



## NURSING KNOWLEDGE AND PRACTICE ON THE PREVENTION OF PRESSURE INJURY

*Saberes e práticas de enfermeiros sobre a prevenção de lesão por pressão**Saberes y prácticas de enfermeros sobre la prevención de lesión por presión*

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## ABSTRACT

**Objective:** To know the knowledge and practices of nurses on prevention of pressure injury. **Method:** A qualitative, descriptive, exploratory study with seven nurses from a public hospital in the state of Maranhão, Brazil. A semi-structured interview was used, in which the testimonies were recorded, transcribed in their entirety and analyzed using the content analysis technique proposed by Bardin. **Results:** The change of decubitus was the most cited preventive method. Professionals are knowledgeable about good prevention practices, which are influenced by structural issues (human resources and insufficient inputs) and, because of this difficulty, caregivers are important in helping this care. **Conclusion:** Nursing professionals are knowledgeable about proven ways to reduce pressure injury rates, however, there is a continuing need to emphasize evidence-based good practice as an effective means of improving nursing care.

**Keywords:** nursing; knowledge; pressure injury.

## RESUMO

**Objetivo:** Conhecer os saberes e práticas de enfermeiros sobre prevenção de lesão por pressão. **Método:** Estudo qualitativo, descritivo, exploratório, realizado com sete enfermeiros de um hospital público do estado do Maranhão, Brasil. Utilizou-se uma entrevista semiestruturada, na qual os depoimentos foram gravados, transcritos na íntegra e analisados por meio da técnica de análise de conteúdo proposta por Bardin. **Resultados:** A mudança de decúbito foi o método preventivo mais citado. Os profissionais detêm conhecimento sobre boas práticas de prevenção, as quais são influenciadas por questões estruturais (recursos humanos e insumos insuficientes) e, devido essa dificuldade, os acompanhantes são importantes no auxílio desse cuidado. **Conclusão:** Os profissionais de enfermagem são conhecedores de meios comprovadamente eficazes na redução dos índices de lesão por pressão, no entanto, há a contínua necessidade de enfatizar as boas práticas baseadas em evidência como meio eficaz para a melhoria da assistência de enfermagem.

**Descritores:** enfermagem; conhecimentos; lesão por pressão

## RESUMÉN

**Objetivo:** Conocer los saberes y prácticas de enfermeros sobre prevención de lesión por presión. **Método:** Estudio cualitativo, descriptivo, exploratorio, realizado con siete enfermeros de un hospital público del estado de Maranhão, Brasil. Se utilizó una entrevista semiestructurada, en la cual los testimonios fueron grabados, transcritos en su totalidad y analizados por medio de la técnica de análisis de contenido propuesta por Bardin. **Resultados:** El cambio de decúbito fue el método preventivo más citado. Los profesionales tienen conocimiento sobre buenas prácticas de prevención, las cuales son influenciadas por cuestiones estructurales (recursos humanos e insumos insuficientes) y, debido a esa dificultad, los acompañantes son importantes en el auxilio de ese cuidado. **Conclusión:** Los profesionales de enfermería son conocedores de medios comprobadamente eficaces en la reducción de los índices de lesión por presión, sin embargo, hay la continua necesidad de enfatizar las buenas prácticas basadas en evidencia como medio eficaz para la mejora de la asistencia de enfermería.

**Descritores:** enfermería; conocimiento; lesión por presión.

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## INTRODUCTION

Pressure injury (LP) involves damage to the underlying skin and/or soft tissues, often occurring on a bone prominence, medical device or other devices. The cause of PI may be related to the prolonged pressure of the tissue associated with factors such as shear, nutrition, perfusion, preexisting diseases and clinical condition of the individual<sup>1</sup>.

The prevalence of PI remains high and has important impacts on the quality of life of the individual and on the economy<sup>2</sup>. It is an important indicator of the quality of health care and is related to the increase in mortality<sup>3</sup>. However, such damage can be prevented through clinical guidelines and protocols which, in turn, are less costly than their treatment<sup>4-5</sup>.

It is known that PI has several causes and should involve the performance of multidisciplinary team, however, the nurse is the professional who offers continuous care to patients at risk of developing PI. Therefore, the tracking and implementation of PI prevention strategies should be an integral part of the nurse's work routine and, therefore, has a prominent role in the prevention of this injury<sup>5-6</sup>.

Thus, the importance of the study of this theme is verified, since the knowledge and practices of this professional in relation to PI prevention can generate significant impacts to obtain satisfactory results for individuals at risk of PI in health services<sup>7</sup>. In the face of the above, this study aims to know the knowledge and practices of nurses on the prevention of pressure injury.

## METHOD

This is a descriptive, exploratory research with a qualitative approach carried out in a public general hospital that provides services of medium and high complexity in the city of Caxias, Maranhão (MA). The study's focus institution has 112 beds for hospital admission in the medical and surgical clinics, orthopedics, intensive care unit and semi-intensive care unit.

The study included seven nurses who considered the following inclusion criteria: being a nurse registered with the Regional Nursing Council and having a relationship with the institution for at least two years. Nurses who were away for vacation or leave were excluded.

The data collection was performed from December 2015 to February 2016 through a semi-structured interview, since it allows the interviewee the free expression of their ideas, concepts and representations<sup>8</sup>. For that, a script containing questions related to the knowledge and practices on LP prevention was used. The interviews were conducted individually in a reserved room in each room, in order to guarantee the privacy of the participants. The statements were recorded and transcribed in full for later analysis. To preserve the anonymity of the participants, they were renamed by deponent (1, 2, 3, 4, 5, 6, 7).

After the transcription of the full statements, the analysis was started through the method of content analysis proposed by Bardin<sup>9</sup>. This phase occurred in three stages: pre-analysis, material exploration and treatment of results obtained and interpretation. At the end of this phase two thematic categories emerged: Nurses' knowledge about prevention of pressure

injuries; and Nurses Practices for Preventing Pressure Injury.

This study was approved by the Research Ethics Committee of the State University of Maranhão with Opinion number 1,314,193 and CAAE number 42340914.1.0000.5554, in order to respect all ethical and legal aspects that involve research with human beings according to Resolution No. 510 / 2016 of the Ministry of Health. It should be emphasized that at the time of the invitation to participate in the research, participants were asked to sign the Informed Consent Form (TCLE) in two copies.

## RESULTS AND DISCUSSION

Concerning the first part of the interview, regarding the sociodemographic issues of the participants, it was possible to observe that of the total sample there was a predominance of the female sex with only one male person, where the majority were in the age group  $\geq 35$  and  $\leq 45$  years, thus considering a young population, where the lowest age found was 23 years of age and the highest of 52 years as we can observe in the following table:

**Table 1:** Answers related to the first stage of the interview.

ID	Deponent 1	Deponent 2	Deponent 3	Deponent 4	Deponent 5	Deponent 6	Deponent 7
Sex	Female	Female	Female	Female	Female	Female	Male
Civil status	Single	Solteira	Single	Married	Married	Single	Single
Age	52	23	31	35	45	48	33
Born in Caxias	Yes	No	No	No	No	No	Yes
Training time (years)	9	2	5	9	4	7	7
Hospital experience (years)	18	2	4	8	3	4	5
Studied in a public or private university?	Public	Private	Public	Public	Private	Public	Public
Post-graduation in other areas	Yes (1)	Yes (1)	Yes (2)	Yes (2)	Yes (3)	Yes (3)	Yes (2)
Postgraduate in stomatherapy	No	No	No	No	No	No	No

Regarding the training time, the average found was approximately 6 years of training, and the shortest period found was 2 years and the highest of 9 years, showing that the population is an audience with a considerable period of training and that, of these, the majority attended their higher education in public institutions.

Regarding the period of performance of the interviewees in hospitals, the data showed that the average number of years worked in a hospital environment was approximately 6 years, showing that they have a relatively good period of experience in this area. After the characterization of the subjects, the following thematic categories emerged: nurses' knowledge about prevention of pressure injuries and nurses' practices for the prevention of pressure injuries.

#### **Nurses' knowledge about pressure injury prevention**

It was observed that the majority of professionals interviewed reported having knowledge about actions that prevent the occurrence of PI. The patient's change of position was the first preventive activity cited by most of the participants studied, being one of the main practices to be implemented to prevent the disease, as we can observe in the following reports:

"Since our academic training is taught that we should use as prevention for LP what the question of changing the patient's decubitus..."  
(deponent 6)

"Yeah, what I learned, right? both in the university and in my professional practice, is that pressure ulcers are prevented by the question of change of position, right?" (deponent 4)

"Look, well in my university academy time what else we saw the teachers talking about the pressure ulcer issue is the need for the patient's change of position, right?" (deponent 5)

"We know, right? who has to change the patient every two to three hours so that he/she does not lie down for too long ... " (deponent 2)

These reports corroborate with other studies carried out with nursing professionals that identified the change of decubitus with the main action to be implemented together with methods to prevent skin friction, shear force on the skin and the decrease of the pressure on the bony prominences<sup>10-12</sup>.

Regarding the frequency of the patient's change of position, it is possible to observe differences between the professionals interviewed, thus demonstrating the knowledge of some and the lack of knowledge of others, as shown in the following reports:

"We know, right? That has to change the patient every two, three hours ... " (deponent 2)

"... you are always moving the patient so that he does not develop the issue of pressure ulcer, especially bedridden patients who have little mobility you have to be changing with the change of decubitus every two hours" (deponent 5)

"... in this change of position, to always change the patient's position, change at least every two hours, right?" (deponent 6)

"... main prevention is the change of the decubitus right, that has to be done at least every six hours and is not done ... the bedridden patient does not make the change every four hours, that the ideal is four on four ... " (deponent 1)

Changing decubitus is an effective PI prevention measure, provided it is performed at the correct frequency. Nursing professionals should be aware of this measure, especially when it comes to patients who are bedridden or who have a significant movement restriction. The redistribution of pressure by moving the patient in the bed should be done at intervals of two hours whenever possible<sup>13-14</sup>. The change of decubitus favors the relief of pressure, especially on bony prominences, allows better local circulation and reduces the degree of

friction and friction of the patient with hard surfaces<sup>13</sup>.

In addition to the change of position, factors associated with the nutritional status of the patients were cited as an aspect to be constantly observed by nurses in order to prevent PI, as can be seen in the following reports:

"...the patient needs to have a balanced nutrition it needs to have body mass not to increase the opening of scabs ... " (depoente 5)

"...the nutritional status is important also to make this prevention, there it is always important the support of the nutrition team to be giving adequate food for that bedridden patient ... " (deponent 3)

"...then this is the care the issue of change, nutrition issue the monitoring by a person who knows how to deal with the patient I change the decubitus ... " (deponent 1)

"...then this is the care the issue of change, nutrition issue the monitoring by a person who knows how to deal with the patient I change the decubitus ... " (deponent 7)

The reports presented demonstrate a vision of the professionals for issues that go beyond their field of action, facilitating a guided assistance in multidisciplinary. Similar results were found in another study, in which the maintenance of adequate nutritional intake of the patient was highlighted as one of the main factors to be evaluated and monitored in the prevention of Pressure Injury<sup>12</sup>.

Monitoring and nutritional assessment by a multidisciplinary team is of fundamental importance for the prevention of Pressure Injury, since the progressive loss of weight and muscle mass make bony prominences even more exposed and ambulation more difficult<sup>15-16</sup>. In addition, poor nutrition may cause less resistance to the patient's epithelial tissue<sup>12</sup>.

The narratives show that it is known by the nursing professionals that adequate hydration of the skin is an important factor to be considered in the prevention of tissue injuries. The following accounts confirm this fact:

"...the ingestion of liquid, have the skin moisturized, is we also advises that they maintain the skin always moisturizes if possible make use of moisturizer ... " (deponent 2)

"... the use, right? of the moisturizers and the question of the bath, also, to do the activation where it has these bone prominences making the intervention with the

lubrication, the moisturizer or the oil of sunflower or what disposes in the service case or the own patient ... " (deponent 6)

"...moisturize the patient's skin thoroughly with both the essential oils and the common moisturizer even if you do not have access ... " (deponent 4)

"... always moisturize the patient's skin, always moisturize, use oils on the patient's skin, right? Especially, on the heels, elbows, use moisturizer, often the family buys the moisturizers there, we guide them to always make this moisturizing because the skin being dry makes it easier for it to break forming the ulcers, right? ... " (deponent 3)

As in other studies, the correct hydration of the skin and guidelines on the use of oil and moisturizer are relevant in the prevention of PI, because the dehydrated skin facilitates the rupture of the dermal structure and makes it less flexible. Secondly, it occurs to decrease tissue resistance against elevations in temperature and/or friction and pressure, which facilitates PI formation<sup>11-15</sup>.

Regarding the use of support materials to be used in the prevention of PI, it was possible to observe that few professionals mentioned the

use of special mattresses or other devices used to redistribute and reduce the pressure between the patient and the bed:

“...make use of quilts to prevent these ulcers [...] and the proper use of mattresses, right? of pillows to help with the prevention of pressure ulcers. ” (deponent 5)

“... Another important issue is the issue of mattresses, right? that we may be using egg shell mattresses, all this helps, right? in the matter of the prevention of pressure ulcers, there are also the cushions that one can use in the prominences ... ” (deponent 3)

These data are divergent from that found by the research<sup>16</sup>, in which the use of special mattresses and cushions to decrease the pressure between the patient and the bed was one of the actions most known to the nursing professionals, being behind only the change of decubitus.

### **Nurses' practices for the prevention of pressure injuries**

During the interview, it was noticed that the professionals highlighted as one of the main limitations for the correct implementation of preventive activities, the scarcity of human and material resources, as observed in the following reports:

“...as far as possible, we do it, it's just a bit complicated for us to do it because it has that rush of the day, I'm left alone with 3 wings, there's no way I can go through all the beds and make this change of position patient...” (deponent 4)

“Well, faced with the scarcity of materials, right? of human resources and everything in the institution that I work, unfortunately, our work to prevent the onset of ulcers and even other services even ends up becoming quite limited...” (deponent 3)

“...a partir do momento que a gente vem para a prática e a gente se depara com as.... vamos dizer assim, as intemperes da nossa profissão onde eu tenho um lençol que não serve no colchão e fica saindo, dentre outros por menores” (deponent 6)

“... who works in the public service today we work with many limitations...” (deponent 7)

“...is not done either in hospital or at home I do not

think it's done, I sincerely believe, because that first that the nursing staff is insufficient [...] we're at that runs runs, she is a nurse in every hospital, in I would not have it all, clinical ward, male and female surgical area does not have conditions, but it's good, it's an alert, right? for us to wake up in relation to this and see what has to be done and, also the insufficient team, human resources..." (deponent 1)

From the reports we can observe that the scenario of the professionals interviewed is loaded with limitations of human and material resources, which is a limiting factor for the offer of humanized assistance to patients at risk for PI development. This result is similar to that found in the study<sup>10</sup>, which showed the lack of material resources as the main difficulty found in PI care and prevention.

This unavailability of resources, in addition to becoming a limiting factor, can also act as a demotivating agent for the team and can thus have a significant impact on the quality of care provided by professionals<sup>17,10</sup>.

The human resources framework should be consistent with the service, since, for evidence-based assistance involving decisive actions, such as a change of position every two hours, it is necessary to correctly dimension personnel in order to reduce the overload of work in order to enable a quality<sup>11</sup>.

Resolution 543/2017<sup>18</sup>, which establishes parameters for the dimensioning of nursing professionals in health institutions, states that in order to guarantee assistance with the lowest probability of errors, the professional dimensioning must be carried out according to the parameters established by the council. To do this, the nurse must be active in establishing the quantitative framework of professionals in the area for effective care. It was possible to observe the importance that the companion has on the prevention of PI in the bedridden patient, due to the responsibility imposed by the nursing so that they assist in activities such as change of decubitus. This strategy is often justified by the insufficiency in the number of professionals of the institution, as evidenced in the following reports:

"... also, in the knowledge of both the professional, but, also depends a lot on the companion is doing this follow-up of the patient..." (deponent 5)

"... the techniques, right? always keep changing the patient of position, keep telling the companions to help too, right? in this change of position of the patient..." (deponent 4)

"It's our orientation, right? to them to change of decubitus, it also guides the companion that always helps in this change the



ingestion of liquid, to have the skin hydrated..." (deponent 2)

In the reports we can observe that the interviewed professionals report that the companions play an important role in the care of PI prevention and care in hospitalized patients. This finding corroborates the study<sup>19</sup>, which shows that most of the preventive actions carried out in the studied hospitals were performed by the companions. However, according to <sup>20</sup>, the knowledge of the companions in their research was considered insufficient in relation to the prevention of PI.

It is worth mentioning that the Braden Scale, which is a proven and effective instrument, is used to support the professionals' practices regarding PI prevention. This scale is composed of six domains: sensory perception, moisture, activity, mobility, nutrition, friction and shear. The instrument evaluates the prediction of risk, allowing prevention to be started early, however, this scale was not mentioned by any study participant<sup>21</sup>.

Regarding the limitations of the study, the knowledge and practices pointed out in the research can not be generalized to the other environments where there is risk of pressure injury, since the present study is restricted to only investigating in a specific situation of a hospital in the countryside of Maranhão, and is its greatest limitation.

## CONCLUSION

It is concluded that nurses are knowledgeable about actions that can

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Knowledge about prevention of pressure injury considerably reduce the incidence rates of pressure injuries such as change of decubitus, hydration of the skin and the guarantee of adequate nutrition. However, it is necessary to work on the frequency of patient repositioning, the application of risk scales of the pressure lesion, with the incentive that these strategies have a proven and low-cost scientific efficacy that was not mentioned during the interviews, it is expected that the theme will be approached by continuing education to improve knowledge and enable professionals to offer quality patient care.

As for the implemented actions, it is possible to identify failures in the translation of knowledge from theory to professional practice. According to professionals, this is due to the scarcity of material resources and work overload secondary to the difficulties observed in the sizing of employees. Faced with this problem, it is suggested that the correct staffing be performed, following the norms imposed by the regulatory body of the nursing profession.

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### **COLLABORATIONS**

JAPJ e DGM: substantial contributions to the design or design of the work; in the collection, analysis and interpretation of data; in the writing of the article or in its critical revision; in the final version to be published. JSA, APBR e TAM: contributions in the analysis and interpretation of the data; in the writing of the article or in its critical revision; in the final version to be published; GBS: in the writing of the article or in its critical review; in the final version to be published.

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The authors declare that there is no conflict of interest.

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