

EDUCATIONAL INTERVENTION WITH NURSES REGARDING CHILDCARE CONSULTATION: A MIXED METHOD STUDY

Daniele de Souza Vieira¹ 

Anniely Rodrigues Soares¹ 

Anna Tereza Alves Guedes¹ 

Luciano Marques dos Santos² 

Beatriz Rosana Gonçalves de Oliveira Toso³ 

Elenice Maria Cecchetti Vaz¹ 

Neusa Collet¹ 

Altamira Pereira da Silva Reichert¹ 

¹Universidade Federal da Paraíba, Programa de Pós-Graduação em Enfermagem. João Pessoa, Paraíba, Brasil.

²Universidade Estadual de Feira de Santana, Mestrado Profissional de Enfermagem. Feira de Santana, Bahia, Brasil.

³Universidade Estadual do Oeste do Paraná, Programa de mestrado e doutorado Biociências e Saúde. Cascavel, Paraná, Brasil.

ABSTRACT

Objective: to determine the effect and influence of an educational intervention on childcare consultation on nurses' knowledge and practice.

Method: a mixed research method was adopted, with a sequential explanatory design, characterized by a stage with a quantitative approach, developed in a quasi-experimental study, with 30 nurses, followed by a qualitative one, carried out by in-depth interview, with 11 nurses working in the Family Health Units of João Pessoa, Paraíba, Brazil. In quantitative analysis, descriptive statistics and proportion test were used, and in qualitative analysis, thematic analysis was used.

Results: the effect of the educational intervention was statistically significant in the consultation dimensions: consultation frequency; child nutrition; physical examination; growth assessment; development assessment; and health education. In the qualitative stage, the influence of the intervention in expanding knowledge and changing some nurses' practices in the aforementioned dimensions was understood, with agreement between the data found.

Conclusion: the positive effect of the educational intervention on nurses' knowledge and practice in childcare consultations was evident, enabling them to reflect on the content covered and promote changes in their daily lives.

DESCRIPTORS: Child care. Growth and development. Nurse. Education continuing. Primary health care.

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INTERVENÇÃO EDUCATIVA COM ENFERMEIROS SOBRE CONSULTA DE PUERICULTURA: UM ESTUDO DE MÉTODO MISTO

RESUMO

Objetivo: determinar o efeito e a influência de uma intervenção educativa sobre consulta de puericultura no conhecimento e na prática de enfermeiros.

Método: adotou-se o método misto de pesquisa, com o desenho explanatório sequencial, caracterizado por uma etapa com abordagem quantitativa, desenvolvida no estudo quase-experimental, com 30 enfermeiros, seguida por uma qualitativa, realizada por entrevista em profundidade, com 11 enfermeiros atuantes nas Unidades de Saúde da Família de João Pessoa, Paraíba, Brasil. Na análise quantitativa, utilizou-se estatística descritiva e o teste de proporção, e na qualitativa a análise temática.

Resultados: o efeito da intervenção educativa foi estatisticamente significativa nas dimensões da consulta: Periodicidade da consulta, Alimentação da criança, Exame físico, Avaliação do crescimento, Avaliação do desenvolvimento e Educação em saúde. Na etapa qualitativa, compreendeu-se a influência da intervenção na ampliação do conhecimento e mudança de algumas práticas dos enfermeiros nas dimensões supracitadas, havendo concordância entre os dados encontrados.

Conclusão: evidenciou-se o efeito positivo da intervenção educativa no conhecimento e na prática dos enfermeiros nas consultas de puericultura, possibilitando-lhes refletir sobre os conteúdos abordados e promover mudanças no seu cotidiano.

DESCRITORES: Cuidado da criança. Crescimento e desenvolvimento. Enfermeiro. Educação permanente. Atenção primária à saúde.

INTERVENCIÓN EDUCATIVA CON ENFERMERAS EN LA CONSULTA DE PUERICULTURA: UN ESTUDIO DE MÉTODO MIXTO

RESUMEN

Objetivo: determinar el efecto e influencia de una intervención educativa en la consulta de puericultura sobre el conocimiento y la práctica de las enfermeras.

Método: se adoptó un método de investigación mixto, con diseño explicativo secuencial, caracterizado por una etapa con enfoque cuantitativo, desarrollado en un estudio cuasiexperimental, con 30 enfermeros, seguido de uno cualitativo, realizado por entrevista en profundidad. con 11 enfermeros trabajando en las Unidades de Salud de la Familia de João Pessoa, Paraíba, Brasil. En el análisis cuantitativo se utilizó estadística descriptiva y prueba de proporciones, y en el análisis cualitativo se utilizó análisis temático.

Resultados: el efecto de la intervención educativa fue estadísticamente significativo en las dimensiones de la consulta: frecuencia de consulta; nutrición infantil; examen físico; evaluación del crecimiento; evaluación del desarrollo; y educación sanitaria. En la etapa cualitativa se comprendió la influencia de la intervención en la ampliación del conocimiento y el cambio de algunas prácticas de enfermería en las dimensiones before mencionadas, existiendo concordancia entre los datos encontrados.

Conclusión: fue evidente el efecto positivo de la intervención educativa en el conocimiento y la práctica de los enfermeros en las consultas de puericultura, permitiéndoles reflexionar sobre los contenidos tratados y promover cambios en su vida cotidiana.

DESCRITORES: Cuidado del niño. Crecimiento y desarrollo. Enfermero. Educación continua. Atención primaria de salud.

INTRODUCTION

The childcare consultation carried out in the Family Health Strategy (FHS), a priority model for organizing Primary Health Care (PHC),¹ is an essential tool for health surveillance in early childhood and for individualized assistance to children and their families².

Childcare consultation, carried out through continuous and global actions to promote and protect health, prevention and early detection of health problems, is an effective strategy for monitoring child growth and development³. According to the Brazilian Ministry of Health (MoH), it is recommended that seven childcare consultations be carried out in the first year of life, two consultations in the second year of life and, subsequently, annual consultations⁴. In this care encounter, nurses are fundamental professionals, capable of providing qualified assistance to children and their families, with a view to comprehensiveness and longitudinality of care⁵⁻⁶.

Throughout consultation, it is recommended that nurses carry out: anamnesis; general physical examination; growth assessment: weight, length/height, head circumference, Body Mass Index (BMI); assessment of neuropsychomotor development: primitive reflexes, developmental milestones; nursing interventions in response to complaints and clinical findings; providing information on warning signs, encouraging child development, preventing accidents, toxic stress and updating the vaccination schedule; recording information in the medical record and in the Child's Handbook. At the end of the consultation, nurses should praise mothers for what is going well and for taking children to childcare, schedule the next appointment and ask checking questions to make sure their instructions were understood⁷.

However, when childcare consultation is not carried out systematically, assistance can be weakened with a consequent loss of confidence in the care implemented by nurses⁸. A study carried out with 31 PHC nurses from a capital in the Northeast showed that only one nurse performed satisfactorily in childcare consultation. Furthermore, it was identified that dimensions of care related to physical examination/neuropsychomotor development and health education were little covered in consultation⁹.

Another study that assessed 175 childcare consultations carried out by PHC professionals identified that, in all consultations, weight, length and head circumference measurements were checked in 96.0% of children. However, assessment of development (21.7%), guidance on growth - weight (38.3%) and development (11.4%), recording in BMI/age curves (11.4%) and milestones development (12.0%), and guidelines related to supplementation (25.7%) and prevention of accidents and violence (2.9%) presented low frequencies of implementation¹⁰.

In view of this, the need to carry out educational practices to update the knowledge and practices of PHC professionals stands out, especially nurses, in order to provide a look at comprehensiveness and more qualified and safer care¹¹. A study with 97 nurses who received training shows that 88.5% of them considered performing the work with greater assertiveness, and 82.8% stated that there was an improvement in activities related to the content covered after training¹².

Thus, continuing education stands out as a necessary strategy for nurses' personal and intellectual growth as well as for changes in the work space, resulting in better performance in their activities and benefits for the service and users¹³. However, it appears that training in health services aimed at child care is still fragile and, when carried out, they do not address work's needs¹⁴⁻¹⁵.

Given the weaknesses in assistance to children and their families within the scope of PHC and evidence in the literature that implementing continuing education based on the need for the service is relevant to changing the reality of care for professionals, it is urgent to carry out an educational intervention and assess its impact on the care actions of PHC nurses, implemented in childcare consultation.

Therefore, the question was: what is the effect of an educational intervention on monitoring child growth and development in childcare consultations on the knowledge and practices of PHC nurses? How can the influence of educational activity be described from nurses' perspective in relation to their knowledge and practice?

To this end, the objective was to determine the effect and influence of an educational intervention on childcare consultation on nurses' knowledge and practice.

METHODS

The mixed research method was adopted, with the sequential explanatory design (QUAN → qual), characterized by the development of a stage with a quantitative approach, followed by a qualitative one. In this study design, qualitative data can explain contradictory or unusual quantitative findings by mixing the data, minimizing the limitations of quantitative and qualitative approaches. Therefore, by providing in-depth results, the use of the mixed method in this investigation is justified¹⁶. The criteria established by the Mixed Methods Appraisal Tool (2018 version) were met¹⁷.

The study was carried out in the Family Health Units (FHU) of a Health District (HD) in João Pessoa, Paraíba, Brazil, which has 49 family health teams. All nurses from the FHU of this HD were invited to participate in the intervention, through an invitation drawn up by the main researcher, sent to their technical coordination.

The educational activity was divided into two groups, so as not to cause crowding due to the Coronavirus Disease (COVID-19) pandemic, and had a workload of 10 hours divided into three workshops and a complementary activity for the development and completion of an exercise. The content prepared was based on literature relevant to children's health and on guidelines for children's health care.

The quantitative sample was composed of nurses who participated in at least 75% of the educational intervention, totaling 30 participants. Four were away from work during the intervention period, and the others were not present at any workshop.

According to the study's operationalization diagram (Figure 1), the quantitative data originated from nurses completing the collection instrument in two moments: first, before the educational intervention, which took place in November 2020; second, started after one month of the intervention conclusion, from January to March 2021, for those who attended at least 75% of the workshops.

In the quantitative approach of this research, the sum of the correct answers of the instrument items that make up the section dimensions that assessed nurses' knowledge (21 objective multiple-choice questions and 7 discursive ones) and practice (26 multiple choice questions and 10 discursive alternatives) was counted on aspects related to monitoring growth and development in childcare consultations before and after the workshops.

The first part of the instrument contained sample characterization data, and the second part was divided into knowledge and practice sections, with items that covered the following dimensions: consultation frequency; child nutrition; physical exam; growth assessment; assessment of neuropsychomotor development; health education; assistance to children who are victims of violence and children with special health needs (CSHCN).

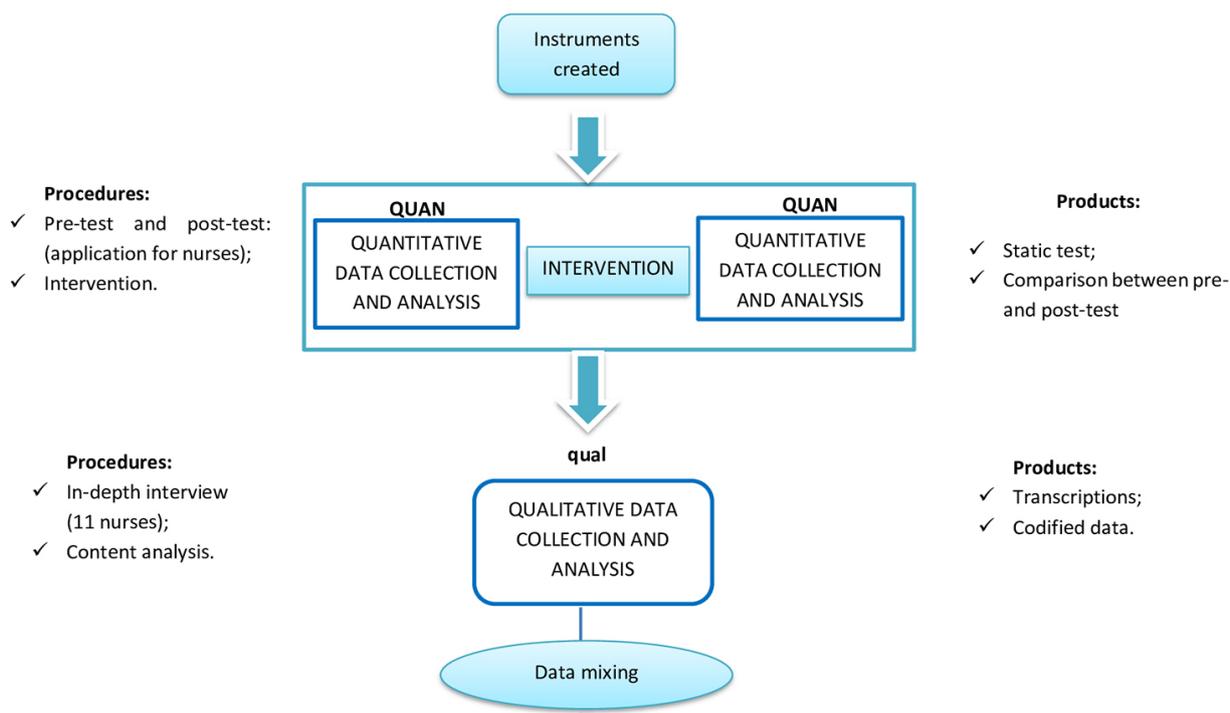


Figure 1 – Study operationalization diagram. João Pessoa, PB, Brazil, 2020.

The data collection instrument for this approach was subjected to content validity, in order to assess whether the items met the criteria of clarity, representativeness and relevance, using a Likert-type response scale to items, with a score from 1 to 4. A total of 13 judges participated in validity, in a single round, between May and July 2020. The Content Validity Index (CVI) was used, with an acceptable agreement rate among judges being standardized at at least 80% and, preferably, greater than 90¹⁸.

The instrument internal consistency was also verified by Cronbach's alpha test, in which the knowledge section presented a coefficient of 0.779 in the clarity criterion and, in the practice section, 0.973 in the relevance and representativeness criterion. For statistical analyses, Statistical Package for the Social Sciences (SPSS) version 20 was used. Descriptive analysis and inferential analysis were performed, applying the proportion test, with a significance level of 5% ($p < 0.05$) for the situation quasi-experimental pre and post-intervention.

In the qualitative approach, 11 nurses participated who were randomly selected, among those participating in the educational intervention, following the precepts of data saturation and achieving understanding of study objectives¹⁹. At this stage, nurses' perception of the intervention and its influence on the monitoring of child growth and development in nurses' knowledge and practice in childcare consultations were considered.

Qualitative data were obtained through in-depth interviews, which took place in health units. To this end, a semi-structured script was used, containing the following guiding questions: how do you assess the educational intervention on childcare consultation? How do you think it may have impacted your practice?

The interviews took place between January and March 2021, lasting an average of 20 minutes and conducted by a single interviewer. They were recorded on digital media, after agreement from interviewees and, later, transcribed in full for the analysis procedure. Participants were identified with the letter "N" for nurse, followed by the order of interviews.

The empirical material was interpreted using the principles of Minayo's thematic analysis, following the steps of data ordering, data classification and final analysis²⁰. To mix the data, the results that were statistically significant were compared with study participants' narratives.

It is worth noting that, due to the persistence of the COVID-19 pandemic in the data collection phases, all biosafety and prevention measures against the new coronavirus recommended by national and international authorities were adopted.

Subsequently, final analysis was mediated by the integration of quantitative and qualitative data, in order to determine convergences, divergences and combinations¹⁶. Such integration was presented through the joint display²¹ strategy.

The project was approved by the Research Ethics Committee under CAAE (*Certificado de Apresentação para Apreciação Ética* - Certificate of Presentation for Ethical Consideration), developed in accordance with Resolution 466/2012 of the Brazilian National Health Council, which guides the practice of research with human beings.

RESULTS

Of the 30 nurses participating in the study, 21 were up to 50 years old; 24 were trained more than ten years ago; 17 had worked at PHC for more than 11 years; the majority (21) completed some graduate course; and 15 of them reported having carried out some update involving children's health.

In the analysis of the number of correct answers for the dimensions that make up the instrument before and after the intervention (Table 1), there was a statistically significant association in the following knowledge section dimensions such as consultation frequency (<0.001), child nutrition (0.026), physical examination (<0.001) and growth assessment (0.030). In the practical section, the dimensions with statistical significance were growth assessment (0.034), development assessment (<0.001) and health education (<0.001).

Table 1 – Comparison of correct answers for each knowledge and practice section dimension before and after the intervention. João Pessoa, PB, Brazil, 2020-2021. (n=30).

Dimension	Knowledge section		p-value*	Practice section		P valor*
	Before	After		Before	After	
Consultation frequency	16	60	< 0.001	55	56	0.999
Child nutrition	32	45	0.026	53	56	0.999
Physical examination	12	37	< 0.001	49	53	0.481
Growth assessment	54	69	0.030	126	140	0.034
Development assessment	114	116	0.897	102	138	< 0.001
Health education	26	28	0.704	137	167	<0.001
Violence	25	26	0.999	6	6	0.999
CSHCN	23	28	0.184	35	37	0.856

* Value obtained through proportion test.

Chart 1 presents the mix of nurses' statements with significant quantitative results, before and after the educational intervention to answer the research question related to the proposed object of study. It appears that the qualitative findings confirmed what the greater number of correct answers in some dimensions had already identified, understanding that there was an expansion of knowledge and changes in some nurses' practices after the educational intervention.

Chart 1 – Statements from participants guided by the significant dimensions of knowledge and practice sections that make up the data collection instrument. João Pessoa, PB, Brazil, 2020-2021. (n=30).

Dimensions	Statements
Knowledge section	
Growth assessment (p=0.030)	[...] <i>the issue that I find very interesting is that sometimes we get confused and put height, but, in fact, it was length.</i> (N1) [...] <i>this monitoring of a premature baby that I had a lot of doubts about and I wanted to know about [...] I am already planning to receive a premature child. I kept thinking, "If this girl were here and I was going to help her, I would do everything wrong because I no longer remembered [...] how I would calculate her age, weight, the corrected calculation".</i> (N9)
Consultation frequency (p < 0.001)	[...] <i>in reality, I didn't make that first visit in five days, because I have a very large area and I have four uncovered areas that I don't have feedback from the health agents in those areas. So, I didn't do this five-day visit (visit in the first week of life). Now I'm trying to do it, so much so that when someone who isn't from my area arrives, I give them my private phone number so that when they have a baby, when they get home, they can contact me.</i> (N2) [...] <i>It improved in terms of me seeking more childcare patients [...] as I had a bigger deficit [...], it opened my mind more to involve my team even more, so we can do more and more childcare. Bring a child so we can see about the issue of the handbook, everything apart from the guidelines we have given to parents.</i> (N7)
Nutrition (p=0.026)	[...] <i>the issue of food was a question I had a lot. So, I thought this part was very good and it is part of growth and development.</i> (N7)
Physical examination (p< 0.001)	[...] <i>there's no point in just filling it out, just staying here on paper and not examining it, doing the clinical exam, which is very important. Sometimes I didn't do a complete clinical examination. We thought we did it, but I learned a lot [...], it's putting into practice a better clinical examination. I really sinned, I needed to improve, I needed to perfect.</i> (N1) [...] <i>I didn't know that (in the simplified physical examination) the ideal was to focus on the mother's complaint and not waste so much time on other things, paying more attention to this other side of development [...].</i> (N9)
Practice section	
Growth assessment (p=0.034)	[...] <i>the part about following the graph, which I told you, was a big difficulty, I didn't know how to do the body mass index, that was also very good. I am able to register in the medical record and in the handbook.</i> (N6) [...] <i>the issue of premature babies' graphics and calculating the newborn's corrected age was new. I learned a lot from you because we didn't do that. I knew I needed it, there was something strange, you know, [...] but it was very interesting.</i> (N10)

Chart 1 – Cont.

Dimensions	Statements
<p>Development assessment (p< 0.001)</p>	<p>[...] <i>I managed to improve my ideas on this issue</i> (how could we identify any changes in the child) [...] <i>because I had in mind that they would have very specific characteristics, you know? But then, after the training, I was able to observe that just by identifying the absence of those milestones, in one month, in another month, it already characterizes a change, be it autism or something else.</i> (N4) [...] <i>I, for example, was very doubtful about how far I could go on my own and how far I could go to the doctor or specialists.</i> [...] <i>The development table, which you said that we assess the previous ones too (development milestones), I only assessed that month, understand?</i> (N5)</p>
<p>Health education (p< 0.001)</p>	<p>[...] <i>with this training, I know how to distinguish, [...] pay more attention, listen, praise (the mother), who I praised like that, but a lot of things I learned to explain, to give guidance. Then I help, explain, show here this little book (Children's Handbook) that I use as a model [...] I ask the person to read it, paying close attention, everything is very, very useful.</i> (N6) [...] <i>the (danger signs), right?! People only know this, but with the training I became more confident in talking to the mother, because I already did that for the child's records, those... yeah... the milestones.</i> (N3) [...] <i>I never worried about providing so much information to them (mothers), I just said it was within the parameters. When it was heavier, I said it was, but explained it above, but through the questions on the test (instrument), I realized that there is a real importance of providing her with this information about what is happening in that consultation.</i> (N11)</p>

DISCUSSION

The results presented prove the positive effect of the educational intervention on nurses' knowledge and practice regarding childcare consultations; however, it is still necessary to list the methodological limitations of research. Carrying out this study with Primary Care nurses from just one district of a capital in northeastern Brazil is the main limitation, as it had implications for the generalization of results obtained. Another important point was the impossibility of longitudinal monitoring of the impact of the educational intervention on nurses' daily lives.

On the other hand, the study's contributions overcome its limitations, since the (re)construction of nurses' knowledge about childcare consultation and their new practices during this moment of care demonstrate that the intervention, in addition to raising awareness, promoted improvements in implementation of childcare based on monitoring child growth and development in the studied scenario. Furthermore, this educational intervention consists of an effective proposal to be replicated in other contexts, with all FHS team members, thus expanding the importance of the study.

Quantitative and qualitative data were in agreement regarding nurses' acquisition of new knowledge, after the educational intervention, in some dimensions addressed in the instrument, such as consultation frequency. The results show that the intervention provided greater understanding among nurses regarding the importance of children's first consultation in the first five days of life, called "5th day of comprehensive health"²², as well as the need to encourage active search for children who are absent from childcare consultations.

This finding is encouraging, as it highlights educational intervention as a possibility for tackling a notable problem in PHC, the late and discontinuous monitoring of children. In this regard, international studies prove that postnatal care did not follow the schedule recommended by health authorities²³ and that care for newborns in the first week of life is still fragile²⁴. Likewise, there is evidence of non-compliance with the consultation frequencies to monitor children's growth and development as recommended²⁵.

Another dimension that showed a statistically significant difference in nurses' knowledge after the intervention was nutrition. Despite this, in the qualitative approach, few statements were highlighted that revealed changes in nurses' knowledge in this dimension, which may indicate the little importance given by nurses to the food dimension in childcare consultation. Despite this, a study reiterated that around 42% of PHC professionals in Itupeva-São Paulo reported limitations in nutritional counseling, in addition to having reduced knowledge about nutritional counseling issues²⁶.

This is a worrying problem that deserves greater attention, because, considering that nurses are the reference professionals for infant feeding issues in PHC,²⁷ failure to comply with this dimension of care during childcare consultation may be a gap in the early identification and monitoring of critical health problems in childhood, such as malnutrition and obesity.

However, a study carried out in children's health centers in Norway that developed an educational intervention for the prevention and treatment of childhood overweight and obesity showed that, although nurses were able to identify obesity in children before the intervention, they did not have monitoring tools available²⁸. Therefore, it is understood that there are other factors in nurses' reality that can contribute to insecurity in food guidance and nutritional monitoring of children.

In addition to providing changes in nurses' knowledge, this educational intervention also provided new practices during childcare consultations. It is important to emphasize the role of continuing education in changing practice, as the study shows that updating the content discussed in educational practice resulted in more qualified and safe care offered by professionals¹¹. Quantitative and qualitative findings were convergent and showed changes in the practice of assessing children's growth and development and in the performance of health education activities by nurses in childcare after the intervention.

Regarding growth assessment, a study found that measuring weight, height and length and calculating BMI by age in PHC represent economic, effective and accurate measures, and are recommended at this level of care²⁹. The provision of health care for children must provide monitoring of growth in its entirety. Primary care professionals have the privilege of contemplating the different health realities of children and their families, which gives them the unique opportunity to include regular monitoring of child growth into their practice, in order to identify possible growth disorders in childhood at an early stage³⁰.

To this end, it is essential that professionals carry out the measurement, record and correctly interpret children's health findings in the Children's Handbook (child monitoring instrument used in Brazil). Therefore, it is believed that the improvement of growth surveillance resulting from educational intervention was a highly relevant result and a broad practical contribution of this study, as it trained nurses to monitor children's growth in the context investigated, including focusing on the care of premature babies.

This improvement was also noted in the assessment of child development carried out by nurses at childcare. This finding consolidates the reflection of a previous study that highlighted the need for training with the aim of qualifying and raising awareness of FHS nurses for development surveillance, given that few mentioned carrying out the assessment of developmental milestones and using the development classification after assessing children in childcare consultation³¹.

The implementation of educational interventions on development surveillance is essential in different regions of Brazil, as different realities highlight the fragility of this dimension of care. About this, a study that investigated 287 children from one to 24 months of age and their mothers in the municipality of Picos, Piauí, by noting that 12.7% of children assessed had suspected delays in neuropsychomotor development and 42.2% had suspected changes in socio-emotional development, reaffirmed the indispensability of continuous and quality developmental surveillance, in order to favor the timely adoption of interventions that promote the development potential of each child³².

Furthermore, the more effective implementation of health education, evidenced quantitatively, as well as the construction of a new meaning about the importance of offering guidance, the assessment of caregivers and the greater security of professionals for dialogue with caregivers during childcare were also aspects revealed in qualitative data that draw attention.

According to an Italian study carried out with pediatricians linked to primary care, health education actions are the most important in nursing practice³³. Thus, it is highlighted that improving educational activities in childcare consultations is fundamental, as it enables a more humanized and qualified approach, providing greater security for mother⁶.

Based on the above, the relevance of training for the health area is understood by problematizing professionals' work process, in order to achieve the transformation of practices and organization of work itself¹³. Furthermore, knowledge is the basis that constructs practical competence at work. Therefore, it is necessary to develop educational awareness-raising activities that combine empiricism and practical professional experience to share knowledge³⁴.

CONCLUSION

The positive effect of the educational intervention on nurses' knowledge and practice in childcare consultations was evident, mainly in consultation frequency, child feeding, physical examination, growth assessment, development assessment and health education dimensions. The incorporation of the qualitative element into the quantitative intervention study made it possible to broaden the perspective on the finding, demonstrating that nurses began to reflect on the content covered and managed to promote changes in their daily lives.

Thus, it is believed that professional qualification, through continuing education, having as its pillar the need for change in the service, can contribute to the advancement of knowledge and transformation of health professionals' practice, promoting improved care for children and their family.

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NOTES

ORIGIN OF THE ARTICLE

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CONTRIBUTION OF AUTHORITY

Study design: Vieira DS, Reichert APS.

Data collection: Vieira DS, Soares AR, Guedes ATA.

Data analysis and interpretation: Vieira DS, Soares AR, Guedes ATA.

Discussion of results: Vieira DS, Soares AR, Guedes ATA.

Writing and/or critical review of content: Vieira DS, Santos LM, Toso BRGO, Vaz EMC, Collet N, Reichert APS.

Review and final approval of the final version: Vieira DS, Soares AR, Guedes ATA, Santos LM, Toso BRGO, Vaz EMC, Collet N, Reichert APS.

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There is no conflict of interest.

EDITORS

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CORRESPONDING AUTHOR

Daniele de Souza Vieira

daniele.vieira2015@gmail.com

