

NURSING STUDENTS' PERCEPTION OF CLINICAL COMPETENCES

PERCEPÇÃO DE COMPETÊNCIAS CLÍNICAS POR ACADÊMICOS DE ENFERMAGEM

PERCEPCIÓN DE LAS COMPETENCIAS CLÍNICAS POR ACADÉMICOS DE ENFERMERÍA

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ABSTRACT

Objective: to compare the perception of clinical competence of Nursing students at the beginning and at the end of the supervised internship in the last semester of the undergraduate course. **Method:** this is a descriptive, longitudinal study with a quantitative approach performed in the facilities of the nursing course of a public university. Seventeen academics from the last semester of undergraduate nursing course participated in the study. Data were collected from February to June 2017 in two moments, at the beginning and the end of the semester, by applying a translated and transculturally adapted clinical competence questionnaire, with 48 questions divided into two domains: nursing professional behaviors and competences/skills. **Results:** the participants were female, with a mean age of 26.2 years, and entered the institution between 2012 and 2013. There was statistical significance in the comparison of the perception of competences before and after the internship in both domains ($p < 0.01$). **Conclusion:** the students perceived an improvement in clinical competence, and at the end of the training, they stated that they were able and had skills to perform activities alone or with little supervision.

Keywords: Clinical Competence; Education, Nursing; Traineeships; Perception; Professional Competence; Students, Nursing.

RESUMO

Objetivo: comparar a percepção de competência clínica dos estudantes de Enfermagem ao início e ao final dos estágios supervisionados do último semestre da graduação. **Método:** trata-se de estudo descritivo e longitudinal, com abordagem quantitativa realizada nas dependências do curso de Enfermagem de uma universidade pública. Participaram 17 acadêmicos do último período da graduação em Enfermagem. A coleta de dados foi realizada no período de fevereiro a junho de 2017, em dois momentos, no início e término do semestre letivo, mediante aplicação do questionário de competência clínica traduzido e adaptado transculturalmente, que possui 48 questões divididas em dois domínios: comportamentos profissionais de Enfermagem e competências/habilidades. **Resultados:** as participantes eram do sexo feminino, com idade média de 26,2 anos e ingressaram na instituição entre 2012 e 2013. Houve significância estatística quando comparadas a percepção de competências antes e depois do estágio em ambos os domínios ($p < 0,01$). **Conclusão:** os discentes perceberam melhora na competência clínica, e ao final do estágio afirmaram serem capazes e terem habilidades para realizar atividades sozinhas ou com alguma supervisão.

Palavras-chave: Competência Clínica; Educação em Enfermagem; Estágios; Percepção; Competência Profissional; Estudantes de Enfermagem.

RESUMEN

Objetivo: comparar la percepción de las competencias clínicas de los estudiantes de Enfermería al principio y al final de las pasantías supervisadas del último semestre del curso de grado. **Método:** se trata de un estudio descriptivo longitudinal, con enfoque cuantitativo realizado en las instalaciones del curso de Enfermería de una universidad pública. Participaron 17 académicos del último semestre del curso de grado en Enfermería. La recogida de datos fue realizada entre febrero y junio de 2017, en dos momentos, al principio y al término del semestre lectivo, mediante aplicación del cuestionario de

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competencias clínicas traducido y adaptado transculturalmente, que cuenta con 48 preguntas divididas en dos dominios: comportamientos profesionales de enfermería y competencias/habilidades. Resultados: las participantes eran de sexo femenino, con edad promedio de 26,2 años e ingresadas en la facultad entre 2012 y 2013. Hubo significancia estadística cuando se compararon la percepción de competencias antes y después de la pasantía en ambos dominios ($p < 0,01$). Conclusión: los discentes percibieron mejora en las competencias clínicas y, al final de la pasantía, afirmaron ser capaces y tener habilidades para realizar actividades solos o con algún tipo de supervisión.

Palabras clave: Competencia Clínica; Educación en Enfermería; Pasantías; Percepción; Competencia Profesional; Estudiantes de Enfermería.

INTRODUCTION

Traditional methods employed in Nursing higher education have been replaced by strategies that encompass competence-based education, contextualizing situations that integrate contents beyond theory.¹ Competence-based teaching brings together active strategies that involve the development of critical thinking and decision making.²

In Brazil, the national curricular guidelines for all undergraduate courses establish the general and specific competences relevant to each discipline, recognizing them as an essential part of the education of undergraduates.³

Competences in Nursing education are developed more intensely during practical classes and supervised internship experiences, when students experiment their professional reality, both in primary care and in the hospital area. The association between theory and practice is promoted in these scenarios, a process that directly reflects in the quality of services provided, as it qualifies students to professional practices, favoring decision-making.⁴

Assessing the clinical competence of nursing students is a growing concern of universities, including in international contexts. The use of tools is necessary for this purpose, to carry out a diagnosis and improve the quality of the training of future nurses.²

Considering the importance of assessing the clinical competence of Nursing students and the absence of instruments capable of evaluating clinical competence in the Brazilian reality, the Clinical Competence Questionnaire (CCQ) was translated and transculturally adapted to Brazil in 2017.⁵

This instrument makes it possible to measure the perception of behaviors and skills that are not normally evaluated during undergraduate training. It was built on the theoretical basis of the model "From beginner to specialist", which establishes the necessary steps for nursing professionals to reach expertise.⁵

This instrument is composed of 48 statements with multiple choice answers with a score from 1 to 5, where option 1 indicates less knowledge and safety and 5 indicates more knowledge and safety about theory and practice. The statements are organized in two domains: nursing professional behaviors (questions 1 to 16) and competences and skills (questions 17 to 48).⁶

In the path taken by the professional towards the proficient level, there is a need for quality education and a variety of clinical experiences that are possible through supervised internship experiences. These internship experiences represent occasions when the student is alone in the field, with direct or indirect supervision.

At the internship, the students experience a little more of their profession and combine theoretical knowledge with practice for solving problems. Thus, it is important that they are aware of the competences that are required of the future professional, which can be evaluated through a questionnaire of clinical competences such as the CCQ.

Therefore, the objective of this study was to compare the perception of clinical competence of Nursing students at the beginning and at the end of supervised internship of the last semester of an undergraduate nursing course.

METHOD

This is a quantitative and descriptive longitudinal study carried out in the facilities of the baccalaureate Nursing course at a federal university. The participants were all students enrolled in the last semester (10th semester) of the Nursing undergraduate course, which corresponded to a total of 17. Therefore, there were no sample losses. The eligibility criteria were: to be 18 years of age or older and to be present at the two moments of data collection at the beginning and end of the semester.

Data collection was performed from February to June 2017, in two moments, at the beginning and the end of the academic semester, through the application of an instrument with questions to characterize the participants and the CCQ.⁶ The instruments were answered by the participants within 20 minutes on average, at the end of the first and last class of the semester.

The CCQ uses a five-point Likert scale to measure the level of clinical competence of undergraduate nursing students. The response score ranges from 1 (has no clue) to 5 (knows in the theory and is competent in the practice, even without any supervision).

After collection, the data were tabulated in Microsoft Excel® spreadsheets and exported into the Statistical Package for Social Sciences (SPSS) version 20.0. In addition to the de-

scriptive statistical analysis, inferential statistics were applied to verify the difference between the mean scores obtained by the students before and after the internship, in each statement of the CCQ. The t-test was used when the differences had a normal distribution and the Wilcoxon test when the differences did not follow a normal distribution, with a confidence level of 95%. Thus, the criterion of significance was adopted when $p < 0.05$.⁷

Regarding ethical aspects, the research was authorized by the coordination of the Nursing course, approved by the *Comitê de Ética em Pesquisa* under Opinion nº 2,030,224, and followed the precepts of Resolution 466 of December 12, 2012, which regulates research involving human beings.⁸ The participants were informed about the purpose, objectives and methodology of the study and signed the informed consent term.

RESULTS

All participants were female, aged between 22 and 25 years (58.82%). Regarding the year of enrollment in the course, 70.58% were enrolled between 2012 and 2013. When questioned about having another type of training, 58.82% answered yes; 23.52% were nursing technicians, 5.88% radiology technologists, 5.88% rescuers, 5.88% had been trained in surgical instrumentation, and 5.88% were business managers.

It was observed that in 46 CCQ items there was an increase in the means of perception of clinical competence at

the end of the supervised internship, reflecting a statistical significance, as observed in Tables 1 and 2.

DISCUSSION

All the participants were female. This finding meets the profile of nursing in Brazil according to Fiocruz, which verified that nursing is predominantly composed of female professionals (84.6%). This is a historical characteristic and only recently, since the 1990s, masculinization rates have started.⁹

Regarding the students' perception of competence after the supervised internship, a significant improvement was observed in both domains of the questionnaire, demonstrating that the practice developed in the field helped students to develop their clinical competences.

In this sense, the supervised internship was responsible for promoting and strengthening the development of competences related to safe care, professional ethics, evaluation, clinical thinking, collaboration and communication, basic nursing routines and technical skills, which are considered necessary for students who are completing their training.⁵

Through the CCQ it was possible to analyze the different general competences necessary for the future nursing professionals and contemplated by the *Diretriz Curricular Nacional* for Nursing Undergraduate in Brazil.³ This directive establishes that decision making is the second general competence, which was evaluated through items 1 to 13 of the questionnaire.

Table 1 - Mean score of participants according to each item in the "Nursing professional behaviors" domain of the CCQ. Curitiba-PR, 2017

Domain	Items of the CCQ	Mean before	Mean after	Δ of means	p-value
Nursing professional behaviors	1. I follow the health and safety precautions	4.29	5.00	0.71	<0.01*
	2. I take appropriate measures to prevent or minimize the risk of injury to myself	4.64	4.94	0.30	
	3. I take appropriate measures to prevent or minimize the risk of injury to patients	4.70	4.94	0.24	
	4. I prevent the occurrence of adverse events to patient care	4.76	4.94	0.18	
	5. I comply with the ethical principles of secrecy and confidentiality of patients and family members	4.94	5.00	0.06	
	6. I respect cultural diversity	4.88	4.94	0.06	
	7. I follow the ethical and legal principles of professional practice	4.76	5.00	0.24	
	8. I maintain appropriate appearance, attire, and conduct	5.00	5.00	0.00	
	9. I understand the patient rights	4.58	4.94	0.36	
	10. I recognize and maximize opportunities for learning	4.52	5.00	0.48	
	11. I apply appropriate measures and resources to solve problems	4.11	4.58	0.47	
	12. I apply or accept constructive criticism	4.82	4.88	0.06	
	13. I apply critical thinking to patient care	4.23	4.70	0.47	
	14. I communicate verbally with accurate and timely terminology with patients and family members	4.58	4.64	0.06	
	15. I communicate verbally with accurate and timely terminology with health professionals	4.52	4.58	0.06	
	16. I understand and support the goals of the team of professionals	4.47	4.70	0.23	

Legend: CCQ: Clinical Competence Questionnaire Δ: difference *Test t.

Table 2 - Mean score of participants according to each item in the "competences/skills" domain of the CCQ, Curitiba-PR, 2017

Domain	Items of CCQ	Mean before	Mean after	Δ of means	p-value
Competences/skills	17. I raise data for nursing history for new admissions	4.41	4.70	0.29	<0.01**
	18. I execute and document patient health assessment	4.35	4.76	0.41	
	19. I answer questions of patients and/or relatives	4.41	4.52	0.11	
	20. I educate patients or relatives with knowledge about care related to the disease	4.58	4.64	0.06	
	21. I do the Charting and documentation	4.88	4.94	0.06	
	22. I develop a care plan for patients	4.41	4.70	0.29	
	23. I perform the shift report	4.82	4.88	0.06	
	24. I perform hygiene and daily care routines	4.82	4.94	0.12	
	25. I provide rest and comfort measures	4.82	4.94	0.12	
	26. I assess nutrition and fluid balance	4.58	4.47	-0.11	
	27. I assess eliminations	4.88	4.94	0.06	
	28. I help in activities and mobility, and changing positio	4.88	4.94	0.06	
	29. I provide emotional and psychosocial support	4.52	4.58	0.06	
	30. I perform *procedures for administering medication	4.47	4.58	0.11	
	31. I perform venipuncture	4.47	4.64	0.17	
	32. I exchange intravenous fluid bottle or bag	4.58	4.94	0.36	
	33. I administer intravenous medications (or into intravenous bags)	4.70	4.82	0.12	
	34. I administer intramuscular medications	4.52	4.82	0.30	
	35. I administer subcutaneous (or intracutaneous) injections	4.70	4.76	0.06	
	36. I administer oral medications	4.94	5.00	0.06	
	37. I administer blood transfusions and blood products	3.17	4.41	1.24	
	38. I perform urinary catheter insertion and care	4.11	4.64	0.53	
	39. I comply with the principles of asepsis in the care	4.88	5.00	0.12	
	40. I perform oxygen therapy	4.47	4.82	0.35	
	41. I perform postural drainage and percussion	3.29	4.11	0.82	
	42. I perform preoperative and postoperative care	4.25	4.52	0.27	
	43. I perform bowel enema/washing	3.58	4.23	0.65	
	44. I perform aspiration of the upper airways	3.76	4.47	0.71	
	45. I perform tracheotomy care	3.76	4.00	0.24	
	46. I perform nasogastric tube feeding and care	4.00	4.52	0.52	
	47. I perform chest tube care with underwater seal management	3.64	4.29	0.65	
	48. I perform wound dressing care	4.64	4.94	0.30	

Legend: CCQ: Clinical Competence Questionnaire of. Δ: Difference. ** Wilcoxon test.

This competence demonstrates that the work of the future nurses must be based on the ability to take adequate decisions in each situation, leading to adequate actions.³

Among the items related to decision making, those in the items 1, 10, 11 and 13 achieved the highest average changes after supervised training, demonstrating that the students felt more prepared to follow health and safety precautions, recognize and maximize learning opportunities, apply appropriate

measures and resources to solve patient problems, and develop critical thinking during the provision of care.

Items 14 and 15 refer to communication, which is the third competence proposed by the curricular directives. They obtained one of the smallest mean scores, which may be related to the fact that the students already feel competent to communicate adequately and accurately with health professionals, patients and family members. This competence is com-

plemented by the ability to read and write, which were evaluated by items 18 to 21 of the instrument.

The other items in the questionnaire include specific competences and skills, which aim at the promotion, protection and rehabilitation of health. Thus, they are related to the first general competence of the curricular directives, which is health care.³ Among the items, those that obtained the best average scores after the internship were those in the items 41, 43, 44 and 47, demonstrating that the students perceived themselves more competent to perform postural drainage, enema/intestinal washing, airway aspiration, and thoracic drainage. This improvement may be due to the possibility that students may have developed and/or improved these skills and techniques during the internship.

Competences are developed when Nursing students are able to combine the knowledge acquired both theoretically and through personal experiences, and apply it in the formation of their skills, leading to professional maturity.¹⁰

Although it was possible to see that the perception of the participating students about the competences improved with the experience of the supervised internship, it is emphasized that the attainment of knowledge, skills and attitudes will never be complete, so that education must be continuous throughout professional performance.¹¹

The findings of this research revealed that the supervised internship help in the development of clinical competences for future nurses. Corroborating with these results, in a study conducted in California that sought to measure clinical competences among senior nursing students after their preceptorship experiences (clinical practice) found that of the 102 students, 91 showed improvements in their perception of clinical competence.¹²

Preceptorship is an effective method of clinical teaching, as it prepares students to develop clinical and trustworthy competences, assisting them in the transition to the role of professional nurses.¹³

In South Korea, a study with 156 nursing students found that the teaching of skills is effective in improving clinical competence and student satisfaction.¹⁴

At the national level, we found a research that evaluated the competence of nursing assistants showing that even the evaluation in professionals can be effective for the planning of care and management of people, besides contributing to direct educational actions in the acquisition of competences.¹⁵ These findings can be compared with the present results, considering that the students were in the last semester of the course.

The limitations of this work were the application of a self-reported instrument, which may lead to measurement bias, and also the application of the instrument in only one under-

graduate course, consequently implying a restricted sample size. Other variables that could not be controlled were the allocation of students in different specialties and the opportunity of different experiences during the internship.

CONCLUSION

When measuring the competences of undergraduate students of the last semester of the Nursing course, it was found that the perception of clinical competence obtained higher scores in both domains after the supervised internship. Before the internship, these students believed they had the skills only partially; at the end of the internship they stated that they felt able to perform alone or with little need for supervision.

The CCQ can be used by the human resources services of health institutions to verify the clinical competences perceived by the newly formed nurses. In educational institutions, the tool could be applied at the beginning and end of every supervised internship experience. Through this evaluation, it would be possible for teachers to seize parameters to measure the development of competences of their students. For the students, the instrument can provide a self-assessment of their progression during the course.

The use of this instrument in educational institutions is recommended to evaluate its applicability in improving the acquisition of clinical competences.

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