



## Knowledge of students in a nursing course about breastfeeding\*

*Conhecimento de estudantes de um curso de Enfermagem sobre aleitamento materno*

*Conocimiento de estudiantes de un curso de Enfermería sobre lactancia materna*

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### ABSTRACT

**Objective:** To investigate students' knowledge about breastfeeding in the first and fourth year of a Bachelor of Nursing course. **Methods:** An observational, transversal and descriptive study using a quantitative approach, developed in a public university in the state of São Paulo. The data collection instrument contained 25 questions, divided into seven blocks. The analysis was based on descriptive statistics and the Mann-Whitney test. **Results:** The research participants included 66 students from the first year and 64 from the fourth year. The mean score of students in first year was 9.9 questions and at the fourth year was 17.8 questions (Mann-Whitney test: 35.1 vs. 96.8 [p < 0.000]). The students of the fourth year obtained higher scores in all blocks of questions. **Conclusions:** This confirms the need for greater efforts and incentives for the improvement of other opportunities during undergraduate studies, to facilitate students' improved performance, to act with confidence in practice to promote breastfeeding.

**Keywords:** Breast feeding; Knowledge; Students, nursing

### RESUMO

**Objetivo:** Investigar os conhecimentos dos estudantes do 1º e 4º ano de um curso de Bacharelado em Enfermagem, sobre aleitamento materno. **Métodos:** Estudo de abordagem quantitativa, observacional, transversal e descritivo desenvolvido em uma universidade pública do estado de São Paulo. O instrumento de coleta de dados continha 25 questões, distribuídas em sete blocos. A análise fundamentou-se na estatística descritiva e Teste de Mann-Whitney. **Resultados:** Participaram da pesquisa 66 alunos do 1º ano e 64 do 4º ano. A média de acertos dos alunos do 1º ano foi de 9,9 questões e do 4º ano foi de 17,8 questões (Teste de Mann-Whitney: 35,1 vs. 96,8 [p < 0,000]). Em todos os blocos de perguntas os alunos do 4º ano obtiveram maiores escores. **Conclusões:** Verificou-se a necessidade de maiores esforços e incentivo para o aproveitamento de outras oportunidades durante a graduação, que possibilitem ao aluno um melhor desempenho para atuar com confiança na prática em prol da amamentação.

**Descritores:** Aleitamento materno; Conhecimento; Estudantes de enfermagem

### RESUMEN

**Objetivo:** Investigar los conocimientos de los estudiantes del 1º y 4º año de un curso de Bachillerato en Enfermería, sobre lactancia materna. **Métodos:** Estudio de abordaje cuantitativo, observacional, transversal y descriptivo desarrollado en una universidad pública del estado de Sao Paulo. El instrumento de recolección de datos contenía 25 preguntas, distribuídas en siete grupos. El análisis se fundamentó en la estadística descriptiva y Test de Mann-Whitney. **Resultados:** Participaron en la investigación 66 alumnos del 1º año y 64 del 4º año. El promedio de aciertos de los alumnos del 1º año fue de 9,9 preguntas y del 4º año fue de 17,8 preguntas (Test de Mann-Whitney: 35,1 vs. 96,8 [p < 0,000]). En todos los grupos de preguntas los alumnos del 4º año obtuvieron mayores scores. **Conclusiones:** Se verificó la necesidad de mayores esfuerzos e incentivo para el aprovechamiento de otras oportunidades durante el pregrado, que posibiliten al alumno un mejor desempeño para actuar con confianza en la práctica en prol del amamantamiento.

**Descriptores:** Lactancia materna; Conocimiento; Estudiantes de enfermería

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## INTRODUCTION

The practice of breastfeeding is supported and encouraged, considered exclusively the best form of nutrition for the baby until the sixth month of life and complementary until the second year of life <sup>(1)</sup>.

Breastfeeding is the object of researches worldwide, considering the various aspects of breast milk and breastfeeding. Despite all the scientific advancement and dissemination of the superiority of human milk and the advantages of breastfeeding, breastfeeding rates in Brazil are below recommended. According to the Ministry of Health, in 2008, the prevalence of exclusive breastfeeding in babies under 6 months was 41% in Brazilian state capitals and the Federal District, the median duration of exclusive breastfeeding was 1.8 months and the median duration of breastfeeding, 11.2 months <sup>(2)</sup>.

Trained nurses with the necessary skills for clinical management and counseling on breastfeeding, contribute to the reduction of early weaning and help nursing mothers to have a positive experience on breastfeeding <sup>(3)</sup>.

To provide effective and quality care for the nursing mother, considering their needs and the baby's, nursing students need a solid education, including theoretical knowledge and practice <sup>(4)</sup>. Professional training is essential to the success of action promotion, protection and support of breastfeeding, providing competence to the nurse <sup>(5)</sup>.

The exposed above made us reflect on the importance of the breastfeeding topic during the graduate education of nurses.

Based on an extensive review of scientific literature on the subject breastfeeding and nursing graduate education, researches were found on the knowledge and attitude of health professionals, including nurses, demonstrating the importance of support by a qualified professional, so that maternal breastfeeding can be successful <sup>(6-8)</sup>.

Some results show that, among health professionals, nurses have the largest gap in technical and scientific knowledge to provide care and effective support for someone <sup>(7)</sup>. They emphasize that academic preparation is flawed and does not give the nurse the necessary attributes to act specifically on this issue <sup>(7)</sup>. Study with a focus on nurse training in breastfeeding found that only 25% of nurses indicated that their nursing graduate education was the greatest source of knowledge acquired on breastfeeding <sup>(8)</sup>.

In this sense, unlike previous findings in researches, a study analyzing a group of nurses showed that 73% of these, reported having received specific information about breastfeeding in their graduate education, feeling able to care for nursing mothers <sup>(9)</sup>.

Supported by the evidence that there is no consensus in the scientific literature about the knowledge of nursing students from graduate education on breastfeeding, at the beginning of the graduation and also at the end, the motivation for conducting this research appeared, aiming at the possibility of providing subsidies for this subject teaching in the graduate education.

Therefore, the aim of this study was to identify the knowledge of students of first and last year of a Nursing Bachelor's degree on breastfeeding.

## METHODS

This is a study of quantitative, observational, cross-sectional, descriptive and exploratory approach.

The research was conducted in a public state institution of higher education in the State of Sao Paulo, which offers graduate education in Nursing Bachelor's degree and Nursing teaching degree.

All students enrolled in the second semester of the 1st year (n = 78) and 4th year (n = 75) of the Nursing Bachelor's degree were invited. All of them were at least 18 years old or older at the time of data collection.

The issue of breastfeeding is addressed from the beginning of the graduation education including the benefits and advantages of breastfeeding, parameters for evaluation and monitoring of breastfeeding, the actions for promotion, protection and support for breastfeeding practice. The experience of practice is developed in Child Friendly Hospitals and Health Centers, which have qualified professionals for the clinical management of the most common complications during breastfeeding.

Data collection was performed in August 2010. In order not to characterize the relationship of authority or coercion among the study participants, the supervisor of the research project did not perform data collection and she was not even in academic or scientific activities with the students during the period of data collection.

As instrument of data collection, a questionnaire containing 25 questions about breastfeeding was used, each with three possible answers: yes, no and I don't know. The questions were about the benefits of breastfeeding for the mother and the baby, breast milk properties, and recommendations on management and legal protection for breastfeeding. The questions were divided into seven blocks, covering physiology, breastfeeding benefits, weaning, microorganisms, medicines, recommendations, management, and protection of Breastfeeding. Each question received a value, "1" if answered correctly or "0" if not answered or if the answer was "I don't know". Thus, the expected maximum score for the questions was 25 (Table 1).

**Table 1** – Questions distribution in the questionnaire, according to considered block. Ribeirao Preto, 2011

Block of questions	Questions	Higher expected score
Physiology	03, 10, 12, 13	4
Benefits and social aspects	01, 02, 22	3
Weaning	06, 19	2
Microorganisms	07, 09, 20, 23	4
Medicines	18, 21	2
Breastfeeding protection	24, 25	2
Recommendations and management	04, 05, 08, 11, 14, 15, 16, 17	8
Total score		25

The proposed instrument was adapted from the questionnaire developed for the research: “Knowledge about breastfeeding among Nursing and Medicine students (Salvador, Bahia)”<sup>(10)</sup> its use in this study was authorized by the authors.

Data were stored in a spreadsheet (Excel) and statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS) version 18.0. The analysis was based on descriptive statistics and statistical tests for comparison between variables. The mean values were obtained for all scalar variables in terms of mean, standard deviation and the Mann-Whitney U test was also used.

For all tests, we considered the p-value at a significance level of  $\alpha$  less than or equal to 0.05.

Ethical standards for research involving human subjects established by Resolution 196/96 of the National Health Council were followed. The research project was submitted to the Ethics Committee on Research from the State of Sao Paulo, and it was approved (File No. 1.167/2010). All participants signed a Consent Form and kept a copy in their possession.

## RESULTS

The study included 130 students, 66 were from the first year and 64 from the fourth year of the graduate education. Thus, the characterization of the participants was as follows: six (4.6%) were male and 124 (95.4%) were female. The mean age was 21 years with a standard deviation of

2.5 years. Among all participants 125 (96.2%) were single and 2 (1.5%) had children who were breastfed.

When the total score was analyzed, it was found that the students from the 4th year had better knowledge about breastfeeding, the mean score of students in the 1st year was 9.9 questions and 4th year, 17.8 questions (Test Mann-Whitney U: 35.1 vs. 96.8 [p < 0.000]).

Questions analysis showed that the question from the block “Benefits and Social Aspects” (question 22) had the highest percentage of total correct answers while the block “Medication” (question 21), had the lowest percentage of total correct answers (Table 2). Despite this finding, the question with the lowest percentage of success from the 1st year belonged to the block “Protecting breastfeeding” (question 24) in which only 3.0% of students could answer it correctly (n=2).

Besides the analysis per questions, an analysis by blocks was also performed on breastfeeding questions. The block with the highest percentage of total correct answers by both groups was the “Benefits and Social Aspects”, from the 1st year, 19 (28.8%) students answered all questions correctly, and from the 4th year, 39 (60.9%) students also answered all questions correctly (the same percentage of success was achieved by the students of 4th year in the Block “Physiology”).

The block with the lowest percentage of total correct answers was “Microorganisms”, only three (2.3%) participants answered all questions correctly. No student from the 1st year (0.0%) got all the questions, three (4.7%) from the 4th year answered all questions of this block correctly.

**Table 2** – Questions with total correct answers by the students of 1st and 4th year of Nursing Bachelor’s degree. Ribeirao Preto, 2011

Questions	1st year	4th year
	Frequency n (%)	Frequency n (%)
Question with the highest percentage of total correct answers (Question 22)	62 93.9	64 100
Question with the lowest percentage of total correct answers (Question 24)	4 6.1	9 14.1

In all blocks of questions, students at the end of the course obtained higher scores, with statistically significant difference between the responses from students in the 1st and 4th years, according to data presented in Table 3.

**Table 3** – Block of questions about breastfeeding. Comparison between students of the 1st and 4th year of Nursing Bachelor's degree. Ribeirao Preto, 2011

Block of questions	1st year	4th year	p* value
Physiology	2.2	3.5	0.000
Benefits and social aspects	1.9	2.4	0.000
Weaning	0.8	1.1	0.044
Microorganisms	0.8	1.9	0.000
Medicines	0.1	0.4	0.002
Breastfeeding protection	0.8	1.1	0.000
Recommendations and management	3.0	7.1	0.001

\* Mann-Whitney U test

## DISCUSSION

In this study, most participants were female, and two women claimed to have children and they were breastfed. The median age was 21 years.

It was found that none of the students attended the elective course on breastfeeding, offered to graduate education students, and this is an important opportunity to add knowledge to students about this topic. A study with nursing students in Porto Alegre has shown that in the last year of the graduate education, students believe they are already prepared for professional practice and for the world of work<sup>(11)</sup>. In this perspective, this result may suggest that the same might have occurred with the participants of this study, when they did not seek for the resources offered by the institution to improve their knowledge.

Regarding the participants' performance on their knowledge about breastfeeding, it was expected that students from the last year would obtain better performance, considering the difference of three years in graduate education. The findings of this study support the research conducted in a public university in Salvador<sup>(10)</sup> which also recorded a better performance of students from the last year of nursing school with regard to knowledge about breastfeeding.

The performance of the students from the 1st year was lower than expected with an average of 9.9 correct

answers, which may represent the low level of information acquired on the subject in elementary and high school which will only be addressed after the first year of graduate education<sup>(12)</sup>.

Regarding the analysis of blocks of question, the block that had the highest percentage of correct totals in both classes was the "Benefits and Social Aspects" which are themes that have been already presented to students since the 1st year of the researched graduate course.

The block with the fewest number of correct answers was the "Microorganisms". Whereas interdisciplinarity must be present at the university, and knowledge must advance from cognitive sphere to action<sup>(13,14)</sup>, subjects like Pathology and Microbiology, among others, could be better related to the practice of nursing, bringing the issues surrounding breastfeeding for the analysis of students during these contents, thus articulating the subjects offered in graduate education<sup>(15)</sup>.

It was also revealed that the finding regarding the block of questions with fewer total correct answers, block "Microorganisms", differs from the previous study in a nursing graduate course of Salvador, where blocks with fewer total correct answers were medication, weaning and physiology<sup>(10)</sup>.

Importantly, this study has limitations to make comparisons between groups in a cross-sectional study, without considering the possibilities of improvement that could happen throughout the semester for the student.

## CONCLUSIONS

In this study, the students from the last year of their graduate education, had a better score in relation to freshmen students. However, there is a need for greater efforts and incentive to take advantage of other opportunities during graduation – such as participation in elective courses, in extension activities and scientific events, which allow students to perform better on the issues involving breastfeeding.

Moreover, we highlight the importance of studies with a qualitative approach, thus underlining the subjective needs of students and new forms of preparation and training of nurses to work in the health area.

It is important to consider the Nursing graduate education with a commitment to qualify nurses with appropriate profile, quality and production of knowledge according to the population health needs. In this sense, it is necessary to enrich the educational process with skills and abilities that make nurses better prepared with a broader view of professional activity. It is still necessary to use other strategies that favor the qualification of professional nursing with technical, political, ethical and humanistic competences to act with confidence in practice in favor of breastfeeding.

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