ISSN: 1676-4285

OBJN Online Brazilian Journal of Nursing
ENGLISH
Federal Fluminense University
AURORA DE AFONSO COSTA NURSING SCHOOL
uff
Original Articles

Psychomotor and administrative skills and self-reported confidence of nursing students: a cross-sectional study

Flávia Ximenes Vasconcelos[1], Grazielle Roberta Freitas da Silva[1], Raylane da Silva Machado[1], Odinéa Maria Amorim Batista[1], Benevina Maria Vilar Teixeira Nunes[1]

[1]*Federal University of Piaui*

ABSTRACT

Aim: To investigate the psychomotor and administrative abilities of nursing students of a higher education institution of Piauí, by means of frequency and self-reported confidence regarding the accomplishment of adult hospital care procedures. **Method:** This is a descriptive, cross-sectional study, developed with nursing students, from April to May 2015, using an online questionnaire. **Result:** Procedures for drug administration and related to the integumentary system were the ones that were most carried out. Students were confident in performing few procedures. **Discussion:** The frequency of completion of the procedures is related to the opportunities offered by the university and the internship fields. The safety of the students is associated with the frequency of the procedures ($p<0.00$). Extracurricular activities complement academic experience and skills acquisition. **Conclusion:** The psychomotor and administrative skills presented by the students were insufficient to ensure that they feel safe in carrying out care procedures.

Descriptors: Students, Nursing; Clinical Competence; Motor Skills.

INTRODUCTION

Competence is an ability that the professional develops to act confidently and face situations, using cognitive resources, values, knowledge, attitudes and reasoning. Nursing competence can have many definitions and can be divided into behavior, theory of characteristics and holism. Behavior refers to the ability to develop essential skills and is assessed by demonstrating these skills(1).

Nursing is a profession closely linked to technical and manual procedures, thus, the acquisition of psychomotor skills is essential for the provision of patient care[2]. Taking into account patient safety, the development of this psychomotor ability cannot be neglected during the teaching-learning process at undergraduate level. Graduation also contributes to the development of managerial and administrative skills, providing experience in the execution of nursing management activities[3].

The development of care practices can generate anxiety, a stressful factor that is capable of producing anguish in students. This is mainly due to inexperience, insecurity, unpreparedness in the execution of techniques, fear of making mistakes, and evaluation[4].

Pre-training in the clinical field, conducted in the classroom and in the laboratory, contributes to the construction of these skills and development of student safety, reducing the influence of emotional factors on their commitment[3]. The need for prior practice is considered mandatory for higher education curricula, in which schools must provide laboratories to train basic psychomotor skills for the training of Brazilian generalist nurses.

The lack of technical skill is reported by many nursing graduates as an obstacle to be overcome when they are incorporated as professionals in the health services, confirming that the psychomotor ability of the newly graduates, necessary for the development of the technical competence of the nursing professional, does not meet the requirements of the work environment. The new professionals are then molded to fit the type of assistance offered[5,6].

For students, self-confidence in the practice of the first job is associated with how much they were able to learn and practice during graduation, which justifies the accomplishment of this study[7]. However, it is important to emphasize the importance of aligning nursing skills with the other components of quality higher education, in order to increasingly distance nursing from the technical model still found in many health institutions.

Recognizing the relevance of the aspects mentioned in the teaching-learning process in relation to nursing skills, this study aims to investigate the psychomotor and administrative skills of nursing students of a public higher education institution (HEI) of Piauí, regarding the performance of nursing procedures in an adult hospital care, identifying the frequency and the level of self-reported confidence of the students in their performances.

METHOD

This is a non-experimental, descriptive, cross-sectional study developed in a public HEI in the state of Piauí, Brazil, from April to May 2015. The population was composed of all students regularly enrolled in the course Bachelor of Nursing in the first half of 2015. This is an intentional non-probabilistic sample, involving 94 participants. Students enrolled in the Teresina (capital), Picos and Floriano (campus in the interior) campuses were enrolled

Vasconcelos FX, Silva GRF, Machado RS, Batista OMA, Nunes BMVT. Psychomotor and administrative skills and self-reported confidence of nursing students: a cross-sectional study. Online Braz j Nurs [internet]. 2018 Oct [cited year month day]; 17 (1): 5-17. Available from:http://www.objnursing.uff.br/index.php/nursing/article/view/5629

in the last academic year, that is, supervised internships that are called Curricular Internship I (Direct Teacher Supervision) and Curricular Internship II (indirect supervision of the teacher and direct supervision of the field nurse) at the institution studied.

These internships comprise two practical disciplines, with a total workload of 840 hours over two semesters, based on Ordinance No. 1,721, of December 15, 1994, of the Ministry of Education, and propose the experience of professional practice in the field of internship, the opportunity to develop leadership skills, maintenance of scientific technical study and participation in the management of nursing care to the patient[7].

The adapted version of an online questionnaire entitled "Diagnosis of Skills for Nursing Technical and Administrative Procedures"[8], composed of 190 questions that included 188 were closed questions of mandatory response and two open-ended questions of facultative response, was applied aiming to evaluate the psychomotor and administrative abilities of the students in 92 nursing procedures performed in hospital care for adults.

The procedures were categorized according to their purpose and nature and arranged in 10 groups:

- **Integumentary system (13 items)**: bath in bed, spray bath with help, hair hygiene, eye hygiene, oral hygiene, oral hygiene of the unconscious patient, intimate hygiene, foot hygiene, dressing technique, choice of wound coverings, stitches removal, trichotomy, care with stomies.
- **Cardiorespiratory System (15 items):** oxygen therapy by nasal catheter, by Venturi mask and macronebulization, mechanical ventilation installation, airway aspiration by tracheostomy, aspiration in buccal cavity, orotracheal tube aspiration, exchange of thoracic drainage system, extubation of orotracheal tube, electrocardiogram (ECG), cardiopulmonary resuscitation (CPR) maneuvers, central venous pressure monitoring (CVP), CVP system assembly, cardiac monitoring, vital signs check.
- **Gastrointestinal System (6 items):** nursing evaluation regarding diet, enteral and parenteral nutrition, nasogastric tube, gastric lavage, nasogastric tube removal, intestinal lavage.
- **Genitourinary system (9 items):** delayed female bladder catheterization, relieved female bladder catheterization, delayed male bladder catheterization, relieved male bladder catheterization, withdrawal of female bladder catheterization, withdrawal of male bladder catheterization, renal pelvis lavage by nephrostomy, vesical lavage, bladder irrigation care.
- **Musculoskeletal System (8 items)**: immobilization by strapping, movement restriction, block mobilization, transport / transfer from bed to chair, transport transfer from bed to bed, restraint to bed, plaster patient immobilization, placement.
- **Exams (7 items):** collection of material for blood tests, smear on slides, gasometry, sputum, feces, swab (cultures), and blood glucose check.
- **Biosafety/Patient Unit Care (13 items):** standard precautions, simple hand washing, surgical hand washing, procedure glove placement, surgical glove placement, isolation procedures, isolation treatment, terminal cleaning of patient unit, concurrent cleaning of patient unit, closed hospital bed preparation, hospital bed preparation without patient, hospital bed preparation with patient, bed preparation of surgical patient.

- **Drug administration (6 items):** administration of drugs in the oral, subcutaneous, intramuscular, intravenous and intradermal routes, and peripheral venipuncturea.
- **Administrative procedures (4 items)**: patient admission, shift changes, nursing notes about the nursing process, patient transfer.
- **Others, that is, those that do not fall into the categories mentioned above (11 items):** cold application, heat application, weight and height measurement, preoperative care, drainage withdrawal, external ventricular drainage (EVD) care, care of patient's clothing and belongings, postmortem body preparation, dental prosthesis care.

Each procedure was questioned about its frequency of completion by the student in the course until then. This had three response options: never performed, performed once or twice, performed three or more times. The safety in the execution of the procedures was also questioned, and students could choose: unsure, neither confident nor insure and quite confident.

The following variables were evaluated for all participating students: the period in which they are enrolled in the HEI, the campus where the nursing course is held, participation in extracurricular activities, all the nursing procedures listed in the instrument, and the degree of self-reported confidence in their performance.

The instrument was hosted on the Google Forms platform and was made available to students for a five-week response. The students were explained face-to-face by the researchers and with the support of the coordination of the courses in the countryside campuses of the state, the objectives of the research and the Term of Free and Informed Commitment, which was signed in two ways by the participants. These were contacted via electronic addresses, with the link available to respond to the questionnaire. The collected data were then analyzed descriptively and presented in absolute numbers and percentages.

The more and less accomplished procedures were also analyzed within the categories; however, they were presented in results related to the total sample of participants and exposed in numbers and percentage of achievement per procedure individually. The most accomplished procedures were those performed by more than 80% of the students; the less accomplished, in turn, were those with less than 20% achievement of the students.

The level of confidence in the accomplishment of the procedures was analyzed by means of the determination in each procedure of the alternative (insecure, neither confident nor insecure or quite confident) with a greater number of response by the students.

The data were analyzed by the Statistical Package for the Social Sciences version 18.0. The association between the frequency and confidence in the performance of the procedures by the students was made through a bivariate analysis with the Pearson's Chi-square test.

The work was approved by the Research Ethics Committee of the Federal University of Piauí, opinion No. 1,028,554.

RESULTS

94 students participated in the study. Of these, 46 (48.93%) were enrolled in the Teresina campus and 48 (51.06%) were enrolled in the IES campus in the cities of Picos and Floriano; Of the total sample, 59.47% were enrolled in the Curricular Internship I course and 40.42% enrolled in Curricular Internship II.

Frequency of nursing procedures

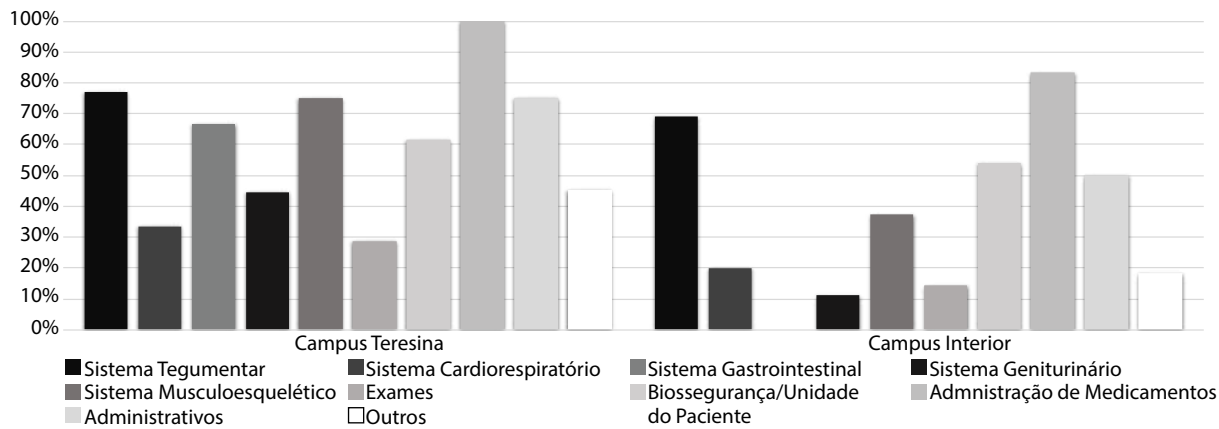
In the Teresina campus, the category whose procedures were most frequently performed by students was medication administration (Graph 1), all of them performed by more than 50% of the students. Then, in descending order, are the following categories: integument system (76.92%), musculoskeletal system and administrative procedures (75%), gastrointestinal system (66.66%), biosafety and care with patient unit (61.53%), others (45.45%), genitourinary system (44.44%), cardiorespiratory system (33.33%) and exams (28.57%).

The category with the highest percentage of achievement in the countryside campuses was also that of medication administration (83.33%). The values then decrease with procedures related to the integumentary system (69.23%), biosafety and care with patient unit (53.84%), administrative procedures (50%), musculoskeletal system (37.5%), cardiothoracic system (20%), exams (14.28%), genitourinary system (11.11%), and gastrointestinal system (0%).

The procedures most performed by the total research sample, independently of the categories, were: dressing technique (100%), checking of vital signs (100%), weight and height verification (100%), blood glucose check (100%), simple hand hygiene (100%), placement of procedure gloves (100%), administration of intravenous medications (100%), placement of surgical gloves (98,93%), administration of medications via oral route (98,93%), administration of intramuscular drugs (96,80%), nursing notes regarding the nursing process (96,80%), subcutaneous administration of drugs (94,68%), patient positioning (94,68%), venous puncture (92,55%) and bathing in the bed (89,36%).

The least performed were: plaster patient immobilization (18,08%), sputum collection (14,89%), gastric lavage (13,82%), aspiration of the airways by orotracheal tube (12,76%), dental prosthesis care (12,76%), vesical lavage (12,76%), PVC check (11,70%), mechanical ventilation installation (10,63%), gasometry (8,51%), care with amputated anatomical parts (8,51%), exchange of thoracic drainage system (7,44%), stool collection (6,38%), system assembly for central venous pressure (4,25%),

Graph 1. Percentage of procedures, by category, whose achievement by students was over 50%. Teresina (PI), Brazil, 2015



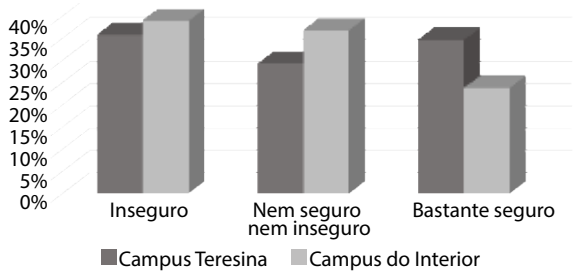
Source: Authors' data.

extubation of orotracheal tube (4,25%) and nephrostomy renal pelvis lavage (2,12%).

Self-reported security in performing nursing procedures

In Teresina, most of the students are unsure to perform 33 (35.86%) procedures, quite confident for 32 (34.78%) and confident secure nor unsure for 27 (29.34%) (Graph 2). In the countryside, most are unsure to perform 36 (39.13%) procedures, neither confident nor unsure for 34 (36.95%) and confident for only 22 (23,91%).

Graph 2. Confidence of students in the practice of procedures. Teresina (PI), Brazil, 2015



Source: Authors' data.

Tables 1 and 2 present the results of the association between the frequency and the safety of the procedures, whose values were extremely

Table 1. Association between frequency and level of safety in performing procedures related to the systems, in a sample of nursing students. Teresina (PI), Brazil, 2015

	Sefety level				
Procedures	**Unsure n(%)**	**Neither confident nor unsure n(%)**	**Quite confident n(%)**	**Total n(%)**	**p***
Integumentary system				**1.222(100%)**	**0,000**
Never performed	192(44,1%)	209(48,0%)	34(7,8%)	435(100%)	
Performed once or twice	25(6,6%)	206(54,8%)	145(38,6%)	376(100%)	
Performed three or more times	5(1,2%)	62(15,1%)	344(83,7%)	411(100%)	
Cardiorespiratory system				**1.410(100%)**	**0,000**
Never performed	752(78,2%)	203(21,1%)	7(0,7%)	962(100%)	
Performed once or twice	37(16,1%)	149(64,8%)	44(19,1%)	230(100%)	
Performed three or more times	3(1,4%)	14(6,4%)	201(92,2%)	218(100%)	
Gastrointestinal system				**564(100%)**	**0,000**
Never performed	247(71,8%)	92(26,7%)	5(1,5%)	344(100%)	
Performed once or twice	26(17,4%)	90(60,4%)	33(22,1%)	149(100%)	
Performed three or more times	0(0,0%)	10(14,1%)	61(85,9%)	71(100%)	
Genitourinary system				**846(100%)**	**0,000**
Never performed	345(65,3%)	158(29,9%)	25(4,7%)	528(100%)	
Performed once or twice	16(9,5%)	80(47,6%)	72(42,9%)	168(100%)	
Performed three or more times	1(0,7%)	14(9,3%)	135(90,0%)	150(100%)	
Musculoskeletal System				**752(100%)**	**0,000**
Never performed	216(57,3%)	149(39,5%)	12(3,2%)	377(100%)	
Performed once or twice	29(12,1%)	157(65,7%)	53(22,2%)	239(100%)	
Performed three or more times	1(0,7%)	24(17,6%)	111(81,6%)	136(100%)	

Source: Authors' data.
** Pearson's Chi-square test.*

Vasconcelos FX, Silva GRF, Machado RS, Batista OMA, Nunes BMVT. Psychomotor and administrative skills and self-reported confidence of nursing students: a cross-sectional study. Online Braz j Nurs [internet]. 2018 Oct [cited year month day]; 17 (1): 5-17. Available from:http://www.objnursing.uff.br/index.php/nursing/article/view/5629

Table 2. Association between frequency and level of confidence in performing procedures related to exams, biosafety, medication, administration and others, in a sample of nursing students. Teresina (PI), Brazil, 2015

Procedures	Confidence level				
	Unsure n(%)	Neither confident nor unsure n(%)	Quite confident n(%)	Total n(%)	p*
Exams				**658(100%)**	**0,000**
Never performed	242(58,5%)	143(34,5%)	29(7,0%)	414 (100%)	
Performed once or twice	13(11,8%)	63(57,3%)	34(30,9%)	110(100%)	
Performed three or more times	3(2,2%)	11(8,2%)	120(89,6%)	134(100%)	
Biosafety				**1.222(100%)**	**0,000**
Never performed	357(70,1%)	145(28,55%)	7(1,4%)	509(100%)	
Performed once or twice	33(12,0%)	185(67,3%)	57(20,7%)	275(100%)	
Performed three or more times	5(1,1%)	47(10,7%)	386(88,1%)	438(100%)	
Medicaments				**564(100%)**	**0,000**
Never performed	42(67,7%)	16(25,8%)	4(6,5%)	62(100%)	
Performed once or twice	19(21,6%)	55(62,5%)	14(15,9%)	88(100%)	
Performed three or more times	6(1,4%)	79(19,1%)	329(79,5%)	414(100%)	
Administrative				**376(100%)**	**0,000**
Never performed	109(71,7%)	42(27,6%)	1(0,7%)	152(100%)	
Performed once or twice	17(23,0%)	48(64,9%)	9(12,2%)	74(100%)	
Performed three or more times	3(2,0%)	42(28,0%)	105(70,0%)	150(100%)	
Others				**1.034(100%)**	**0,000**
Never performed	413(67,4%)	181(29,5%)	19(3,1%)	613(100%)	
Performed once or twice	29(13,4%)	126(58,3%)	61(28,2%)	216(100%)	
Performed three or more times	2(1,0%)	17(8,3%)	186(90,7%)	205(100%)	

Source: Authors' data.
** Pearson's Chi-square test.*

significant ($p < 0.01$) and demonstrate that the safety in performing the procedures is directly related to the frequency with which the students performed them.

Extracurricular activities versus psychomotor and administrative skills of Nursing

When questioned about the influence of extracurricular activities on the development of nursing administrative and psychomotor skills, 95.74% of the students believe that there was great influence. The extracurricular activities performed are detailed in Table 3.

Table 3. Participation of nursing students in extracurricular activities. Teresina(PI), Brazil, 2015

Extracurricular activities	Teresina		Countryside campus	
	N	%	N	%
Monitoring	33	71,70	23	47,91
Extracurricular internship	23	50	23	47,91
Extension Programs	40	87	33	68,75
Volunteer Programs	17	37	10	20,83
None	-	-	5	10,41

Source: Authors' data.

Psychomotor and administrative skills acquired during the course: students' opinion

Of the 46 students participating in Teresina, 18 expressed their opinion on the subject. Extracurricular practices as the main determinant of acquired skills were cited by 22.22% of the students; 38,88% mentioned that there was acquisition of theoretical knowledge in detriment of the practice; 16.66% reported that there are few opportunities to perform procedures during practices; the absence of the practice of care for critically ill patients was a complaint of 16.66%; and 5.55% were satisfied with the skills they had acquired so far.

On the inland campuses, 16 of the 48 participants answered the question; five (31.25%) identified the absence of fields for practice as the main difficulty to acquire skills and two (12.5%) expressed satisfaction with the theoretical knowledge acquired, but not with the skills in practice. Extracurricular practice was recognized as an important means of acquiring skills for only one (6.25%) of the students. The absence of tertiary care practices and opportunities to develop administrative skills were mentioned by one (6.25%) participant, each. It was also exposed the fact that theory and practice, when developed by different teachers, causes difficulty in the acquisition of skills due to the distinction between the information passed on to students (6.25%). The other students (5; 31.25%) reported only dissatisfaction.

DISCUSSION

Frequency of nursing procedures

Medication administration was the highest achievement category. Even though it is predominantly performed by nursing technicians in health services in Brazil, the high frequency of its implementation may be associated with factors such as the high demand for this class of procedures in hospital health services and the overload of technicians who easily give up the procedure for learners.

The administration of medication is one of the procedures with greater susceptibility to error. American studies point out that the major mistakes made by students are related to the dose of the drug and occur mainly due to lack of experience and organization. The large number of errors, however, suggests that direct supervision is not performed at all times during clinical practice[9].

Procedures involving care with the integumentary system appear soon after, and can be justified by the fact that they are routine in the hospital care and, in the majority, inherent to all the patients, because they are directly related to the basic hygiene and comfort needs. In addition, a great part of these – except those related to dressings, stomas and removal of stiches – can generate less apprehension in the students because they imply lower risk of errors and/or iatrogenesis.

The practice of dressings, however, requires great theoretical knowledge and technical ability due to the variation and particularity of the wounds, and its wide approach is necessary during training. A study carried out at a university in Mato Grosso do Sul showed that most of the students did not consider themselves capable of identifying the stages of a pressure lesion, did not know how to apply compressive bandage, did not perform a skin evaluation of all the patients they assisted and claimed not to receive enough information on chronic wounds during graduation[10]. The high frequency in performing this procedure may

not be accompanied by the necessary ability to develop it.

The procedures related to the cardiorespiratory system presented little achievement by the students. Because they require, in general, greater knowledge and are associated with injuries in critically ill patients, they are usually performed only in intensive care units (ICUs) or emergencies. The students' own account of the skills learned during the course and the absence of clinical practices in this environment may justify the unfavorable results in this category.

There was a distinction between campuses in the frequency of performance of procedures related to the gastrointestinal system. No determining factor was identified except, perhaps, the fact that, other than the nasogastric probe procedure, other procedures may not be common practices in the clinical fields in the countryside.

Confidence in carrying out procedures

The results related to confidence in performing procedures were negative if you consider their repercussion in terms of the practice of care for patients. The greater confidence in the practice of the procedures by Teresina's students (Graph 2) may be directly related to their higher frequency of achievement in all categories (Graph 1), since the development of technical skills is related to the opportunities for the practice of skills.

The results demonstrate the importance of the practice for the acquisition of skills and confidence to perform the assistance (Tables 1 and 2). The training process is only carried out through the effective practice of professional practice, regardless of curricular structure, previously acquired knowledge, and formal evaluation requirements during the graduation period. Action in the everyday practice generates a permanent process of production and reaffirmation of knowledge[11].

However, repetition is not only necessary in practice. It is indispensable to have access to resources, time, energy and motivation, as well as a feedback of performance, which allows correcting errors and, consequently, increasing self-confidence. These variable factors may also have influenced the results[6].

A person's confidence or assertiveness in his ability to perform tasks may vary according to the level of difficulty of the task being developed and the person's perception of his or her skill or lack of task[12].

The clinical simulation laboratory is an efficient means of providing skills training, mainly psychomotor skills, where students can perform the same procedure over and over in order to improve the technique without putting patients at risk[13]. However, when training psychomotor skills, it is essential that, in a second moment, students with more confidence and knowledge acquired in a controlled environment can experience supervised practice.

The actions experienced critically and reflexively during the supervised trainings are mainly responsible for the personal and professional growth of the student, giving him greater security at the end of the course. This experience leads to the construction of an identity to his performance, leading him to become more and more prepared and competent[14].

Preceptor nurses play an important role in this experience, since they represent the link between the university and the workplace. It is necessary for them to be willing to guide and teach students, be technically trained and psychologically prepared to meet the needs of the students. Thus, preceptor nurses have a direct connection with the development of

skills acquired by the students, and this factor may have influenced the result of the research in question[14].

Influence of extracurricular activities on skill acquisition

The prevalence of opinion (95.74%) about the great influence of extracurricular activities on the development of abilities can be better understood when presenting the objectives of such activities in the academic formation. Extension projects, in which most students participated, provide space for knowledge acquisition and learning through the association of theory with practice[15].

Monitoring, the second most developed extracurricular activity, encourages the initiation of teaching and, consequently, the improvement of technical skills, making it possible to carry out the procedures with greater skill and confidence[16]. In our reality, most monitors perform their activities in the laboratory.

The extracurricular internship has an educational function that seeks to improve the quality of practice and develop professional skills for students, especially those requiring technical abilities[17]. In a study developed in 2017, in São Paulo, with graduates of nursing universities, the absence of professional practice in undergraduate studies was presented as a difficulty found in relation to training. The realization of extracurricular courses and stages was pointed out as one of the facilities for insertion of professionals in the labor market[18].

Participation in extracurricular activities, however, is not always linked only to the desire to learn and improve psychomotor, administrative or other skills inherent in the profession. The need to carry out the extra activities required by universities and the possibility of being remunerated influence decision making[15].

Students' opinion about practices during graduation

The Teresina campus offers a wide variety of health institutions for clinical practice. As the capital of Piauí, it concentrates the largest number of general and specialized hospitals in the state and several undergraduate courses. When inserted within hospitals, the number of students may exceed the number of opportunities to perform certain procedures, especially the more complex ones.

The few opportunities for the development of practical skills by the students of the countryside campuses have different causes: the reduced number of specialized hospitals.

The theoretical learning to the detriment of the practice reported by the students is related to the higher teaching time directed to the classes in the classroom, contrary to what happens in Great Britain, where it is required that 50% of the workload be directed to clinical practice[19].

Although the university has a curricular matrix with a great deal of practical time, at the beginning of the course, it is essential to perform laboratory practices. Simulation laboratories are in the process of implementing and improving campuses and their incorporation into teaching methodology should, in the medium and long term, provide positive changes in the profile of students in relation to their technical skills and, consequently, in critical reasoning.

It was observed a reduced contact of the students with the practice of care to critical patients, which is directly related to the general education in Nursing in Brazil. Many students come in contact with ICUs only in their senior year of graduation, opportunity not available to all.

It is undeniable, however, the benefits that this contact can bring to the development of nursing skills. The ICUs, for providing care to patients of various specialties, provide application of the theory in the practice of a large number of procedures and skills and the contact of the students with a large multidisciplinary team. The incorporation of students to these scenarios, however, presents obstacles, such as the need for adequate preparation of the preceptors to carry out the supervision; restricted environment, reducing the number of students and teachers in the field; and the fact that the environment can generate anxiety about the constant imminent risk of death and the high specialization required[19].

CONCLUSION

The psychomotor and administrative skills of nursing students are insufficient to meet the demands of the health services, corroborating the idea that new graduates may face difficulties in adapting to the practice as nurses with regard to direct assistance and execution of care technical procedures.

At the same time, there is the recognition that only psychomotor and administrative skills are not sufficient to ensure a safe and efficient nursing practice. The skills discussed here are part of a broad spectrum, in which several others influence the way professionals perform their activities.

The development of nursing skills, in general, is influenced by several factors determined by the educational institution, by the students themselves and by the fields of practice in which care activities are developed. It is necessary to discover and implement strategies to minimize the possible negative effects of these factors.

Thus, the results of the research contribute to the reflection on nursing education in all training institutions that have similar teaching methodology; they instigate those responsible for the nursing education base and allow them to question the actions currently carried out and their effectiveness in training the professional profile of future nurses; and encourage the research of other nursing skills and how they are being worked within educational institutions.

The scarcity of literary productions directly linked to the proposed theme was the main limitation found, which made it difficult to associate the results with previously established theories. There is also the possibility that the extension of the collection instrument made it difficult to carry out the research, since the large number of questions to be answered may have contributed to the reduced number of participants in the countryside campuses.

REFERENCES

1. Fukada, M. Nursing Competency: Definition, Structure and Development. Yonago Acta Medica. 2018; (Online) [Internet]. 2018 Mar [cited 2018 Aug 12] ; 61(1):1-7. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5871720/.
2. Felix CCP, Faro ACM, Dias CRF. Percepção de estudantes de enfermagem sobre o Laboratório de Enfermagem como estratégia de ensino. Rev esc enferm USP 2011, 45(1): 243-9. (Online) [Internet]. 2011 Mar [cited 2015 June 14] ; 45(1): 43-249. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0080--62342011000100034&lng=en. doi: http://dx.doi.org/10.1590/S0080-62342011000100034.
3. Caveião C, Zagonel IPS, Coelho ICM, Peres AM, Montezeli JH, Venturi KK. Competências dos estudantes na disciplina de administração em

enfermagem: pesquisa exploratório-descritiva. Online braz j nurs (Online) [Internet]. 2014 Dec [Cited 2015 Jun 14]; 13(4): 602-12. Available from: http://dx.doi.org/10.5935/1676-4285.20144770

4. Teixeira INDO, Felix JVC. Simulação como estratégia de ensino em enfermagem: revisão de literatura. Interface-comunicação, saúde, educação (Online) [Internet]. 2011 Dec [cited 2015 June 14]; 15(39): 1173-1184. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S141432832011000400016&lng=en. doi: http://dx.doi.org/10.1590/S1414-32832011005000032.
5. Souza LP et al. Os desafios do recém-graduado em Enfermagem no mundo do trabalho. Revista Cubana de Enfermería 2015; 30(1).
6. Liou SR, Chang CH, Tsai HM, Cheng CY. The effects of a deliberate practice program on nursing students' perception of clinical competence. Nurse education today (Online) [Internet]. 2013 Apr [Cited 2015 Jun 13]; 33(4): 358-63. Available from: http://www.sciencedirect.com/science/article/pii/S0260691712002390 doi: doi:10.1016/j.nedt.2012.07.007
7. Brasil. Projeto politíco pedagógico do curso de graduação em enfermagem/bacharelado – UFPI (Online) [Internet]. 2013 [cited 2015 Jun 14] Available from: http://ufpi.br/enfermagem/index/pagina/id/5392
8. Moura ELC, Silva GRF. Diagnóstico de procedimentos técnicos e administrativos de enfermagem. Instrumento utilizado no laboratório SIMENF – Saúde, Universidade Federal do Piauí 2014.
9. Reid-Searl, K, Happell, B. Supervising nursing students administering medication: a perspective from registered nurses. Journal of clinical nursing (Online) [Internet] 2012 Mar 3 [Cited 2015 Jun 13]; 21(13-14): 1998–2005. Available from: http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2702.2011.03976.x/full doi: 10.1111/j.1365--2702.2011.03976.x
10. Ferreira AM, Rigotti MA, Pena SB, Paula DS, Ramos IB, Sasaki VDM. Conhecimento e prática de acadêmicos de enfermagem sobre cuidados com portadores de feridas. Esc. anna nery [Internet]. 2013 June [cited 2015 June 14]; 17(2): 211-219. Available from: http://dx.doi.org/10.1590/S1414-81452013000200002.
11. Merhy, EE. Educação Permanente em Movimento - uma política de reconhecimento e cooperação, ativando os encontros do cotidiano no mundo do trabalho em saúde, questões para os gestores, trabalhadores e quem mais quiser se ver nisso. Saúde em Redes. [Internet]. 2015 [cited 2016 Feb 29]; 1(1): 07-14. Available from: http://revista.redeunida.org.br/ojs/index.php/rede-unida/article/view/309/15doi: http://dx.doi.org/10.18310%2F2446-4813.2015v1n1p07-14
12. Chesser-Smyth PA, Long T. Understanding the influences on self-confidence among first--year undergraduate nursing students in Ireland. Journal of advanced nursing (Online) [Internet] 2013 Apr 4 [Cited 2015 Jun 14]; 69(1): 145–57. Available from: http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2648.2012.06001.x/full doi: 10.1111/j.1365-2648.2012.06001.x
13. Pittman OA. The use of simulation with advanced practice nursing students. Journal of the american academy of nurse practitioners (Online) [Internet] 2012 Jul 9 [Cited 2015 Jun 14]; 24(6): 516–520. Available from: http://onlinelibrary.wiley.com/doi/10.1111/j.1745-7599.2012.00760.x/full doi: 10.1111/j.1745-7599.2012.00760.x
14. Rigobello JL, Bernardes A, Moura AA, Zanetti ACB, Spiri WC, Gabriel CS. Estágio Curricular Supervisionado e o desenvolvimento das competências gerenciais: a visão de egressos, graduandos e docentes. Esc. Anna Nery 2018 (Online) [Internet]. 2018 Apr [citado 2018 Ago 12] ; 22(2): e20170298. Disponível em: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1414-

-81452018000200203&lng=pt. doi: http://dx.doi.org/10.1590/2177-9465-ean-2017-0298.

15. Oliveira FLB, Júnior JJA. Motivações de acadêmicos de enfermagem atuantes em projetos de extensão universitária: a experiência da Faculdade Ciências da Saúde do Trairí. Revista espaço para a saúde (Online) [Internet] 2015 [Cited 2015 Jun 14]; 16(1): 36-44. Available from: http://www.uel.br/revistas/uel/index.php/espacoparasaude/article/view/19372/pdf_61
16. Jeronymo A, Lima A, & Scio E. A monitoria acadêmica como elemento construtor do profissional enfermeiro: um relato de experiência. Gestão e saúde (Online) [Internet] 2015 [Cited 2015 Jun 14]; 5(3): 1101-08. Available from: http://gestaoesaude.bce.unb.br/index.php/gestaoesaude/article/view/701
17. Paiva K, & Martins V. Contribuições do estágio extracurricular para as competências profissionais: percepções de acadêmicos de enfermagem. Revista eletrônica de enfermagem (Online) [Internet] 2012; [Cited 2015 Jun 14] 14(2): 384-94. Available from: http://revistas.jatai.ufg.br/index.php/fen/article/view/10364/11635 doi: 10.5216/ree.v14i2.10364
18. Püschel VAA, Costa D, Reis PP, Oliveira LB, Carbogim FC. Nurses in the labor market: professional insertion, competencies and skills. Rev Bras Enferm 2017 (Online) [Internet] 2017 Dec [cited 2018 Aug 12] ; 70(6): 1220-1226. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0034-71672017000601220&lng=en. doi: http://dx.doi.org/10.1590/0034-7167-2016-0061.
19. Conneely A, Hunter D. Introducing first-year student placements in critical care. Nursing standard (Online) [Internet] 2012; [Cited 2015 Jun 14] 26(23): 35-40. Available from: http://journals.rcni.com/doi/pdfplus/10.7748/ns2012.02.26.23.35.c8932 doi: 10.7748/ns2012.02.26.23.35.c8932

All authors participated in the phases of this publication in one or more of the following steps, in according to the recommendations of the International Committee of Medical Journal Editors (ICMJE, 2013): (a) substantial involvement in the planning or preparation of the manuscript or in the collection, analysis or interpretation of data; (b) preparation of the manuscript or conducting critical revision of intellectual content; (c) approval of the version submitted of this manuscript. All authors declare for the appropriate purposes that the responsibilities related to all aspects of the manuscript submitted to OBJN are yours. They ensure that issues related to the accuracy or integrity of any part of the article were properly investigated and resolved. Therefore, they exempt the OBJN of any participation whatsoever in any imbroglios concerning the content under consideration. All authors declare that they have no conflict of interest of financial or personal nature concerning this manuscript which may influence the writing and/or interpretation of the findings. This statement has been digitally signed by all authors as recommended by the ICMJE, whose model is available in http://www.objnursing.uff.br/normas/DUDE_eng_13-06-2013.pdf

Received: 09/24/2016
Revised: 08/04/2018
Approved: 08/14/2018