

## CUIDADOS RELACIONADOS À DERMATITE NA ÁREA DE FRALDAS EM IDOSOS HOSPITALIZADOS

### CARE RELATED TO DIAPER RASH IN HOSPITALIZED ELDERLY

### CUIDADOS RELACIONADOS A DERMATITE EN EL ÁREA DE PAÑALES EN ANCIANOS HOSPITALIZADOS

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#### RESUMO

**Objetivo:** identificar a ocorrência da dermatite na área de fraldas em idosos hospitalizados. **Método:** trata-se de um estudo descritivo, transversal, com abordagem quantitativa e epidemiológica. O estudo foi desenvolvido em unidade de Clínica Médica de um hospital universitário, localizado no Distrito Federal, Brasil, e foi utilizado um instrumento de coleta de dados com as seguintes variáveis: características sociodemográficas, morbidades associadas, hábitos de vida e cuidados realizados diante da dermatite na área de fraldas, além do exame físico da pele na região da genitália e áreas adjacentes. A amostra foi composta por 40 idosos. **Resultados:** em relação à ocorrência da dermatite na área de fraldas, 42% dos idosos apresentaram a alteração na pele, 55% realizavam a troca de fraldas pelo menos a cada 4 horas ou menos; quanto à frequência da higiene íntima, 60% a realizavam uma vez ao dia, sendo que 32% realizavam esta limpeza somente utilizando água. **Conclusão:** foi possível verificar que uma parcela significativa dos idosos internados na unidade de clínica médica, utilizando fraldas e/ou dispositivos para controle de incontinência, desenvolveram a dermatite na área de fraldas, gerando a necessidade de um diagnóstico precoce por parte da equipe multiprofissional e medidas de baixa complexidade para a prevenção do problema.

**Descritores:** Dermatite das fraldas; Incontinência urinária; Idoso.

#### ABSTRACT

**Objective:** to identify the occurrence of dermatitis in diaper areas in hospitalized elderly. **Method:** this is a descriptive, cross-sectional study with a quantitative and epidemiological approach. The study was carried out in a Clinical Medical Unit of a university hospital, located in the Federal District, Brazil, and a data collection instrument was used. It has the following variables: sociodemographic characteristics, associated morbidities, life habits, and care given to dermatitis in diaper areas, in addition to the physical examination of the skin on and around the genital area. The sample consisted of 40 elderly people. **Results:** in relation to the occurrence of dermatitis in diaper areas, 42% of the elderly had a change in their skin, 55% performed diaper changes at least every 4 hours or less; regarding to the intimate hygiene frequency, 60% performed it once a day; and 32% performed it using only water. **Conclusion:** a significant proportion of the elderly hospitalized in the medical clinic, wearing diapers and/or using incontinence control devices, developed diaper dermatitis, generating the need for an early diagnosis by the multiprofessional team and low complexity measures to prevent the problem.

**Keywords:** Diaper rash; Urinary incontinence; Elderly.

#### RESUMEN

**Objetivo:** identificar la ocurrencia de la dermatitis en el área de pañales en ancianos hospitalizados. **Método:** se trata de un estudio descriptivo, transversal, con abordaje cuantitativo y epidemiológico. El estudio fue desarrollado en unidad de Clínica Médica de un hospital universitario, localizado en el Distrito Federal, Brasil y se utilizó un instrumento de recolección de datos con las siguientes variables: características sociodemográficas, morbilidades asociadas, hábitos de vida y cuidados realizados frente a la dermatitis en el área de pañales, además del examen físico de la piel en la región de los genitales y áreas adyacentes. La muestra fue compuesta por 40 ancianos. **Resultados:** en relación a la ocurrencia de la dermatitis en el área de pañales, 42% de los ancianos presentaron la alteración en la piel, 55% realizaban el cambio de pañales por lo menos cada 4 horas o menos; en cuanto a la frecuencia de la higiene íntima, el 60% la realizaban una vez al año día, siendo que el 32% realizaba esta limpieza solamente utilizando agua. **Conclusión:** fue posible verificar que una parte significativa de los ancianos internados en la unidad de clínica médica, utilizando pañales y/o dispositivos para control de incontinencia desarrollaron la dermatitis en el área de pañales, generando la necesidad de un diagnóstico precoz por parte del equipo multiprofesional y medidas de baja complejidad para la prevención del problema.

**Descritores:** Dermatitis del Pañal; Incontinencia urinaria; Anciano.

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## INTRODUCTION

Aging is a natural process that brings several challenges when it comes to care, increasing the need for orientation to promote better assistance to all levels of complexity. Among these challenges, urinary incontinence (UI) may be considered a significant health issue for the elderly population, affecting both physical and psychological aspects of this population<sup>1</sup>.

UI is defined as the involuntary release of urine that causes both social and hygiene problems. In addition to being a problem with economic repercussion, it may also impact the person's quality of life<sup>2</sup>.

Worldwide, nearly 50 million people are estimated to suffer with UI, being more common for women in different phases of their lives, especially women older than 60 years of age<sup>3</sup>. Studies show that UI occurs to 30% of the elderly population in the community, 40-70% of the elderly in hospitals, and about 50% of the elderly in Long-Term Care Institutions<sup>4</sup>. An epidemiological study carried out in São Paulo with 2143 elders showed a prevalence of UI in 26.2% in women, and that this condition is related to aging and its consequent functional limitations<sup>5</sup>.

UI has a habitually multifactor etiology. Physical, cognitive, functional and psychosocial factors contribute to the increase in the possibility of a person developing this problem<sup>6</sup>.

Furthermore, UI may be due to any factor that makes the bladder pressure higher than the maximum urethral pressure. Intravesical pressure may increase due to bladder hyperactivity, which causes urge incontinence, or bladder distension, which causes stress incontinence. In addition to psychosocial complications, there is embarrassment, social isolation, poor quality of life, and the appearance of depressive conditions.

UI also leads the person to infections in their urinary system, injury due to pressure, and the appearance of perineal dermatitis<sup>4, 8</sup>. Skin alterations associated with UI may be hard to manage, because they demand the control of several factors, such as: the microclimate of the skin, cicatrization, and the care, regarding the frequency of diaper change, or change of another device to control urine loss.

A variety of terms has been used to describe skin injuries associated with UI, such as: perineal dermatitis, diaper skin rash, diaper dermatitis, ammoniac dermatitis, incontinence-

related dermatitis, diaper-area dermatitis, among others<sup>4</sup>.

For purposes of this research, we will use diaper-area dermatitis, defined as different dermatoses of multifactor etiology, that affect the area of the body covered by the diaper, mainly the perineum, the anogenital area, the buttock area, lower abdominal area, and thigh area. Diaper-area dermatitis may be interpreted as the final result of simultaneous events, induced by the exposure to several factors, such as: feces, urine, hydration, friction, temperature, chemicals, and microorganisms<sup>9</sup>.

The etiology and the pathogenesis of diaper-area dermatitis are little understood, but maceration, occlusion, presence of bacteria and *Candida* are important conditions to be considered<sup>10</sup>. These situations are directly related to the skin care of people who use diapers, associated with preventive measures in relation to the development of skin lesions.

When diaper-area dermatitis affects an elderly individual, it is necessary to consider that the skin of this individual presents several alterations due to the aging process<sup>9</sup>. With the loss of support tissue, subcutaneous fat, less sensitive stimulation, decreased hairs and sweat and sebaceous glands, the elderly population is more prone to trigger injuries on the skin and more susceptible to acquiring infections<sup>11</sup>.

Deep skin changes resulting from the aging process lead to increased skin fragility and decreased skin's ability to act as a protective barrier, thus increasing the risk of developing skin injuries<sup>12</sup>. In elderly hospitalized patients, skin alterations may be more compromised, as they will be associated with the health conditions for which this individual was hospitalized, as well as other diseases associated with low mobility (bed restriction, for example), pressure injury, dryness, friction, among other problems.

Due to the few studies on the problem of diaper-area dermatitis in the elderly population, and because most of the time, the prevention and care measures are performed by the nursing team<sup>9</sup>, this study is justified aiming at identifying the occurrence of diaper dermatitis in hospitalized elderly.

## METHODS

This is a descriptive, cross-sectional study with a quantitative and epidemiological approach. The epidemiological research aims at providing accurate measures of the occurrence of

diseases or other outcomes, and its target is always a human population, which can be defined geographically or otherwise<sup>13</sup>.

The study was developed in a Clinical Medical unit of a university hospital, located in the Federal District, Brazil. This unit consists of two wings, with thirty-one nurseries in total, each composed of 2 to 4 beds. During the collection period, there were 67 working beds in the unit. The data collection period was between June and June 2017.

The population was composed of elderly people, that is, people 60 years of age or older hospitalized in this unit, who had urinary incontinence, and the sample was non-probabilistic. The inclusion criteria adopted in the research were: being elderly, people 60 years old or older; have urinary incontinence; use devices for the control of urinary incontinence of the type: diaper, sanitary tampon, disposable underwear, among others. The final sample consisted of 40 elderly.

Data collection was performed in a single step, through the use of an instrument developed by the researchers, through which data were collected regarding: sociodemographic aspects, care needs, functional capacity for basic activities of daily living, life style, and care provided to diaper-area dermatitis. In addition, a physical examination of the skin in and around the genitals was carried out, in order to verify the occurrence of diaper-area dermatitis.

To organize the data, the information was transcribed into a Microsoft Excel spreadsheet, in which there was a codification and revision to validate the data entered. Subsequently, a descriptive statistical analysis was performed, in which the data were organized and categorized.

The research complied with the norms established in Resolution 466/2012 of the National Health Council and was approved by the

Research Ethics Committee of the Faculty of Health Sciences of the University of Brasilia under CAAE: 60936116.9.0000.0030.

## RESULTS AND DISCUSSION

Regarding age, the elderly included in the study were 60 to 92 years old, most of them in the age group between 70 and 79 years old (42%). The mean age was 75.85 years, 60% were men, and, as for self-reported color, 58% considered themselves to be brown. Regarding education, 90% of the interviewees were literate, 42% were married, and 77% with family income between 1 and 3 minimum wages (Table 1).

Considering a series of factors related to age and affecting the efficiency of the protective barrier of the skin, an increase in the risk of diaper-area dermatitis in the elderly is observed. Concomitantly, there is a greater risk of urinary and fecal incontinence in this age group, leading to a higher incidence of diaper-area dermatitis among the elderly, compared to younger patients (14). Research has shown that the prevalence of diaper-area dermatitis was responsible for 7% of skin injuries in incontinent patients admitted to the nursing home, and 42% in incontinent and hospitalized adults, a result similar to that observed in this study, where 42% of the elderly hospitalized in the medical clinic, using diapers and/or other devices for incontinence had developed diaper-area dermatitis (4).

40% were hospitalized for geriatric specialty (40%) and secondly for oncology (32%). Among those interviewed, 42% had diaper-area dermatitis, and 12% reported that the first symptoms appeared with less than one week of diaper use (Table 1).

Regarding the need to have a caregiver to assist in self-care activities, 92% of the elderly had one, as 87% reported depending on help to perform basic activities of daily living (Table 1).

Table 1. Distribution of data regarding sociodemographic aspects, care needs, functional capacity for basic activities of daily living in hospitalized elderly (n = 40). Brasília (DF), 2017.

Variables	n	%
<b>Gender</b>		
Female	16	40,0
Male	24	60,0
<b>Age (years)</b>		
60 to 69	10	25,0
70 to 79	17	42,5
80 to 89	11	27,5
90 to 99	2	5,0

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Variables	n	%
<b>Ethnicity</b>		
White	7	17,5
Black	9	22,5
Brown	23	57,5
Indigenous	1	2,5
<b>Literacy</b>		
Literate	17	42,5
Illiterate	3	7,5
High school	10	25,0
Middle school	7	17,5
Higher education	2	5,0
Could not answer	1	2,5
<b>Marital Status</b>		
Married	17	42,5
Single	5	12,5
Widowed	14	35,0
Divorced	2	5,0
Cohabitation	2	5,0
<b>Family income</b>		
Up to 1 wage	2	5,0
1 to 3 wages	31	77,5
3 to 6 wages	3	7,5
Above 6 wages	4	10,0
<b>Medical specialty</b>		
Geriatrics	16	40,0
Oncology	13	32,5
Pneumology	3	7,5
Gastroenterology	3	7,5
Other	5	12,5
<b>Has diaper-area dermatitis</b>		
Yes	17	42,5
No	23	57,5
<b>When did the first symptoms occur?</b>		
Less than a week	5	12,5
More than a week	10	25,0
More than a month	2	5,0
N/A	23	57,5
<b>Has or needs caregiver</b>		
Yes	37	92,5
No	3	7,5
<b>Daily basic activities</b>		
Dependent	35	87,5
Independent	2	5,0
Partially	3	7,5
<b>Total</b>	<b>40</b>	<b>100,0</b>

Source: Research data, 2017.

Among the elderly interviewed, 42% consumed less than one liter of water per day. Regarding diaper-area dermatitis care, 55% performed diaper changes at least every 4 hours or in less time. Regarding the frequency of intimate hygiene, 60% performed once a day and 32% performed this cleaning using only water. As for water temperature, for hygiene, 98% used warm water (Table 2).

Skin changes from diaper-area dermatitis are triggered by a combination of several factors, most significant being prolonged contact or irritation through urine and feces, in addition to maceration produced by moisture and heat at the

site. Thus, prolonged contact with the diaper wetted by urine and fecal fat may intensify the likelihood of developing changes in the skin. Considering this reality, it is recognized the importance of the frequent exchange of the disposable diaper associated with adequate intimate hygiene, in order to prevent the development of diaper-area dermatitis and the possible proliferation of bacteria that can cause secondary infections due to the installation of the skin injuries<sup>14</sup>. Results from this study show that most of the interviewees remain with the same diaper for about 4 to 8 hours, which may increase

the risk of these patients triggering an injury or making it difficult to restore an existing injury.

Table 2. Distribution of data on life habits and care performed on diaper-area dermatitis in hospitalized elderly (n = 40). Brasília (DF), 2017.

Variables	n	%
<b>Life habits - water consumption</b>		
Less than one liter	17	42,5
1 -2 liters	22	55,0
More than 2 liters	1	2,5
<b>Change of diaper or device</b>		
At least every two hours or less	2	5,0
At least every four hours or less	22	55,0
At least every eight hours or less	14	35,0
More than eight hours	2	5,0
<b>Frequency of intimate hygiene</b>		
Once a day	24	60,0
Twice a day	12	30,0
Three times a day	1	2,5
Four times a day or more	3	7,5
<b>How is hygiene made</b>		
Only with water	13	32,5
With water and soap	27	67,5
<b>Temperature of the water for hygiene</b>		
Warm	1	2,5
Mild	39	97,5
<b>Use of ointment</b>		
Yes	22	55,0
No	18	45,0
<b>Use of skin moisturizer</b>		
More than once a day	8	20,0
At least once a day	21	52,5
More than three times a week	7	17,5
At least once a week	3	7,5
No use	1	2,5
<b>Type of soap</b>		
Neutral soap	21	52,5
Antiseptic soap	8	20,0
Moisturizing soap	10	25,0
Other	1	2,5
<b>Material used for intimate hygiene</b>		
Sponges	9	22,5
None	26	65,0
Other	5	12,5
<b>Use of other devices</b>		
yes	19	47,5
No	21	52,5
<b>Type of diaper or device</b>		
Disposable diaper	21	52,5
Diaper + bladder probe	14	35,0
Diaper + External urinary device	4	10,0
Disposable underwear	1	2,5
<b>Total</b>	<b>40</b>	<b>100,0</b>

Source: Research data, 2017.

Hygiene care should be carried out more frequently, thus avoiding exposure to alkaline pH. In addition, it should be noted that cleaning must be carried out with soap and water, followed by a protective cream (14), of the protective barrier type. Contrary to what is recommended in the literature, most of the sample (60%) cleans the

skin only once a day, and only 2% of the sample cleans three or more times a day. However, most when cleaning, do so with soap and water (67%).

Regarding the type of soap used for cleaning, it is important to note that antibacterial and/or antiseptic products are not recommended as they can dry the skin, increase the pH and

contribute to erosion of the epidermis, being more indicated the use of moisturizing or neutral soap (9).

There is little evidence in the literature, but in some studies the efficacy of cleaning products that may be left on the skin, that is, without rinsing, is already highlighted, as the use of the soap and water cleaning method would be less presence of dermatitis<sup>15</sup>.

Regarding the use of ointments and / or protective barrier creams, 55% used some type of product, 52% used a body moisturizer at least once a day. Regarding the type of soap used for bathing and/or intimate cleaning, 52% used neutral soap and 20% antiseptic soap. Regarding materials for intimate hygiene, 65% did not use any type of material, 22% used sponges to do so (Table 2).

The application of ointments or creams can and should be used as a form of prevention or for treatment of diaper-area dermatitis. Some studies to evaluate changes in skin functions with dermatitis during zinc oxide and vaseline treatment showed that the paste reduced the frictional force of the skin with the diaper and reduced the risk of infections by fungi (9,15). It was observed in the present study that the use of ointments with protective barrier by the elderly was performed, as a measure of treatment by those who already had diaper-area dermatitis, and not as a form of prevention.

Regarding the use of body moisturizer, 52% of the sample was used at least once a day. The impairment of the skin elasticity added to the dryness resulting from decreased secretion of the sebaceous and sweat glands leads the elderly person to a greater exposure and increased risk for skin rupture. Therefore, skin hydration is a preventive measure that helps soften skin dryness, reducing the risk of injury (16). In addition, these moisturizers should be applied gently with circular movements, avoiding to massage the areas of bone prominence or that are hyperemic, as a preventive way for the appearance of other lesions (17).

All the patients interviewed used diapers or disposable undergarments, with 47% also using another device to control urinary incontinence. Regarding the type of diapers or urinary device, 52% used disposable diapers, followed by 35% who associated disposable diapers to the use of the delayed bladder catheter (Table 2).

Mechanical factors such as friction and shear are some of the factors responsible for the

onset of diaper-area dermatitis. Studies indicate that the elderly population has a lower tolerance to friction and pressure, leading to a higher risk for dermatitis (4). Therefore, the use of materials such as bushes and sponges to perform the intimate cleaning should be avoided, reducing the chance of the appearance or worsening of injuries by the friction that these materials can cause on the skin.

## FINAL CONSIDERATIONS

The study made it possible to verify the occurrence of diaper-area dermatitis in hospitalized elderly people, as well as the care conditions provided by their caregivers. It was observed that a significant portion of the elderly hospitalized in the medical clinic unit using diapers and/or devices for incontinence control had diaper-area dermatitis, generating an important challenge for the multiprofessional health team.

The need for an early diagnosis, with a view to injury prevention, requiring the health team that provides care for these elderly people, the implementation of actions that can contribute to the improvement of health conditions and quality of life, with basis of the best evidence-based care practices, which were presented in the present study.

The study presents limitations to present the reality of a single scenario, with specific characteristics, and it is not possible to generalize the results found. Nevertheless, the study brings important contributions in evidencing the situation of many elderly people who use diapers due to UI in hospitalization, which may have a high chance of developing skin lesions. Thus, simple measures of diaper changes, hygiene and hydration of the skin, use of barrier-type creams may be effective strategies for the prevention of diaper-area dermatitis, as well as associated complications. In addition, it is important to highlight that health guidance and education strategies for patients and their caregivers have a strong impact on the care provided and the prevention of the problem, which can be done during the preparation for discharge, aiming at the continuity of care in the residence.

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