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EFFECT OF A PRESSURE ULCER PREVENTION PROTOCOL IN ELDERLY

EFEITO DE UM PROTOCOLO DE PREVENÇÃO DE ÚLCERA POR PRESSÃO EM IDOSOS

HECHO DE UN PROTOCOLO DE PREVENCIÓN DE ÚLCERA POR PRESIÓN EN ANCIANOS

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ABSTRACT

Objective: to evaluate the effect of a pressure ulcer (PU) prevention protocol for the elderly at home. ***Method:*** this is an experimental study with an intentional sample of 40 elderly who were discharged after hospitalization in five public hospitals and one private of Ceará state, and were randomly divided into experimental group (n = 20) and control group (n = 20). The groups were monitored at home for a month. For the experimental group, there was application of the protocol, and for the control group, elderly and caregivers were verbally instructed on how to act to prevent PU. This research was approved by COMEPE of Dr. José Frota Institute, protocol number: 2128/2010. ***Results:*** during the home care, 13 (65.0%) subjects in the control group did not present PU. In the experimental group, 18 (90%) did not present it, while two (10%) developed it, with an incidence of 22.5%. ***Conclusion:*** the protocol is valid and has attested reliability based on the most important aspects revealed for the elderly at risk of developing PU. ***Descriptors:*** Pressure ulcer; Geriatric Nursing; Nursing care; Nursing Assessment.

RESUMO

***Objetivo*:** avaliar o efeito de um protocolo de prevenção de úlcera por pressão (UPP) para idosos no domicílio. ***Método*:** estudo experimental com amostra intencional de 40 idosos que tiveram alta após internação em cinco hospitais públicos e um privado do estado do Ceará, e foram distribuídos aleatoriamente em grupo experimental (n=20) e grupo-controle (n=20). Os grupos receberam acompanhamento no domicílio por um mês. Para o grupo experimental, realizou-se a aplicação do protocolo e, para o controle, idoso e cuidador foram orientados verbalmente a respeito de como agir para a prevenção da UPP. Aprovado pelo COMEPE do Instituto Dr. José Frota, processo: 2128/2010. ***Resultados*:** durante o acompanhamento domiciliar, 13 (65,0%) sujeitos do grupo-controle não apresentaram UPP. No grupo experimental, 18 (90%) não apresentaram, enquanto dois (10%) desenvolveram, com incidência de 22,5%. ***Conclusão*:** o protocolo é válido e tem confiabilidade atestada com base nos aspectos revelados mais importantes para o idoso com risco de desenvolver UPP. ***Descritores*:** Úlcera por Pressão; Enfermagem Geriátrica; Cuidados de Enfermagem; Avaliação em Enfermagem.

RESUMEN

***Objetivo*: e**valuar el efecto de un protocolo de prevención de úlcera por presión (UPP) para ancianos en su domicilio. ***Método*:** estudio experimental con muestra intencional de 40 ancianos que tuvieron alta después de internación en cinco hospitales públicos y un privado del estado de Ceará, y fueron distribuidos aleatoriamente en grupo experimental (n=20) y grupo-control (n=20). Los grupos recibieron acompañamiento en su domicilio por un mes. Para el grupo experimental, se realizó la aplicación del protocolo y, para el control, el anciano y el cuidador fueron orientados verbalmente de cómo actuar para la prevención de UPP. Aprobado por el COMEPE del Instituto Dr. José Frota, proceso: 2128/2010. ***Resultados*:** durante el acompañamiento domiciliar, 13 (65,0%) sujetos del grupo-control no presentaron UPP. En el grupo experimental, 18 (90%) no presentaram, miéntras dos (10%) desarrollaron, con incidencia de 22,5%. ***Conclusión*:** el protocolo es válido y tiene confiabilidad probada con base en los aspectos revelados más importantes para el anciano con riesgo de desarrollar UPP. ***Descriptores*:** Úlcera por Presión; Enfermería Geriátrica; Cuidados de Enfermería; Evaluación en Enfermería.

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INTRODUCTION

Brazil is among the countries with the higher rate of growth of elderly population and speed of demographic and epidemiological transition process. This generates many crucial issues for managers and researchers of health systems and their effects on society as a whole, especially in a context of great social inequality, poverty and fragility of institutions.[1]

One of the problems that affect the health and the general state of thousands of elderly people is the pressure ulcers (UP), which are most common in bedridden, hospitalized elderly and deficit of attention to body hygiene, hydration and nutrition. At home, this problem is also present and may result in new admissions and death. It is estimated that the prevalence of PU in patients of different ages at home may vary from 0% to 29% and the incidence of 0% to 17%.[2] In Brazil, research on the epidemiology of PU in the elderly at home are still incipient. Recently, studies have found prevalence of 31.4%[3] and of 19.1%.[4]

The appearance of the PU is regardless of the financial condition of the elderly and results in individual and family suffering[5], however, those who have less favorable financial conditions are less able to treat it at home, by several factors that favor its healing, such as the need for dressings and proper mattresses, which are expensive, adequate food, trained professionals to make the dressings and the availability of a caregiver 24 hours a day.

Most of the time, since the PU is an avoidable problem [5-6] whose prevention and risk assessment is critical, it is imperative the care of nurses during home care for bedridden elderly people with prognosis of long-term prevalence in bed, unable to walk. One way to prevent this problem is to establish and implement protocols that include risk assessment and use of systematization of nursing as care technology.[7]

The protocol works as a tool for patient safety and as a strengthening strategy of care practices[7-8] without, however, underestimating the clinical trial, the technique and the ability of nurses to closely examine the scale items to the care with excellence and improved quality of life and well-being for the patient.[8] The effectiveness of the protocol increases when there is continuity of the preventive process at home, assisting caregivers in the optimization of care.[9]

OBJECTIVE

♦ To evaluate the effect of a pressure ulcer prevention protocol for elderly at home.

METHOD

This is a cross-descriptive study conducted from June to August 2010. We used in this research the Nursing Standard of Practice Protocol for PU, developed by American nurses as part of the Nurses Improving Care for Healthsystem Elders (NICHE).[10] The NICHE offers health information to institutions that promote care based on research for populations that are aging.[10]

This protocol is available in Portuguese, in a translated work for Brazil[10], and is intended for home care. This version developed by the author is comprised of 27 preventive measures relating to the inspection of the skin during bathing, to the hydration of the body, change of position, the use of means to reduce the pressure, stimulation to performing self-care, nutritional guidance, among others. The Protocol's implementation is evaluated by the quantity and quality of care provided by the caregiver and the nursing staff. So, during the performance of care, the caregiver or the team must be alert to register whether assistance was fulfilled according to the protocol (AP), partially performed (P) or has not been performed (NP). The protocol helps in monitoring the effectiveness of preventive interventions and evaluates the expected results in relation to the patient/caregiver/nursing.

To start using this tool and in order to adapt the already translated scale to the Brazilian reality, we proceeded to validate the content with the help of 16 specialists nurses in stomatherapy indicated by the *Sociedade Brasileira de Estomaterapia* of Ceará. Those professionals had at least two years of clinical experience in the area, of whom we highlight three masters nurses in Nursing, with research relating to the theme wounds, one with the title of specialist in gerontology and another nurse is a Nursing Professor. At that stage, specialists and researchers gathered in two meetings, and agreed to keep 16 preventive measures with review of idiomatic equivalence referring to the popular expressions, for better understanding of the caregiver, given the low level of education of the Brazilian population.

The study population consisted of 520 elderly of five public hospitals and one private hospital of the city of Fortaleza, CE. The elderly patients were identified in the

hospital, and researchers focused on the conditions of not being walking and not having PU. At this point, the subject or caregiver was informed about the research and the researchers' telephone number was offered to whom they should contact when the elderly receives hospital discharge.

Those who reported the return home on the day of discharge or within 24 hours after discharge were assessed for inclusion criteria: living in Fortaleza or a metropolitan area; having full or partial dependency; needing a caregiver; being incapable of walking; being classified according to the predictive scale of Braden[11] as "at risk" to "very high risk" for developing PU. It is noteworthy that we did not include those who already had PU or those whose the caregiver was illiterate or had unsatisfactory evaluation with regard to cognition, acceptance of care, dexterity and skill.

Of the 520, 40 individuals met the eligibility criteria, 20 (50%) from state institutions, 17 (42.5%) of municipal institutions and three (7.5%) of the private network. The distribution of the selected subjects was carried out by successive and alternated entries to different groups. The first subject recruited was referred to the experimental group, the second to the control group and so on. To the experimental group (A) we applied PU prevention protocol, whereas we did not apply the protocol the control group (B). In the experimental group, the caregivers were advised on the implementation of each intervention and proper registration. In the control group, the elderly and caregivers were verbally instructed on how to act to prevent PU.

The subjects were monitored for 30 days, with intervals of seven days from the first meeting in the hospital or at home after discharge, totaling four visits. The visits were conducted by the researcher and five nurses from the Family Health Strategy, who were invited and previously trained to apply the PU protocol. In this phase of the study we performed the clinical validation, in which it was held the latest modifications relating to the protocol for use at home and the monitoring of the application by the caregiver.

It should be noted that older people who developed PU were monitored for another month after the 4th visit, for evaluation and treatment of the wound.

To calculate the sample and the statistical analysis, the following parameters were considered: confidence level of 95%; clinically relevant difference of 20% (represented by the difference between the prevalence of elderly patients with and without risk for acquiring pressure ulcers); and finally, the prevalence of phenomenon of 40%, obtained by the number of elderly patients registered by the *Comissão Interdisciplinar de Prevenção e Tratamento de Lesões* (Interdisciplinary Committee for Injury Prevention and Treatment) of a referral hospital of the state. In addition, data analysis included absolute and percentage frequency measures as well as measures of central tendency and dispersion. For verification of association, we applied the Pearson Chi-square test or Fisher's exact test. In the case of asymmetric data the Mann-Whitney test was applied.

The ethical issues presented by Resolution No. 466/13 of the National Health Council were respected, and the research project was approved by the Research Ethics Committee of the Institute Dr. José Frota (Opinion No. 2128/2010). The signing of patients or guardians to the Informed Consent Form was obtained after the invitation to participate in the research. It is noteworthy that it was asked the authorization of the protocol author via email, for use in the context of this research.

This study is part of a doctoral thesis entitled: "Adaptation and validation of pressure ulcer prevention protocol in elderly assisted at home", presented to the Post-Graduation Nursing Program of the Federal University of Ceará in 2011.

RESULTS

The prevalence of the subjects were females (65%), white (45%), with a mean age of 77.6 (± 11.3) years old. Regarding marital status, most reported being widowed (52.5%). In relation to the variable medical diagnosis, cerebrovascular accident (CVA) prevailed (55%). As for the caregiver, there was prevalence of adult children (47.5%). (Table 1)

Table 1. Characterization of elderly participants of the study according to the experimental group and the control group. Fortaleza, Brazil, 2010.

Variables	Experimental Group		Control Group			p
Sex						
Male	3		11			**0.022**[1]
Female	17		9			
Skin color						
Brown	9		7			0.291[2]
White	10		8			
Black	1		5			
Marital status						
Married	7		6			0.419[2]
Widower	12		9			
Single	1		3			
Divorced	0		2			
Medical diagnosis						
CVA	13		9			0.490[2]
Fractures	4		5			
Other causes	3		6			
Caregivers						
Husband	1		4			0.608[2]
Brother	2		1			
Son	10		9			
Daughter-in-law	1		3			
Grandson	2		1			
Others	4		2			
Variables	**Mean**	**SD**	**P25**	**P50**	**P75**	P
Age	77.6	11.3	7	78	86	0.379[3]

Chi-square; 2- Fisher's test; 3 - Mann-Whitney.

Table 2 shows the protocol with the 16 items after content and clinical validation, and data concerning the fulfillment of the implementation of preventive measures by the caregiver and nursing staff.

It was noted that measures 2, 3, 4, 5 and 8 were performed according to the protocol (AP) for more than 80% of caregivers in the three visits. Obstacles were encountered in the implementation of preventive measures 6, 7, 8, 10, 11, 12, 13, 14, and 15, in which up to 85% of caregivers did not performed. It is believed that some of these steps required funds, so the difficulty of application. Moreover, they demanded intensive labor by the caregiver; however, many had other chores besides elderly care, which impaired the quality of care.

Table 2. Monitoring validation of pressure ulcer prevention protocol by the caregiver and nursing staff. Fortaleza, 2010.

Prescribed preventive measures	Visit 2			Visit 3			Visit 4		
	AP	P	NP	AP	P	NP	AP	P	NP
1- Teaching the patient, caregivers and staff about the prevention protocol.	**20**	0	0	**20**	0	0	**20**	0	0
2- Skin inspection while bathing.	**18**	1	1	**19**	1	0	**18**	1	1
3- Skin cleansing with warm water and mild soap as diaper changing is needed, and this change must be monitored every 3 hours. As for sweating, only use a damp towel.	**18**	1	1	**19**	1	0	**17**	2	1
4- Do not massage over bony prominences, especially in reddish areas.	**17**	2	1	**19**	1	0	**19**	0	1
5- If there is fecal and urinary incontinence, use disposable diapers, sanitary napkins or cloth diapers. If possible, protect the patient's skin using a protective barrier (diaper rash ointment).	**18**	1	1	**19**	1	0	**17**	2	1
6- Hydration of the body with 100ml EFA mixed with 200ml of moisturizer. Apply three times a day. When transferring of location or changing of position, raise the elderly instead of dragging him/her.	**12**	4	4	**16**	4	0	**16**	3	1
7- Turning patients every 2 hours according to schedule scale.	7	**12**	1	9	**11**	0	8	**11**	1
8- Use pillows, pads, rolls to avoid contact of a bony prominence with each other or with any bedding area.	**16**	2	2	**17**	3	0	**17**	2	1
9- Raise the ankles of patients, avoiding contact with the mattress (the pillow must be placed below the entire leg).	**10**	7	3	**12**	8	0	**13**	6	1
10- Using a lateral position of 30 degrees on the bed; do not put patients directly on the trochanter (thigh bone). Proper positioning (taking into account the postural alignment).	**14**	3	3	**14**	3	3	**16**	2	2
11- Use lifting means (roll, cushions, pillows and sheets) to move the patient in bed (platter).	**15**	3	2	**14**	4	2	**15**	2	3
12- Use means for reducing the pressure (static air mattress, alternating air, water or gel pillows). Tip: if possible, use pressure redistribution mattress.	**11**	3	6	**13**	2	5	**12**	2	6
13- When sitting in the chair, reposition the elderly every hour. Using buoy without "hole" in the center.	5	6	**9**	5	6	**9**	5	6	**9**
14- Encourage the patient to perform daily activities for self-care (hair comb, feeding, hygiene, etc.).	7	2	**11**	7	3	**10**	7	2	**11**
15- Use a bedpan, as needed by the patient.	3	0	**17**	3	0	**17**	3	0	**17**
16- Managements of nutrition. Consulting nutritionist at the *Núcleo de Apoio a Saúde da Família*- NASF or Home Care. To correct the nutritional deficiencies, increase the intake of proteins, calories and vitamin supplements A, C or E, for nutritional support and increase immunity. Ingestion of supplement with zinc, making glycemic control, albumin control and weight control.	7	1	**12**	6	1	**13**	6	1	**13**

Legend: AP = According to Protocol; P = Partially; NM = Not Performed.

From the analysis of Table 3, it is clear that although there was no significant decrease in the occurrence of PU in the monitoring period, there was incidence of PU of two (10%) cases in the experimental group and of seven (35%) cases in the control group. The incidence rate was 22.5%. All injuries that arose were classified as grade 1. The control group showed relative risk for ulcer of 3.5 compared to experimental group. This value shows statistical significance at the level 10%.

Table 3. PU incidence during home visits. Fortaleza, Brazil, 2010.

Groups	1st visit	2nd visit	3rd visit	4th visit	Incidence	p^2
Experimental	00	00	1 (5%)	2 (10%)	2 (10%)	0.063
Control	00	6 (30.0%)	00	7 (35%)	7 (35%)	

One-sided Fisher's exact test

DISCUSSION

It is true that the variable age is an important factor in developing PU. In studying the incidence of PU in patients in different care centers, researchers found that the elderly were the ones who most developed PU.[4,7,8]

This result it due to the physiological changes of aging associated with fragile and dry skin, with the reduction of sweat and sebaceous glands, with the hemodynamic

changes, with decreased elasticity, texture, sensitivity and circulation, with the slowing of the healing process and with muscle atrophy that enhances the bony prominences.[12] So, the use of predictive scales for assessing the risk of developing PU and of care protocols are support and key measures to prevent this problem and ensure the quality of care and better quality of life and well-being of this population.

The protocol used in this study helps in the prevention of PU at home and simple treatment strategies which are feasible to be performed by the caregiver, provided they are guided by the nursing staff. With regard to care, there is the inspection of the skin during bathing, careful cleaning of the body, the use of diapers, uripens, bedpans, and the change in position, which are considered basic and essential care to prevention. Such care is critical in the emergence of PU, as these are minimal, basic and mandatory interventions during care. Thus, they are universal measures in all existing PU protocols.[6,13]

It is emphasized that the skin inspection must be rigorous since it will determine the early beginning of care of wounds, considering that the later the PU is identified, the greater the worsening and the reduction of the effectiveness of treatments will be, occasionally generating readmissions. In this study, men and white elderly were the one who most had PU, corroborating other Brazilian studies.[14,15] The inspection of the skin is relevant in this case, since the black skin is more resistant to external agents by presenting a more compact stratum corneum, which acts as a barrier; while the white skin is more susceptible to external aggression.[11] On the other hand, it is more difficult to inspect the skin and viewing the staging of the PU in black patients. This preventive measure should occur at predefined intervals, whose frequency is proportional to the risk and have appropriate and timely record of detected changes.[6]

We highlight the nursing work during home visits to detect PU signs and post-hospital care because families or caregivers should receive guidance, as many are not prepared to experience this new situation and this new care, since it is a time of physical, emotional and social changes that can modify the whole family dynamic.

In addition, nurses should consider planning and revaluations for those seniors who have already developed PU, providing safety and involvement of the caregiver/family in the continuity of care, evaluating the patient as a whole, planning their topical treatment in case of wounds, and guiding on the prevention of new PU.[3]

In this research, body position change obtained had some limitations on its achievement. It is believed that caregivers, besides taking care of the elderly, had household chores, young children and other responsibilities, which prevented them from practicing action as required by protocol. And the caregiver sometimes did not hold skill and remained afraid to promote change of position, performing the action incorrectly, causing excessive pressure and development PU[3], despite having received guidance.

It is noteworthy that the caregiver is usually the person in whom the elderly trusts more and requires attention, so seniors overload their family members; stress and reduced time to practice self-care are constant in the life of the caregiver. Nursing plays unique role in the care of this caregiver with guidelines for self-care and meeting of their needs. It is necessary that the caregiver prioritizes self-care so that they can feel good about themselves and be able to provide a better care. In the absence of burden and discomfort, the caregiver will provide a more efficient care.[17]

A strategy to avoid double work load and overload is to involve the whole family in the care and divide tasks. The family or the caregiver is the group that better knows the elderly, their personality, their ways, their life history, their desires, their prospects, their habits and their way of life. Adding this group to care, making it proactive and enabling decision making, means to collaborate with the intersection between the technical-scientific knowledge and popular knowledge, contributing to the best possible care and well-being of the elderly, even though that are in dependency condition.

It is emphasized that there was good compliance, interest and involvement of the caregiver/family in the prevention and application of this protocol process. However, when the caregiver was the wife or daughter, there was greater zeal and commitment in acceptance, development of preventive measures and care to the elderly. Studies show that women's role as family caregivers is common.[4] It is highlighted the value of reciprocity presiding in child care relationships to parents and eventually to others relatives of the previous generation.

Other care provided in the protocol as not massaging bony prominences and moisturizing the skin with essential fatty acids and moisturizing three times a day guarantee the reduction of skin xerosis and skin maceration

and promote local cellular nutrition and angiogenesis, avoiding abrasions and other injuries resulting from capillary fragility and loss of collagen common of senescence. There was no resistance of caregivers in performing these actions, since they understood that the seniors' skin was fragile and dry and needed hydration.

While they were told about such care, we also addressed the importance of nutritional status, which is an aspect of risk assessment for the development of PU[6], including dehydration and obesity. It is known that nutritional deficiency can cause anemia and reduced oxygen to tissues, thus contributing to reduce the tissue tolerance to pressure[8] and cell death.[18]

Regarding this aspect, the caregivers expressed obstacles due to the difficulty of access to the *Núcleo de Apoio à Saúde da Família* (Support Center for Family Health – NASF), both with respect to the delay of home visits by professionals of NASF as the appointments at the health center, showing the precariousness of the structural and organizational level of the local health system. Added to this, some families lacked financial resources to purchase food and nutritional supplements that contribute to the prevention of PU, given their precarious living conditions. Thus, the elderly lacked liquid, proteins, vitamins and adequate caloric intake for maintenance of weight and muscle loss.

The same happened with the changing positions every two hours, which was performed partially. Actions related to mobility, transfer, positioning, and self-care of the elderly were challenging regarding the perceived importance by the caregiver. These activities should be routine in care for elderly with PU and should normally be remembered and practiced in the daily lives of caregivers. However, caregivers devoted little attention to them, knowing that these strategies demanded more time for their realization, patience and tolerance during care. But an action leads to another and triggers a cycle of prevention that promotes the elderly skin integrity and reduction of risks. So, the correct and proper practice all of them becomes essential.

Elderly with mobility impairment need repositioning every two hours for pressure reduction and improvement of local blood circulation in order to avoid PU and other injuries. Using means to reduce pressure, especially over the bony prominences, such as pillows, cushions, articulated mattresses, gel and water pillows, rolls, cushions, pillows, dishes, in order to avoid shear and friction during transfers, postural alignment, and elevation of the bedside in 30 degrees to prevent pressure zone in the sacrum and coccyx are effective measures to prevent PU included in the study protocol.[6,19] Another study presented difficulty as for the pressure relief.[20]

The self-care of the elderly was little stimulated by caregivers during monitoring period; it is believed that little availability and impassivity of the caregiver contributed for not performing this task. Self-care is essential to ensuring the independence of the elderly. Autonomy means command capacity. While the elderly is holder of autonomy, they may participate in decision-making, being supported on their means, wills and principles. It is essential to consider the decision of the elderly in their health-disease process, paying attention to the basic precepts of several Brazilian policies for the elderly, which are the autonomy and independence.

During the treatment of PU, self-care and independence of older people can collaborate with the caregiver in the implementation of preventive measures on how to accomplish them, promoting comfort and safety, and can accelerate recovery from acute illness and provide quality of life. It is noteworthy that the elderly who maintain self-determination, despite needing help and supervision in everyday life, should be considered healthy, although carrying one or more chronic diseases.[21]

In this study, there was no significant occurrence of PU in both groups, but we highlight the clinical relevance of incidence of PU in the experimental group, with two (10%) cases and the control group with seven (35%) cases. This data confirms that applicability of the protocol may have delayed or prevented the emergence of PU in the experimental group, whereas the control group was 3.5 times more likely to develop PU, and highlights the clinical importance of identifying patients with PU, the prevalence, the incidence, causes and risk factors for effective action in prevention and treatment.[22] In addition, the incidence rate of PU was 22.5%, corroborating other research in which the rate was 20% at home.[23] In addition, the weekly monitoring of nursing professional, in this research, may have prevented or delayed the development of the PU to levels 2, 3 and 4. Probably the extended monitoring, in precise and regular manner, and the application of the protocol in the two groups, may control the appearance or anticipate the treatment of injuries.

Thus, the nurse should not be limited to the care of the PU, but seek to know the beliefs and habits of the family, of the elderly and of the caregiver, considering these aspects when planning care, gaining greater confidence of the cared beings and implement their actions, predicting success, as they may show interest in participating in the care and help in the continuity of actions. Assistance should be carried out comprehensively and holistically.

In addition, gaps related to the planning of the service and structural and organizational factors and lack of professional development of personnel in the Family Health Strategy have a negative impact on assistance to the elderly, revealing the need for visibility and care of State, Regional and Municipal health authorities for this cause.[24] Instances of elderly care should prioritize the reduction of iatrogenic and the organizing the flow of care, inserted in the scopes of promotion and prevention, enabling the construction of care plans through guidelines and protocols and monitoring of results, directing the good practices guided by the best available evidence and appropriate to each clinical situation.

CONCLUSION

Limitations of this study refer to the short monitoring period, the small sample size, the intervening variables that have not been analyzed, such as albumin or pre-albumin dosage, hematocrit and stress status in the groups, and difficulty of adherence to frequent pressure relief. It is suggested the extension of this research for other situations, using longitudinal design that includes a larger sample in order to compare the prevalence of PU and analyze the time of appearance of PU for both groups.

It is confirmed the applicability of the PU protocol at home by caregivers, with monitoring by nurses, to prevent PU and correct and effective implementation, and as a strategic decision to strengthen the best care practices. The protocol is valid and has attested reliability in the most important aspects for elderly people who have risk of presenting PU.

Based on these results, it was noticed the importance of seeking in each situation or context in which the elderly is, especially at home, the influence of multiple factors and conditions that increase the risk of PU, in order to contribute to the prevention and the reduction of this complication. Clinical studies on PU are trend topics in Brazilian research. However, protocol studies applied at home are still scarce in Brazil. That said, it proves the need for initiatives of PU protocols at home as a tool for the systematization of nursing care.

Another consideration is related to the application of the protocol by the caregiver, which requires correct and proper guidance so that there are no doubts during the performance of care. In addition, health education is important to demonstrate the positive influence of the PU preventive care in their daily routines, caregiver and family. The caregiver, aware of the relevance of each intervention, will provide a quality care.

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