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Nurses' knowledge about infant feeding

Conhecimento de enfermeiros sobre alimentação infantil

Conocimiento de enfermeros sobre la alimentación infantil

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ABSTRACT

Objective: To evaluate nurses' knowledge about infant feeding and compare the results according to the participation of professionals in a nutrition training course. **Methods:** A cross-sectional study was conducted with 54 nurses that work at the Family Health Strategy in nine municipalities in the State of Paraíba between 2018 and 2019. A questionnaire was applied with information on demographic, labor, and professional education profile. Nurses' knowledge about infant feeding included questions related to breastfeeding, feeding, and growth, practices in cases of insufficient breast milk consumption and illness, and supplementation. The results, according to the participation of the professional in a nutrition training course, were compared using Fisher's exact test. **Results:** Nurses' knowledge about infant feeding presented deficiencies, especially in issues related to the introduction of foods after six months old, feeding practices in case of illness, and recommendations for supplementation with micronutrients. Nurses with training in nutrition (n=30) had a higher number of correct answers ($p<0.05$) concerning the appropriate age to introduce animal foods and for iron supplementation, the importance of milk for growth, and the inclusion of foods when the consumption of breast milk is insufficient or cause some disease. **Conclusion:** There are gaps in nurses' knowledge about infant feeding, notably aspects related to the introduction of complementary foods, practices in case of illness, and supplementation recommendations, which can be improved through training in nutrition.

Descriptors: Professional Training; Child Nutrition; Child Health; Public Health Nursing; Primary Health Care.

RESUMO

***Objetivo**: Avaliar o conhecimento de enfermeiros sobre alimentação infantil e comparar os resultados segundo a participação do profissional em curso de capacitação em nutrição. **Métodos:** Estudo transversal desenvolvido com 54 enfermeiros que atuam na Estratégia Saúde da Família (ESF) em nove municípios do estado da Paraíba, entre 2018 e 2019. Aplicou-se um questionário com informações sobre perfil demográfico, trabalhista e formação do profissional. O conhecimento dos enfermeiros sobre alimentação infantil incluiu perguntas relacionadas à amamentação, alimentação e crescimento, práticas nos casos de consumo insuficiente de leite materno e de adoecimento, e suplementação. Os resultados, segundo a participação do profissional em curso de capacitação em nutrição, deram-se a partir de comparação do teste Exato de Fisher. **Resultados**: O conhecimento dos enfermeiros sobre a alimentação infantil apresentou deficiências, principalmente em questões relacionadas à introdução dos alimentos após o sexto mês de vida, às práticas alimentares no caso de doença e às recomendações para a suplementação com micronutrientes. Os enfermeiros com treinamento em nutrição (n=30) tiveram maior quantidade de respostas corretas ($p<0,05$) em relação à idade adequada para introduzir alimentos de origem animal e para a suplementação com ferro, à importância do leite para o crescimento, e à inclusão de alimentos quando há consumo insuficiente de leite materno ou adoecimento da criança. **Conclusão**: Há lacunas acerca do conhecimento sobre alimentação infantil de enfermeiros, notadamente sobre os aspectos relativos à introdução complementar de alimentos, às práticas no caso de adoecimento e às recomendações de suplementação passíveis de aperfeiçoamento por meio de capacitação em nutrição.*

***Descritores**: Capacitação Profissional; Nutrição da Criança; Saúde da Criança; Enfermagem em Saúde Pública; Atenção Primária à Saúde.*

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RESUMEN

***Objetivo**: Evaluar el conocimiento de enfermeros sobre la alimentación infantil y comparar los resultados según la participación del profesional en curso de capacitación de nutrición. **Métodos**: Estudio transversal desarrollado con 54 enfermeros que trabajan en la Estrategia Salud de la Familia (ESF) de nueve municipios del estado de Paraíba entre 2018 y 2019. Se aplicó una encuesta con informaciones sobre el perfil demográfico, laboral y de la formación profesional. El conocimiento de los enfermeros sobre la alimentación infantil ha incluido preguntas relacionadas con el amamantamiento y el crecimiento, las prácticas en los casos del consumo insuficiente de la leche materna, el quedarse enfermo y la suplementación. Los resultados, según la participación del profesional en curso de capacitación de nutrición, se dieron a partir de la comparación de la prueba Exacto de Fisher. **Resultados**: El conocimiento de los enfermeros sobre la alimentación infantil ha presentado deficiencias, en especial sobre las cuestiones relacionadas con la introducción de los alimentos después del sexto mes de vida, las prácticas alimentarias en caso de enfermedad y las recomendaciones para la suplementación con micronutrientes. Los enfermeros con entrenamiento en nutrición (n=30) tuvieron más respuestas correctas (p<0,05) respecto la edad adecuada para la introducción de alimentos de origen animal y para la suplementación de hierro, la importancia de la leche para el crecimiento y la inclusión de alimentos cuando hay consumo insuficiente de la leche materna o cuando el niño se queda enfermo. **Conclusión:** Hay lagunas respecto el conocimiento de los enfermeros sobre la alimentación infantil, en especial sobre los aspectos de la introducción complementaria de los alimentos, las prácticas en el caso de los niños se quedaren enfermos y las recomendaciones de suplementación pasibles de perfeccionamiento a través de la capacitación en nutrición.*

***Descriptores**: Capacitación Profesional; Nutrición del Niño; Salud del Niño; Enfermería en Salud Pública; Atención Primaria de Salud.*

INTRODUCTION

Adequate nutrition is essential for children's health and development[1]. There is convincing evidence that nutrition-related behaviors influence suffering from diseases[1,2]. Thus, nutritional assistance is a relevant aspect in the prevention and treatment of nutritional deficiencies that can result in high infant morbidity and mortality[1], which represent a critical period in which specific nutrition interventions are necessary, especially in the first two years of life. These actions are usually offered in health facilities by health professionals and, in most situations, as the principal source of nutritional information for child caregivers. Thus, women who access antenatal and postnatal services highly value such guidance[3].

Given that nutrition-related behaviors represent modifiable factors, counseling on infant nutrition can positively contribute to children's health[4], besides assessing the importance of food and nutrition education recognized by health professionals[5]. Nutritional messages, shared in consultations or counseling sessions, can improve infant feeding practices and nutritional status when is adopted with accurate, practical, consistent, timely, and up-to-date dietary advice tailored to children's specific nutritional needs[3]. Thus, the level of knowledge in nutrition, associated with factors such as awareness and motivation, influences the skills, attitudes, and practices of nutritional health care[3,6].

However, health professionals may lack adequate knowledge and understanding of recommended infant feeding practices, as well as nutrition counseling skills. Thus, the information provided by health professionals may not be sufficiently appropriate and effective[2,3]. These circumstances are related to curricular deficiencies in undergraduate health courses, both in terms of specific training in nutrition and curricular coordination, which are rarely minimized due to limited opportunities for continuing education[2,7,8]. In this way, the importance of including nutrition in the health professionals' training and continuing education programs has been highlighted, although without due priority[2,7,9].

In this context, Primary Health Care (PHC) nurses stand out for their privileged position, and suitable profile when they support nutritional care and provide nutritional counseling to the infant population. These nurses are also a relevant nexus between the population and the health system; they generally have good relationships with patients and are seen as trustworthy, which can maximize the effect of their actions[3,6,7,9].

The world panorama, previously reported, is also experienced in Brazil, noting that the development of nutrition actions happens mainly by professionals from other health areas other than nutrition, especially nurses. It is noteworthy that these professionals lack sufficient training to carry out nutritional counseling focused on the health care of children under two years old[10-12]. This profile is based on problems in nutrition training in health courses, including nursing[13].

This reality is considered antagonistic to the current epidemiological situation of Brazilian children, characterized

by high consumption of unhealthy foods[14] and the coexistence of accentuated prevalence of short stature and overweight[15]. Thus, there is an urgent need to strengthen the area of nutrition within the scope of the health system, hindered by the absence of qualified action[13].

This study aims to evaluate the nurses' knowledge about infant feeding and compare the results according to the participation of the professional in a training course in nutrition.

METHODS

It is a cross-sectional study part of the research focused on the development of food and nutrition actions in the Family Health Strategy in the state of Paraíba (ESF). Thus, for this study, the assessment of knowledge about infant feeding by nurses in charge of childcare or prenatal consultations in their health teams was considered.

The study scenario comprised municipalities in the state of Paraíba benefiting from funding incentives for the structuring and implementation of food and nutrition actions in primary care[16,17] that represent two contexts: i) municipalities with a population from 30,000 to 149,999 inhabitants with low or medium Human Development Index (HDI)[16] and ii) municipalities with a population of 150,000 inhabitants or more with a high HDI[17].

Of the 12 municipalities benefiting from the first context, five were excluded; one for being the only one with partial coverage of the Family Health Strategy, another for not having predetermined health teams as of interest for the study (conventional teams linked to the Support Center to Family Health -NASF) without a nutritionist and teams – from the Mais Médicos Program – linked to the Family Health Support Nucleus with a nutritionist working) and three considering their inclusion in another evaluation proposal with similar characteristics. In each municipality, and with all health teams meeting the selection criteria, there were 22 establishments with the same number of nurses (two in two cities, three in two cities, and four in three cities). The inclusion of the two municipalities in the second context resulted in a total of 16 health teams, choosing the same number of nurses per municipality randomly by simple drawing and considering the distribution by the health district.

Data collection was carried out in the health units - headquarters of the teams selected for the research, between the second half of 2018 and the first half of 2019. All 54 nurses working in the health teams selected for the research participated who had their childcare or prenatal consultations observed and evaluated through a data collection checklist, totaling 269 observations.

Information was obtained on the demographic (sex, age), employment profile (time of employment with the health team, type of employment), and training (participation in a graduate course or residency in public health, collective health, and participation after majoring in training courses focused on Primary Health Care and nutrition) of the professional, as well as concerning knowledge about infant feeding. Professionals who refer to participation in short and medium-term courses (between 15 and 60 hours), in-service training, and events (between 15 and 60 hours participating in a course) related to Primary Health Care and nutrition affirmed training in these themes, respectively.

The nurses' knowledge, measured through a standardized multiple-choice questionnaire with questions adapted from the instrument used in research developed in Bangladesh, included the assessment of the knowledge of health professionals about infant feeding[18]. The adaptations, when necessary, were based on the child's health care booklet on breastfeeding and complementary feeding of the Ministry of Health[19]. Additionally, three questions were included focusing on supplementation recommendations for children under five years of age in Brazil.

The questions were grouped into five blocks: i) breastfeeding and complementary feeding; ii) foods a child needs to grow; iii) practices to adopt in the case of a baby who is not getting enough breast milk; iv) practices to be adopted in the case of a sick child; and v) supplementation recommendations for children under five years old in Brazil. Thus, Table 1 shows, in detail, the items of interest for the knowledge assessment related to infant feeding considered in the study.

As variables related to the nurses' profile, sex (female, male), age (20-39 years, 40-70 years), length of time with the health team (two years or more, less than two years) were included, the type of employment relationship (professional, other), participation in a training course in Primary Health Care (yes, no) and participation in a training course in nutrition (yes, no). The variables relevant to nurses' knowledge about infant feeding were derived from each of the questions in this assessment, as listed in Chart 1, discriminated as correct or incorrect answers.

Chart 1 - Aspects of the assessment of knowledge related to infant feeding considered in the study with nurses from the Family Health Strategy who are in charge of childcare or prenatal consultations in their health teams. Paraíba, Brazil, 2018-2019.

Breastfeeding and complementary feeding
Time after birth that a baby should start to breastfeed
Recommended age limit for exclusive breastfeeding
Recommended age limit for complementary breastfeeding
Suggested age a baby can start receiving water in addition to breast milk
Suggested age a baby should start receiving other fluids (including infant formula and juice) in addition to breast milk
Suggested age a baby should start receiving semi-solid foods in addition to breast milk
Suggested age a baby should start receiving animal foods (meat, chicken, egg, fish)
Minimum number of times that a child aged 7 to < 9 months, who is still breastfeeding, should eat salted porridge and fruit porridge
Minimum number of times that a child aged 9 to < 12 months, who is still breastfeeding, should eat salted porridge and fruit porridge
Minimum number of times a child aged 12 to < 24 months, who is still breastfeeding, should eat a main meal and snack
Foods a child needs to grow
Bread/rice/cereals
Beef
Fish
Eggs
fruits
Vegetable
Milk
oil/fat
Practices to adopt if a baby is not getting enough breast milk
breastfeed more often
Do not give other liquids/foods to the baby (under six months)
More water intake for mom
More rest for the mother
Do not give baby milk of another type (under six months)
Practices to adopt in the case of a sick child
don't stop breastfeeding
Breastfeed more often if the mother is concerned that the baby is not getting enough milk
Do not give semi-solid or solid food if younger than six months
Do not give rice water
Supplement with zinc, if older than six months and if you have diarrhea
Supplementation recommendations for children under five years of age in Brazil
Recommended age limit for supplementing children with vitamin A in basic health services
Recommended age limit for child iron supplementation in basic health services
Recommended age limit for supplementing the child with multiple micronutrients through the NutriSUS sachet at one of the meals in day care centers and schools

Source: Own elaboration based on previous publications[18,19]

The field research team consisted of professionals and students from the health area with previous experience in fieldwork, supervised by a trained professional. The quality control of the study included interviewers' training and standardization, construction of an instruction manual, and conducting of a pilot study. Data were organized in electronic spreadsheets, typed in double entry, in a customized database with consistency checks and range restrictions. The Validate application of the Epi Info software version 3.3.2 was used to analyze the consistency of the data.

For presenting the results, descriptive statistics of the frequencies of the variables expressed for the total sample and the participation of the health professional in a training course in nutrition were used. The characteristics related to the nurse's profile and knowledge about infant feeding among providers who attended nutrition courses and those who did not have this training were based on Fisher's Exact Test. The significance level α was considered equal to 5%. Analyzes were performed using Stata software version 12.0.

The research was approved by the Research Ethics Committee of the State University of Paraíba, under Protocol No. 71609317.9.0000.5187. All research participants signed the Free and Informed Consent Term as a necessary condition to participate in the study.

RESULTS

With a total of 54 nurses participating in the study, there was a predominance of females (n=51) working for two years or more (n=36) in their health team and with a contract through a public tender (n=35). Regarding training, it is noteworthy that 40 nurses had a postgraduate degree or residency in public health, collective health, and family health, as well as 47, had attended some training for Primary Health Care. The characteristics did not differ when comparing professionals who reported training courses in the area of nutrition after graduation (n=30) and those who did not state this condition (Table I).

Table I - Characteristics of Family Health Strategy (ESF) nurses who are in charge of childcare or prenatal consultations in their health teams participating in the study. Paraíba, Brazil, 2018-2019.

	Total (n=54)	Nutrition training		
		Yes (n=30)	No (n=24)	
	n	n	n	
Sex				0.050
Female	51	30	21	
Male	3	0	3	
Age				0.358
20-39	30	15	15	
40-70	24	15	9	
Time of work in the health team				0.245
Tow or more years	36	22	14	
Less than two years	18	8	10	
Type of hiring				0.750
Tendered	35	20	15	
hired	19	10	9	
Postgraduate or residency in public health, collective health and family health				0.627
Yes	40	23	17	
No	14	7	7	
Training in Primary Health Care				0.124
Yes	47	28	19	
No	7	2	5	

The results of the assessment of nurses' knowledge about infant feeding, comparing them according to the professional's participation in training on nutrition, can be seen in Table II. After obtaining the (incorrect) answers, at least 1/3 of the professionals took a position on questions related to the age at which a baby should receive the food of animal origin (meat, chicken, egg, fish); the minimum number of times that a child, who is still breastfeeding, should eat salty porridge, fruit porridge, main meal, and snack; about more frequent breastfeeding if the mother is concerned that the baby is not getting enough milk; and about zinc supplementation if the child is older than six months and has diarrhea. The three questions related to supplementation recommendations for children under five years old in Brazil also presented high frequencies of incorrect answers and refers to the recommended age for supplementation with micronutrients, using the NutriSUS sachet in one of the children's meals in kindergartens and schools. Question answered correctly only by two nurses.

Nurses with nutrition training had a greater number of correct answers, presenting a significant p-value in six questions: (1) recommended age for a baby to receive foods of animal origin (p=0.033); (2) identification of milk as a relevant food for the child's growth (p=0.020); (3) not giving other liquids/food to a baby under six months who is not getting enough breast milk (p=0.004); (4) not giving semi-solid or solid food in the case of a sick child under six months (p=0.008); (5) not giving rice water in case of a sick child (p=0.012); and (6) recommended age limit for child iron supplementation in basic health services (p=0.020) (Table II).

Table II - Knowledge about infant feeding of nurses from the Family Health Strategy (ESF) who are in charge of childcare or prenatal consultations in their health teams. Paraíba, Brazil, 2018-2019.

Evaluated aspects	Correct answers			p
	Total (n=54)	Nutrition training Yes (n=30)	No (n=24)	
	n	n	n	
Breastfeeding and complementary feeding				
Time after birth to start breastfeeding the baby	52	29	23	0.872
Recommended age limit for exclusive breastfeeding	54	30	24	-
Recommended age limit for complementary breastfeeding	44	25	19	0.695
Recommended age for a baby to start receiving water along with breast milk	45	25	20	1.000
Recommended age for a baby to start receiving other fluids (including infant formula and juice) in addition to breast milk	43	24	19	0.940
Recommended age for a baby to start receiving semi-solid foods in addition to breast milk	40	22	18	0.890
Recommended age for a baby to receive foods of animal origin (meat, chicken, eggs, fish)	29	20	9	**0.033**
Minimum number of times that a child aged 7 to < 9 months, who is still breastfeeding, should eat salted porridge and fruit porridge	24	14	10	0.713
Minimum number of times that a child aged 9 to < 12 months, who is still breastfeeding, should eat salted porridge and fruit porridge	18	10	8	1.000
Minimum number of times a child aged 12 to < 24 months, who is still breastfeeding, should eat a main meal and snack	14	8	6	0.890
Foods a child needs to grow				
Bread/rice/cereals	45	25	20	1.000
Beef	53	30	23	0.259
Fish	54	30	24	-
Eggs	53	30	23	0.259
Fruits	53	30	23	0.259
Vegetable	53	30	23	0.259
Milk	50	30	20	**0.020**
Oil/fat	39	23	16	0.300
Practices to adopt if a baby is not getting enough breast milk				
breastfeed more often	49	27	22	0.834
Do not give other liquids/foods to the baby (under six months)	48	30	18	**0.004**
More water intake for the mother	52	29	23	0.872
More rest for the mother	42	25	17	0.272
Do not give baby milk of any other type (under six months)	47	26	21	0.928
Practices to adopt in the case of a sick child				
don't stop breastfeeding	54	30	24	-
Breastfeed more often if the mother is concerned that the baby is not getting enough milk	18	11	7	0.561
Do not give semi-solid or solid food if younger than six months	46	29	17	**0.008**
Do not give rice water	44	28	16	**0.012**
Supplement with zinc if over six months with diarrhea	11	7	4	0.504
Supplementation recommendations for children under five years of age in Brazil				
Recommended age limit for supplementing children with vitamin A in basic health services	28	15	13	0.761
Recommended age limit for child iron supplementation in basic health services	18	14	4	**0.020**
Recommended age limit for supplementing the child with multiple micronutrients through the NutriSUS sachet at one of the meals in day care centers and schools	2	2	0	0.269

DISCUSSION

The present study evaluated the nurses' knowledge levels about recommended infant feeding practices and micronutrient supplementation for children under five years old in Brazil. From the observation, it became possible to find deficiencies, especially in issues related to complementary feeding and recommended behaviors when the child is sick. Some answers were associated with the participation of nurses in previous training in the area of nutrition. Therefore, Nurses' knowledge about the recommended ages for micronutrient supplementation was inadequate.

As part of the assessment of the characteristics of the health professionals in this study, the information sought on participation in training activities. It was found that more than 2/3 of them had attended a postgraduate course or residency in public health, collective health, family health, and some training in Primary Health Care. There are similar findings recorded among nurses from the Northwest region of Goiânia, whose qualification characteristics highlighted that 71.0% had a postgraduate degree related to public health and 84.8% had some training related to activities in the Family Health Strategy[20].

It is relevant to point out that training opportunities in the country can generate disparities, given that large urban centers concentrate the main health training centers that allow professionals who work in these cities easier access to courses. Thus, the planning of continuing education programs becomes relevant for the higher inclusion of professionals in qualification processes aimed at improving the performance of Primary Health Care[21], which, in the case of the current study, would be relevant for those who have not yet attended these courses.

Regarding training in the Nutrition area, it was found among the participants that more than 50% had participated in some training. It can be considered a positive result emphasized the lack of qualification opportunities for nutritional care reported by nurses[22] and the lack of health professionals trained in healthy complementary feeding[12]. Besides the way of obtaining the data (training modalities considered), the fact that all health professionals in the present study work in municipalities with financial incentives in the Nutrition area may have contributed to the result found. Thus, the importance of financial incentives through the Financing of Food and Nutrition Actions program is on the agenda, whose resources can be used to train health professionals[16,17].

From the perspective of professionals who did not attend training in the area of nutrition, it is paramount to highlight possible negative repercussions both in the knowledge, attitudes, and practices of professionals[12,22-24] as in food and nutrition habits, the nutritional status and the health of the population[2,7,13], as well for strengthening the area of nutrition in Primary Health Care in Brazil[13]. These circumstances reinforce the importance of continuing education as a driver of improvements in this sense[2,12,13].

The findings of this study, in a general perspective, corroborate the reports by authors in similar studies that highlighted higher knowledge, on the part of nurses, about limited nutrition and the influence of training focused on food and nutrition on knowledge levels[22-24]. Knowledge of deficient nutrition, which characterizes the nursing professional, may be a consequence of inadequate training at the undergraduate level and limited opportunities for continuing education[7].

The nurses' correct understanding of the current study on breastfeeding reinforces the findings of an integrative literature review on the subject. However, it is pertinent to emphasize that the authors emphasize that the theoretical domain in the matter does not necessarily translate into practice, recommending the periodic training of the health professional in an approach that goes beyond the borders of the biological[25].

On the other hand, the participants' knowledge of the current study on complementary feeding proved to be deficient, which was also presented by other researchers[26,27]. Furthermore, it was possible to reveal an association between the training of health professionals and knowledge in this regard, as observed by other researchers[24]. Professional qualification in complementary feeding can positively influence this practice, which is essential in preventing the early introduction of foods and their damage to children's health, including allergies[27,28].

In this sense, the booklet on primary child health care: breastfeeding and complementary feeding[19], the Amamenta Alimenta Brasil Strategy[29], and the Food Guide for Brazilian children under two years old[30] stand out as relevant tools to help improve knowledge and incentive practices, promotion and protection of healthy eating in the first years of life. Appropriate skills-based training to ensure the implementation of such guidelines can generate positive results in breastfeeding and complementary feeding practices[18,28], like the experiences of implementing the guidelines contained in the food guide for Brazilian children[28,31]. Food guides are highlighted as practical tools that facilitate learning through simplified guidelines, contributing to proper eating behaviour[12,27].

As in this study, other researchers also showed deficiencies in knowledge among nurses in relation to feeding sick children, as well as the importance of training in nutritional counseling to minimize such limitations[24]. In a study carried out in Bangladesh, similar results were also found when evaluating various aspects of infant feeding in case of illness, including professionals from different areas of health[18].

In the present study, the most expressive deficits were in the aspects about the need to increase the frequency of breastfeeding if the baby is not getting enough milk, as well as to supplement with zinc the child older than six months who has diarrhea. Not knowing these recommendations, contributing to the incorrect guidance of mothers, can be harmful to the child's health, as breast milk contains nutrients, white blood cells, antibodies, stem cells and enzymes that fight infectious processes and help in their recovery[32,33]. In turn, the use of zinc in cases of diarrhea is important for its curative and prophylactic power, acting to reduce the frequency and duration of bowel movements, as well as reducing relapses[34].

In the present investigation, the knowledge about the recommended ages for supplementing children with micronutrients was considered inadequate, reaffirming previous findings in studies that included nurses, doctors, and nutritionists[27,35]. These results reflect evaluations from the perspective of health professionals in vitamin A and iron supplementation programs, highlighting significant deficits in training on such interventions that produce weaknesses in their qualification and operationalization[36,37]. Specifically, the lack of knowledge about the target audience of these strategies can compromise their coverage[37]. Thus, it is understood that both vitamin A deficiency and anemia are relevant public health problems among Brazilian children, and the work of professionals from the Family Health Strategy based on the operational manuals intended for this is essential for their prevention[35].

Considering the weaknesses pointed out in the present work, the importance of qualification of nurses in nutrition is highlighted, as emphasized in the national[11,13,37] and international[2,7,9] literature. The implementation of breastfeeding promotion programs stands out for its importance for the training of health professionals on the subject, considering that poor knowledge is a relevant factor that impairs health education and the child complete health promotion practices provokes the adoption of wrong orientations, and, therefore, inhibits the change of behavior. In the breastfeeding context, this situation represents the possibility of evading the best source of protection and nutrition for the baby[38,39]. Thus, in Brazil, changes in the availability of schedules of health team members and the involvement of qualified personnel in the management of food and nutrition actions are essential for the implementation of permanent education processes in the area[40].

Therefore, it is understood that the findings in this study must be interpreted in the context of its limitations. The cross-sectional design makes it difficult to establish causality and the use of intentional sampling for the selection of participants in limiting the generalization of findings. However, nurses from health teams of the Family Health Strategy, randomly selected in nine municipalities in the state of Paraíba, participated in the study. By addressing a critical gap in the Brazilian literature related to nurses' knowledge about infant feeding, the results presented become relevant. In this sense, the gaps reported highlight issues related to complementary feeding, feeding practices for children in case of illness, and recommendations for micronutrient supplementation in health services.

Still, there was the possibility of revealing training as a factor that can influence knowledge about infant feeding. Thus, continuing education focused on food and nutrition should be undertaken to improve the professional training of nurses.

CONCLUSION

Regarding the knowledge about infant feeding of the investigated nurses, gaps are highlighted, notably in aspects related to the introduction of complementary foods, practices in the case of illness, and supplementation recommendations, which are liable to improvement through training in nutrition.

CONFLICTS OF INTEREST

The authors declare that there are no conflicts of interest.

CONTRIBUTIONS

Dixis Figueroa Pedraza contributed to the elaboration and design of the study; the acquisition, analysis and interpretation of data; and the writing and/or revision of the manuscript. **Priscila Gabriela Rodrigues Rosa** contributed to the acquisition, analysis and interpretation of data; and the writing and/or revision of the manuscript.

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