



The knowledge of nursing undergraduate students about pressure lesions

Conhecimento de acadêmicos de enfermagem sobre lesão por pressão

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Objective: assessing the knowledge of nursing undergraduate students regarding pressure lesions. **Methods:** cross-sectional research with 56 nursing undergraduates from two higher education institutions, using a test of their knowledge regarding pressure lesions. Data was analyzed using descriptive statistics and the Mann-Whitney U test, with a significance level of 0.05. **Results:** most undergraduates were female (87.5%), single (80.3%), with no employment bonds (75.0%), and between 20 and 25 years of age (67.8%). One of the nursing undergraduates assessed had adequate knowledge about pressure lesions. From the items related to the assessment and classifications, 33.3% were considered as well-known; from those related to prevention, this number was 36.3%. **Conclusion:** it became clear that the knowledge of the researchers analyzed was found to be inadequate.

Descriptors: Pressure Ulcer; Students, Nursing; Knowledge.

Objetivo: analisar o conhecimento de acadêmicos de enfermagem sobre lesão por pressão. **Métodos:** pesquisa transversal, realizada com 56 acadêmicos de enfermagem de duas instituições de ensino superior, utilizando-se do teste de conhecimento sobre lesão por pressão. Dados analisados por estatística descritiva e teste de Mann-Whitney, ao nível de significância de 0,05. **Resultados:** a maioria dos acadêmicos era do sexo feminino (87,5%), solteira (80,3%), sem vínculo empregatício (75,0%) e idades entre 20 e 25 anos (67,8%). Um acadêmico de enfermagem apresentou conhecimento considerado adequado sobre lesão por pressão. Dos itens relacionados à avaliação e classificação, 33,3% foram considerados conhecidos; e dos referentes à prevenção, 36,3%. **Conclusão:** evidenciou-se que o conhecimento dos acadêmicos pesquisados foi considerado inadequado.

Descritores: Lesão por Pressão; Estudantes de Enfermagem; Conhecimento.

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Introduction

Recently, debate surrounding patient safety and the search for quality healthcare has been calling attention, since receiving quality assistance in health is a right of all individuals, and institutions must offer adequate, efficient, and harm-free healthcare, putting user safety above all else⁽¹⁾.

In this context, pressure lesions that appear after the admission of a patient in a health institution are understood as complications. They are one of the five main causes of health damages to individuals and represent a great challenge, since they iatrogenic, multifactorial, and hard to control, with high rates of incidence and prevalence, affecting patients in the many different settings of care⁽¹⁻²⁾.

These lesions affect patients, families, society, and health institutions. In addition, they are considered indexes of quality health, leading to measures to be implemented during treatment, being especially related to prevention⁽³⁾.

Pressure lesions may be prevented by implementing different strategies, with considerations to the complexity and severity of each patient's case and avoiding an increase in hospitalization times, while diminishing expenses for the health service. Considering this setting, nursing care must be efficient and effective, through health actions that can attend to the real and potential needs of patients, guaranteeing quality assistance. That requires the professional to have technical-scientific knowledge⁽⁴⁾.

For that, a professional qualification starting in graduation is required. However, national and international studies have shown that the knowledge of nursing undergraduate students about pressure lesions is insufficient⁽⁵⁻⁸⁾. Therefore, it is imperative to assess the knowledge of undergraduates regarding pressure lesions, focusing on prevention and quality assistance, aiming at building competencies and professional abilities.

This theme is important for the clinical practice of future nurses, when it comes to managing care.

Through assessing the knowledge of nursing students about pressure lesions, educational strategies can be designed focusing on the gaps in their knowledge, increasing the efficacy of graduation classes, since the theme is discussed within the syllabus of some subjects. Considering that, the objective of this study was assessing the knowledge of nursing undergraduates regarding pressure lesions.

Methods

This was a cross-sectional research carried out from March to April 2017 in two Brazilian higher education institutions, a private one and a public one, in Teresina-PI and Timon-MA, respectively. These places were chosen to participate because each has an Nursing Academic League of Enterostomal Therapy.

The population of the study included 66 nursing undergraduates from both genders, 32 from the private institution and 34 from the public institutions, who were regularly enrolled and were undergoing the last or second-to-last semesters of the course. However, four students refused participation, two were on medical leave, and two were on maternity leave, during data collection. As a result, there were 56 participants, 30 from the private institution and 26 from the public institution.

The instrument used for data collection was a questionnaire made up of two parts: the first, elaborated by the researchers themselves, included data to characterize the participants (age, sex, academic period, marital status, employment bonds, participation in extracurricular activities, and sources of the information they had on the theme). The second was the Caliri-Pieper Pressure Lesion Knowledge Test, which has 41 statements, eight regarding evaluation and classification and 33 regarding pressure lesion prevention. This test has been used to measure the level of knowledge regarding recommendations about pressure lesions^(5,9-10).

The questionnaire was delivered to each student in an envelope in a classroom of the institution,

where the researchers had them answer it. It was answered individually, with the options: V for a true statement, F for a false statement, and NS for statements which the students were not certain about. All correct answers scored a point; mistaken or NS answers scored zero. The total score was found through the sum of correct responses to the test. The knowledge about the theme was found adequate when 90.0% or more answers were correct⁽¹¹⁾.

Data was transcribed in double entry to the Microsoft Excel software, meaning that two different people typed the information into a database, and later, the logic function was used to check what had been typed, minimizing errors. Later, the database was exported and statistically analyzed using the software *Statistical Package for the Social Sciences*, version 22.0.

Descriptive and inferential analysis of the variables were performed, with a significance level of 0.05. The first step to chose the test to verify the hypotheses was verifying the normality of distribution of right and wrong answers using the Shapiro-Wilk test. After finding that the sample did not have a normal distribution, the Mann-Whitney U test for independent samples was used (student's institution of origin, participation in the Academic League of Enterostomal Therapy, extracurricular internships, and participation in other extension projects) to compare the number of right and wrong test answers between the groups.

The study respected the formal requirements of national and international regulating norms of researches involving human beings, and was approved by the Ethics Committee, under protocol n^o 2,594,053, receiving the Certificate of Submission to Ethical Evaluation n^o 6053218,6,0000,5084.

Results

There was a predominance of female participants, a total of 49 (87.5%), the mean age was 26.6 years of age, with a minimum of 20 and a maximum 45, being the age group from 20 to 25 years of age pre-

dominant with 38 (67.8%) participants. Most participants were single 45 (80.3%) and had no employment bonds 42 (75.0 %) (Table 1).

When asked about the source of their information regarding pressure lesions, 44 (78.6%) participants stated to have acquired the information from the course classes, but 39 (69.6%) revealed that they also had acquired knowledge from articles, 37 (66.1%) mentioned books, and 16 (28.6%) mentioned extension projects. Few students had participated in extracurricular activities during graduation and only 15 (26.8%) were found to be in the Academic League of Enterostomal Therapy, while 10 (17.8%) were in extracurricular internships and the same number were participating in extension projects (Table 1).

Table 1 – Distribution of the sources mentioned by the undergraduate students and their participation in extracurricular activities in the field of nursing (n=56)

Variables	Yes	No
	n (%)	n (%)
Sources of information		
Book	37 (66.1)	19 (33.9)
Articles	39 (69.6)	17 (30.4)
Extension projects	16 (28.6)	40 (71.4)
Syllabus	44 (78.6)	12 (21.4)
Participation in extracurricular activities		
Extracurricular internships	10 (17.8)	46 (82.2)
Academic League	15 (26.8)	41(73.2)
Extension projects	10 (17.8)	46 (82.2)

After data analysis, it was found that one (1.8%) nursing undergraduate had a level of knowledge considered to be adequate (90.0%). 21 (37.5%) students received a score from 80.0% to 89.0%, 23 (41.0%) scored from 70.0 to 79.0%, and the others (19.6%) scored less than 70.0%.

From the items related to lesion assessment and classifications, 33.3% were considered as well-known by the students; from those related to prevention, this number was 36.3%. The students had a better performance in items related to prevention (the concept of shearing, the use of water-filled or air-

-filled donut pillows to prevent pressure lesions, the angle of elevation of the bed, skin inspection, and time between changes in the position of patients who need to remain the chair). It stands out that no undergraduate answered the question about shearing correctly.

In Table 2, it can be noted that students from the public institution had a higher mean of right answers (31.5) than the students from the private one (29.5). The same was true for students participating in the

Academic Leagues of Enterostomal Therapy (31.2), when compared to those who did not participate (30.2). Regarding the participation in extracurricular internships, students who did not participate in any had a higher mean (30.5) than those who did (30.0). The number of right and wrong answers was similar for students who participated in other extension projects and for those who did not. Despite the differences found, none was statistically significant ($p < 0.05$).

Table 2 – Comparison between means, standard deviation, medians, and intervals between the number of right and wrong answers according to the Pressure Lesion Knowledge test, grouped according to institution, participation in the Academic Leagues, extracurricular internships, and participation in extension projects

Variables	Correct answers				Incorrect answers				p*
	Mean	Standard deviation	Median	Interval	Mean	Standard deviation	Median	Interval	
Institution									
Public	31.5	2.7	31.0	28-37	9.5	2.7	10.0	4-13	0.197
Private	29.5	4.5	31.0	17-35	11.5	4.5	10.0	6-24	
Participation in an Academic League									
Yes	31.2	3.0	31.0	25-36	9.8	3.0	10.0	5-16	0.456
No	30.1	4.1	31.0	17-37	10.9	4.1	10.0	4-24	
Extracurricular internships									
Yes	30.0	4.2	31.5	22-35	11.0	4.2	9.5	6-19	0.880
No	30.5	3.9	31.0	17-37	10.5	3.8	10.0	4-24	
Extension projects									
Yes	30.4	3.3	30.5	25-37	10.6	3.3	10.5	4-16	0.605
No	30.4	4.0	31.0	17-36	10.6	4.0	10.0	5-24	

*Mann-Whitney U test for independent samples. The statistical significance adopted was $p \leq 0.05$

Discussion

The study had some limitations, such as its small population and the fact that the questionnaire was only applied to two institutions, which makes it impossible to generalize the data. However, the results point to the pressing need for improving the quality of the classes on pressure lesions during graduation.

To do so, extracurricular activities should be considered, such as extension courses, researches, and academic leagues, all of which are aimed to increase the knowledge of students and form nurses who are prepared for clinical practice. It is also possible to review and rethink the syllabus of the courses, which was the main source of information about pressure lesions according to the participating students, inclu-

ding more discussions and a greater focus on the theme as part of many different subjects.

The knowledge of undergraduates regarding the theme was found to be inadequate, which corroborates other researches⁽⁵⁻⁸⁾. One student had a knowledge level seen as satisfactory. This result is in accordance to findings of a study carried out in a public university in the state of Piauí, Brazil⁽⁵⁾. However, when comparing the mean number of right answers, the results found were substantially below the one found in a research involving nursing students in Iran (67.0%)⁽⁷⁾.

It is important to note that the lack of knowledge in this field has also been observed in the studies carried out with nursing professionals, among which 87.0% gave less than 90.0% correct answers in the test⁽⁹⁾. In another research, the mean of right answers was 51.4%⁽¹⁰⁾.

The items regarding prevention were found to be better known by the students than those regarding evaluation and classification. A similar result was found in a research involving nurses⁽¹⁰⁾. The rates of lack of knowledge regarding important features of pressure lesion management can increase the frequency of inadequate or late treatments to these lesions, increasing the length of infectious clinical conditions and delaying cicatrization, generating expenses to both the user and the health system^(8,12).

It was found that the participants are little engaged in extracurricular activities. A study involving nursing undergraduates from a public university in Brazil, regarding the knowledge about evaluation and treatment of pressure lesions, found that a significant number of undergraduates have never participated in any extracurricular activities, meaning that the participants of the research had little engagement with said activities⁽⁸⁾.

However, for the adequate formation of nurses who are prepared to deal with the demands of society, it is important, during graduation, for teaching, research, and extension to be integrated, creating an educational process with social relevance, in which

extracurricular activities can be considered complementary to the education process, essential to develop attitudes, abilities, and competencies.

It is widely known that it is not possible to teach everything, especially during graduation. However, one must take action to make the learning process easier, seeking to guide undergraduates to learn, seek, and elaborate the information they acquire, in order to transform and build contextual knowledge that is based on ethical, human, and moral principles⁽¹³⁾.

Regarding the items in which the students had the worst performance in the test, similar results were found in other researches, in which the items with the least number of right answers were those regarding the use of water-filled or air-filled donut pillows to prevent pressure lesions^(5,7,14), the concept of shearing⁽¹⁵⁾, the angle of bed elevation⁽¹⁴⁾, and the time after which to change the position of patients who cannot leave the chair^(5,14-15). However, a study carried out with nursing undergraduates in Iran had more mistakes regarding the statements: "pressure ulcers are sterile wounds" and "a blister in the calcaneus region is not a reason for preoccupation"⁽⁷⁾.

The results are worrying, since, in addition to the inadequate knowledge, the use of contraindicated measures that can harm the patients, stood out. Considering this, it becomes necessary to implement an approach that can elevate the levels of knowledge regarding evaluation, classification, and prevention of pressure lesions. Therefore, this study suggests the implementation of a systematic approach regarding the theme, which could significantly impact the knowledge of undergraduates in order to form nurses with the adequate competence and professional abilities.

To do so, guidelines on pressure lesions should be disseminated in the academic environment, and clinical experiences should be offered to increase the capabilities of each undergraduate student, both within the syllabus of the course, and through extracurricular activities that favor and encourage learning, such as speeches, classroom and online courses, clinical cases, practical classes, among others.

Conclusion

The results have shown that the knowledge of nursing students in this investigation was found to be inadequate.

Collaborations

Ribeiro AMN and Ribeiro EKC contributed in the conception, project and writing the article. Sousa JERB, Silva AAS and Balduino LS took part in data interpretation and analysis. Ferreira MTA collaborated with relevant critical review of the intellectual content and the final approval of the version to be published.

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