http://www.periodicos.uem.br/ojs/index.php/CiencCuidSaude
ISSN on-line1984-7513
DOI: 10.4025/cienccuidsaude.v19i0.50154

ORIGINAL ARTICLE

PREVALENCE OF DERMATITIS ASSOCIATED WITH INCONTINENCE IN ADULT PATIENTS IN A UNIVERSITY HOSPITAL[1]

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ABSTRACT

Introduction: incontinence-associated dermatitis (IAD) is an inflammation of the skin, related to contact with moisture, frequent in patients with urinary and/or anal incontinence, which is an important challenge in nursing care. **Objective:** toidentify the punctual prevalence and characteristics of incontinence-associated dermatitis (IAD) in adult patients admitted to the medical clinic of a general hospital. **Method:** a descriptive, cross-sectional study, carried out with a non-probabilistic sample of incontinent patients. Data were collected on 2 days in March 2019, through interviews, physical examination and medical records, and analyzed using simple descriptive statistics. **Results:** a prevalence of dermatitis associated with incontinence of 56.2% was found in incontinent patients. Among the types of incontinence, it was identified that 12.5% of the patients had urinary incontinence, 18.8% anal incontinence and 68.7% double incontinence. IAD was more frequent in women, over 70 years of age, with double incontinence. **Conclusion:** the prevalence of IAD in the medical clinic of the hospital under study is considered high, with category 2 being more frequent, that is, with skin rupture associated with edema and erythema. The findings raise the need for further studies, discussions and implementation of continuing education in health, especially for nursing care related to the topic.

Keywords: Diaper dermatitis. Fecal incontinence. Urinary Incontinence. Prevalence.

INTRODUCTION

The skin is the largest organ in the human body, and can cover an area of approximately 2 square meters in adults, performing, among other functions, the protection of the organism against physical and biological aggressions, as well as its proper physiological functioning. The aging process favors changes in all organs and systems, such as decreased sensory sensitivity, cognitive ability, visual acuity, as well as physiological changes in the skin, which associated with incontinence contribute to the increase in the occurrence of skin lesions, such as Incontinence-Associated Dermatitis (IAD)[1-2].

A recent study conducted at a university hospital in Ireland identified urinary incontinence - UI, condition in which the patient has an involuntary loss of urine, a prevalence of 35.2%, and fecal incontinence - IF, the involuntary loss of fecaloid content through the anus in 21.1% of patients[3-7]. In Brazil, a study conducted at a university hospital in São Paulo showed a prevalence of 28% and 16.1% of UI among women and men, respectively. Another study found an index of 37.7% of FI in institutionalized elderly[7].

Moisture-associated Skin Damage(MASD) are skin lesions associated with moisture, among these including dermatitis associated with incontinence (IAD), an inflammation of the skin related to its contact with moisture, common in patients with incontinence anal and/or urinary. This moisture changes the skin's pH, favors skin

[1]Extracted from the Project of Scientific Initiation developed according the regulamentation of the Institutional Program of Scientific Initiation of the Universidade Estadual de Mato Grosso do Sul (State University of Mato Grosso do Sul) in partner ship with the Conselho Nacional de Desenvolvimento Científico e Tecnológico (National Council of Scientific and Technological Development), entitled: "Prevalence of incontinence-associated dermatitis in adult patients in of a university hospital in Dourados-MS", of the Universidade Estadual de Mato Grosso do Sul (State University of Mato Grosso do Sul), of the years 2018-2019.

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maceration and causes changes in the stratum corneum, causing separation of the corneocytes[8-12].

IAD is characterized by the presence of erythema, erosion of the epidermis and skin with a macerated aspect, affecting the perineal, perigenital, perianal areas and surroundings, manifesting through pain, burning, itching, among other symptoms, causing discomfort to the patient who has this type of injury. In addition, it is considered a risk factor for the onset of infections and other more serious skin lesions, such as pressure injuries[8-10].

Research carried out in Australia identified a 10% rate of IAD in patients admitted to hospital. In Brazil, a study identified a 20.4% incidence of this injury in patients admitted to the Intensive Care Unit. The prevalence of IAD may be underestimated, since there are few studies with the aim of identifying these injuries. In addition, there are injuries that can be confused with IAD because they have similar characteristics. Thus, IAD can be misdiagnosed like other skin lesions[11-14].

The care of these injuries involves a multiprofessional team, in which they are nurses, since it is up to this professional, among other activities, to prevent and care for wounds in the context of the nursing process[15,16]. Thus, there is a need for them to be able to carry out the prevention, evaluation and treatment of all wounds, including these from IAD[16].

In view of the interconnection of injuries, it is believed that, with the advancement of research, IAD may be identified in the near future as a 'never event'(an event that should never occur), just as it is already the case with LP of more advanced stages, since, in many cases, the IAD occurs due to inadequate care provided to the patient or due to the delay in providing it[9,17].

Given the above, it is necessary to know the prevalence of this disease in health institutions in order to implement appropriate preventive measures. Thus, this research aimed to identify the point prevalence and characteristics of incontinence-associated dermatitis (IAD) in adult patients admitted to the medical clinic of a general hospital.

METHODOLOGY

This is a descriptive, cross-sectional study carried out at the medical clinic of the University Hospital in the city of Dourados, MS. The institution has 191 hospital beds of medium and high complexity, being a reference in the macro-region that covers 34 municipalities and approximately 800 thousand people.

The medical clinic has 64 beds and is intended for the admission of individuals with changes resulting from chronic non-communicable diseases, as well as infectious diseases, mostly elderly, with some degree of cognitive and/or motor impairment, which is often associated the appearance of transient or permanent urinary and / or anal incontinence.

Data collection for the identification of punctual prevalence occurred on 2 days in March 2019. The inclusion criteria were to have at least 24 hours of hospitalization, age equal to or above 18 years old and to present some type of incontinence, whether observed or referred by the nursing team; and as an exclusion criterion to be indigenous, in view of the specific legislation for research with this population, which establishes an evaluation procedure through the more extensive CEP/CONEP system, which would hinder the development of the study considering the time available for scientific initiation. Thus, the study sample was constituted as non-probabilistic, with a convenience sampling technique.

Data were collected in a single visit through physical examination, bedside interview and consultation of medical records to survey sociodemographic data, such as age, sex and education level, and clinical data, as a reason for hospitalization, mobility in bed, associated diseases and prescription drugs. The physical examination aimed to identify the presence of IAD, which can be classified in category 1 - Skin with initial lesion, still without rupture, but with erythema and/or local edema and category 2 - The skin already has rupture and may or may not be associated erythema and/or edema[18]. The skin may also have vesicles, papules or pustules resulting from fungal infection, since this condition makes patients more susceptible to developing secondary infections[1].

Subsequently, the data were analyzed using simple descriptive statistics in the SPSS for Windows Statistical Program, version 21.0.

The study respected the ethical aspects, regulated by Resolution 466, of December 12, 2012, of the National Health Council - CNS, and was approved by the Ethics Committee of the State University of Mato Grosso do Sul, with protocol number 3.154.339. The study participants were invited to participate in the research after an explanation and later signing the Informed Consent Form by themself and/or responsible in case of patients with impaired level of consciousness.

RESULTS

In the 2 days for data collection, 58 patients were admitted to the medical clinic and, of these, 16 met the inclusion criteria and agreed to participate in the study, with 9 of them (56.2%) having IAD. In this study, women had a higher frequency of IAD (55.6%), aged over 70 years (44.4%), in a stable union (66.7%) (Table 1).

Table 1. Sociodemographic characteristics and presence of IAD of the research participants, at the Medical Clinic of a University Hospital Dourados, MS, Brazil (2019)

Characteristic	**Presence of IAD**					
N=16	**Yes (N=9)**		**No (N=7)**			
	n	%	n	%	n	%
Sex						
Male	9	56,2	4	44,5	5	55,6
Female	7	43,8	5	55,6	2	28,6
Age in years						
20 – 29	1	6,3	-	-	1	14,3
30 – 39	0	0,0	-	-	-	-
40 – 49	0	0,0	-	-	-	-
50 – 59	4	25,0	3	33,3	1	14,3
60 – 69	2	12,5	2	22,2	-	-
70 – 79	9	56,2	4	44,4	5	71,4
Marital Status						
Married/Stable Union	10	62,5	6	66,7	4	57,1
Not married/Single	1	6,3	-	-	1	14,3
Widower	3	18,7	1	11,1	2	28,6
Separate	2	12,5	2	22,2	-	-
Education						
Incomplete Elementary School	9	56,2	4	44,4	5	71,4-
Complete Primary Education	1	6,3	1	11,1	-	-
Complete High School	5	31,2	4	44,4	1	14,3
Complete Higher Education	1	6,3	-	-	1	14,3

As the presence of IAD can be associated with some diseases, which directly or indirectly can cause incontinence in patients, we sought to verify the clinical characteristics, such as underlying diseases, the clinical situation that motivated the hospitalization, length of hospital stay, as well as the type of incontinence. Table 2 shows that patients with systemic arterial hypertension and double incontinence had higher rates for the presence of IAD.

It is noteworthy that, among incontinent patients, the majority were using disposable diapers to manage this situation and only one used the delayed bladder catheterization associated with the use of diapers.

In view of the correlation between LP and IAD, it was sought to verify in patients whether there was a reduction in their mobility, which is an important factor for the development of LP, in addition to a reduction in sensory perception. Thus, it was identified that, of the 16 incontinent patients, 13 (81.3%) were restricted to the bed and 6 (46.2%) needed assistance for repositioning in the bed. These data are described in Table 3.

Table 2. Clinical characteristics and presence of IAD identified in incontinent patients at the Medical Clinic of a University Hospital, Dourados, MS, Brazil, 2019 (N = 16).

Characteristic	Presence of IAD					
N=16	Yes (N=9)		No (N=7)			
	n	%	n	%	n	%
Underlying Disease						
Systemic Arterial Hypertension	8	50,0	5	55,6	3	42,8
Chronic Obstructive Pulmonary Disease	2	12,5	1	11,1	1	14,3
HIV Infection	2	12,5	2	22,2	-	-
Others*	4	25,00	1	11,1	3	42,8
Reason for Hospitalization						
Respiratory Complications	4	25,0	2	22,2	2	28,6
Neurological Complications	6	37,5	2	22,2	4	57,1
Others**	6	37,5	5	55,6	1	14,3
Length of Hospital Stay						
≤ 15 days	10	62,5	5	55,6	5	71,4
> 15 days	6	37,5	4	44,4	2	28,6
Incontinence						
Urinary	2	12,5	2	22,2	-	-
Anal	3	18,7	1	11,1	2	28,6
Urinary and Anal	11	68,8	6	66,7	5	71,4

* Among other underlying diseases: Neoplasia, Heart Failure, Epilepsy. **Among others reasons for hospitalization: 2 - Seizures, 3 - Pneumonia, 1 - Upper gastrointestinal bleeding.

Table 3. Percentage of restraint in bed, cause of reduced mobility, ability to assist in repositioning and presence of IAD among incontinent patients at the medical clinic of a University Hospital, Dourados, MS, 2019, Brazil.

Information related to bed immobility	Presence of IAD					
	Yes (N=9)		No (N=7)			
	n	%	n	%	n	%
Restraint in Bed						
Yes	13	81,3	9	100	4	57,1
No	3	18,7	_	_	3	42,9
Reason for Immobility						
MMII Asthenia	1	7,71	11,1		-	-
Cerebellar Ataxia	1	7,71	11,1		-	-
Stroke sequel	7	53,8	3	33,3	4	57,1
Dyspnea	1	7,71	11,1		-	-
Lowering for the Level of Consciousness	3	23,13	33,3		-	-
Need for Repositioning Assistance						
Yes	6	46,2	5	55,6		14,3
No	7	53,8	4	44,4	3	42,9

IAD is related to the loss of control of the anal or urethral sphincter, the patient's level of consciousness and the medications used. Some medications can cause changes in the patient's intestinal flora or other changes. In this study, it was noted that some drugs were repeated in all medical records studied. Thus, for a better description, it was called a "standard prescription" comprised of an analgesic, an antipyretic, an antiplatelet agent and an antacid, verified in isolation in only one medical record studied, in the others this prescription was added to other prescription drugs, such as laxatives, antimicrobials, antihypertensives and drugs for antiretroviral therapy (ART), as shown in Figure 1.

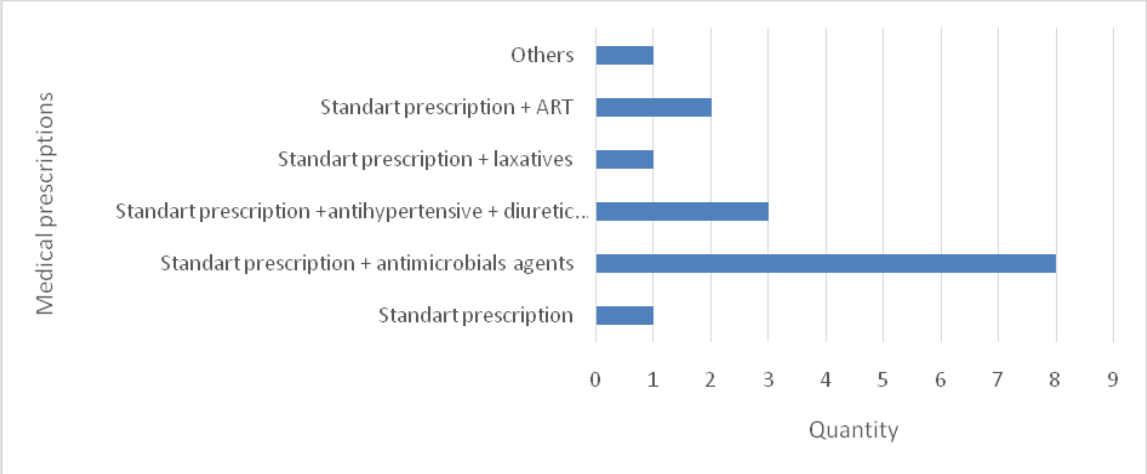

Figure 1. Medicines prescribed to the incontinent patients admitted to the Medical Clinic of a Hospital of a University Hospital, Dourados, MS (2019).

In this research, the presence of IAD was verified in 9 (56.2%) of the patients who composed the sample, with category 2 being the most frequent (Table 4).

Table 4. Pontual prevalence of dermatitis associated with incontinence and classification of the lesion among incontinent patients at the Medical Clinic of a University Hospital, Dourados, MS, Brazil (2019).

IAD Prevalence and Classification	N	%
Presence of IAD		
Yes	9	56,2
No	7	43,8
Classification		
Category 1	3	33,3
Category 1 with fungal infection	2	22,2
Category 2	4	44,5

DISCUSSION

This study aimed to identify the point prevalence of IAD in patients admitted to the medical clinic of a University Hospital. Among the studied patients, more than half were between the age group 70 and 79 years old (56.2%), and among the 9 who had IAD 44.4% were also over 70 years old. In Brazil, legislation provides that people aged 60 years or over are included in the elderly population group[19]. It is known that aging leads to physiological changes in the body as a whole, making individuals less able to maintain their homeostatic balance, contributing to a decrease in collagen and elastic fibers and consequent skin fragility, as well as declining physiological functions[20].

The most common underlying disease was Systemic Arterial Hypertension (SAH), with neurological complications being the most evident reason for hospitalization, including stroke, and its sequelae as a reason for reduced mobility. It is known that SAH is directly related to the risk of developing stroke[21].

The length of stay of the surveyed patients averaged 18.81 days, with 6 patients out of the total (37.5%) remaining in hospital for more than 15 days. In the present study, the presence of IAD was evidenced in 4 patients who had a hospital stay longer than 15 days. It was not possible to create a relationship between length of stay and the development of IAD, given the sample size, as well as the lack of data in the medical records of patients who participated in the research. There is a deficitin the literature regarding the relationship between the time of exposure to humidity and the appearance of the first signs of this disease. However, a study pointed out that patients with a hospital stay longer than 15 days are 5 times more likely to develop IAD. In addition, prolonged hospital stay (> 15 days) increases the risk of patients

developing other conditions that adversely affect their health, for example, hospital infections and skin lesions[12,22].

Regardless of the type of incontinence, it was observed that for its management all participants used diapers and only 1 patient (6.2%) used bladder catheterization.

Despite not being able to statistically affirm the relationship between incontinence and the development of IAD in this research, 6 (66.7%) of the 9 patients with this injury had double incontinence. This data corroborates with other studies in which the presence of these incontinences combined with the use of diapers creates a favorable environment for the onset of IAD, since the humidity caused by the presence of urine, chemical compounds, such as intestinal enzymes (proteases and lipases), and mechanical factors (friction and shear) contribute negatively to the skin's barrier function, making it more fragile[2]. A study carried out in Europe with 3713 patients found a strong relationship between the presence of anal incontinence and the development of IAD[23].

The reduction in mobility and, consequently, the restriction to the bed were observed in 13 of the 16 patients participating in the research, totaling a percentage of 81.2%. Of these, 6 needed assistance to reposition the bed. It is understood that the presence of IAD predisposes to the appearance of LP. A survey conducted in Ohio (USA) found that 7.5% of the participants (300 out of 3693 patients) who had an LP in the sacral region had its development preceded by an IAD in combination with immobility[24].

Urine causes moisture in the skin, which increases the coefficient of friction which causes a reduction in tissue tolerance. In combination with a reduction in mobility, shear or an unrelieved pressure, deformation of the soft tissues can occur and, consequently, favor the appearance of LP[1].

All patients studied had a similar prescription, which was identified as a standard prescription, which included the use of analgesic, antipyretic, antiplatelet and antacid. Of these, half had antimicrobials associated with the prescription.

The literature does not point out the relationship between IAD and the drugs used by these participants, however, it is known that the use of antimicrobials can favor changes in the frequency and consistency of intestinal eliminations[13]. A study that sought to identify the prevalence of IADs in the Intensive Care Unit identified drugs that were different from those found in the present study, and these drugs reduce the mobility of patients, such as hypnotics/sedatives, antipsychotics and muscle beta-blockers[12].

The prevalence of IAD found in this study was 56.2% (9/16). Studies carried out in Brazil and the United States showed a lower prevalence, with 36.4% (n = 43/118)[21] and 45.7% (n = 1140/2492)[24], respectively. Although different, these data show IAD as a frequent skin lesion among incontinent patients and the need for more effective nursing care in prevention.

In this research, category 2 IAD was the most frequent, corroborating data from other studies that show a higher frequency for IAD with desquamation, erythema and skin rupture[22,24].

CONCLUSION

In this study, a high prevalence of IAD was identified in the Medical Clinic of a University Hospital in the Midwest region of Brazil. There was also a high incontinence rate among clients, although this was more frequent among men, women had a higher rate for the presence of IAD. Regarding the type of incontinence, double incontinence was the most frequent. Several pathologies were observed in the participants, but it was not possible to correlate these with the onset of incontinence itself and, consequently, with the development of IAD.

The limiting factors of this research are the fact that it was performed in only one sector, the data collected in a very short period, the identification of incontinence occurred by consulting the notes in the medical record and/or by the nursing team, do not consider the frequency of diaper changes and the existence of a specific protocol. However, the sector of the study was selected because it has an elderly clientele that has characteristics that may predispose to the appearance of this injury.

Finally, it is believed that although the study findings problematize the situation of IAD locally, they raise concern about the issue and

the need for further studies, discussions and implementation of educational actions, especially regarding nursing care for the prevention of IAD.

PREVALÊNCIA DE DERMATITE ASSOCIADA À INCONTINÊNCIA EM PACIENTES ADULTOS DE UM HOSPITAL UNIVERSITÁRIO

RESUMO

Introdução: a dermatite associada à incontinência (DAI) é uma inflamação da pele, relacionada ao contato com a umidade, frequente em pacientes com incontinência urinária e/ ou anal que constitui importante desafio no cuidado de enfermagem. **Objetivo:** identificar a prevalência pontual e as características da dermatite associada à incontinência (DAI) em pacientes adultos internados na clínica médica de um hospital geral. **Método:** estudo descritivo, de corte transversal,realizado com amostra não probabilística de pacientes incontinentes. Os dados foram coletados em 2 dias do mês de março de 2019, mediante entrevista, exame físico e consulta a prontuário,e analisados por meio de estatística descritiva simples. **Resultados:** constatou-se prevalência de dermatite associada à incontinência de 56,2% nos pacientes incontinentes.Entre os tipos de incontinência, identificou-se que 12,5%dos pacientes apresentavam incontinência urinária, 18,8% incontinência anal e 68,7% dupla incontinência. A DAI foi mais frequente em mulheres, acima de 70 anos de idade, com dupla incontinência. **Conclusão:** a prevalência de DAI na clínica médica do hospital em estudo é considerada elevada, sendo mais frequente a categoria 2, ou seja, com ruptura da pele associada a edema e eritema. Os achados suscitam a necessidade de maiores estudos, discussões e implementação de ações de educação permanente em saúde, sobretudo para o cuidado de enfermagem relacionado ao tema.

Palavras-chave: Dermatite das Fraldas; Incontinência Fecal; Incontinência Urinária; Prevalência.

PREVALENCIA DE DERMATITIS ASOCIADA A LA INCONTINENCIA EN PACIENTES ADULTOS DE UN HOSPITAL UNIVERSITARIO

RESUMEN

Introducción: la dermatitis asociada a la incontinencia (DAI) es una inflamación de la piel, relacionada al contacto con la humedad, frecuente en pacientes con incontinencia de orinay/o anal que constituye importante desafío en el cuidado de enfermería. **Objetivo:** identificar la prevalencia puntual ylas características de la dermatitis asociada a la incontinencia (DAI) en pacientes adultos internados en la clínica médica de un hospital general. **Método:** estudio descriptivo, de corte transversal, realizado con muestreo no probabilístico de pacientes incontinentes. Los datos fueronrecolectados en 2 días del mes de marzo de 2019, mediante entrevista, examen físico y consulta al registro médico, y analizados por medio de estadística descriptiva simple. **Resultados:** se constató prevalencia de dermatitis asociada a la incontinencia de 56,2% en los pacientes incontinentes. Entre los tipos de incontinencia, se identificó que el 12,5% de los pacientes presentaba incontinencia de orina, el 18,8% incontinencia anal yel 68,7% doble incontinencia. La DAI fue más frecuente en mujeres, con más de 70 años de edad, con doble incontinencia. **Conclusión:**la prevalencia de DAIen la clínica médica, del hospital en estudio,es considerada elevada, siendo más frecuente la categoría 2, o sea, con ruptura de la piel asociada a edema y eritema. Los hallazgos fomentan la necesidad de mayores estudios, discusiones e implementación de acciones de educación permanente en salud, sobretodo para el cuidado de enfermería relacionado al tema.

Palabras clave: Dermatitis del pañal. Incontinencia fecal. Incontinencia urinaria. Prevalencia.

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Submitted: 01/10/2019
Accepted: 06/05/2020