

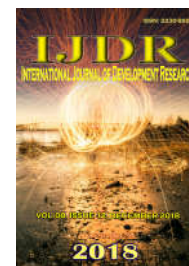


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PRESSURE INJURY IN ELDERLY: A SYSTEMATIC REVIEW OF LITERATURE

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ABSTRACT

Objective: To identify scientific articles on pressure-related injury in the elderly population during the period from October 2007 to October 2017. **Methodology:** A systematic bibliographic review of articles indexed in the Virtual Health Library (VHL) of the Bireme network was carried out in the Bases of Data BDNF, LILACS and SCIELO. **Results:** We found and reviewed 19 articles that met the pre-established inclusion and exclusion criteria. **Conclusion:** The results of this study showed a very limited number of journals that deal with the topic of pressure injury in the elderly population, making it evident that more research is needed to address this theme.

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INTRODUCTION

Brazil and the world experience a gradual increase in the elderly population. It follows to this process the greater occurrence of chronic degenerative diseases, as well as the functional limitations. The progressive reduction of functional capacity generates dependence and leaves the elderly more susceptible to complications, such as the formation of pressure lesions (LPP). Such lesions may be cutaneous or of superficial or deep soft parts resulting from poor tissue perfusion resulting from increased external pressure, culminating in an ischemic process. They may occur in any region of the body, especially in the bony prominences: sacral region, major trochanter of the femur and ischial tuberosity (FERNANDES *et al.*, 2018).

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Several factors can contribute to the occurrence of these lesions in the elderly population, among them the reduction of the thickness of the dermis, reduction of the elastic fibers, stiffness of the collagen, reduction of subcutaneous adipose tissue and of the capillaries in the skin, reducing the blood supply. In addition to these factors, the elderly are more prone to chronic non-transmissible diseases, which may interfere with perception, blood circulation, oxygenation, mobility, level of consciousness, electrolyte levels and proteins (VIEIRA *et al.*, 2014). Recognition of these factors is the first step in the development of prevention care. In this sense, nursing plays a fundamental role through the attention and clinical approach to the patient, development of educational strategies and interdisciplinary practices at different levels of care. Prevention is the best strategy and is used as an indicator of nursing care. The European Pressure Ulcer Advisory Panel and National Pressure Ulcer Advisory Panel (EPUAP / NPUAP)

present guidelines, among them: the establishment of a risk assessment policy and the qualification of health professionals on how to evaluate, as well as the need to register such evaluations (PEDROSA *et al.*, 2014). In addition to the risk assessment, the most effective actions to prevent pressure injuries, such as the reduction of pressure on bone prominences, periodic change of decubitus, and the use of adequate mattresses should be highlighted (DA SILVA *et al.*, 2018). Thus, the realization of this systematized review is fundamental, since it makes possible the recognition of the available publications, through search and analysis of the different information related to the said topic, detecting the approaches and contributions of other professionals. In this perspective, the objective was to identify articles published from 2007 to October 2017 in scientific journals on pressure injury in the elderly. Some central questions guided the elaboration of this work as: What scientific evidence has been developed about pressure injuries in the elderly?

MATERIALS AND METHODS

It consists of a systematic review study, carried out from July to August of 2018, carried out from the electronic survey. He followed the steps recommended for a systematic review: (1) elaboration of the research question; (2) search in the literature; (3) selection of articles; (4) extraction of the data; (5) methodological quality assessment; (6) data synthesis (meta-analysis); (7) evaluation of the quality of the evidence; and (8) writing and publication of the results (GALVÃO; PEREIRA, 2014). The research question of the present research was: What scientific evidence has been developed about pressure injuries in the elderly? The literature search was developed in the Virtual Health Library (VHL), through the Latin American and Caribbean Center for Health Sciences Information (Bireme), and the integration with Latin American and Caribbean Literature in Health Sciences (LILACS), Nursing Database (BDENF) and Scientific Electronic Library Online (SCIELO), where the articles were analyzed and peer-reviewed and data extraction for subsequent meta-analysis and evaluation of the evidence, and publication of the results. The selection of articles was done after the interpretative reading of the titles and abstracts, excluding those who did not bring the proposed theme and those who did not meet the inclusion criteria, initially identified 1495 primary studies. The studies were evaluated by the three researchers alone, in view of the inclusion criteria, and were subsequently assessed. Only those articles chosen in common by both were included in this study, with concordance higher than 90%. At first, the location of the articles in said databases was performed using the words "pressure lesion" with their synonyms, and "elderly", in combination with the Boolean operator AND, forming the crosswords: AND elderly pressure; pressure ulcer and elderly; pressure ulcers AND elderly; elderly AND pressure ulcer; elderly AND decubitus ulcers and elderly AND decubitus eschar. Studies verified in more than one database were considered only once, being counted in the database with more work.

The inclusion criteria were: articles that dealt with the subject of pressure injury in the elderly; available in full and free of charge; written in English, Portuguese or Spanish; published in the period from 2007 to October 2017. The following were excluded: works not relevant to the theme; which dealt with other issues, in addition to pressure injury, and other age groups; not available in full; published in another language,

not mentioned previously; outside the proposed time interval; theses and dissertations. A final selection was supported by an instrument in Microsoft Office Excel 2010 software, which allowed extracting the essential elements of texts and periodicals through the following variables: type of article published, year of publication, study objectives, methodological approach and conclusions. At the end, only publications related to the topic of pressure injury in the elderly were counted, resulting in a final sample consisting of 19 articles, 9 of BDENF, 9 of LILACS and 1 of SCIELO. The results were described in a descriptive way by means of synoptic tables for apprehension of the content and later discussion in the discursive language.

RESULTS AND DISCUSSION

A total of 19 scientific articles were published, published in 15 periodicals with online publication, full text, free and open access - Bireme databases, with publications between 2007 and 2017. The results were presented in tables based on grouped information: databases and number of articles selected, year of publication, periodicals and indexed language, professional-researchers, methodological approach, and keywords. Table I shows the distribution of articles by database, where a larger number of articles can be observed in the databases of BDENF and LILACS - percentage of publications of 94.74%. Table II shows the number of publications distributed between 2007 and October 2017. The highest number of articles published in 2009 and 2012 is observed, with 21.05% for each year, totaling 42.1% of the sample. In other years, oscillation is observed from 5.3% to 10.5%. In the years 2010 and 2015, no publications were found that met the criteria established in this study. Regarding the number of articles per periodical and indexed language (Table III), a greater number of articles related to the topic in Nursing Journals (47.37%) stands out. The indexation of articles in Portuguese language was in prevalence in publications (63.16%), followed by Spanish (21.05%) and English (15.79%).

Table 1. Data bases and number of articles on pressure injury in elderly, João Pessoa, Paraíba, Brazil, 2018

DATA BASE	N	%
BDENF	09	47,37
LILACS	09	47,37
SCIELO	01	5,26
TOTAL	19	100

Table 2. Number of articles on pressure injury in elderly, by the year of publication, João Pessoa, Paraíba, Brazil, 2018.

Year of publication	N	%
2007	1	5,3
2008	2	10,5
2009	4	21,05
2011	1	5,3
2012	4	21,05
2013	2	10,5
2014	2	10,5
2016	2	10,5
2017	1	5,3
TOTAL	19	100

When analyzing the professional-researchers of the published works, we observed predominance of Nurses (80.28%), followed by Doctors (15.49%) and others (4.23%) (Table IV). Another dimension analyzed was the distribution of articles by methodological approaches (Table V), showing that of the 19 articles analyzed, 94.7% were quantitative in nature, while

Table 3. Denomination of periodicals, number of articles and indexed language of articles on pressure injury in the elderly, João Pessoa, Paraíba, Brazil, 2018

Newspaper	Number of articles	%	Indexed Language
Revista Latino-Americana de Enfermagem	1	5,26	Portuguese
Acta Paulista de Enfermagem	2	10,52	Portuguese
Revista RENE	2	10,52	Portuguese
Revista Enfermagem UERJ	2	10,52	Portuguese
Sao Paulo Medical Journal	2	10,52	English
Revista Gaúcha de Enfermagem	1	5,26	Portuguese
Acta Scientiarum Health Sciences	1	5,26	English
Revista de Enfermagem UFPE On Line	2	10,52	Portuguese
Revista Médica Herediana	1	5,26	Spanish
Acta Médica Peruana	1	5,26	Spanish
Cogitare Enfermagem	1	5,26	Portuguese
Revista Brasileira de Geriatria e Gerontologia	1	5,26	Spanish
Revista Enfermería Herediana	1	5,26	Spanish
Texto e Contexto de Enfermagem	1	5,26	Portuguese
TOTAL	19	100	

Table 4. Articles on pressure injury in the elderly, according to the title, authorship, and methodological approach, João Pessoa, Paraíba, 2018

Title	Authors	Methodological Approach
Pressure ulcer in institutionalized elderly: analysis of prevalence and risk factors	Freitas MC, et al.	A retrospective cohort study of a quantitative nature with 300 medical records of the elderly.
Risk factors for the development of pressure ulcers in institutionalized elderly	Souza DMST, Santos VLCG.	The prospective cohort study, with a quantitative approach consisting of 275 elderly.
Prevention of pressure ulcer: the knowledge of formal caregivers of institutionalized elderly people	Matos SDO, et al.	A cross-sectional, quantitative approach study with 51 elderly caregivers.
Instrument for data collection for pressure ulcer prevention in the institutionalized elderly	Macêdo PKG, et al.	Methodological study, with the participation of nine health professionals.
Characterization and risk factors for pressure ulcers in the hospitalized elderly person	Vieira CPB, et al.	Cohort study, descriptive and quantitative with 215 elderly people.
The elderly and the pressure ulcer in the home care service	Coêlho ADA, et al.	A cross-sectional and descriptive study with 194 elderly.
Risk of pressure ulcer in hospitalized elderly: application of the Waterlow scale	Fernandes MGM et al.	Exploratory study with 53 elderly.
Refined sugar in the treatment of Pseudomonas infection in pressure ulcer	AlvesN, Deana NF	Case study with a 79-year-old patient.
Application of pressure ulcer prevention protocol in the home context: a trajectory covered	Moraes GLA de, et al.	A randomized experimental study with 40 elderly.
Evaluation of the risk of development of pressure ulcer in institutionalized elderly in Brazil	Reffatti KA, et al.	A cross-sectional, descriptive and exploratory study with 21 elderly.
Use of the dry autolytic method in the management of pressure ulcers in elderly patients	Rossel-Perry P, et al.	A prospective randomized single blind clinical trial with two groups containing 50 patients in each.
Bacteremia by Staphylococcus cohnii ssp. urealyticus due to infected pressure ulcer: case report and literature review	Soldera J, et al.	Case report of a 79-year-old patient.
Risk assessment for pressure ulcer in bedridden elderly people	Moraes GLA de, et al.	A prospective longitudinal study with 40 elderly subjects.
Evaluation of the functional capacity of the elderly associated with the risk of pressure ulcer	Aguiar ESS de, et al.	A quantitative, cross-sectional, household-based survey of 51 elderly subjects.
Frequency of pressure ulcers and their related factors in elderly patients hospitalized in the medical service of a general hospital	Peralta Vargas CE, et al.	A prospective, longitudinal, observational study with 463 elderly.
Risk factors for the development of pressure ulcers and their implications for quality of life	Lobo A.	Descriptive study, with a simple random sample, consisting of 40 elderly.
Risks for pressure ulcers according to the Norton scale in elderly patients in a home care institution	Gallo Woolcott KE, Pachas Fernández, CG.	A descriptive quantitative cross-sectional study with 152 elderly subjects.
Shared care: a perspective of caring for the elderly based on health education	Teixeira MLO, Ferreira MA.	Qualitative research of a convergent-care approach with 19 elderly caregivers
Prevalence of pressure ulcer in long-stay institutions for the elderly in São Paulo	Chacon JMF, et al.	Cross-sectional study with 365 elderly.

Table 5. Frequency of professionals - Researchers in articles on pressure injury in the elderly, João Pessoa, Paraíba, 2018

Professional-researchers	F	%
Nurses	57	80,28
Doctor	11	15,49
Physiotherapist	1	1,41
Pharmaceutical	1	1,41
Dentist	1	1,41
Total	71	100

5.3% in qualitative nature. With respect to the types of studies found, it was possible to observe that the majority (89.47%) of the articles dealt with empirical studies, followed by reports of experience (10.53%). Risk factors were the main source of concern for researchers, accounting for (84.21%) of the studies.

Regarding the data collection environment of the investigated articles, a larger number of articles (73.68%) were found for home care and Long-Term Care Institutions for the Elderly (ILPI). As for the keywords, it can be observed in Chart 1 that among the words that were most frequently repeated, there are "pressure ulcers" (63.15%) or "elderly" (57.89%).

Table 6. Number of articles on pressure injury in the elderly, according to the methodological approach (quantitative), João Pessoa, Paraíba, 2018

Methodological Approach	N	%
Qualitative	6	37,58
Quantitative	13	62,42
TOTAL	19	100

Table 7. Frequency of computerized keywords in the summaries of articles on pressure injury in the elderly, João Pessoa, Paraíba, 2018

Key-words	F	%
Pressure ulcer	12	27,27
Pressure injury	4	9,09
Old man	11	25
Health of the Institutionalized	2	4,55
Long-term institution for the elderly	2	4,55
Risk factors	5	11,35
Prevalence	2	4,55
Nursing	4	9,09
Nursing care	2	4,55
TOTAL	44	100

No articles found with the keyword "pressure injury". The results found in this study showed a very limited number of journals that deal with the issue of pressure injury in the elderly population, making evident the need for more research that addresses this issue. Thus, such data can stimulate the development of new researches, as well as assist in the orientation of health professionals as to the ways of acting in this scenario. The difference in the number of publications between the two databases is probably due to the greater number of indexed journals, BDEF and LILACS presented a higher number of articles (47.37%), followed by SCIELO with (5, 26%). Regarding the number of articles per periodical and indexed language (Table 3), a greater number of articles related to the topic in Nursing Journals (47.37%) stands out. The indexation of articles in Portuguese language was in prevalence in publications (63.16%), followed by Spanish (21.05%) and English (15.79%). The most frequently published journals on pressure injuries in the elderly were Acta Paulista de Enfermagem, Revista RENE, Revista Enfermagem UERJ and Revista de Enfermagem UFPE On Line (10.52%).

This distribution follows the trend of the publications published in magazines of greater visibility in the area. The fact that nursing professionals are closer to the patient and develops more activities focused on care may lead them to develop a greater concern with the subject, such as the data shown in Table 4. In addition, this higher demand among these professionals complies with Resolution COFEN No. 564/2018, that it is up to the nurse to participate in the evaluation, elaboration of protocols, selection and indication of new technologies in the prevention and treatment of people with wounds. However, it is understood that it is an interdisciplinary responsibility that involves the whole team. Regarding the environment in which the studies were developed, it was observed that the most recent researches are more focused on the home environment and the long-term intuitions of the elderly. The fact that most of the studies analyzed in the present study are empirical in nature suggest that the pressure lesions correspond to a relevant factor to obtain better health outcomes, something that is greatly strengthened among the researchers. Although the case studies have been little identified, it is known that this type of study is fundamental for the exercise of interrelationship between

theory and practice, qualifying the formative process. The results show that most of the authors of the articles studied used statistical methods to explain the data analysis. The only article found with a qualitative approach was published in 2009 in the journal *Texto Contexto Enfermagem*. Health research suggests that the concept of "disease / agent and / or group of risk factors present" is going through conceptual changes, and that its focus is also focused on the study of subjective aspects. It is interesting to note that although the articles analyzed had the theme investigated, the use of the descriptor "pressure injury", despite being the best representative of the theme, was not identified (Table VI). This fact can be explained considering the change in the nomenclature from "pressure ulcer" to "pressure injury" in 2016, the latter describes with more precision the lesions of intact and ulcerated skin. Based on the analysis performed, the LPPs are considered a real public health problem, due to their high incidence, impacts on the patient's quality of life in its various physical, emotional and social dimensions in the life of the elderly, besides the high cost of treatment, developed from the pressure exerted on the skin, underlying tissues or structures, which develop from pressure, friction or thinning, usually on bony prominences, resulting from nutrient supply to the tissues, elderly patients are larger probability of its development by capillary fragility, loss of lean mass, immobility, reduction and / or loss of sensitivity, underlying disease, among others. Even knowing its high incidence, many data are still underreported. According to data from the National Pressure Ulcer Advisory Panel (NPUAP) (2016), in US hospitals, the prevalence of LPP is 15%. In Brazil, although there are few studies that reflect reliable data, authors affirm that the incidence is between 23.1% and 59.5% (BORGHARDT *et al.*, 2016). Reducing the risk of LPP is one of the priorities of the Ministry of Health, being among the 6 International Goals of Patient Safety (BRAZIL, 2016). In addition, it acts as an indicator of the quality of health services, since it reflects a safe, quality care with professionals committed to the patient, besides assisting in the management and evaluation of care. The results show the increasingly demanding and complex challenges, with the increase of non-communicable chronic diseases, the patients are hospitalized for their treatment, being vulnerable to the appearance of the LPPs, the assistance to hospitalized patients begins with the perspective of avoiding damage to them, care is focused on the prevention of injuries. Several studies have reflected the theme using several approaches, most of them describing the incidence, occurrence and characteristics of the injuries, but the impacts generated from the population, the use of coverages and interventions, but little attention has been given to the application of the Systematization of Assistance (SAE) and the nursing process in nursing care in the prevention and treatment of LPPs in elderly patients.

Conclusion

The results found in this study evidenced a very limited number of journals that deal with pressure injury in the elderly population, making evident the need for more research that addresses this issue, since it is a risk group for the development and worsening of the case scenario preventive measures are not taken. Thus, such data can stimulate the development of new researches, as well as assist in the guidance of health professionals on the ways of acting in this scenario, with an individualized assistance, focused on their real needs.

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