Application of pressure ulcer knowledge test in nurses at a secondary care hospital - cross-sectional study

Aplicação do pressure ulcer knowledge test em enfermeiros de um hospital de atenção secundária – estudo transversal

Paula Arquioli Adriani[1] • André Oliveira Paggiaro[2] • Marcus Castro Ferreira[3]
Viviane Fernandes de Carvalho[4]

RESUMO

Objetivo: identificar o nível de conhecimento de enfermeiros sobre a avaliação, prevenção e classificação de lesões por pressão em um hospital do Rio de Janeiro. Métodos: Trata-se de um estudo do quantitativo com delineamento descritivo-exploratório. Os dados foram coletados sem a realização de qualquer tipo de orientação ou treinamento prévio dos profissionais sobre lesão por pressão (LPP). Para seu desenvolvimento, foi utilizado o Pressure Ulcer Pieper Knowledge Test (PUKT), que é composto de 41 questões sobre avaliação, classificação e prevenção de lesões por pressão. Destas, 8 questões referem-se a avaliação e classificação da LPP e 33 questões sobre prevenção. Resultados: Participaram 102 enfermeiros, sendo 71 do sexo feminino e 31 do sexo masculino. A predominância de idade dos participantes foi de 30 a 39 anos. Quanto ao tempo de formado a maioria possui entre 2 a 5 anos de conclusão de curso e formação em Latu senso. Em relação aos resultados globais do teste, 70% (68.63%) dos enfermeiros acertaram menos de 70 % das questões, indicando um déficit de conhecimento na área. Conclusão: Diante dos resultados, identifica-se um déficit no conhecimento sobre a avaliação, classificação e prevenção de LPP, indicando a necessidade da educação permanente para atualização dos profissionais de enfermagem.

Palavras Chave: Enfermagem; conhecimento; lesão por pressão; classificação.

ABSTRACT

Objective: to identify the level of nurses' knowledge on evaluation, prevention and classification of pressure ulcers in a hospital in Rio de Janeiro. Methods: This is a quantitative study with a descriptive-exploratory design. The data were collected without conducting any kind of orientation or training on pressure ulcer (LPP). For its development, the Pressure Ulcer Pieper Knowledge Test (PUKT) was used, which is composed of 41 questions about evaluation, classification and prevention of Pressure Ulcers. Of these, 8 questions refer to the evaluation and classification of the UPP and 33 questions are about prevention. Results: 102 nurses participated, 71 female and 31 male. The participants' predominance of age was 30 to 39 years. As for the time of training, the majority has between 2 to 5 years of conclusion of course and the majority has formation in Latu senso. Regarding the overall results of the test, 70% (68.63%) of nurses scored less than 70% of the questions, indicating a lack of knowledge in the area. Conclusion: In view of the results, a deficit in the knowledge about the evaluation, classification and prevention of LPP is identified, indicating the need for permanent education to update and improve nursing professionals.

Keywords: Nursing; Knowledge; Pressure Ulcer; Classification.

NOTA

[1]Enfermeira, Meste em saúde pelo Programa de Pós graduação em enfermagem da Universidade Guarulhos.
[2]Médico Cirurgião Plastico, Doutor em Ciências da Saúde, Professor do Programa de Pós Graduação em Enfermagem da Universidade Guarulhos.
[3]Médico Cirurgião Plástico, Livre Docente, Professor Associado Senior da Faculdade de Medicina de Ribeirão Preto
[4]Enfermeira estomaterapeuta, Livre Docente, Professora do Programa de Pós Graduação em Enfermagem da Universidade Guarulhos.

INTRODUCTION

Pressure lesions (LLP) are one of the main complications of prolonged hospitalization, especially in situations of malnutrition, increased skin moisture (eg, urinary or faecal incontinence), prolonged pressure and sensory receptor impairment. These wounds increase the cost of hospitalization, patient morbidity and mortality, and play a significant role in the spread of infection in clinical settings.

In general, professionals and laymen make use of incorrect terms for LLP, such as the term "Escara" which consists of a stage through which LPP can pass. At this stage, there is formation of necrotic tissue that may exist on the ulcer and this is called eschar, so a pressure lesion may or may not be covered by eschar. Another term used, but incorrect, is "Decubitus ulcer", which if analyzed within its root, it is seen that the word "decubitus", originates from the Latin "decumbere", and means "lying down" and its occurrence does not occur only in places where there is pressure exerted on bony prominences with the patient lying down [1-1-2].

Pressure ulcers have high prevalence and incidence in hospitalized and / or bedridden patients, and studies show that their development can occur within a 24-hour period with 5 days for their manifestation [5]. A cross-sectional study conducted in the United States identified a prevalence of LLP in hospitals of 13.5% [46]. On the other hand, a study carried out in Spain shows that the hospitalized population shows a variability of 3.5% to 29%, with an overall incidence of 8% to develop LLP [7].

Considering the etiology of LPP, the pressure in the tissues is examined in relation to three factors: pressure intensity, duration of pressure and tissue tolerance [8].

The LPP prevention focuses on issues that must be directly related to the measures taken by the multiprofessional team, being prioritized mainly by the action and intervention of the nurse, who proposes and assists in the knowledge and application of prevention programs and the intervention measures adopted by the team. In general, prevention is less expensive than its treatment and when one learns to recognize patients at risk, implementing appropriate measures in their management becomes more adequate and effective, reducing predisposing factors and consequently reducing costs. [4]

The implementation of strategies to prevent wound formation depends on an adequate evaluation and classification of LPPs, however, the professionals involved in this work often demonstrate ignorance or lack of information on the subject, which impedes the establishment of preventive hospital policies. Recently, in a Brazilian school hospital in the city of Manaus-AM, a study evaluated the nursing team's knowledge about LPP prevention, detecting a lack of knowledge among nurses and nursing technicians.

Faced with the leadership role and great influence of nurses in the preparation of LPP prevention plans in Brazilian hospitals, the objective of this study was to identify the level of knowledge of these professionals on the prevention of pressure ulcers in a Brazilian hospital in the state of Rio de Janeiro, Brazil.

METHOD

This is a quantitative study with a descriptive-exploratory design with data analysis, implemented using the validated instrument "PUKT", which evaluates the level of knowledge of nurses on prevention, evaluation and classification of LPP.

The research was carried out in a large state public hospital in the city of Rio de Janeiro, which has 267 beds and 225 nurses, and occurred after the authorization of the Ethics Committee for Research Projects Analysis (CAPPESQ) of the Hospital das Clínicas of the Faculty of Medicine of the University of São Paulo, under case number: 0223/08, and the validation of the director of nursing of the Hospital Resected in compliance with resolution 466/2012 of the National Health Council (CNS).

The sample was carried out for convenience considering the voluntary and individual acceptance of the population to participate in the research, favoring the capture of the general ideas and the identification of the critical aspects of the research, as well as their presence in the day and time of the collection.

As inclusion criteria for the study, nurses registered at the institution as a nurse with a minimum of one year of services and availability to participate in the study were considered as inclusion criteria. Employees who worked in the pediatric units were excluded from the study because of the low incidence of LPP in this unit, and nurses on holidays, day off or medical leave.

The sample was collected between May and June 2014. Initially, 125 nurses accepted the study, but after the inclusion and exclusion criteria, the final sample was composed of 102 nurses.

Those selected received an envelope containing a copy of the questionnaire and two copies of the TCLE. The nurse responsible for the application was waiting for the interviewed nurse until the completion of the questionnaire and the TCLE, and the approach occurred exclusively in their units and working hours. Participants were advised of the importance of answering the questionnaire honestly, stressing that the answers would have no punitive character, but rather solely for research.

After the signing of the Informed Consent Form (TCLE), the collection instrument was applied, consisting of demographic data of the participants, plus questions related to the time of training, time in the institution, participation in research activities during Lato sensu

training, Stricto sensu training, participation in meetings, conferences, symposia, congresses, study groups / committees in the institution, educational activities, reading of scientific journals and research through the internet.

The "PUKT" validated in Brazil by Dr. Maria Helena Larcher Caliri of the Hospital das Clínicas of Ribeirão Preto [11] was then applied. It was composed of 41 questions, 8 questions on the evaluation and classification of LPP and 33 on LPP prevention, which can be answered objectively, in truth, false or even as "I do not know", allowing to be tabulated by the number of correct answers. The questions were based on the questionnaire of Professor Barbara Pieper of Wayne State University, co-author of Pieper's "Pressure Ulcer Knowledge Test. (PUKT)" [12].

The analysis and interpretation of the data was done through the construction of the database in the program of Excel 2010 and SPSS (Statistical Package for the Social Sciences) version 22, followed by the use of graphs and tables in a quantitative analysis in order to characterize the results obtained from the questionnaire applied to nurses, which analyzed the absolute and relative numbers of before and after the educational process.

In this study we adopted the evaluation model of Pieper's original study [13], where each correct answer received the value 1 (one) and the incorrect answers, not answered or answered as not known as value 0 (zero). The total score on the knowledge test was the sum of all correct answers. In the original study, participants were expected to achieve 90% or more of correct answers so that knowledge was considered adequate. In this study, a score of 100 to 80% was considered as the best score; from 79% to 59% as moderate and below 59% as low, giving segment to the initial test.

RESULTS

Table 1 shows the distribution of the participants according to the socio-demographic characterization of the sample in relation to gender, age, training time and time of performance in the Health Institution, with 102 (n = 102) nurses who included inclusion and exclusion criteria.

Of the 102 participating nurses, the predominance was female, 71 (69.6%). The mean age of the participants was 35.6 years, the minimum value was 23 years and the maximum value was 61 years. The largest population was distributed among 60 nurses (58.3%) with age between 30 and 39 years and 1 (1,2%) with 61 years of age.

Table 2 represents the distribution of the participants before the socio-demographic characterization of the cross-sectional survey sample (n = 102).

It is observed that participation in research during graduation is not very effective, but the search for a professional qualification at the level of specialization is superior, corresponding to 51% of the participants who did some specialization, while 49% did not.

TABLE 1 – Distribution of the participants before the characterization Demographic socio - demographic of the cross - sectional sample regarding sex, age, training time and time of action in the Health Institution. Rio de Janeiro, RJ, Brazil, 2014.

Variables	Category	Mean	DP	Minimum value	Maximum value	Median	N	%
Sexo	Female						71	69,6
	Male						31	30,4
Idade								
	23 29						22	21,5
	30 39						60	58,8
	40 49						13	12,7
	50 59						6	6,0
	≥60						1	1,0
TOTAL		**35,2**	**7,7**	**23**	**61**	**33**	**102**	**100**
Time of traning								
	02 05						55	54,0
	06 10						30	29,4
	11 15						3	2,9
	16 20						5	4,9
	21 25						1	1,0
	26 30						7	6,8
	31 33						1	1,0
TOTAL		**7,9**	**7,5**	**2**	**33**	**5**	**102**	**100**
Time of work								
	01 05						**83**	**81,4**
	06 10						**5**	**4,9**
	11 15						**6**	**5,9**
	16 20						**5**	**4,9**
	21 25						**3**	**2,9**
TOTAL		**4,4**	**5,5**	**1**	**25**	**2**	**102**	**100**

TABLE 2 – Distribution of the participants before the characterization Demographic partner of the sample. Rio de Janeiro, RJ, Br

Variables	Categories		n	%
Gender	Female		71	69,6
	Male		31	30,4
Sector	Medical clinic		15	14,7
	Surgical center		14	13,7
	Surgical Clinic		13	12,8
	Adult Emergency Room		13	12,8
	Adult ICU		11	10,8
	Transplant Unit		7	6,9
	Neurological surgical clinic		5	4,9
	Neurology		5	4,9
	Orthopedic surgery clinic		4	3,9
	Cardiology Unit		4	3,9
	Urology		3	2,9
	Didn't answer		3	2,9
	Radiology		2	2,0
	Continuing Education		1	1,0
	Healing Committee		1	1,0
	Gynecology		1	1,0
Participates in graduate research activities	No		70	68,6
	Yes		32	31,4
Lato-sensu	Yes		52	51,5
	No		49	48,5
Which lato-sensu	CCIH		5	4,9
	Doesn't have it		50	49,0
	Adult ICU		12	11,8
	Nursing work		10	9,8
	Urgency and emergency		4	3,9
	Public healthcare		3	2,9
	Nephrology		3	2,9
	Didn't answer		3	2,9
	Women's Health		2	2,0
	Neonatal ICU		2	2,0
	Residency in surgical clinic		2	2,0
	Dermatology		1	1,0
	Stoma Therapy		1	1,0
	Medical-surgical		1	1,0
	Oncology		1	1,0
Stricto-sensu	No		98	96,1
	Yes		4	3,9
Participate in Meetings / Conferences	Monthly		62	60,8
	Never		17	16,7
	Anually		13	12,8
	Semiannually		5	4,9
	Didn't answer		5	4,9
Participates in Commission Study	Semianually		69	67,7
	Fortnightly		15	14,7

	Never		10	9,8
	Anually		2	2,0
	Monthly		2	2,0
	Weekly		2	2,0
	Didn't answer		2	2,0
Participates in Educational Activities	Fortnightly		39	38,2
	Never		27	26,5
	Semianually		17	16,7
	Weekly		10	9,8
	Anually		5	4,9
	Monthly		2	2,0
	Didn't answer		2	2,0
Access to scientific journals	Fortnightly		33	32,4
	Never		26	25,5
	Weekly		22	21,6
	Anually		8	7,8
	Semianually		5	4,9
	Monthly		4	3,9
	Didn't answer		4	3,9
Internet search	Daily		79	77,5
	Semianually		10	9,8
	Monthly		4	3,9
	Fortnightly		6	5,9
	Semianually		2	2,0
	Didn't answer		1	1,0
Received training	Yes		46	54,8
	No		38	45,2
			102	100

Table 3 presents the analysis of questions about prevention, evaluation and classification of UPP with 90%, 80% and 70% of correct answers.

In the analysis of Table 3 on the correct answers index of 90%, 80% and 70% on UPP Assessment and Classification, the answers with 90% of correct answers obtained a total of 3/102 (2.94%) and for Prevention 5/102 (4.90%), corresponding to the correct answers below 90% on Evaluation and Classification of UPP 99/102 (97.06%) and for Prevention 97/102 (95.10%).

For the responses with 80% on UPP Assessment and Classification, 8/102 (7.84%) and for Prevention 18/102 (17.65%) and for the answers with 70% on UPP Assessment and Classification, 32/102 (31.37%) was obtained and for Prevention, 33/102 (32.35%). For the correct answers below 70% on UPP Assessment and Classification, 70/102 (68.63%) were obtained and for Prevention, 69/102 (67.65).

Table 4 represents the incidence of correct answers to the questions on Prevention of UPP.

In the analysis of table 4 on the questions that evaluated nurses' knowledge about PU, it is observed that nurses presented a percentage less than 70% of correct answers in questions 6, 20, 31 and 33.

Table 5 represents the incidence of correct answers to the questions on Evaluation and Classification of UPP.

In the analysis of Table 5 on the questions that evaluated the knowledge of nurses about the evaluation and classification of UPP, it is observed that nurses presented a percentage of 99% to 80% in 7 questions (2, 19, 21, 23, 24, 39 and 40), from 79% to 70% 8 questions (4, 10, 12, 18, 30, 34, 37 and 41) and with a percentage less than 70% of correct answers in 18 out of 33 questions (3, 5, 7 , 8, 11, 13, 14, 15, 16, 17, 22, 25, 26, 27, 28, 29, 35 and 36).

DISCUSSION

In this study, the results indicate that the female gender is still the one with the greatest constancy in the profession due to its historical characteristics, but this picture is changing, because when comparing the genders in previous years, it is observed that currently "the increase of men in the profession is gradual and stable, which is mainly due to the security, stability and job security that the area offers" [13].

TABLE 3 – Prevention, Evaluation and Classification of UPP considering 90%, 80% and 70% of correct answers. Rio de Janeiro, RJ, Brazil, 2014.

Percentage of right answers	Evaluation and Rating n (%)	Prevention n (%)
90%	3 (2,94)	5 (4,90)
Less than 90%	99 (97,06)	97 (95,10)
80%	8 (7,84)	18 (17,65)
Less than 80%	94 (92,16)	84 (82,35)
70% de acertos	32 (31,37)	33 (32,35)
Less than 70%	70 (68,63)	69 (67,65)

TABLE 4 – Incidence of correct and incorrect answers of the questions on Prevention of UPP. Rio de Janeiro, RJ, Brazil, 2014.

Item	Question	Correct answers	
		n	(%)
1	Stage I pressure ulcer is defined as an erythema that does not whiten. (V)	84	82,35%
32	A pressure ulcer scar may hurt faster than fuller skin. (V)	79	77,40%
38	Stage II pressure ulcers can be extremely painful by exposure to nerve endings. (V)	72	70,60%
9	Stage IV pressure ulcer present a total loss of skin with intense destruction and tissue necrosis or damage to muscles, bones or supporting structures. (V)	72	70,60%
6	A stage III pressure ulcer is a partial loss of skin surrounding the epidermis. (F)	59	57,80%
31	Pressure ulcers are sterile wounds. (F)	42	41,10%
20	Pressure ulcer on Stage II exhibits a loss of skin in its full thickness. (V)	61	59,80%
33	A blister on the calcaneus should not should not be cause for concern. (F)	37	36,30%

TABLE 5 – Incidence of correct answers and errors of the questions on Assessment and Classification of UPP. Rio de Janeiro, RJ, Brazil, 2014.

Items	Question	Correct answers	
		n = 102	100%
2	There are factors and risk for the development of pressure ulcer: mobility, incontinence, inadequate nutrition and altered level of consciousness. (V)	99	97%
21	he skin should remain clean and dry. (V)	99	97%
23	Mobile sheets or linings should be used to transfer or move patients. (V)	98	96%
40	Educational programs can reduce the incidence of pressure ulcer. (V)	95	93,10%
39	For people who have urinary incontinence, skin cleansing should occur at the time they get dirty and at routine intervals. (V)	94	92,10%
19	People who remain in the chair should have a cushion for protection. (V)	89	87,20%
24	The mobilization and transfer of fully dependent patients must be done by two or more people. (V)	82	80,40%
41	Hospitalized patients need to be evaluated for the risk of pressure ulcer only once. (F)	79	77,40%
12	A scale with changeover schedules should be written for each patient. (V)	77	74,50%
10	An adequate dietary intake of protein and calories should be maintained during illness. (V)	75	73,50%
37	Friction can occur while moving the person up in bed. (V)	75	73,50%
18	People who can learn should be instructed to change their weight every 15 minutes while sitting in the chair. (V)	74	72,50%
30	The skin macerated by moisture is easily damaged. (V)	74	72,50%
4	Hot water and soap can dry out the skin and increase the risk for pressure ulcer. (V)	73	71,50%
34	A good way to decrease pressure on the calcaneus is to lift them from the bed. (V)	73	71,50%
29	Anyone evaluated as at risk for developing pressure ulcer should be placed on a pressure reducing mattress (eg water mattress). (V)	67	65,70%

36	Shearing is the force that occurs when the skin sticks to a surface and the body slips. (V)	67	65,70%
27	Patients and family members should be advised as to the causes and risk factors for developing pressure ulcer. (V)	66	64,70%
16	The bed head should be kept at a low degree of elevation (preferably no greater than a 30 degree angle) consistent with medical conditions. (V)	61	59,80%
26	All patients admitted to the Intensive Care Unit should be submitted to a risk assessment for the development of pressure ulcer. (V)	61	59,80%
7	All individuals should be evaluated at hospital admission for the risk of developing pressure ulcer. (V)	60	58,80%
15	In the lateral position, the person should be at an angle of 30 degrees with the bed. (V)	59	57,80%
25	Rehabilitation should be instituted if the general condition of the patient allows. (V)	58	56,80%
5	It is important to massage bony prominences if they are hyperemic. (F)	47	46,10%
8	Maize starch, transparent creams and dressings (Tegaderm® or Opsite® type) and hydrocolloid dressings (Duoderm® type) do not protect against the effects of friction. (V)	46	45,10%
35	Any care given to prevent or treat pressure ulcers does not need to be documented. (F)	46	45,10%
28	Bone prominences may be in direct contact with one another. (F)	39	38,20%
14	Water wheels or hoop pads help prevent pressure ulcer. (F)	32	31,40%
11	People who stay in bed should be repositioned every 3 hours. (F)	31	30,40%
13	Calorie protectors like waterproof gloves relieve pressure on the calcaneums. (F)	29	28,40%
22	Prevention measures need not be used to prevent further injury when the patient already has a pressure ulcer. (F)	24	23,50%
17	A person who can not move should be repositioned while sitting in the chair every 2 hours. (F)	17	16,70%
3	All individuals at risk for pressure ulcer should have a systematic inspection of the skin at least once a week. (F)	13	12,70%

The study by Pieper & Mott[13] that originated the instrument of this PUKT study with 75 intensive care nurses found that in 19 (57.6%) of the items in the original questionnaire, there were more than 90% of correct answers, of which 3 (9.1%) items were between 70 and 89.9% of correct answers, 4 (12.1%) items were between 50 and 69.9% of correct answers and 7 (21.2%) items the percentage of correct answers was less than 50%.

When we compare the results of this study with that of Pieper & Mott [13], in the assessment of the 90% accuracy of the items, we observed that the hit rate among the carioca nurses is inferior to the American ones.

In a Brazilian study conducted with 386 nursing professionals,[14] composed of 136 (35.2%) nurses and 250 (64.8%) nursing auxiliaries / technicians, who work directly in the care of adult and elderly patients in a university hospital, which applied the adapted PUKT, the average percentage of correct answers in the knowledge test was of 79.4% for the nurses, indicating knowledge failures.

In a recent cross-sectional study of 49 nurses from a municipal hospital in the state of Rio de Janeiro, the researchers also identified a deficit in the knowledge of the professionals analyzed, similar to the results of this study. The authors report that 67% of the patients do not perform a risk analysis for ulcer formation nor do they use prevention methods.[15]

Iraniansh, Rafiei and Foroogh Ameri [16] developed in Iran another study using the "PUKT" to determine the knowledge of 126 Iranian nurses who work in critical care units on LPP. The study showed that the level of knowledge of nurses about LPP was insufficient, suggesting the need for a more active education of these professionals. In the evaluation of the data, it was noticed that the nurses' knowledge about LPP prevention was higher than the recognition regarding classification and evaluation, this finding coincides with the data of this study, indicating that in both developing countries there are flaws in the level knowledge of professionals, especially regarding the evaluation of LPPs.

In contrast, a recent cross-sectional study conducted in Australia with 998 nurses showed a rate of more than 78.6% of participants with more than 70% correctness [17]. The comparison of results in developed and developing countries shows the difference in the quality of preparation of the professionals involved in the care.

The lack of adherence of professionals who act directly and indirectly with patients is still high. The lack of knowledge and commitment, the few resources used in training and the inadequate choice of devices for prevention and treatment are important determinants of this situation. Regardless of the classification of LPP, it is confirmed that the first one has a significantly lower cost [18].

Finally, it is expected that the results of this study can help the management teams in the development of more effective educational training with their teams, favoring

the more active knowledge of their professionals and consequently reducing the problems that the LPP causes to the patient / family / society.

CONCLUSION

This study indicates that nurses showed insufficient knowledge about the classification, evaluation and prevention of pressure ulcers, although they knew more about prevention than about evaluation and classification. In future studies, it would be interesting to apply active training methodologies to these professionals, followed by an evaluation of the impact of these courses on the knowledge of these individuals.

Nurses, as professionals who need to impose measures that favor the reduction of incidence rates and prevalence of LPP, need to be and be capable of such reality, and to this end, it is suggested that institutional educational measures be implemented in a more effective way. which would lead to a significant reduction in the quality of risk prevention of the onset of LPP, also reflecting the reduction of total costs related to hospitalization and treatment of patients.

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