



Nurses' Knowledge of The Themes Regional Food and Food Security Before and After Training

KEYWORDS

Nursing, Professional Training, Learning

Julliana dos Santos Aires

Master of nursing. Federal University of Ceará, Fortaleza, Ceará, Brazil

Ádria Marcela Vieira Ferreira

Master's nursing student. Federal University of Ceará, Fortaleza, Ceará, Brazil

Leidiane Minervina Moraes de Sabino

Master's nursing student. Federal University of Ceará, Fortaleza, Ceará, Brazil

Emily Karoline Freire Oliveira

Nurse. Specialist of Neonatal Nursing. Federal University of Ceará, Fortaleza, Ceará, Brazil

Mariana Cavalcante Martins

PhD of Nursing. Federal University of Ceará, Fortaleza, Ceará, Brazil

Paulo César de Almeida

Statistic. PhD of Public Health. State University of Ceará, Fortaleza, Ceará, Brazil

Lorena Barbosa Ximenes

PhD of Nursing. Cnpq Researcher. Federal University of Ceará, Fortaleza, Ceará, Brazil

ABSTRACT *The aim of this study was to measure the theoretical knowledge of nurses on regional food and on food security, before and after training. A quasi-experimental study of before-and-after design, conducted with seven nurses working in the Family Health Strategy (FHS) located in a city in the rural area of the Ceará State, Brazil. In data collection, we used pre-test and post-test instruments before and after the training provided through the serial album. We verified that in nine of thirteen questions, nurses answered correctly both the pre-test and post-test questions. On the other hand, in four questions remaining, not all nurses got the pre-test questions right and after training, there was an increase in the number of successes in post-test questions. Thus, we conclude that the training contributed to the improvement of theoretical knowledge of nurses about regional food and food security.*

INTRODUCTION

The Food and Nutrition Security (FNS) is defined as the right of all to regular and permanent access to quality food, in sufficient quantity, based on practices that promote health that respect cultural diversity and that are socially, economically and environmentally sustainable (BRAZIL, 2006).

According to the last survey conducted in Brazil in 2013 it was found that 77.4% of households were in FNS situation. On the other hand, emphasizes that the Northeast region of the country had a higher percentage of food insecure - FI (38.1%) (IBGE,2013).

In this sense, it is known that FI can manifest itself in various ways, such as hunger, malnutrition and nutritional deficiencies (Oliveira et al., 2009). Because of this, it becomes more necessary to implement food-related measures in health services in order to minimize future complications.

Among the actions developed in Brazil to ensure the FNS of the population, we can highlight the dissemination of regional food. These have a low cost, easy access and high nutritional value, contributing to the quality of food and helping to reverse the situation of nutritional deficiencies, especially in children (BRAZIL, 2002).

In this context, encouraging the consumption of regional food through food and nutrition education becomes an alternative to the performance of health professionals. Thus the integration between theory and practice is favored when using educational approaches and problem-solving processes, enabling dialogue between professionals and

population (BRAZIL, 2012), replacing the simple transfer of information for the construction of knowledge from the experience of each individual.

From this perspective, primary care, by its interdisciplinary character, becomes a privileged place for actions to encourage appropriate infant feeding. Thus, it is necessary that professionals have knowledge about the cultural practices of food supply.

In view of the above, knowing that promoting eating habits in childhood is a major challenge for professionals, this study aimed to measure the theoretical knowledge of nurses about the thematic "regional food" and "food security and nutrition", before and after a training process.

MATERIAL AND METHOD

Quasi-experimental study developed with seven nurses working in the Health Strategy teams of family rural area of a city in the metropolitan area of Fortaleza, Ceará, Brazil.

Data collection occurred from August to October 2012, during which the nurses participated in a training process using the serial album *Regional Food promoting food security*. This serial album consists of seven illustrations and five script-cards, which address situations related to infant feeding, especially "food and nutrition security" and "regional foods" (Martins et al., 2012).

The training consisted of dialogic exposure moments and the simulation of the application of serial album. Nurses were evaluated before and after the application through two elaborate instruments: pre-test and post-test. These

questionnaires consist of thirteen issues and address the themes on the album. However, the order of questions and the structure of the questionnaire was modified in an attempt to minimize recall bias. It is noteworthy that both have been validated and the issues identified as clear/understandable and relevant; and Content Validity Index (CVI) of 0.95 in the pre-test and post-test 0.94.

The data were presented in tables. The descriptive analysis was consisted by absolute and relative frequencies; and averages. It was held the statistical test that compared two proportions in an attempt to evaluate the difference in the number of correct pre-test questions in relation to post-test. For all inferential analyzes it were considered statistically significant when $p < 0.05$.

The project was approved by the Ethics Committee of the Federal University of Ceará under protocol No. 353/11.

RESULTS

With regard to the profile of participants, it was observed that all were female with a mean age of 32 years, about six years graduated and working time in the city of on average of four years. As for the title, five graduate professional had post-graduation (N = 5; 71.4%) in the areas of neonatology, pediatrics, public health and obstetrics. In addition, five (71.4%) reported having participated in training before other subjects.

All knew the definition of the terminology regional food. However, only four (57.1%) of them had prior knowledge about the concept of food and nutrition security.

To facilitate data analysis, due to the difference in the structure of the assessment of the instruments, it was decided to organize the questions of the pre-test and post-test statements into categories by subject, as those described in Table 1.

Table 1. Question distribution of pre and post-test according to subject categories about regional food and food security. Ceará, 2012.

Cat ¹	Questions Pre-test	Affirmative Post-test	Subject
01	Question 1	Question 1	Definition of Regional Food
02	Question 2	Question 9	Characteristicsof Regional Food
03	Question 3	Question 12	Food Groups of Regional Foods
04	Question 4	Question 2	Examples of Regional Foods
05	Question 5	Question 4	Frequency of use of Regional Food in child nutrition
06	Question 6	Question 3	Definition of Food Security
07	Question 7	Question 5	Producttofoodimmersion
08	Question 8	Question 6	Preparationsusingcashew
09	Question 9	Question 10	Vitamin present in cashew
10	Question 10	Question 13	Preparations using banana
11	Question 11	Question 11	Preparations using pumpkin
12	Question 12	Question 8	Preparations using siriguela
13	Question 13	Question 7	Benefits of Regional Foods

¹Cat: Category

Table 2 shows the distribution of instruments subject categories against nurses who answered correctly.

Table 2. Distribution of the number of nurses' correct answers in pre-test and post-test questionnaires according to the subject categories about regional and security food. Ceará, 2012.

Cat ¹	Subject	Nurses		p ²
		Pre-test	Post-test	
1	Definition of Regional Food	7	7	-
2	Characteristicsof Regional Food	7	7	-
3	Food Groups of Regional Foods	5	7	0,774
4	Examples of Regional Foods	7	7	-
5	Frequency of use of Regional Food in child nutrition	7	7	-
6	Definition of Food Security	4	6	0,754
7	Producttofoodimmersion	7	7	-
8	Preparationusingcashew	5	6	0,999
9	Vitamin present in cashew	7	7	-
10	Preparations using banana	7	7	-
11	Preparations using pumpkin	7	7	-
12	Preparations using siriguela	4	7	0,549
13	Benefits of Regional Foods	7	7	-

¹Cat: Category

²Test paired proportions

According to Table 2 data, it can be seen that the thirteen displayed categories in nine of them (N = 7; 100%) all nurses answer correctly both pre-test post-test questions.

Although the p values found in category 3, 6, 8 and 12 were not statistically significant - indicating that the number of correct answers in the pretest was equal/similar to post-test in each subject category - there was an increase of the number of correct answers by the nurses at post-test.

It is clear, then, at the post-test, that in the categories 3 and 12 all nurses marked the correct answers. And the categories 6 and 08 there was an increase in the number of correct answers compared to pre-test.

DISCUSSION

Regarding the professional aspect, the profile of the nurses participants of this study is similar to other research (Almeida et al., 2011) that evaluated the theoretical knowledge of nurses and noted the predominance of women (80.8%) of the average age of 36.2 years and 71.2% attended graduate.

It is worth noting that the nurses had never participated in training on theme infant feeding. This finding becomes worrying, given that the role of nurses in feeding approach during a routine visit consists of a complex activity due to the multiple factors involved. Therefore, these professionals need to integrate updating processes to, this way, have

theoretical framework to guide the population adequately (Leite et al., 2012).

From the evaluation of nurses theoretical knowledge, it was observed that in nine categories the number of correct answers in the pre-test was the same as the post-test.

Among these, the numbers 1, 2, 4, 5, 7 and 13 refer to the definition of regional food, its features, exemplifying these foods, as well the frequency of use in infant feeding, hygiene care and the benefits of the same. It can be inferred that despite the nurses were not trained previously in relation to theme, the very existence of them in Basic Health Units of the countryside may have promoted an appropriation of such information, allowing them to answer the questions so correctly.

Furthermore, the categories 9, 10 and 11 refer to vitamin present in cashew, as well as the preparation of options using banana (enriched crumbs with banana peel) and pumpkin (pumpkin puree). Such knowledge can be justified due to regional characteristic of these foods (Martins et al., 2012) and the broad dissemination of revenues by the Social Service of Ceará Industry and Ministry of Health, respectively.

On the other hand, in the other categories (3, 6, 8 and 12) not all nurses answered correct the pre-test questions. Category 3 refers to food groups of regional food. Therefore, it is assumed that the nurses may have had difficulty answering this question, because the terminology is not used by them in their daily lives.

In addition, only four nurses were aware about the concept of FNS (category 6). This difficulty was found in a study that assessed the understanding of health professionals about the FNS (Ramos & Cuervo, 2012) and found that most did not know how define it; and tried to establish some concept, dissociated the definition of FNS as the right to food for all individuals.

Also found in the pre-test only four nurses knew the juice siriguela leaf (category 12) and this fact is justifiable since

this type of preparation is not yet present in official publications. However, it is believed to be important that professionals know this option in view that the study conducted on determining the chemical composition of *Spondias purpurea* L. leaves (siriguela) detected that the leaf had 2.40 grams of lipids and 0.10 grams of lipids in the fruit; as well as higher energy value (113 kilocalories) in the leaf relative to fruit (83 kilocalories) (Reis, Arruda & Oliveira, 2007).

In this sense, among the regional food (banana, pumpkin, cashews and siriguela) on the serial album it is noticed that the nurses knew these foods, as well as their availability in the region, however, they did not use to guide the introduction of them in child feeding.

These findings corroborate with the research conducted in the city of Rio de Janeiro-Brazil which showed that some health professionals have difficulty in orienting the introduction of new foods, as well as mothers also have limitations to follow the recommendations (Ferreira, Castro & Menezes, 2009), stressing the need to spread the benefits of the food for the child.

CONCLUSIONS

Nurses have a satisfactory theoretical knowledge about the "regional food" and the "food security and nutrition". However, despite the good performance of the same it is necessary monitoring and practical deepening on the subject in order to encourage them to enter the use of the guidelines of regional food by households.

This allows us to reflect how much becomes important to develop studies involving not only the performance of individual training, but also studies This allows us to reflect how much becomes important to develop studies involving not only the performance of individual training, but also studies that seek professional health education in an effort that professionals rethink their behavior, strengthen teamwork and transform their practices in order to improve the quality of nutrition of children and their families.

REFERENCE

- [1]Almeida, A.O., Araújo, I.E.M., Dalri, M.C.B. & Araujo, S. (2011). Theoretical Knowledge of Nurses Working in Non-Hospital Urgent and Emergency Care Units Concerning Cardiopulmonary Arrest and Resuscitation. *Rev Latino-Am. Enfermagem*, 19(2). | [2]Brasil. Ministério da Saúde (2002). Alimentos regionais brasileiros. Brasília: Ministério da saúde. | [3]Brasil. Ministério do desenvolvimento social e combate à fome (2006). Lei de segurança alimentar e nutricional: Conceitos. Lei nº 11.346, de 15 de setembro de 2006. Brasília: Consea. | [4]Brasil. Ministério do desenvolvimento social e combate à fome (2012). Marco de referência de educação alimentar e nutricional para as políticas públicas. Brasília (DF). Retrieved from http://www.mds.gov.br/segurancaalimentar/educacao-alimentar-e-nutricional/publicacoes/marco_EAN_visualizacao_semlogo.pdf.pagespeed.ce.jsG4u-W3_E.pdf | [5]Ferreira, J.V., Castro, L.M.C. & Menezes, M.F.G. (2009). Nourishment in the First Year of Life: the conduct of health care professionals and family practices. *Rev Ceres*, 4(3), 117-29. | [6]BGE (2014). Instituto Brasileiro de Geografia e Estatística. Pesquisa Nacional por Amostra de Domicílios: Food Security 2013. Rio de Janeiro. | [7]Leite, C.G., Mattos, G.C.M., Reis, N.A. & Campos, A.C.V. (2012). Knowledge of the postgraduate health family program nurses on nutrition. *Ciência & Saúde*, 5(2), 71-78. | [8]Martins, M.C, Veras, J.E.G.L.F., Uchoa, J.L., Pinheiro, P.N.C., Vieira, N.F.C. & Ximenes, L.B. (2012). Food safety and the use of regional foods: the validation of a serial album. *Rev Esc Enferm USP*, 46(6), 1354-61. | [9]Oliveira, J.S., Lira, P.I.C., Andrade, S.L.L.S., Sales, A.C., Maia, S. R. & Filho, M.B. (2009). Food insecurity and nutritional status of children of São João do Tigre, semi-arid area of Northeast Brazil. *Rev bras Epidemiol*, 12(3), 413-423. | [10]Ramos, C.I. & Cuervo, M.R.M. (2012). The "Bolsa Família" family grant scheme: the interface between professional practice and the human right to adequate food and nutrition. *Ciênc Saúde Coletiva*, 17(8), 2159-68. | [11]Reis, J.M.L., Arruda, Y.P.L.L. & Oliveira, F.C. (2007). Determinação da composição centesimal das folhas de *Spondias Purpurea* L. (CIRIGÜELA). In: *Anais do 47º Congresso Brasileiro de Química*; 2007; Natal, Brasil. Natal: Associação Brasileira de Química, 2007. |