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SKIN TEARS IN THE ELDERLY

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ABSTRACT

Objectives: to identify in the scientific literature the knowledge produced about skin tears injuries in the elderly. **Methods:** it is an integrative literature review (2014-2019), carried out by searching the databases/platforms National Library of Medicine, Biomedical Answers and *Biblioteca Virtual em Saúde*, with descriptors and the Boolean operators "and" and "or ". **Results:** from the bibliographic search, selection and analysis, eight articles made up the sample. For skin tears injuries in the elderly, four pillars of care emerged: maintenance of organic and tissue homeostasis with a focus on proper nutrition and hydration; avoid trauma to senile skin, providing a safe environment with suitable devices; and the systematization of health care and education for elderly skin care. **Conclusion:** as prevention mechanisms, primary prevention is achieved through a unique care plan and health education activities, focused on risk factors and vulnerabilities, minimizing damage and complications.

DESCRIPTORS: Elderly. Wounds and injuries. Friction. Geriatric nursing. Stomatherapy.

SKIN TEARS EM IDOSOS

RESUMO

Objetivos: identificar na literatura científica o conhecimento produzido sobre lesões do tipo *skin tears* em idosos. **Métodos:** trata-se de uma revisão integrativa de literatura (2014-2019), realizada a partir de busca nas bases de dados/plataformas *National Library of Medicine*, *Biomedical Answers* e Biblioteca Virtual em Saúde, com descritores e os operadores booleanos "*and*" e "*or*". **Resultados:** a partir da busca bibliográfica, seleção e análise, oito artigos compuseram a amostra. Para lesão do tipo *skin tears* em idosos emergiram quatro pilares do cuidado: manutenção da homeostase orgânica e tissular com foco na nutrição e hidratação apropriada; evitar traumas na pele senil, proporcionando um ambiente seguro com dispositivos adequados; e a sistematização da assistência e educação em saúde do cuidado com a pele do idoso. **Conclusão:** como mecanismos de prevenção, encontram-se a realização da prevenção primária por meio de um plano de cuidados singular e as atividades de educação em saúde, focadas nos fatores de risco e nas vulnerabilidades, minimizando danos e complicações.

DESCRITORES: Idoso. Ferimentos e lesões. Fricção. Enfermagem geriátrica. Estomaterapia.

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SKIN TEARS EN LOS ANCIANOS

RESUMEN

Objetivos: identificar em la literatura científica El conocimiento producido sobre las lesiones *skin tears* en el anciano. **Métodos:** Se trata de una revisión integradora de la literatura (2014-2019), realizada em las plataformas/bases de datos de la *National Library of Medicine*, *Biomedical Answersy Virtual Health Library*, com descriptores y operadores booleanos "*and*" y "*or*". **Resultados:** Tras la búsqueda, selección y análisis previo de los artículos, se seleccionaron ocho para componer la muestra. Para las lesiones por desgarro de la piel en los ancianos, surgieron cuatro pilares de atención: mantener la homeostasis orgánica y tisular común enfoque en una nutrición e hidratación adecuadas; evitar traumatismos em la piel senil, proporcionando un entorno seguro con dispositivos adecuados; y la sistematización de la atención a la salud y la educación para el cuidado de la piel del anciano. **Conclusión:** Como mecanismos de prevención, la prevención primaria se puede encontrar a través de um plan de atención único y actividades de educación para la salud enfocadas em lós factores de riesgo y vulnerabilidades, minimizando daños y complicaciones.

DESCRIPTORES: Anciano; Heridas y Traumatismos; Fricción; Enfermería Geriátrica; Estomaterapia.

INTRODUCTION

The demographic transition, which is reaching the entire world population and significantly changing the age structure of individuals, is demarcated with the passage of a major young population to a scenario in which the elderly will reach a larger contingent in the population[1]. According to the World Health Organization[2], for the coming decades, the data projects a considerable increase in the world elderly population from 841 million to 2 billion by 2050.

Aging is considered a natural and dynamic process, in which morphological, biochemical, physiological and psychosocial changes occur. These changes are unique to each individual, therefore, reducing the ability to perform basic activities and increasing susceptibility to diseases can lead to pathological aging[3,4]. Among the predictors of this functional decline that leads to the institutionalization of the elderly, we can consider: advanced age, sociodemographic characteristics, disabilities and / or pre-existing diseases, cognitive implications and polypharmacy[5].

As a result, the need for professional monitoring and referral to institutions, whether hospital or long-term care facilities (LTCF) for seniors, begins to emerge. LTCF, according to Anvisa[6], are residential institutions for people aged 60 or over, of both genders, with different needs and degrees of dependence, who are unable to stay with the family.

Structural changes in the skin of the elderly, the social vulnerability generated by hospitalizations in LTCF and the cumulative factors of hospitalizations can trigger skin injuries in the elderly. A type of old lesion whose recognition begins to acquire relevance due to the population reality is the so-called skin tear (ST)[7].

The ST, friction injuries, are traumatic injuries that mainly affect the extremities of elderly individuals, as a result of friction and/or the combination with shear, which may separate the epidermis from the dermis or separate the epidermis and dermis from the underlying structures. This type of injury necessarily happens as a result of mechanical trauma, especially in the elderly, due to the peculiarities of the aging process and senile skin[7].

Thus, the realization of this study on ST in the elderly aims to provide relevant data on this little studied topic, fostering the importance of developing research that serves as a subsidy for its prevention, since it will allow the delimitation of the characteristics, risk factors and methods of management in the face of this type of injury, inserting this issue to the multidisciplinary team, in order to provide differential care that meets the needs of this clientele.

OBJECTIVE

Identify in the scientific literature the knowledge produced about ST-type injuries in the elderly.

METHOD

It is an integrative literature review, whose method consists of analyzing the scientific literature about a defined problem, allowing the synthesis and grouping of results, and enabling the researcher to understand aspects that involve the studied topic, resulting in an expanded analysis and visualizing existing gaps[8]. This methodology was used considering the following four steps:

1st Stage: identification of the theme and construction of the guiding question

For its development, the guiding question was defined based on the PICO strategy[9], acronym in which "P" stands for Patient/Problem, "I" Intervention, "C" Control/Comparison and "O" is for Outcomes, as shown in Table 1.

Please note that, depending on the review method, not all components of the PICO strategy may be used[9]. In this review, the "control or comparison" component was not used, as there is no control group in this study.

Table 1. Strategy for the construction of the research question. Botucatu (SP), Brasil – 2020.

Acronym	Definition	Description
P	Problem/subject	Elderly people with skin tears
I	Intervention	Prevention mechanisms (risk factors) and assistance provided
C	Control or comparison	-
O	Outcome	Preventing the development of skin tears in senile skin

Thus, the research question was: "What is the knowledge produced in the literature on skin tears in the elderly?"

2nd Stage: bibliographic search and selection of studies

After defining the guiding question, the literature search was carried out in the following databases: National Library of Medicine (PubMed), Biomedical Answers (EMBASE) and Biblioteca Virtual em Saúde (BVS), in the period from 2014 to 2019, time frame focusing on the latest on this topic in the scientific world. Descriptors obtained from the Descritores em Ciências da Saúde (DeCS) and Medical Subject Headings (MeSH) were used in Portuguese and English (Table 2).

Table 2. Search strategies in English and Portuguese. Botucatu (SP), Brasil – 2020.

Language	Search strategy
I (English)	(Aged) AND (Wounds and Injuries) AND (Friction) AND (Trauma) AND (Geriatric nursing) AND (Research-Related Injuries)
I (Portuguese)	(Idoso) AND (Ferimentos e Lesões) AND (Fricção) AND (Enfermagem Geriátrica)

The following inclusion criteria were used: full articles made available for free and in full in Portuguese, English and/or Spanish, published between 2014 and 2019 and that addressed the ST theme in the elderly. Exclusion criteria were: duplicates, articles not available for free in full and that did not address the proposed theme.

After the bibliographic search, titles and abstracts were read, excluding duplicates and works that did not correspond to the theme. The remaining works were read in full and those that made up the final sample were selected.

3rd Stage: analysis of the included studies

This step consisted of a critical analysis of the studies. The selected articles were grouped into qualitative and quantitative studies, and categorized into themes, according to the similarity of the conclusions of the analyzed studies.

4th Stage: interpretation of results and synthesis

It corresponded to the discussion of the results in which the data found were presented in order to answer the guiding question with the synthesis of knowledge identified in each included article.

To collect the data of interest, a database was created using Microsoft Office Excel 2010 software, which included the variables: title, year of publication, type of study, objectives, indexing and characterization database.

RESULTS

The selection process for the included articles was carried out based on the criteria: identification of duplicates between the bases; reading of titles and abstracts; and analysis of the articles in full to answer the guiding question of the review. The search results are shown below, as in Fig. 1.

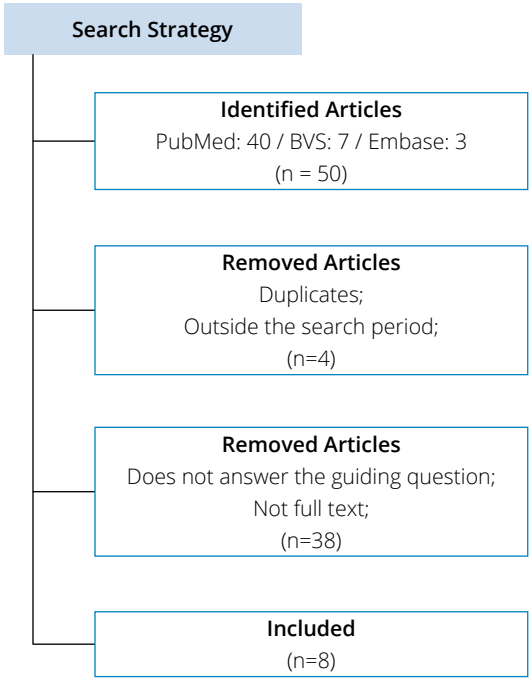

Figure 1. Flowchart for selecting articles included in the integrative review. Botucatu (SP), Brasil – 2020.

Table 3 illustrates the title of the articles, the year of publication, the type of study, objectives, database and the characterization of the theme through the following categories: 1- Risk factors: they address themes of any situation that increase the probability of ST-type injury in the elderly, characterizing its triggers; 2 - Incidence and Prevalence: refer to the appearance of new cases of ST in the elderly population and estimate the proportion of these existing cases, characterizing their dimension; 3 - Prevention mechanisms: articles that include prevention topics, analysis of treatment and management of professionals before the appearance of ST are included, in addition to addressing knowledge about part of the team about this type of injury.

Table 3. Characteristics of articles in the integrative review on Skin Tears in the elderly . Botucatu (SP), Brasil – 2020.

Title	Year/ country	Kind of study	Objectives	Database	Characterization
Skin property can predict the development of skin tears among elderly patients: a prospective cohort study[10]	2017 Japan	Quantitative	Identify skin properties that can be used to predict the development of ST in elderly patients.	Embase	Risk factors
Impairments in Skin Integrity[11]	2017 Georgia	Qualitative	Explore the factors that can lead to impaired skin integrity in the elderly.	Embase	Risk factors
Skin Tears: prevention and management[12]	2019 United States	Qualitative	Explore the reported evidence on the prediction, prevention and treatment of ST.	BVS	Prevention, risk factors, and treatment
Identification of risk factors associated with the development of skin tears in hospitalised older persons: a case control study[13]	2016 Australia	Quantitative	Identify the risk factors associated with the development of ST in the elderly.	PubMed	Risk factors
The Impact of Care Practices and Health Demographics on the Prevalence of Skin Tears and Pressure Injuries in Aged Care[14]	2018 Australia	Quantitative	Determine difference in prevalence of ST between two long-term care institutions for the elderly.	PubMed	Prevalence
Incidence of skin tears in the extremities among elderly patients at a long-term medical facility in Japan: A prospective cohort study[15]	2015 Japan	Quantitative	Estimating the cumulative incidence of ST in an elderly population in an Asian country.	PubMed	Incidence
Simplifying wound dressing selection for residential aged care[16]	2018 Australia	Quantitative	Demonstrate the effectiveness of preventive and treatment tools for use by nurses in a residential environment for the elderly.	PubMed	Prevention
Skin injury prevalence and incidence in China: a multicentre investigation[17]	2018 China	Quantitative	Quantify the prevalence and incidence of skin lesions in China.	PubMed	Incidence and prevalence

According to the selected categories, an equal percentage of studies related to risk factors and the incidence and prevalence (3) was found, representing 37.5% each, these being in greater quantity, and followed by prevention mechanisms (2) (25%).

Approaching the year of publication, the works related to risk factors and incidence and prevalence were published between the years 2015 and 2018. For the works on prevention mechanisms, a new theme in nursing practices, the publications were concentrated in the years of 2018 and 2019, being those the most recent.

DISCUSSION

Risk factors

In the literature, intrinsic and extrinsic characteristics of the elderly were found that make them susceptible to the development of ST. Intrinsic characteristics include advanced age (> 85 years), white race, female gender, ultraviolet irradiation in the sun, dehydration, poor nutrition, medication use, cognitive impairment, altered mobility and senile skin

conditions[13,18,19]. In the elderly who developed an ST-type lesion, cardiac, pulmonary and vascular diseases were observed[10,15]. The risks increase considerably when the association of these diseases with dementia processes, decreased visual acuity and walking difficulties is identified[13,14].

The frailty of the skin of the elderly, resulting from structural changes in old age, may contribute to the vulnerability of these individuals to this type of injury, since this skin has a reduced ability to protect against external aggressions. Changes in the serum composition of dermal and epidermal tissue may decrease the moisture on the skin's surface and its resistance to traction, creating a risk of trauma13.The previous healing of the skin bed, due to a previous injury, also proved to be a risk factor - increasing from two to six times - for the appearance of new injuries. Once the skin has been damaged, even though it heals, the wound bed never reaches its original state of resistance to traction, becoming susceptible to new trauma[11].

In terms of nutrition, patients who presented malnutrition and hydration and low levels of serum albumin, were more prone to the appearance of lesions as the body mass index contributes to the increase in the dry characteristic of senile skin[16,20,21].

Observing the extrinsic points for the development of ST, the risk of mechanical trauma of the individual was found, related to his degree of dependence. Individuals with total dependence, requiring handling to go to the bathroom, shower, dress and for positioning and transfers are more susceptible to the development of some trauma during these routine activities, consequently increasing the risk of trauma to the skin[10,22]. Thus, increased skeletal muscle stiffness and muscle spasticity that decrease sensory sensitivity can significantly increase the risk of falling and the need for manipulation to perform daily activities, leading to ST injuries[17].

Prolonged or repeated exposure to humidity, using as an example the common exposure to urine, feces and wounds with drainage, in addition to the use of geriatric diapers, which, according to the literature, are factors that contribute to the friction and shearing of the skin, being other factors risk for this injury. In addition, inflammatory changes, as well as promoting bacterial growth by increasing the pH, can reduce the barrier function and affect wound healing, generating erythema and local sensitivity, which contributes to the progression of skin loss due to prolonged exposure[16].

The vulnerability about smoking is controversial. As presented in a study[23], the smoking factor was not directly related to the appearance of these lesions. In contrast, in this review, the smoking factor entered as one of the triggering risk factors, thus showing a divergence. Other risk factors have been found in the literature, such as psychomotor agitation, polypharmacy, use of intravenous nutrition, antithrombotic drugs and corticosteroids[12,15,17].

Prevention

Thinking about prevention, every individual who has ST requires an individualized approach to the case, requiring a singular treatment, aiming at a therapeutic plan focused on their risk factors and vulnerabilities, and minimizing their risks and complications. Primary prevention is the main focus of the management of these injuries, and the identification of risk factors is an important strategy[12,24]. Multiprofessional work during care activities can collaborate for injury prevention and treatment mechanisms, so that the care shared with team members provides a comprehensive and unique care plan, contributing to the individual's therapeutic effectiveness and understanding all dimensions and knowledge[12,25].

When the risk factors and vulnerabilities of the individual regarding the presence of fragile skin are identified, the use of a hypoallergenic adhesive based on 2-octyl cyanoacrylate can promote a high protection against the penetration of bacteria, being beneficial for the maintenance of homeostasis of the skin, in addition to increasing epithelialization and reducing pain. The patches that contain this formulation are contraindicated in cases of lesions that go beyond the dermal layer, that have hemorrhages and active infection areas. During the removal of the adhesive, it is recommended to use vegetable oil and/or the use of specific removers in order to reduce trauma during removal[25].

Activities performed during daily care can directly interfere with the appearance of injuries. As preventive mechanisms, the use of topical skin products such as hypoallergenic moisturizers based on lactic acid or urea twice a day can halve the incidence of skin lesions[26].

For bathing, the use of soaps can affect the physiological characteristics of the skin and make it prone to the appearance of lesions. Among the practices, the use of alkaline, antibacterial or perfumed soaps can alter the skin's microbiome, so it is recommended to replace these with soaps with balanced/neutral pH, use of warm water and shortening the practice time, both in duration, as in periodicity, being recommended a bath every two days, aiming to decrease the rate of alteration of the physiological characteristics of the skin[20,25,27,28].

Treatment

When the appearance of this type of lesion is identified, it is important to perform first aid, defined as: cleaning the bed, re-approaching the skin flap and classifying the lesion and its severity from the available instruments, aiming to direct care and reduce the risk of complications[26].

Regarding the ideal dressing, the choice of products should be based on the classification of the lesions, through the use of instruments such as, for example, Payne-Martin. Category I lesions, ideally, should be cleaned with 0.9% saline, with the skin margins approached and the use of primary silicone-based coverage, with replacement in a maximum of 7 days. For categories II and III, re-approach by rolling should be performed, using the support of a flexible cotton swab, due to the degree of tissue loss[25,29].

In category III, it is necessary to use secondary cover, preferably made of absorbent foam material for better control of the exudate. This should be simple, comfortable, easy to apply and remove, aiming at reducing trauma, and not causing pain to the individual, functioning as a protective barrier against bacterial invasion. The deadline for changing these dressings should be based on the presence of inflammatory signs, and the more signs present, the shorter the change time[25,29].

The professionals' knowledge about this type of injury is fundamental, allowing the correct and effective use of protocols, instruments and adequate dressings, providing an evidence-based practice and focused on the problem presented by the individual. The involvement of different professionals and the care provided increase the likelihood of success, both for the management and prevention and treatment of injuries[26].

Therefore, for the prevention of ST-type injuries in the elderly, vigilance is required regarding the maintenance of organic and tissue homeostasis with a focus on appropriate nutrition and hydration; avoid trauma to senile skin, providing a safe environment with suitable devices; and the systematization of health care and education for elderly skin care.

As a limitation of the research, it was possible to perceive the scarcity of studies carried out in Brazil that addressed this theme and that were available for access. As for the subject addressed by the publications, it was possible to observe the majority of research related to risk factors, incidence and prevalence, making it difficult to analyze data on prevention mechanisms.

CONCLUSION

Scientific productions show that the main risk factors were related to old age (> 85 years), white race, female gender, dehydration, malnutrition, polypharmacy, level of dependence of the elderly, recurrent exposure to humidity, senile skin characteristics, such as the presence of senile purpura, bruises and edema, in addition to the presence of a newly healed bed from a previous injury. And, the main preventive care to be performed was associated with the maintenance of organic and tissue homeostasis with a focus on proper nutrition and hydration; avoid trauma to senile skin, providing a safe environment with suitable devices; and the systematization of health care and education for elderly skin care.

AUTHORS 'CONTRIBUTION

Conceptualization: Spin M e Castro MCN; **Methodology:** Castro MCN e Serafim CTR; **Research:** Spin M e Sardeli KM; **Writing - First version:** Spin M, Sardeli KM, Serafim CTR, Velozo BC, Popim RC e Castro MCN; **Writing - Review & Editing:** Vocci MC e Castro MCN; **Supervision:** Castro MCN.

SEARCH DATA AVAILABILITY

Not applicable.

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