderly and clients with chronic-degenerative illnesses, making it imperative to investigate how nurses deliver care to that kind of lesion through an analysis of scientific articles published on this subject.

It is defined as any lesion caused by unrelieved pressure, shearing or friction that may result in tissue death, being frequently found on bone prominence sites⁽¹⁾, which in addition to causing tissular damage, may cause a number of complications and worsen the clinical status of persons with restricted body movements. Although it is a subject that receives a lot of attention in the scope of nursing care, studies show that global incidence and prevalence remain high, a fact that proves the need for new research, looking to improve prevention and therapeutical measures.

This study's relevance is in searching literature for knowledge, new technologies and experience with the subject, enabling updated and substantiated information regarding the prevention and treatment of pressure ulcers.

Of notice is the need to verify if the available scientific knowledge about pressure ulcers is being correctly applied during the nurse's daily practice and, consequently, associating the research result during the care given to the client with risk or presence of lesion. The importance of conducting new studies about prevalence, incidence, prevention and treatment of pressure ulcers is observed, aiming to guide nurses' actions and practices.

OBJECTIVE

The study's objective is to identify bibliographical productions about prevention and treatment actions taken by nurses, published in the period from 1999 until 2004, describing the knowledge generated on this subject.

METHOD

Descriptive bibliographical research of nursing publications indexed in LILACS (Latin-American and Caribbean health literature) and MEDLINE (Health Sciences international literature), on the subject during the period from 1999 until 2004. The descriptive study gathered information that permitted an investigation of conditions and actions of the study's subject in order to better plan and conduct health practices⁽²⁾.

The search for material happened in Escola de Saúde Pública's and Associação Brasileira de Enfermagem's libraries, in the city of Fortaleza, Ceará, as well as through BIREME (specialized center of Pan-American Health Organization),

and the internet. The considered publications addressed the pressure ulcer theme using descriptors (uniterms) such as *pressure ulcer*, *decubitus ulcer* and *nursing care*. The data collection was carried out between May and June, 2005.

Initially, the descriptors were studied individually, resulting in 3658 works, of which 166 in LILACS and 1471 in BIREME, with a total of 1637 articles. A large quantity of articles was noted. The decision was made to search the texts by combining the descriptors, which produced 111 articles. Concerning this delimitation, the inclusion criteria consisted in choosing studies focusing on aspects related to prevention, prevalence and treatment of pressure ulcers or decubitus ulcer, in the period from 1999 until 2004. Thus, the final sample included 30 articles.

Data analysis was based on literature about prevention, prevalence and treatment of pressure ulcers carried out by nurses, themes addressed in the analyzed articles.

For a better understanding, Table 1 presents the addressed articles according to study reference, attention focus and content characterization.

The material was examined through exhaustive reading, which revealed the identification of three studied aspects: *prevention of pressure ulcers*, *treatment of pressure ulcers and nursing care for pressure ulcers*.

The global incidence and prevalence of the pressure ulcers remain high, a fact that proves the need for new research.

RESULTS AND DISCUSSION

The content pertaining to the *prevention of pressure ulcers* were focused on the more popular preventive measures among nurses and knowledge related to the use of prevention programs, especially nursing interventions. Also, the cost-benefit correlation and how the professionals dealt with their clients.

As for the subjects related to *pressure ulcer treatment*, contents were found dealing with the various kinds of existing pressure ulcer treatments, financial costs according to treatments by kinds of lesion, products and bandages used.

Relating to *nursing care for pressure ulcers*, there was a discussion about the importance of predictive scales for pressure ulcer prevention, the risk factors directly influencing their occurrence, as well as how nurses have been acting in relation to the causal factors. Also, the use of prevalence and incidence rates to improve care according to the reality of each health unit and clients receiving home care.

PRESSURE ULCER PREVENTION

The nurse plays a determinant role in the prevention and treatment of pressure ulcers. The prevention routines include, according to some of the authors⁽³⁻⁵⁾:

- Evaluation of the risk degree with individualization of care and production of a pressure ulcer prevention protocol;

Table 1- Chart of contents found in the nursing articles – Fortaleza – 1999 to 2004

REFERENCES	ATTENTION FOCUS	CONTENT CHARACTERIZATION
Cardoso MCS, Caliri MHL, Hass VJ ⁽¹⁾ Declair V ⁽⁴⁾ Bakes DS, Guedes SMB, Rodrigues ZC ⁽⁴⁾ Riveri S, Sepúlveda S, Yates C, Hurtado CH, Espinosa MA, Zúñiga C, Goles C, Albiña Y, Urrutia P, Escandar S, Saavedra E, Herrera C, Escobar M, Mena S ⁽³⁰⁾ Bräutigam K, Fleming A, Halfens R, Dassen T ⁽⁶⁾ Law J (7) Eisenberger A, Zeleznick J ⁽⁸⁾ Sae-Sia W, Wipke-Tevis D ⁽⁹⁾ Lyder CH ⁽¹⁰⁾ Bots TC, Apotheker BF ⁽¹²⁾ Edlich RF, Winters KL, Woodard CR, Buschbacher RM, Long WB, Gebhart JH, Ma EK ⁽¹³⁾ Barros SKSA, Anami EHT, Elias ACPG, Hashimoto MLY, Tsuda MS, Dorta PO, Haddad MCL, Guariente MMDM ⁽¹⁶⁾ Rabeh SAN, Camiri MH ⁽¹⁹⁾ Butcher M ⁽²³⁾ Sousa CAC, Santos I, Silva LD ⁽²⁶⁾ Bermark S, Zimmerdahl V, Muller K ⁽²⁸⁾ Fernandes LM, Braz E ⁽³¹⁾ Barros SKSA, Anami EH, Moraes MP ⁽⁵⁾	Pressure ulcer prevention; Profile of clients under pressure ulcer risk.	Cost-benefit of pressure ulcer prevention. Pressure ulcer prevention protocols. Preventive measures. Nursing interventions. Pressure ulcers in the elderly. Continuing education. Multidisciplinary prevention programs.
Correa G, Finkestein J, Fuentes M, Gonzalez X, Parada L, Piñeros JL, Roa E, Vallejo F ⁽²⁰⁾ Tetterton M, Parham IA, Coogle CL, Cash K, Lawson K, Benghauser K, Owens MG ⁽¹¹⁾ Sorensen JL, Jorgensen B, Gottrup F ⁽¹⁷⁾ Ferreira LM, Calil JA ⁽¹⁸⁾	Pressure ulcer treatment; Nursing care for pressure ulcer clients.	Cost-benefit of pressure ulcer treatment. Available pressure ulcer treatment. Pressure ulcer debridement types. Nursing practices and actions in the treatment of pressure ulcers.
Bispo NNC, Dias AF, Laureano FZ, Lafayette KCS, Zacarias LC ⁽¹⁴⁾ Blanes L, Duarte IS, Calil JA, Ferreira LM ⁽¹⁵⁾ Cuddigan J, Berlowitz DR, Ayello E ⁽²²⁾ Blümel JEM, Tirado KG, Schiele M, Schönfeldt F, Sarrá S ⁽²⁵⁾ Anselmi ML, Peduzzi M, França Júnior I ⁽²⁷⁾ Botero AM, Gómez F, Bernal MC, Curcio CL, Chácon ⁽²⁹⁾ Marrie RA, Ross JB, Rockwood K ⁽²¹⁾ Faro ACM ⁽²⁴⁾	Utilizing predictive scales for pressure ulcer risk; Home safety precautions for people under risk of pressure ulcer; Prevalence and incidence of pressure ulcer.	Nursing care. Braden and Waterlow scales. Pressure ulcer risk factors. Pressure ulcer prevalence and incidence utilized as indicators of pressure ulcer occurrence and care administered on the lesions.

- Use of risk degree evaluation scales, such as the Braden scale adapted to the Portuguese language and others, such as the Norton and Waterlow scales;

- Demonstrative chart emphasizing the areas susceptible to pressure ulcers;

- Providing a polyurethane mattress (e.g. box mattress) for the patient, especially patients in wheelchairs or bedridden;

- Identifying the risk factors and directing the preventive treatment, modifying the care according to individual factors;

- Mobilizing or position change every two hours, as well as administering a comfort massage with emulsions;

- Protection of bony projections, especially the heels, with rolls and pillows;

- Registering patient's skin changes, following the pressure ulcer classification stages proposed by the NPUAP (National Pressure Ulcer Advisory Panel) in 1989;

- Early skin treatment: to preserve and improve tissue pressure tolerance, aiming to prevent lesion;

- Checking vulnerable skin areas of all risk patients and optimizing that skin's state through moisturizing with essential fatty acid-based creams, treating incontinence, avoiding the use of excessively hot water, providing nutritional support;

- Monitoring and documenting interventions and achieved results;

- Implementing mechanical support measures: protecting/avoiding external mechanical forces' negative complications;

- Creating and providing a teaching program for long-term risk patients and their care providers.

Preventive recommendations adopted by some nurses in their daily practice to detect pressure ulcers early and avoid their manifestation were observed. Prevention-related nursing interventions should address aspects like: skin integrity care, use of moisturizing emollient, use of equipment for urinary incontinence and vesical reeducation, bed placement, daily observation of the penis's skin when using urinary incontinence equipment, hygienic care, vitamin and protein rich nutrition at the first signs of pressure ulcer, according to the age and clinical condition of each client.

Nursing interventions should be enforced, such as bed immobilization, multiprofessional team interacting for educational activity planning, pain management, raising the bed's upper part to 30°, creation of rehabilitation programs for clients with medullar lesion, conduction of nursing research on risk factors, prevention and new therapies for pressure ulcers, knowledge of the prevalence of pressure ulcers in general hospitals and use of new technologies for prevention and treatment⁽⁶⁻¹³⁾.

Advanced age causes intense changes in the human organism, making it more prone to illnesses and lesions that can become infected and produce sequels and long hospital stays. The analyzed authors highlighted the importance of treating pressure ulcers as a serious hospital complication. For that reason, the multiprofessional team should be engaged in the arrangement and implementation of pressure ulcer prevention programs and protocols, especially in clients more exposed to risk⁽¹⁴⁾.

The epidemiological profile consisted of individual and demographical characteristics that will lead that person to develop the lesion. Most people affected by pressure ulcers are elderly, with chronic-degenerative diseases, such as arterial hypertension and diabetes mellitus, presence of urinary incontinence and the use of antibiotics⁽¹⁵⁾.

Other studies emphasize the application of a pressure ulcer prevention protocol as another alternative to fight the appearance of lesions in patients, especially under intensive care. The protocol should have information relating to the client's identification, the Braden scale, demonstrative chart of the areas in danger of ulcers, record of skin change, following the stages of pressure ulcers and a prevention guide⁽¹⁶⁾.

PRESSURE ULCER TREATMENT

Pressure ulcer treatment should be deployed when the preventive measures are insufficient. The articles presented the treatment types: The systemic level, aiming to improve nutritional state and reduction of infection; the conservative, carried out in the beginning of the lesions' emergence; and the local treatment, which included surgical cleaning, bandages and coverings.

Surgical treatment is considered when the lesions are in an advanced state, with serious complication risks for

the client. According to a study carried out in the United States in 2004, only a small part of the patients are candidates for surgery. The most common types are skin grafting, debridement and plastic reconstruction, procedures that need post-surgery support and infection control⁽¹⁷⁾.

Other works advocate treatment through debridement, cleaning of the lesion, use of solutions, ointments, industrialized bandages and assisting therapies. What we should keep in mind is that the prevention and treatment of pressure ulcers deserve individual care, based on scientific knowledge, evidences, studies and new approaches based on teamwork and intensive monitoring⁽¹⁸⁻¹⁹⁾.

The cost-benefit relation of pressure ulcer treatment is also addressed and is a very important theme for the nurse, who develops therapeutical actions with the pressure ulcer client and should have thorough knowledge of treatment costs.

A prevention program conducted in a hospital in Chile showed that adopting prevention has a lower cost than treating the already present disease. In 1995, according to the study, the costs added up to US\$240.000. After the start of the program, in 1997-1998, there was a reduction in costs to US\$11.000, with a cost-benefit relation of 1/21⁽²⁰⁾.

With the setting up of a prevention program (based on home visits and periodic exams) in a hospital in Chile in 1997-1998, it was possible to intensely reduce hospitalization time and surgery numbers for that cause, contributing to a reversal of pressure ulcer frequency. Due to the fact that the preventive measures comprised simple actions, which demanded low costs, such as prediction scales, the preventive program's success is effective and helps to control the lesions⁽²⁰⁾.

Nursing care for pressure ulcers

Studies related to prevalence and incidence made it possible to describe the epidemiological, demographical and functional characteristics of the client groups participating in the studies, and also demonstrated the real dimension of the problem when thinking about developing therapeutical strategies aiming to identify the presence of pressure ulcers and providing tools to prevent them^(1,21-22).

Of the highlighted risk factors, the ones considered of risk were the clients with neurological disease, bone fractures, cardiac disease, anemia and vascular disease. Triggering factors were urinary incontinence, previous pressure ulcer, advanced age, motor problems, nutritional problems, changes in skin turgor and elasticity and others, such as medication and hygiene^(21,23-24).

Nursing care for pressure ulcers covers interventions related to the client's comprehensive follow-up when at risk of acquiring the lesion through the use of prediction scales, knowledge of risk factors and the reality of the health units.

Studies show that it's possible and mandatory to use the predictive risk scales as a way to evaluate the client's risk of developing pressure ulcers. The Braden scale, for example, is a predictive risk assessment scale, using parameters like humidity, sensory perception, physical activity, mobility, nutrition, friction and shearing in bedridden clients, making it possible to improve the problem-solving ability of prevention actions⁽²⁵⁻²⁶⁾.

Apart from using scales to predict pressure ulcer occurrence, as a way to evaluate patients and to know their needs, research is needed to investigate the incidence and prevalence of pressure ulcers, aiming to focus the actions by demonstrating how the lesion afflicted the patient's reality.

Incidence and prevalence studies with analysis of the clinical competence of the nurses in charge of care for the wounds, individual patient observation, identifying the risk patients based on predictive scales, make it possible to determine the extent of the problem in health units, so as to support the development of prevention strategies⁽²⁷⁻²⁹⁾.

It has been more than proved that the nursing care provided to pressure ulcer patients should take into account the political aspects and financial costs of the treatment applied to the lesions, besides the psychological and emotional changes, complications caused by the infection and prolonged hospitalization.

Pressure ulcers cause pain and emotional imbalance, infection risk, loss of functionality or withdrawal from work. The last item causes financial harm and treatment costs for the patient and the government, respectively. For those reasons, it is mandatory to create prevention programs and committees, aiming to lessen the institutional incidence of pressure ulcers, as well as prevention and treatment costs⁽³⁰⁻³¹⁾.

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CONCLUSIONS

When evaluating nursing's scientific production related to the prevention and treatment of pressure ulcers in the referred period, it was noted that the works revealed the importance of the nurse conducting the prevention measures for pressure ulcers. The articles addressed themes like the treatment's cost-benefit, types of treatment, preventive measures, nursing interventions, risk predictive scales such as Braden, development of protocols for accompaniment of patients during prevention and treatment. These themes show the nurse's concern with knowledge acquisition and adherence to new technology, improving decision making and the accompaniment of clients under risk of pressure ulcers.

Notable was the need to expand research relating to the prevalence and incidence of pressure ulcers, aiming to map the situations related to the development of ulcers in Brazil, thus making it possible to formalize an alert to the service managers, health authorities and professionals, bringing them together to create a lesion prevention and treatment network.

It was concluded that, in care practice, preventive and therapeutical interventions for pressure ulcers with new technology are still in the acknowledgement phase for nurses, making them non-institutionalized practices, with difficult access to the technologies in health services. This causes low usage by the nurses and risks when using the covers. Wound treatment needs to be socialized through evidence and scientific research, aiming to facilitate effective interventions directed to the patient's skin care, so that it can be acknowledged as knowledge and health care in the development of policies, aiming for the institutionalization of wound treatment in health services.

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