



**TREATMENT FOR DERMATITIS ASSOCIATED WITH INCONTINENCE IN INSTITUTIONALIZED ELDERLY: INTEGRATIVE REVIEW**

*TRATAMENTO DA DERMATITE ASSOCIADA À INCONTINÊNCIA EM IDOSOS INSTITUCIONALIZADOS: REVISÃO INTEGRATIVA*

*TRATAMIENTO DE LA DERMATITIS ASOCIADA A LA INCONTINENCIA EN ANCIANOS INSTITUCIONALIZADOS: REVISIÓN INTEGRADORA*

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This integrative review aimed to identify options for therapeutic intervention in the last five years for the treatment of the incontinence-associated dermatitis in institutionalized elderly. The literature research was conducted in the electronics database: Lilacs, Medline, Scopus, Science Direct and Web of Science, with complete inclusion of scientific articles, published in Portuguese, Spanish or English, and dated from 2007 to 2011. In total (n=7), they were all in English and originated in Europe and North America. It was verified that absorbent products, baby wipes and topical products can bring good results, therefore they are strengthened by research of higher methodological stringency. Due to the scarcity of research about this theme and availability of similar products for the therapy of Incontinence Associated Dermatitis, it's necessary the development of evaluative research in the institutionalized elderly care.

**Descriptors:** Dermatitis; Urinary Incontinence; Fecal Incontinence; Nursing Care.

Esta revisão integrativa teve por objetivo identificar as opções de intervenção terapêutica dos últimos cinco anos para o tratamento da Dermatite Associada à Incontinência em idosos institucionalizados. A busca na literatura foi realizada nas bases de dados eletrônicas: Lilacs, Medline, Scopus, Science Direct e Web of Science, com inclusão de artigos científicos completos; publicados nos idiomas Português, Espanhol ou Inglês; e, datados de 2007 a 2011. Do total (n=7), todos eram em Inglês e originados na Europa ou América do Norte. Verificou-se que, produtos absorventes, lenços umedecidos e produtos tópicos podem trazer bons resultados, portanto, ostenta ser fortalecida por pesquisas de maior rigor metodológico. Diante da escassez de pesquisas sobre esta temática e disponibilidade de produtos similares à terapia da Dermatite Associada à Incontinência, é preciso desenvolvimento de pesquisas avaliativas no cuidado do idoso institucionalizado.

**Descritores:** Dermatite; Incontinência Urinária; Incontinência Fecal; Cuidados de Enfermagem.

El objetivo de esta revisión integradora fue identificar las opciones de intervención terapéutica en los últimos cinco años para el tratamiento de la Dermatitis Asociada a la Incontinencia en ancianos institucionalizados. La búsqueda en la literatura se realizó en las bases de datos electrónicas: Lilacs, Medline, Scopus, Science Direct y Web of Science, con inclusión de artículos científicos completos, publicados en portugués, español o inglés; y, fechado de 2007 hasta 2011. Del total, estaban todos en inglés y se originaron en Europa o América del Norte. Se constató que materiales absorbentes, toallitas húmedas, materiales tópicos pueden traer buenos resultados, sin embargo debería ser reforzada por investigaciones de mayor rigor metodológico. Debido a la escasez de investigación acerca de este tema en Brasil y disponibilidad de materiales similares a la terapia de la Dermatitis Asociada a la Incontinencia, es necesario el desarrollo de investigaciones evaluativas en la atención al anciano institucionalizado.

**Descriptor:** Dermatite; Incontinencia Urinaria; Incontinencia Fecal; Atención de Enfermería.

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## INTRODUCTION

The maintenance of the skin health is one of the nursing professionals' concerns at any level of professional performance. This is because the stratum corneum - the skin's surface layer - provides a protective barrier, preventing skin lesions caused by possible extrinsic factors, namely, physical or chemical and biological<sup>(1)</sup>.

When considering a number of environmental factors relating to age and that affect the efficiency of the moisture barrier of the skin, there is an increased risk of incontinence associated dermatitis (IAD) related to aging and, as concomitantly, there is a greater risk of urinary and fecal incontinence in this age group, it is assumed that the incidence of IAD is higher among the elderly compared to younger patients<sup>(2)</sup>.

With aging and during institutionalization<sup>(3)</sup>, the elderly are at risk of having impaired skin integrity and it is necessary that nurses do this nursing diagnosis more effectively to implement initiatives that contribute to improve care, which can be expensive at first, but will certainly be less costly compared to those inherent complications triggered by a skin lesion in this population<sup>(4-5)</sup>.

It is known that IAD is defined as an area of erythema and edema of the skin's surface, sometimes with bullous lesions having exudate, erosion or secondary skin infection, which is related to a variety of clinical disorders due to exposure to excessive waste - such as urine, feces, perspiration, wound exudate, among others<sup>(6)</sup>. Thus, even adults can develop IAD, especially those who use diapers and depend on the nursing staff to maintain personal hygiene<sup>(2)</sup>.

One emphasizes that the use of diapers enhances skin irritation because skin pH is increased by the conversion of urea into ammonia. In addition, disposable diapers may also increase the risk of secondary infections because there is permeability in the barrier of

the epidermis to excessive hydration associated with rapid deterioration of the affected area by the intake of antibiotic-associated diarrhea<sup>(7-8)</sup>.

One also adds that, IAD manifests itself through discomfort, itching, burning and pain, which may impair the quality of life of those who are affected by this disease. And it can get worse through the toxic effect of products used such as oils, polishers, and also for leavings of chemical products that are used directly on the skin such as soaps and cleaners<sup>(7)</sup>.

Thus, recognition of IAD as a distinct injury has motivated the conduction in recent years, of research for description of its etiology, diagnosis and treatment. And, despite one found out that, among long-term facilities and acute care, the prevalence of IAD ranged from 5.7% to 27%<sup>(6)</sup>, there are still no epidemiological studies that indicate the real extent of this problem among institutionalized elderly.

It is recognized, however, that IAD has provided a cost of billions of dollars annually in long-stay institutions for the elderly (LSIE)<sup>(9)</sup>. Accordingly, care costs with incontinence, both urinary and fecal, are high among this population<sup>(8)</sup>, because besides the specific therapy, and clean linen to maintain comfort and hygiene, they also demand more hours of nursing care in cleaning.

The nurse, therefore, plays a key role in caring for institutionalized elderly - in hospitals or long-term care homes - who are unable to perform self-care. After all, this professional takes daily care and manages risks to changes in skin integrity and establishes therapeutic measures when IAD settles<sup>(8)</sup>.

By the above, it is of paramount importance that the nurse has instruments for quality care in the treatment of IAD. Thus, the question is: what recommendations for the treatment of IAD, as part of nursing care, have been present in scientific publications in the last five years? And to answer that question one aimed to identify options for therapeutic intervention in

the last five years for the treatment of incontinence-associated dermatitis in institutionalized elderly.

## METHOD

The integrative literature review<sup>(10)</sup> was developed starting from the question: how does the scientific knowledge show on the treatment of IAD in institutionalized elderly as part of nursing care<sup>(11)</sup>?

The data research happened neatly in the electronic databases: Latin American and Caribbean Health Sciences (Lilacs), Medical Literature Analysis and Retrieval System Online (Medline), Scopus, Science Direct, Web of Science; through the use of Boolean expressions with delimiters required by each database among the controlled terms - in the vernacular and their counterparts in English and Spanish: Dermatitis, Fecal incontinence, Urinary incontinence, Nursing Care, Elderly. As inclusion criteria, one considered the original and complete scientific articles; published in national or international journals, in Portuguese, Spanish or English; relevant to the central theme of this research, dating from 2007 to 2011. One emphasizes that the choice of the publication year is due to the possibility of selection of more current therapeutic alternatives.

One found 33 articles, out of which one was excluded for being repeated in the databases, 24 were excluded for not having as population the institutionalized elderly and one for reporting about another type of dermatitis. Thus, seven articles were included in the analysis.

For data collection, each selected article was randomly assigned a roman numeral (I, II ... VII), and one filled in an instrument<sup>(10)</sup> which contained the record

of the article, reference, design, level of evidence, research site, sample number and treatment.

The articles were analyzed according to the Level of Scientific Evidence by study type, standardized by the *Oxford Centre for Evidence-based Medicine*<sup>(12)</sup>. Then, the data were discussed in the light of relevant literature, and, through its exhaustive reading for extracting key data one prepared two charts containing a summary of each article.

The results are presented in three categories: (1) absorbing products in IAD therapy; (2) wipes in IAD therapy and (3) topical products in IAD therapy. In each category, there is the established degree of recommendation (Level of Scientific Evidence).

## RESULTS

### Characterization of articles

All the articles included for analysis (n=7) were in English and were published in the following journals: 4 (57.1%) in the *Journal of Wound, Ostomy and Continence Nursing*, 1 (14.3%) in the *Journal of the American Medical Directors Association*, 1 (14.3%) in the *Nursing Times* and 1 (14.3%) in the *BMC Geriatrics*. It is noteworthy that, the country of publication of the first two journals is the United States of America and the other two, England.

As to the year of publication, 3 (42.8%) were published in 2011, 1 (14.3%) in 2010, 1 (14.3%) in 2009 and 2 (28.6%) in 2007. The location, samples' quantity of each article and the type of proposed treatment, understood as the structural basis of these articles, in turn, can be checked in Chart 1.

**Chart 1** - Research site, sample number and treatment proposed for IAD in institutionalized elderly.

Article	Location	n	Treatment
I <sup>(13)</sup>	A hospital (UK)	1 incontinent person	Hydromol / Epaderm (Cavilon®-3M)
II <sup>(14)</sup>	Two LSIEs (USA)	24 incontinent people	<i>One Step Incontinence System (OSIS)</i>
III <sup>(15)</sup>	One LSIE (Germany)	12 incontinent people	Construction of a diaper using the superabsorbent polymer
IV <sup>(16)</sup>	Four LSIEs (Belgium)	141 incontinent people	Wet wipe with 3% dimethicone for cleansing, moisturizing and protective barrier
V <sup>(17)</sup>	Sixteen LSIEs (USA)	771 incontinent people	Cavilon® (3M); ConvaTec Aloe Vesta®, Smith & Nephew; Baza Protect ®
VI <sup>(18)</sup>	A hospital (Turkey)	30 incontinent people	Perianal pouch (Hollister Inc, Liberville); Maxi Size adult diaper
VII <sup>(19)</sup>	One LSIE (Italy)	63 incontinent people	TENA® products (bath cream, barrier cream, zinc cream, wet wipe, bath mousse, liquid soap, diapers)

About the methodological design and its respective level of evidence, these can be seen in Table 2.

**Chart 2** - Methodological design and level of evidence of articles about treatment of IAD in institutionalized elderly.

Article	Study design	Level of evidence
I <sup>(13)</sup>	Case report	Level of evidence: 4
II <sup>(14)</sup>	Clinical essay, semi-experimental	Level of evidence: 3b
III <sup>(15)</sup>	Series of case reports	Level of evidence: 4
IV <sup>(16)</sup>	Clinical essay, randomized study	Level of evidence: 2c
V <sup>(17)</sup>	Clinical essay, semi-experimental	Level of evidence: 3b
VI <sup>(18)</sup>	Clinical essay, randomized study	Level of evidence: 2c
VII <sup>(19)</sup>	Pre-and post-intervention study	Level of evidence: 5

**DISCUSSION**

The number of articles included for analysis shows the need of further investigations related to the occurrence of IAD among institutionalized elderly. Thus, in Chart 1 one observes that the studies were originated in the European continent and in North America, which

suggests valuation of the subject in the international sphere, perhaps made possible by the fostering for people to conduct scientific research in these places.

Especially in Brazil, it becomes necessary the conduction of research that cover aspects related to IAD in the elderly from LSIEs and/or hospitals, due to the specificities of the Brazilian population and to the health care models that are differentiated in this country.

The studies analyzed, however, show the current concern (2011) with the problem of IAD in the elderly. That's because, until then, great emphasis was given to IAD as an exclusively children's problem<sup>(20)</sup>.

Although the focus of this study relates to therapeutic interventions of IAD, the articles also addressed, in a general way, care for its prevention<sup>(13,16-18)</sup>. One notes in Chart 2 that some studies<sup>(13,15,19)</sup> do not show strong degrees of recommendation and, thus, it is still necessary to seek further evidence to support clinical practice.

It is noteworthy that, with the exception of articles I<sup>(13)</sup>, II<sup>(14)</sup> and III<sup>(15)</sup>, one presented inferential statistical analyses, with significant reduction of IAD by the intervention assessed. In general, studies have provided a viable means to the skin in the diaper area, in a sustainable way, due to the urinary or fecal incontinence installed.

It is worth noting that, besides approaching IAD therapy among institutionalized elderly, the articles II<sup>(14)</sup>, IV<sup>(16)</sup> and VII<sup>(19)</sup> discussed the product in terms of efficiency, with the analysis of cost and nursing care time for the management of IAD. Article I inferred on mediation between the product of proven effectiveness, coupled with simple strategies for skin care, resulting in a reduction in the number of days for treatment of IAD. Article III<sup>(15)</sup> focused its discussion on the accreditation of products with modern technological design, aiming to facilitate the permeability of the skin and reduce

expenses with diapers of inaccurate quality. Furthermore, in Article V<sup>(17)</sup> one also presented, management of strategies to reduce costs with IAD.

The following are studies that listed the products with clinical evidence of effectiveness for treating IAD. One decided to make the description of these studies following, critically, the pre-set level of evidence<sup>(12)</sup> for each product.

The studies found guide products that manifest best level of evidence, and these in turn can serve as support for nursing professionals to offer excellent care to individuals with increased risk of IAD, such as the institutionalized elderly.

### **Absorbent products in IAD therapy**

When addressing the absorbent products in IAD therapy, one found out the following evidence: the use of anal bags in fecal incontinent people facilitates control of bowel movements and reduces the incidence of IAD; the use diaper which facilitates maintaining skin pH between 4.5 and 5.5 and, concomitantly, allows the entry of air through its sides, reduces the over-hydration of the stratum corneum and maintains the integrity of the protective function of the skin; the use of a diaper and TENA<sup>®</sup> products associated to the experience of nurses in the management of incontinence results in greater financial savings and reduced waste generation by health services.

It is noteworthy that in order not to compromise the research result of article VI<sup>(18)</sup> one listed as an inclusion criterion, elderly who presented perianal and perineal integrity. One stresses that, to assess the incidence of IAD, 15 patients were randomly put into the experimental group (perianal pouch, consisting of a collector system for drainable fecal incontinence) and other 15 in the control group (common nighttime diapers, most used in hospitals in Turkey), with

significant prevention of IAD or postponement of their entrance in the experimental group.

The fecal containment device favors the diversion of the feces to a collection system, inhibiting the process of maceration of the skin due to the alkalinity of feces, eliminating the odor and the constraint of the elderly; and it also allows the wound healing, which includes IAD<sup>(4)</sup>.

It is also noteworthy that the perianal bag showed good adhesion and was considered painless by those who used it in article VI<sup>(18)</sup>. It is classified as a probable limitation of this study, the fact that the life of the perianal bag presents close relationship of durability due to moisture in the local region. The durability relationship can simulate apparent increased costs, but this should be scrutinized due to the expenses with overheads of the other prevention methods of IAD and also the therapeutic costs in the treatment of this injury.

Besides the perianal bag people have conventionally been using diapers for incontinence. In addition, diapers are also used in cases of urinary incontinence.

It is recognized that the use of diapers with weak absorption, together with urinary and/or fecal incontinence, as well as the permanence of the incontinent person in these conditions predispose them to the development of IAD and proliferation of bacteria which may cause secondary infection by the installed skin lesion<sup>(20)</sup>. In this context, hygiene care and the use of diapers have been used for prevention and treatment of IAD.

It is known that the close observation and preventive care of the incontinent person's skin must be frequent due to the irritating effect feces and urine cause by altering the pH of the skin<sup>(7)</sup>.

Article II<sup>(14)</sup> presented evidence of efficacy in the management of urinary and fecal incontinence, conferred by the use of quality and low cost products

denominated One Step Incontinence System (OSIS) which consisted of: (1) two wipes for cleansing, moisturizing and protection, and (2) an absorbent product (diaper). Presumably, the authors<sup>(14)</sup> emphasized that the OSIS contributed to the reduction of IAD due to the fact that it encourages more constant cleaning practices in the skin of the incontinent people, reducing the length of stay of feces and urine in contact with the skin in the diaper area.

It is important to highlight that, hygienic care could be made more frequently because OSIS facilitated the bundling of products with different purposes in one single item, reducing the time spent on this procedure in most of the episodes that were observed<sup>(14)</sup>.

Working time dispensed by nursing professionals is a variable that should be considered rather than the degree of dependence of the individual. And the relationship between the quantity and qualifications of the members of the nursing team should be adjusted to the demand of care required by the patients, so that, regardless of the product used for the prevention and/or treatment of IAD, appropriate nursing care could be offered.

Although it covers topics of interest to nursing, Article II<sup>(14)</sup> showed limitations inherent to the limited number of samples and to the period in which the tests were performed, which amounted to five days. Another piece of data that refers to caution about the outcome of this study is based on the influence of the quality of care provided by nurses, due to the presence of the observers.

Besides the fact that the hygienic care controls the pH of the skin that sometimes is changed by feces and/or urine, as stated above, one noticed that the diapers have been improved in terms of design and absorption, for greater efficiency.

With the aim of investigating an absorbent product able to maintain skin with neutral pH under

values estimated at 4.5 to 5.5, the authors of article III<sup>(15)</sup> developed an absorbent product (diaper) with superabsorbent polymer (SAP) in its nucleus. Furthermore, permeable sides were also introduced in order to avoid occlusion of the skin caused by the negative effect of over-hydration of the stratum corneum which is related to the development of IAD, particularly in the elderly.

The skin lesions are caused by compromised skin barrier due to the occlusive effect of the skin caused by the impermeability of the diapers of dubious quality, increase the risk of development of IAD<sup>(8)</sup>.

Namely, eight incontinent people of the Article III<sup>(15)</sup> showed total regression of the lesion between 14 and 21 days. One adds to this, the fact that there was persistence of IAD, while the treatment was only deprived to the conventional protocol that included cleaning the skin with soap and water, followed by a protective cream.

A limitation on this research (15) took place at the beginning of the test method, due to the use of saline instead of urine, which resulted in the first time, in an irrelevant piece of data. That's because there was no significant variation of pH of saline in the diaper, in relation to pH values found in the diaper with urine.

To evaluate the implementation of a multi-intervention program for the prevention and treatment of IAD, the authors of the article VII<sup>(19)</sup> included elderly patients with intact skin in the perineal and perigenital region, which underwent pre-and post-intervention evaluation. Such action was based on the use of TENA<sup>®</sup> products, including: TENA<sup>®</sup> Linea diaper (new product with micro absorbents); TENA<sup>®</sup> Wet Wipe; TENA<sup>®</sup> Wash Cream (Emulsion for cleaning without rinsing); TENA<sup>®</sup> Wash Mousse (Cream that cleanses skin and removes feces); TENA<sup>®</sup> Liquid Soap; TENA<sup>®</sup> Barrier Cream (Barrier cream for skin protection), TENA<sup>®</sup> Zinc Cream.

Still about the TENA<sup>®</sup> products from the article VII<sup>(19)</sup>, these were denoted as part of a structured system of care that considers the sum of three interventions: (1) new diaper with inner layer of superabsorbent polymers, (2) skin care products to the region of the perineum, and (3) opinion of nurses who are specialists in incontinence. Thus, the results came from a multi-intervention program, which despite being limited by the method of data collection, showed savings from the reduction of waste generated by TENA<sup>®</sup> diapers to almost a third of the amount of common diapers.

Health institutions, in general, should excel in ecologically sustainable practices<sup>(21)</sup>. In many countries, including in Brazil<sup>(22)</sup>, the handling and final destination of waste in health care have been managed to limit damage to the environment and, therefore, has increased spending for institutional disposal.

### **Wipes in IAD therapy**

As to the evidence about the use of wipes in the IAD therapy, one identified that the wet wipe impregnated with 3% dimethicone can be used for prevention and/or treatment of IAD.

In the article IV<sup>(16)</sup> the wet wipe impregnated with 3% dimethicone, enabled cleansing, moisturizing and protection of the skin which gives it the characteristic of 3 in 1 product. Moreover, statistically, this product proved to be more effective than the traditional method of cleaning with soap and water.

Although the product shown in Article IV<sup>(16)</sup> is statistically effective, it gave inconclusive results for the prospective analysis and reliability inter-observer tests; added to this, we found a lack of standardization regarding the use of diapers in the two groups and of soaps of neutral pH for the control group. With this, the final results for the effectiveness of the product for clinical practice, were limited.

It is known, however, that the skin cleansing in the diaper area with soap and water (alkaline pH) has low cost, but it can lead to breakage of the skin by removal of its natural oil by excessive mechanical movement<sup>(2)</sup>. Perhaps for this reason, in the article III<sup>(15)</sup>, IAD has persisted during the conventional protocol of intimate hygiene.

It is worth mentioning that, among the studies that used absorbent products, such as articles II<sup>(14)</sup> and VII<sup>(19)</sup> presented earlier, wipes were also intentionally incorporated into the analysis. Accordingly, these studies<sup>(16,14,19)</sup> have described the advantages of the use of wet wipes containing ingredients which perform cleaning, moisturizing and protection in one single product in order to maintain a balanced pH to the acid mantle of the skin and thus prevent the appearance of IAD.

The wipes, with or without addition of 3% dimethicone, seem to be a practical alternative to intimate hygiene performed by nursing professionals during diapering of institutionalized elderly. This can be explained by dispensing all the devices for hygiene with soap and water, including tampons and basins, besides the time spent with the activity to be reduced not to wet the bed linen and thus require its exchange.

In Brazil, there are similar products to fulfill the purpose of cleansing, moisturizing and providing protection to the skin. In this sense, it is believed that national surveys can provide additional information and arguments for using or not wipes for intimate hygiene, especially when individuals are highly dependent on nursing care.

### **Topical products in IAD therapy**

The evidence found about topical products in the IAD therapy were: spraying a barrier product based on polymer film in the perineal and perianal region are effective and enables cost reduction for the treatment of

IAD; the use of spray of a barrier product based on a polymer film in perianal and perineal region and are effective in the treatment of IAD.

Articles I<sup>(13)</sup> and V<sup>(17)</sup>, although arranged in a different degree of recommendation, suggested that the spraying of a barrier product based on a polymer film (Cavilon<sup>®</sup>) in the perineal and perianal region was sufficient to treat IAD. Despite these publications have American and European origin, this type of product is also sold in Brazil.

Article I<sup>(13)</sup> elucidated that it's possible the recovery of the skin affected by IAD in five days, through simple care interventions and strategies with evidence-based guidelines. The skin of the frail elderly was gently washed with Hydromol<sup>®</sup> or Epaderm<sup>®</sup> ointment dissolved in warm water and then sprayed with Cavilon<sup>®</sup>. However, it is noted that during the treatment of IAD, urinary incontinence was healed by introducing an external collector of urine. This information somehow affects the results of this study, since mixing feces and urine with high pH contributes to the appearance of IAD.

Intentionally, article V<sup>(17)</sup> showed characteristics of effectiveness and cost of four different products; all of them with the sole purpose of preventing and treating IAD. Therefore, the authors established as eligible incontinent elderly of urine or feces, except the ones with good conditions of perianal skin, perineum, buttocks and sacrococcygeal region; and found that 78.6% of the elderly carried double incontinence, of which 48% developed IAD.

The differential diagnosis of IAD consists of fruitful observation and recognition of the skin lesion, followed by a structured program of skin care of the elderly, namely, gentle cleansing, moisturizing and applying a protective barrier to the skin<sup>(2)</sup>.

When comparing the cost per episode of incontinence in article V<sup>(17)</sup>, spraying the barrier film Cavilon<sup>®</sup> three times a week, was more economical than

the products Aloe Vesta<sup>®</sup> ointment with 43% of vaseline, Smith & Nephew ointment with 98% of petrolatum and Baza Protect<sup>®</sup> cream with zinc oxide 12% associated with 1% dimethicone; counting up the cost of the nursing work. This is justified by the fact that the application of the products, except Cavilon<sup>®</sup>, followed each incontinence episode.

There were some caveats about the results of section V<sup>(17)</sup>, which did not show particularities of the composition of each product, nor the body mass index and degree of dependency of the elderly who used them to guarantee homogeneity/equivalence among the groups.

When considering the availability of the product investigated in the articles I<sup>(13)</sup> and V<sup>(17)</sup> in Brazil, it is necessary to conduct research for the analysis of costs in the treatment of IAD. This is because, as it is a product still restricted to a particular manufacturer, the initial expense may seem high when indirect costs are not considered in relation to other forms of therapy used in the prevention and treatment of IAD in institutionalized elderly.

## CONCLUSION

Studies about IAD among institutionalized elderly are still incomplete, and in the last five years the evidence has not demonstrated strong recommendations to guide nursing practice. However, one found that the use of superabsorbent diapers, wipes impregnated with 3% dimethicone and spray for the creation of polymer skin, are still effective strategies in the treatment and prevention of IAD, even from the perspective of cost.

For care to the institutionalized elderly in the several levels of care, nurses must be based on scientific knowledge and thus ensure the provision of quality associated with the lowest cost possible for the survival of health institutions and the like. In this sense, apparent additional expenses required for the acquisition



of modern products for IAD therapy should be analyzed and compared to traditional therapies, because in total costs they can represent savings and greater effectiveness in their intended objective.

The use of devices for incontinence and specific products for the prevention and treatment of IAD seem to complement and relate to higher frequency and quality of intimate hygiene, in the moment of diapering incontinent elderly by nursing professionals.

One hopes that the results of this research will motivate other researchers, especially in Brazilian LSIEs, where one identified knowledge gap for prevention and treatment of IAD among institutionalized elderly.

As a limitation of this study, one points to the fact that publications were found only in international databases. One emphasizes the fact that, at first, one gave greater emphasis to nursing journals indexed on them, however, those with lower impact factor were not included. In spite of that, about this study, there was restriction and inaccessibility to national articles related to the topic, in order to add more value to the context of IAD treatment in Brazilian institutions that provide care to the elderly.

## COLLABORATIONS

Inoue KC, Silvino MCS and Oliveira MLF contributed to the creation, analysis, interpretation of data, writing of the article and final approval of the version to be published.

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