

# Work of nutritionists from the Family Health Support Center in the State of Paraíba, Brazil

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## ABSTRACT

**Introduction:** Nutritional care in Primary Health Care is essential to face the problems of food and nutrition of the Brazilian population. **Objective:** To compare the performance patterns of nutritionists who are members of the Family Health Support Center in the state of Paraíba, according to training in Primary Health Care. **Methods:** A cross-sectional study was conducted with 34 nutritionists linked to the Family Health Support Center in the State of Paraíba. Information on demographic characteristics, professional qualification, labor specificities, knowledge, and use of essential bibliography for work in Primary Health Care, development of food and nutrition actions, and job satisfaction were collected. **Results:** There were deficiencies in the knowledge and use of some technical documents in the area, as well as in the development of actions related to food and nutrition surveillance (completion of SISVAN-Web/e-SUS forms/sheets and interpretation of nutritional reports), vitamin A, and iron supplementation programs and care provision (monitoring of the growth and food guidance) to beneficiaries of the Bolsa Família Program, especially among professionals without training in Primary Health Care. **Conclusion:** Nutritionists act on the actions of the food and nutrition programmatic agenda in Primary Health Care. The use of SISVAN-Web or e-SUS, activities linked to micronutrient supplementation programs, and the care provided to beneficiaries of the Bolsa Família Program were the least developed actions, particularly in the absence of training to work in Primary Health Care.

**Keywords:** Primary Health Care; Nutrition Programs and Policies; work performance.

## INTRODUCTION

This study addresses the role of the nutritionist in nutritional care, under the focus of official guidelines such as the National Food and Nutrition Policy<sup>1</sup> and the recommendations of the Matrix of Food and Nutrition Actions in Primary Health Care<sup>2</sup>. From this perspective, the National Food and Nutrition Policy favors the strengthening of nutritional care in the Brazilian Unified Health System based on the Primary Health Care (PHC) as the organizer of the actions<sup>1</sup>. In Brazil, of the 158,803 nutritionists, young graduates, 17.7% work in the area of collective health, of which 23.2% are connected by competitive examination<sup>2</sup>.

The area of Food and Nutrition has defined attributions based on public policies and interventions that have been growing and strengthening over the years<sup>3</sup>. In Brazil, these attributions should be conducted through the matrix support of the nutritionist to the

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teams of the Brazilian National Health Strategy, to increase the resoluteness of the actions of food and nutrition at the primary level of care<sup>4</sup>. However, despite the significant increase in recent years in the number of nutritionists working in PHC<sup>5</sup>, the performance of this professional in matrix support is still incipient and permeated by distortions related to their training, structure available to develop their functions, and work process<sup>3</sup>. The training of nutritionists is still fraught with difficulties, particularly in collective health, which hinders their adaptation to the requirements of the Unified Health System and the resolute performance<sup>6</sup>.

Additionally, the current food and nutritional situation of the Brazilian population expresses the coexistence of nutritional deficiencies with the increase of overweight and associated diseases that demand the strengthening of food and nutrition actions in PHC and their integration with other sectors<sup>7</sup>. The qualification of the workforce for nutritional care is considered a historical and strategic need related to the confrontation of food and nutrition problems in Brazil<sup>1</sup>. In turn, the current Brazilian National Primary Care Policy foresees the need for qualification and permanent and continuing education of the workforce for management and health care<sup>8</sup>. In this context, the National Policy on Continuing Education in Health has been faced with conceptual, management, financing, training models, infrastructure, monitoring, and evaluation weaknesses that limit its contributions to the reorganization and improvement of the quality of services provided by the Unified Health System<sup>9</sup>.

In nutritional care, the nutritionist must contribute to the planning and organization of actions in the area, acting effectively on the determinants of the nutritional status of the local population, aiming to improve the quality and resoluteness of services<sup>2</sup>. This professional is the only one qualified to perform the nutritional diagnosis of the population and, based on it, to propose adequate dietary guidelines<sup>10</sup>. Moreover, their performance as technical responsible for food and nutritional surveillance actions is recommended by Ordinance no. 2,246, of October 18, 2004<sup>11</sup>. The insertion of the nutritionist in PHC services can strengthen the knowledge of other health professionals, whose training highlights the need for improvement to act in nutritional care, and enhance the actions of food and nutrition<sup>12-14</sup>. Furthermore, it can contribute to the identification of existing problems and the resolution of repressed or inadequately addressed demands<sup>6</sup>.

The objective of this study was to compare the performance patterns of nutritionists who are members of the Family Health Support Center NASF (*Núcleo de Apoio à Saúde da Família*) in the State of Paraíba, according to the completion of training in PHC.

## METHODS

This is a cross-sectional study conducted with all 34 nutritionists of NASF in municipalities of the State of Paraíba who participated

in a State Seminar on Food and Nutrition Actions. The Seminar was an event held on December 5, 6, and 7, 2017 to discuss the implementation and monitoring of food and nutrition actions in the State, addressing several topics related to the theme: National Food and Nutrition Policy, financing of food and nutrition actions, Bolsa Família Program, Food and Nutrition Surveillance System, Amamenta e Alimenta Brasil Strategy, NutriSUS, and overweight/obesity. The study was previously planned with the organizers of the event and the information was collected before the beginning of the event.

To obtain the data, the professionals answered a structured questionnaire with closed-ended questions. Questions from four blocks of interest were addressed: demographic, training, and labor characteristics; knowledge and use of technical documents in the area of food and nutrition; food and nutrition actions developed; and job satisfaction.

Demographic characteristics included: gender, age, cohabitation with a partner, and several children. The training focused on the qualification during graduation to work with food and nutrition surveillance, food and nutrition education, food, and nutrition safety; and participation in training after graduation to work in PHC. The qualification referred to the course with curricular subjects on the themes and the training to courses with a minimum duration of 30 hours. The labor characteristics were described considering the time of employment in the current position, the link to another job, the type of employment, and the weekly workload.

The technical documents considered in relation to knowledge and use were: National Food and Nutrition Policy, Matrix of Food and Nutrition Actions in Primary Health Care, Protocols of the Food and Nutrition Surveillance System-SISVAN, Framework of Reference for Food and Nutrition Surveillance in Primary Health Care, Guidelines for Evaluation of Food Consumption Markers in Primary Health Care, Guidelines for Collection and Analysis of Anthropometric Data in Health Services: Technical Standard of the Food and Nutrition Surveillance System (SISVAN), National Strategy for the Promotion of Breastfeeding and Healthy Complementary Feeding in the Unified Health System: implementation manual, Food guide for the Brazilian population, Ten steps for healthy eating: food guide for children under two years of age: a guide for the health professional in primary care, Instructable: group work methodology for food and nutrition actions in primary care, Child health: breastfeeding and complementary feeding, Child health: growth and development, General conduct manual of the National Vitamin A Supplementation Program, National Iron Supplementation Program: conduct manual, NutriSUS - Strategy for fortification of infant feeding with micronutrients (vitamins and minerals) powder: operational manual, NutriSUS: guidelines booklet: strategy for fortification of infant feeding with micronutrients

(vitamins and minerals) in powder, Bolsa Familia in Health guidelines manual, NASF guidelines: Family Health Support Center, Family Health Support Center: tools for management and daily work, Contributions of the Family Health Support Centers for Nutritional Care.

As recommended in the Matrix of Food and Nutrition Actions in Primary Health Care<sup>2</sup>, the performance in the following nutritional care actions was questioned: diagnosis of feeding and nutrition, promotion of breastfeeding and healthy complementary feeding, promotion of healthy eating, promotion of food and nutrition security, diagnosis and identification of children at nutritional risk, completion of the Child Health Booklet, food and nutrition surveillance with the use of anthropometric data, food and nutrition surveillance with the use of food consumption data, completion of SISVAN- Web forms with anthropometric markers, completion of SISVAN-Web forms with markers of food consumption, interpretation of reports generated from SISVAN-Web, activities linked to the National Vitamin A Supplementation Program, activities linked to the National Iron Supplementation Program, nutritional care for children with malnutrition or nutritional risk, nutritional care for overweight children, nutritional care for children with specific dietary needs, growth monitoring of beneficiary children of the Bolsa Familia Program, dietary guidance directed to beneficiary families of the Bolsa Familia Program and dietary prescription.

Job satisfaction considered the following items (own elaboration): physical structure, availability of consumables, availability, and quality of anthropometric equipment, remuneration, the relationship among NASF team members, relationship with members of the healthcare teams supported by NASF, relationship with the community, link with the central level of the Municipal Health Secretariat, work procedures adopted by the team, organization of the nutritional care adopted by the members of the supported healthcare teams and of the NASF team, and contribution to society.

The collected data were organized in electronic spreadsheets. Typing was performed with double entry, in a customized database with data validation. To verify and rectify inconsistencies among the typists, the questionnaires with any problems were reviewed.

Initially, a descriptive analysis was performed with frequency measures of the variables. The Shapiro-Wilk normality test was applied. The proportions found according to participation in training to work in PHC were compared using the chi-square or Fischer's exact test, using a 5% significance level to denote the statistical difference. The software Stata version 12.0 was used.

The research project was approved by the Research Ethics Committee (protocol No. 71609317.9.0000.5187). The study participants signed the Informed Consent Form.

## RESULTS

In all, 34 nutritionists participated, of which only three were male and four were aged between 40 and 49 years. Regarding training, more than 25 professionals reported having had training during graduation to work with food and nutrition surveillance, food and nutrition education, and food and nutrition security, however, only 20 participated in training to work in PHC after graduation. According to the labor characteristics, we observed a substantial number of professionals with less than two years in their current job (n=15) and with another job (n=14). Being a permanent employee and having a weekly workload of 40 hours were referred by 13 and 12 professionals, respectively (Table 1).

The Reference Frame of Food and Nutrition Surveillance in Primary Health Care (n=12), the Instruction: methodology of group work for food and nutrition actions in primary health care (n=14), the conduct manuals of the National Vitamin A Supplementation Program and the National Iron Supplementation Program (n=10) and the guidance manual on Bolsa Família in health (n=12) were the bibliographic sources with lower frequencies of "know and use" answers, with no differences between professionals trained or not in PHC. Few nutritionists also reported knowing and using the guidance documents on NutriSUS, with a better situation among those with training in PHC, which was similar to the knowledge and use of the Technical Standard of the

**Table 1:** Demographic, training, and labor characteristics of nutritionists of Family Health Support Center in municipalities of Paraíba State, Brazil, 2017 (N=34).

Variable	n (%)
<b>Demographic characteristics</b>	
Sex	
Female	31 (91.2)
Male	3 (8.8)
Age (years)	
20 to 39	30 (88.2)
40 to 49	4 (11.8)
Marital status (with a partner)	
	17 (50.0)
Children (yes)	15 (44.1)
<b>Training characteristics<sup>a</sup></b>	
Undergraduate qualification to work in Food and Nutrition Surveillance	26 (76.5)
Undergraduate qualification to work in Food and Nutrition Education	32 (94.1)
Undergraduate qualification to work in Food and Nutrition Security	27 (70.6)
Training after graduation to work in Primary Health Care	20 (58.8)
<b>Labor Characteristics</b>	
Time of employment (two years or more)	19 (55.9)
You have another job	14 (41.2)
Bond (contestant)	13 (38.2)
Weekly workload (hours)	
40	12 (35.3)
30	11 (32.3)
20	11 (32.3)

<sup>a</sup> Qualification: undergraduate course with curricular subjects on the themes, training: participation in courses with a minimum duration of 30 hours.

Food and Nutrition Surveillance System that guides the collection and analysis of anthropometric data in health services (Table 2).

The food and nutrition actions developed by nutritionists are shown in Table 3. Most nutritionists reported performing the food and nutrition actions recommended for PHC, highlighting the practices of promoting eating habits and food and nutrition safety, as well as diagnosis and care of nutritional deviations. However, the filling of the Child Health Handbook (n=22), the interpretation of nutritional reports generated from SISVAN-Web or e-SUS (n=19), activities in the context of the vitamin A supplementation program (n=18) and iron supplementation program (n=19), and the actions directed to the beneficiaries of the Bolsa Familia Program through monitoring of children's growth (n=18) and dietary guidance (n=22) showed higher frequencies of negative answers. In the questions related to food surveillance, it is also observed greater use of anthropometric markers and less use of food consumption markers. Differences were found in the development of some food and nutrition actions, with better situations among nutritionists trained to work in PHC: filling SISVAN-Web forms or e-SUS forms with anthropometric markers (p=0.03), interpreting nutritional reports generated from SISVAN-Web or e-SUS (p=0.02), activities linked to the vitamin

A supplementation program (p=0.01) and the iron supplementation program (p=0.00), growth monitoring (p=0.04) and food orientation (p=0.03) in the context of the Bolsa Familia Program.

When asked about job satisfaction, only eight nutritionists indicated they were satisfied with the remuneration and most were not satisfied with the availability and quality of anthropometric equipment. The relationship with the community and with members of the health care teams and NASF itself was placed as a positive factor by most professionals (Table 4).

## DISCUSSION

This study described the profile and performance of nutritionists of NASF in the State of Paraíba. Regarding the demographic profile, the predominance of women and individuals aged 20-39 years in the exercise of this profession compares with the results obtained in other research<sup>15-17</sup>. Characteristics of the historical and cultural construction of the female gender, such as the social need to care and the later participation in the labor market, and the brief time of recognition of the nutritionist title may be related to the feminization of the profession and the predominance of young adults<sup>18</sup>.

**Table 2:** Knowledge and use of materials necessary for the development of food and nutrition actions by nutritionists of the Family Health Support Center, according to participation in training to work in Primary Health Care, in municipalities of the State of Paraíba, Brazil, 2017.

Materials you know and use	Total (N=34)	Training to work in PHC <sup>a</sup>		P <sup>b</sup>
		Yes (N=20)	No (N=14)	
	n (%)	n (%)	n (%)	
National Food and Nutrition Policy	25 (73.5)	16 (80.0)	9 (64.3)	0.26
Matrix of food and nutrition actions in Primary Care	17 (50.0)	12 (60.0)	5 (35.7)	0.14
Protocols of the Food and Nutrition Surveillance System	18 (52.9)	11 (55.0)	7 (50.0)	0.52
The framework of Reference for Food and Nutrition Surveillance in Primary Care	12 (35.3)	8 (40.0)	4 (28.6)	0.37
Guidelines for the Assessment of Food Consumption Markers in Primary Care	19 (55.9)	11 (55.0)	8 (57.1)	0.59
Guidelines for the collection and analysis of anthropometric data in health services: Technical Standard of the Food and Nutrition Surveillance System - SISVAN	23 (67.6)	18 (90.0)	5 (35.7)	0.00
National Strategy for the Promotion of Breastfeeding and Healthy Complementary Feeding in the Brazilian National Health System: implementation manual	20 (58.8)	14 (70.0)	6 (42.9)	0.11
Food Guide for the Brazilian Population	31 (91.2)	17 (85.0)	14 (100)	0.19
Food guide for children under two years of age	27 (79.4)	15 (75.0)	12 (85.7)	0.37
Instructional: methodology of group work for food and nutrition actions in primary care	14 (41.2)	7 (35.0)	7 (50.0)	0.30
Child health: breastfeeding and complementary feeding	30 (88.2)	19 (95.0)	11 (78.6)	0.17
Child health: growth and development	25 (73.5)	16 (80.0)	9 (64.3)	0.26
General Guidelines Manual of the National Vitamin A Supplementation Program	10 (29.4)	7 (35.0)	3 (21.4)	0.32
National Iron Supplementation Program: conduct manual	10 (29.4)	7 (35.0)	3 (21.4)	0.32
NutriSUS - Strategy for fortification of children's food with micronutrients (vitamins and minerals) in powder form: an operational manual	15 (44.1)	14 (70.0)	1 (7.1)	0.00
NutriSUS: Guideline Booklet: Fortification Strategy for Infant Nutrition with Micronutrients (Vitamins and Minerals) in Powder form	12 (35.3)	10 (50.0)	2 (14.3)	0.03
Orientation Manual for the Bolsa Familia Program in Health	12 (35.3)	9 (45.0)	3 (21.4)	0.14
NASF Guidelines: Family Health Support Center	33 (97.1)	19 (95.0)	14 (100)	0.58
Family Health Support Center: Tools for management and daily work	29 (85.3)	17 (85.0)	12 (85.7)	0.67
Contributions of the Family Health Support Centers for Nutritional Care	26 (76.5)	15 (75.0)	11 (78.6)	0.57

PHC: Primary Health Care.

<sup>a</sup> Participation in courses with a minimum duration of 30 hours

<sup>b</sup> chi-square or Fischer's exact test.

**Table 3:** Food and nutrition actions developed by nutritionists of the Family Health Support Center, according to participation in training to work in Primary Health Care, in municipalities of the State of Paraíba, Brazil, 2017.

Actions taken	Total (N=34) n (%)	Training to work in PHC <sup>a</sup>		p <sup>b</sup>
		Yes (N=20) n (%)	No (N=14) n (%)	
		Food and nutrition diagnosis with identification of vulnerable areas and risk groups	31 (91.2)	
Encouraging, supporting, and protecting breastfeeding and healthy complementary feeding	32 (94.1)	19 (95.0)	13 (92.9)	0.66
Promotion of healthy eating	33 (97.1)	19 (95.0)	14 (100)	0.58
Promotion of food and nutritional security	31 (91.2)	19 (95.0)	12 (85.7)	0.36
Diagnosis and identification of children at nutritional risk	31 (91.2)	18 (90.0)	13 (92.9)	0.63
Completing the Child's Health Booklet	12 (35.3)	9 (45.0)	3 (21.4)	0.14
Food and nutrition surveillance using anthropometric data	30 (88.2)	18 (90.0)	12 (85.7)	0.55
Food and nutrition surveillance using food consumption data	25 (73.5)	14 (70.0)	11 (78.6)	0.44
Filling out SISVAN-Web forms or e-SUS forms with anthropometric markers	26 (76.5)	18 (90.0)	8 (57.1)	0.03
Filling out SISVAN-Web forms or e-SUS forms with markers of food consumption	16 (47.1)	11 (55.0)	5 (35.7)	0.22
Interpretation of nutritional reports generated from SISVAN-Web or e-SUS	15 (44.1)	12 (60.0)	3 (21.4)	0.02
Activities linked to the National Vitamin A Supplementation Program	16 (47.1)	13 (65.0)	3 (21.4)	0.01
Activities linked to the National Iron Supplementation Program	15 (44.1)	13 (65.0)	2 (14.3)	0.00
Nutritional care for children with malnutrition or nutritional risk	31 (91.2)	19 (95.0)	12 (85.7)	0.36
Nutritional care for overweight children	32 (94.1)	19 (95.0)	13 (92.9)	0.66
Nutritional care for children with specific dietary needs	30 (88.2)	18 (90.0)	12 (85.7)	0.55
Monitoring the growth of children benefited by the Bolsa Família Program	16 (47.1)	12 (60.0)	4 (28.6)	0.04
Food orientation for beneficiary families of the Bolsa Família Program	12 (35.3)	10	2 (14.3)	0.03
Dietary prescription	31 (91.2)	18 (90.0)	13 (92.9)	0.63

PHC: Primary Health Care.

<sup>a</sup> Participation in courses with a minimum duration of 30 hours<sup>b</sup> chi-square or Fischer's exact test.**Table 4:** Satisfaction with the work of nutritionists of the Family Health Support Center, according to participation in training to work in Primary Health Care, in municipalities of the State of Paraíba, 2017.

Job Satisfaction	Total (N=34) n (%)	Training to work in PHC <sup>a</sup>		p <sup>b</sup>
		Yes (N=20) n (%)	No (N=14) n (%)	
		Physical structure	18 (52.9)	
Availability of consumables	19 (55.9)	11 (55.0)	8 (57.1)	0.59
Availability and quality of anthropometric equipment	16 (47.1)	10 (50.0)	6 (42.9)	0.47
Remuneration	8 (23.5)	4 (20.0)	4 (28.6)	0.42
Relationship between the members of the Family Health Support Center team	29 (85.3)	15 (75.0)	14 (100)	0.05
Relationship with members of the health teams supported by the Family Health Support Center	32 (94.1)	19 (95.0)	13 (92.9)	0.66
Relationship with the community	32 (94.1)	20 (100)	12 (85.7)	0.16
Link to the central level of the Municipal Health Secretariat	26 (76.5)	13 (65.0)	13 (92.9)	0.06
Work procedures adopted by the team	25 (73.5)	15 (75.0)	10 (71.4)	0.56
Organization of the nutritional care adopted by the members of the supported health teams and the Family Health Support Center team	22 (64.7)	13 (65.0)	9 (64.3)	0.62
Contribution to society	29 (85.3)	17 (85.0)	12 (85.7)	0.67

PHC: Primary Health Care.

<sup>a</sup> Participation in courses with a minimum duration of 30 hours<sup>b</sup> chi-square or Fischer's exact test.

When training nutritionists, it is important to consider the needs of the population, especially from a social and health point of view<sup>19</sup>. In this sense, NASF, through the insertion of the nutritionist, should be concerned with integrating food and nutrition into the health sector, considering the different components of food and nutritional security<sup>10</sup>. As established as the competence of the nutritionist to perform actions of nutritional diagnosis and

food and nutrition education<sup>10</sup>, the professionals in this study mostly expressed having received undergraduate training to work with food and nutrition safety, food and nutrition surveillance, and food and nutrition education. The perception of these professionals coincides with the profile of the disciplines in collective health of the Nutrition courses in Brazil, except for the area of food and nutritional safety, which is insufficiently addressed<sup>20,21</sup>.

This asymmetry may derive from the predominant biological model in the training of nutritionists, which reflects a gap in the understanding of the determinants of the health-disease process<sup>21</sup> or from different conceptions of the concept of food and nutritional security, with a more human and social or technicist view, which implies in the training of professionals with different skills and abilities<sup>22,23</sup>. Proposals for curricular reforms have been undertaken in several countries to minimize these challenges<sup>24,25</sup>, as well as some experiences in Brazil<sup>26</sup>. In the specific context of this work, it seems necessary to direct the curricula toward the development of skills and competencies linked to the guarantee of the human right to food for the population, from the perspective of food and nutritional security, given that NASFs are located in peripheral and vulnerable areas.

The lack of training to work in PHC reported by some of the nutritionists in the current study coincides with previous results in other locations in Brazil<sup>16,17,27</sup>. In these studies, it was also possible to portray, as in the present, instability and temporary contracts that often lead to the need for another job, which may hinder the processes of continuing education and work qualification for PHC. It is worth highlighting, now, the importance of the Matrix of Food and Nutrition Actions in Primary Health Care as a reference of actions, competencies, and skills for the training of nutritionists prepared to work in PHC and especially in the Family Health Strategy<sup>10</sup>.

Regarding the knowledge and use of bibliographic sources in the area of nutrition, this study showed deficiencies that were also observed in another research scenario<sup>17</sup>. Besides being able to hinder the development of the actions recommended in the Matrix of Food and Nutrition Actions in Primary Health Care, the correct diagnosis of nutritional status and the identification of risks associated with nutritional deviations, the lack of knowledge and devaluation of these instruments may incur in problems of standardization and systematization of care with possible losses in the quality and effectiveness of assistance<sup>10,17,28</sup>, namely in strategic actions such as the National Vitamin A, Supplementation Program, the National Iron Supplementation Program, the Fortification Strategy for Infant Feeding with Powdered Micronutrients, the Bolsa Família Program, and the Food and Nutrition Surveillance System, if the specific results of the current study are considered.

About the food and nutrition actions developed, it was observed the involvement of professionals with most of them, both at the level of assistance and health promotion, shows the importance of the nutritionist for the development of activities inherent to them and the coexistence of the biomedical model with the health surveillance model in their practices, as found in other studies<sup>13,15,17</sup>. However, a considerable amount of professionals responded that they were not involved with the filling out of the Child Health Handbook, the Food and Nutrition Surveillance System, the micronutrient supplementation programs, and the

Bolsa Família Program, which, in addition to corresponding with the findings of this same research regarding the knowledge and use of technical documents in the area, reinforces the results of previous evaluations that showed deficiencies in the development of these actions<sup>29-32</sup>. It is noteworthy that the neglect of priorities established in the programmatic agenda of PHC in food and nutrition can bring losses in the organization of nutritional care of children and adherence by the population, suggesting the essentiality of training and motivation of professionals in this direction<sup>7,17</sup>, as shown by the findings presented here about the better performance of nutritionists with training in PHC in the actions that showed lower frequencies of performance.

The importance of the qualification of human resources in family health and meeting the demands of the Unified Health System was shown in a pioneering study focused on the work process of PHC oral health teams. The researchers pointed out several benefits of the training in family health in professional performance as the sharing and organization of the work agenda, the use of protocols for the definition of priority actions, and the treatment and return of users<sup>33</sup>. In turn, an intervention with nursing professionals and community health agents pointed out that the training in nutritional counseling contributed to the expansion of knowledge and qualification of PHC professionals in the area of nutrition, discussing its applicability conditioned to the involvement of managers and the reorganization of services<sup>34</sup>. These findings contribute to the understanding of those presented in the current research by highlighting the contribution of PHC training for the implementation of actions such as filling out SISVAN-Web/e-SUS forms/files, activities of vitamin A and iron supplementation programs, and growth monitoring and dietary guidance in the context of the Bolsa Família Program. Structural problems in basic health units to anthropometric equipment found in other studies<sup>13,17</sup> and a systematic review of the literature on growth surveillance in the basic health network in the country<sup>28</sup> coincide with the results of this research according to the analysis of the professionals' satisfaction. The lack of such equipment may hinder the development, training, and skills of health professionals in anthropometry, with possible damage to the diagnosis of the nutritional status of children<sup>27,28</sup>. In line with the association recorded in this research between the lack of training in PHC and dissatisfaction regarding the physical structure of work, a previous study pointed out that having a "specialty in the area of PHC" and "offer of continuing education" raised the evaluation of the quality of health services according to the perception of health professionals<sup>35</sup>.

Satisfaction with human relations, as observed among the nutritionists of this and another study<sup>17</sup>, can generate commitment and co-responsibility<sup>17</sup>. However, dissatisfaction with remuneration expressed by the professionals in this research compromises professional fulfillment, as argued in a previous publication with similar results<sup>36</sup>.

This study, by contemplating only the responses of the professionals themselves, may have implied information bias. However, the data were collected in an active, standardized manner, through the application of a questionnaire, preventing loss of information. Furthermore, there were no refusals to participate. To the best of the authors' knowledge, this is the first survey in Brazil that addresses the training and performance of nutritionists with statewide coverage, thus providing unprecedented results.

It is concluded that the nutritionists inserted in NASF teams work in actions of the food and nutrition programmatic agenda

in PHC, including health promotion and disease prevention practices. The use of SISVAN-Web or e-SUS (filling forms/files and interpretation of nutritional reports), activities related to micro-nutrient supplementation programs, and the attention (growth monitoring and dietary guidance) provided to beneficiaries of the Bolsa Família Program were the least developed actions, especially among the nutritionists who were not trained to work in PHC. By pointing out weaknesses that need to be overcome, these findings can help in the organization and management of the matricial of food and nutrition actions in the context of NASF in PHC.

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