

Structure and work process for food and nutrition actions in Primary Health Care in Brazil, 2014*

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Abstract

Objective: To evaluate the conditions of structure and work process for food and nutrition actions in Primary Health Care in Brazil. **Methods:** This was a cross-sectional study with secondary data from the Program for Primary Health Care Access and Quality Improvement. The proportions of Primary Health Care Center (PHCC) and health team adequacy were described according to organizational variables, using prevalence ratios and Poisson regression. **Results:** 19,793 PHCCs and 24,549 teams were analyzed; 35.0% (n=6,928) of PHCCs were considered adequate in relation to structure and 7.9% (n=1,934) of the teams had adequate work process. Standing out in the analyses of association are PHCCs in the Southern region (44.7%) and teams in the Southeastern region (10.9%), in addition to municipalities with more than 300,000 inhabitants. **Conclusion:** The PHCCs and teams analyzed presented a low proportion of adequacy for structure and work process for food and nutrition actions.

Keywords: Structure of Services; Primary Health Care; Nutrition Programs and Policies; Cross-Sectional Studies.

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Introduction

Inadequate food intake is a risk factor for health conditions that result in greater morbidity and mortality, such as noncommunicable chronic diseases.^{1,2} This scenario is also characterized by coexistence of unresolved acute health conditions, such as malnutrition, infectious diseases and nutritional deficiencies, with iron deficiency anemia being one of the most prevalent.³ As such, a unified agenda for food and nutrition actions is an important challenge for the Brazilian National Health System (SUS), principally in Primary Health Care (PHC).⁴

PHC is recognized as the ideal setting for undertaking food and nutrition actions, even in countries that do not have health care models based on primary health care organization, or universal coverage. Community-based care has been identified as the most effective space for promoting adequate and healthy eating habits, as well as for preventing noncommunicable chronic diseases and nutritional disorders.^{4,5}

A unified agenda for food and nutrition actions is an important challenge for the Brazilian National Health System, principally in Primary Health Care.

The purpose of organizing nutrition actions in PHC is to improve the population's food intake conditions, through strategies that promote (i) adequate eating habits, organize (ii) the health work process for comprehensive care, and implement (iii) continuous monitoring of food and nutrition status, including nutritional risk classification, prevention and control of health conditions associated with eating habits, in all cycles of life.^{4,5}

PHC capillarity and the expansion of multi-professional health teams have contributed to increased access to health services, which also depends on the continuing qualification of team work process and primary health care center (PHCC) structure. PHCCs are essential for the structuring of a comprehensive care model, based on territorial planning around factors that are determinants of health, in accordance with the demographic and epidemiological profile of the population within their catchment areas, using risk stratification for the functioning of networked systems.^{6,7}

Identified as one of the challenges for consolidating food and nutrition actions in PHC, the Food and Nutrition Surveillance System needs adequate structure and work process conditions to develop, monitor and carry out expected control over the current epidemiological situation in each place in the country.^{7,8} Systematic procedures for inputting data onto information systems, implementation of programs to address micronutrient deficiencies, promotion of healthy eating and prevention of chronic diseases with care focusing on obesity, are actions to be carried out as part of the work process of PHC teams.⁸⁻¹⁰

Brazil has adopted measures for evaluating the conditions of PHC access and quality, by means of incentive programs such as the Program for Primary Health Care Access and Quality Improvement (PMAQ-AB), carried out by the Ministry of Health. The second cycle of PMAQ-AB, which took place between 2013 and 2014, evaluated 30,523 health teams and 24,055 PHCCs.¹¹

The objective of this study was to evaluate the structure and work process conditions for the development of food and nutrition actions by PHC Centers and teams taking part in the second PMAQ-AB cycle in Brazil.

Methods

This was a cross-sectional study using PMAQ-AB data available on the website of the Ministry of Health's Primary Care Department.

PMAQ-AB was an incentive policy, implemented with effect from 2011, which increased federal funding transfers to participating municipalities in return for compliance with quality standards defined for PHC management and health care processes.¹¹ The program had four stages: adherence and agreement setting; development; external evaluation; agreement resetting. External evaluation was the stage in which data were collected on PHCCs and health teams all over the country.¹¹

This study's inclusion criteria considered health teams and health centers with all information available in PMAQ-AB Modules I and II, located in municipalities that had adhered to the program with at least 80% of the total of their teams registered with the National Health Establishment Registry, in order to avoid team selection bias.

The primary outcome of the study was PHCC structure adequacy and health team work process adequacy (adequate; inadequate). Variables were included relating to PHCC structure, work process and organizational characteristics:

- a) Structure adequacy
 - Adult anthropometric weighing scales, up to 150kg or 200kg (yes; no);
 - Infant weighing scales (yes; no);
 - Anthropometric ruler (yes; no);
 - Health Handbook, child and expectant mother (yes; no);
 - Tape measure (yes; no);
 - Oral rehydration salts (yes; no);
 - Ferrous sulfate (yes; no);
 - Folic acid (yes; no).
- b) Work process adequacy
 - Use of information recording system (yes; no);
 - Provision of actions and consultations for obese service users (yes; no);
 - Use of protocol for stratification of risk for growth and development of under-two-year-olds (yes; no);
 - Scheduling of actions in accordance with classified risk (yes; no);
 - Records held of obese service users referred to other points of care (yes; no);
 - Active tracing of developing children under 2 years old (yes; no);
 - Active tracing of low-weight children under 2 years old (yes; no);
 - Provision of tests via the service network, such as creatinine, lipid profile, glycated hemoglobin, hematocrit and hemoglobin tests (yes; no);
 - Food and nutrition surveillance actions carried out (yes; no);
 - Monitoring of maternal breastfeeding and healthy complementary feeding indices (yes; no);
 - Knowledge of the Brazilian Standard on the Trading of Foods for Breastfed Infants and Toddlers (yes; no);
 - Measurement of weight and height of children under two years old, expectant mothers, adults with diabetes *mellitus* and hypertension, service users receiving care at the health center (yes; no);
 - Provision of education and health promotion actions about healthy eating and maternal breast feeding (yes; no);
 - Physical activity actions carried out at the PHCC (yes; no).

c) Independent variables

- PHCC with complete minimum teams (yes; no) based on adequacy of the number of health teams and number of health workers available;
- Oral Health team support (yes; no);
- Nutritionist support (yes; no);
- Family Health Support Group support (yes; no);
- Population without coverage in the PHCC catchment area (yes; no).

The following variables were also added: 'region' of Brazil (Northeast, North, Midwest, Southeast and South) and 'municipality size' (inhabitants: up to 10,000; 10,001 to 30,000; 30,001 to 100,000; 100,001 to 300,000; over 300,000).

The analysis of PHCC structure considered availability of materials and supplies based on PMAQ-AB Module I, while the analysis of work process considered positive answers given by health teams to the variables contained in PMAQ Module II. PHCCs and health teams were considered to be adequate when they had 100% of the items analyzed.

Apart from PMAQ-AB data on structure and work process, the following were also used: National Health Establishment Registry data, to find out the number of teams in each municipality and calculate percentage adherence as an inclusion criterion; and Brazilian Institute of Geography and Statistics (IBGE) data, for classifying the region of the country and the number of inhabitants. 2014 was selected as the reference year for all data collection because it was the year in which PMAQ-AB data collection ended and because it enabled temporal correspondence between the different databases.

Structure adequacy and work process adequacy according to organizational characteristics were estimated based on prevalence and 95% confidence intervals (95%CI) in the descriptive analysis, and based on prevalence ratios (PR) and 95%CI in the crude and adjusted analyses using Poisson regression and p-values obtained through the Wald test.

Potential confounding factors were controlled with Poisson regression, which is indicated for cross-sectional studies with outcome variable prevalence greater than 20%.¹² The independent variables were added to the model in an incremental manner, according to their statistical significance, and were kept in the analysis if they continued to be statistically significant ($p < 0.05$). When analyzing

work process adequacy, the 'structure adequacy' variable (inadequate; adequate) was included as an independent variable in both the crude and the adjusted models. The data were processed using Microsoft Office Excel® (Microsoft Corporation, United States) and transferred to Stata® 12.0 (Stata Corporation, College Station, TX, United States).

The data were retrieved from several different sources of information and were gathered from the respective websites in .csv format and subsequently converted into Excel® files. They were grouped together into two different databases, one for analyzing PHCC structure and the other for analyzing work process. The IBGE municipality code was the variable used for matching the database records. Data cleansing was performed on data classified as having missing values or in the case of data errors identified as having inexistent PMAQ-AB data dictionary numbering, as per Ministry of Health microdata.¹¹

The study project was approved by the Federal University of Santa Catarina Human Research Ethics Committee: Opinion No. 2.047.153, issued on August 28th 2017; Certificate of Submission for Ethical Approval No. 63164416.5.0000.0121.

Results

The sample analyzed by this study covered 19,793 health centers and 24,549 health teams, distributed over 3,903 municipalities in 26 of Brazil's 27 states. Only health teams and health centers located in the Federal District were not included in the sample as health team adherence to PMAQ there was only 46%.

Of the PHCCs analyzed throughout the entire country, 35% were considered to be adequate with regard to the structure available for food and nutrition actions (n=6,928). PHCCs located in the Southern region (44.7%), those in municipalities with more than 300,000 inhab. (42.1%), those with Oral Health teams (36.2%), those that had nutritionist support (39.2%) and Family Health Support Group support (37.7%) had better structure adequacy (Table 1).

With regard to health teams, 7.9% (n=1,934) were considered to be adequate with regard to their work process for food and nutrition actions. Standing out among these teams were those in the Southeast region (10.9%), those in municipalities with more than 300,000 inhab. (12.9%), those with nutritionist

support (10.2%) and those with Family Health Support Group support (9.6%) (Table 1).

Figure 1 shows availability of materials for food and nutrition action structure in PHCCs. None of the items analyzed achieved 100% availability in the country's public health centers. Those with higher frequency were: tape measure (96.6%); adult weighing scales (95.7%) and infant weighing scales (92.9%). The least available items were the Child Health Booklet (71.4%), oral rehydration salts (87.0%) and anthropometric ruler (88.9%) (Figure 1).

Of the 21 food and nutrition actions analyzed in relation to health team work process, eight were carried out by more than 90% of the teams (Figure 2). Standing out among these eight actions were provision of laboratory tests via the service network, ranging from 92.1% to 97.5%, and measurement of the weight and height of pregnant women and children under 2 years old (95.9%). Recording of obese service users referred to other points of care in the health care network was carried out by 39% of the teams, while scheduling actions according to risk stratification was the least frequent action among the health teams analyzed (35.8%) (Figure 2).

The states of Pernambuco, Ceará and Santa Catarina had the highest frequencies of PHCCs with adequate structure: 53.2%, 49.3% and 49.2%, respectively. With regard to work process adequacy, the teams of the states of Ceará (15.8%), São Paulo (14.8%) and Rio de Janeiro (10.4%) stood out. None of the teams evaluated in the states of Acre, Rondônia and Amapá had work processes for food and nutrition actions (Figure 3).

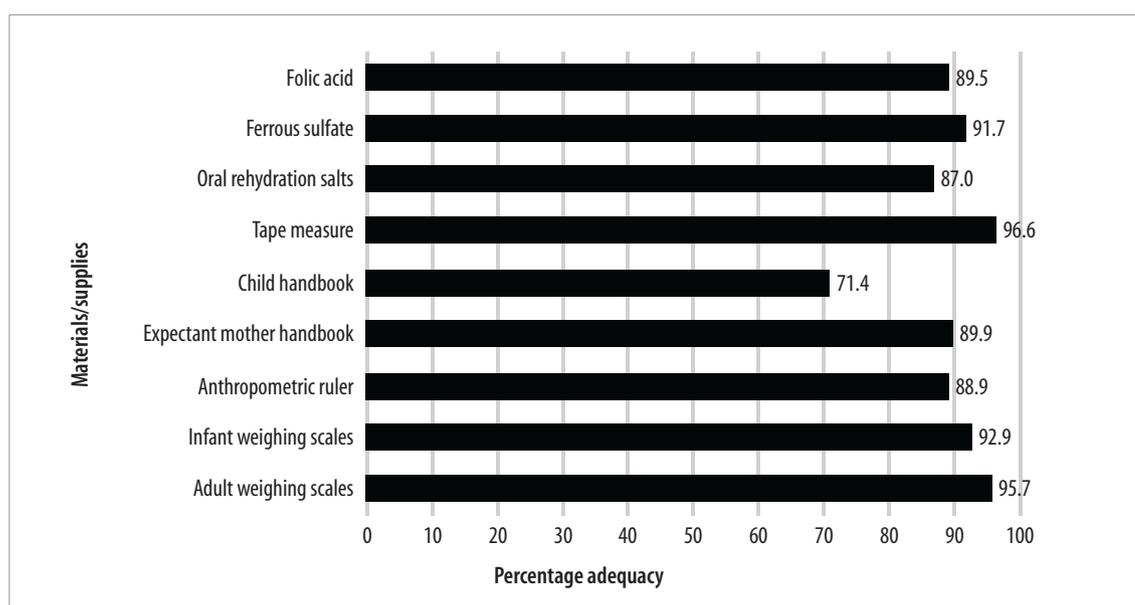
Table 2 shows the crude and adjusted analyses for association between organizational characteristics and structure adequacy and work process adequacy. The Southern region was twice as likely to have adequate structure for food and nutrition actions (PR=2.00 – 95%CI 1.79;2.24), followed by of Northeastern region PHCCs with highest frequency (PR=1.76 – 95%CI 1.53;2.02), when compared Northern region PHCCs (Table 2).

Structure adequacy was 24% higher in PHCCs located in municipalities with more than 300,000 inhabitants (PR=1.24 – 95%CI 1.16;1.32), that had Oral Health team support (PR=1.19 – 95%CI 1.13;1.26), nutritionist support (PR=1.25 – 95%CI 1.20;1.30) and Family Health Support Group support (PR=1.20 – 95%CI 1.15;1.24) (Table 2).

Table 1 – Distribution of primary health care centers and health teams participating in the external evaluation of the 2nd PMAQ-AB cycle,^a Brazil, 2014

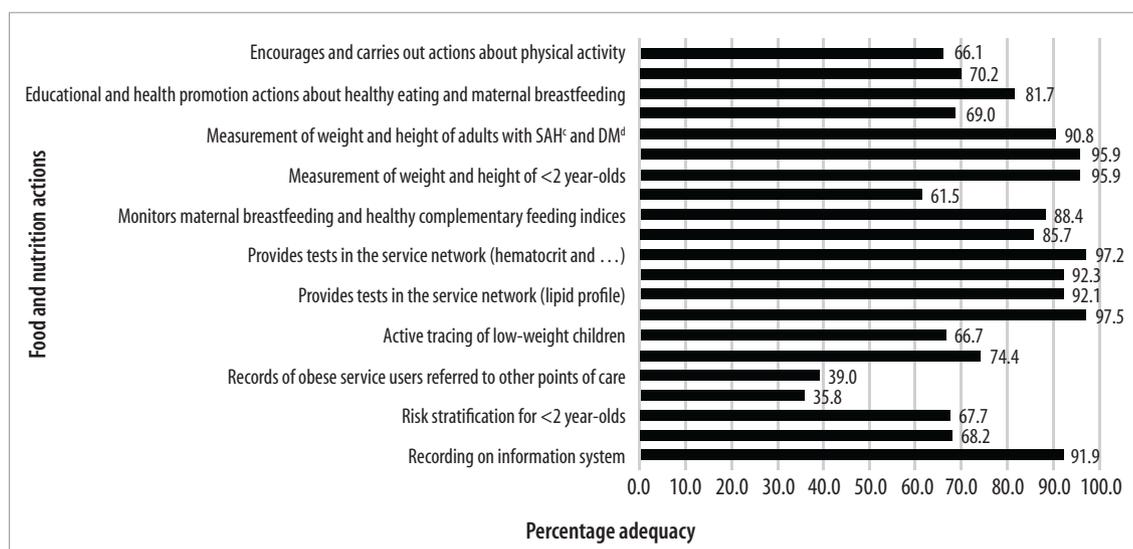
Variables	Primary Health Care Centers			Health Teams		
	Total n (%)	Adequate structure n	% (95%CI ^b)	Total n (%)	Adequate work process n	% (95%CI ^b)
Brazil	19,793 (100.0)	6,928	35.0 (34.3;35.7)	24,549 (100.0)	1,934	7.9 (7.5;8.2)
Region						
North	1,207 (6.1)	269	22.3 (20.0;24.7)	1,519 (6.2)	47	4.0 (2.3;4.1)
Northeast	7,845 (39.6)	3,019	38.5 (37.4;39.6)	8,573 (34.9)	555	6.5 (6.0;7.0)
Southeast	5,967 (30.2)	1,837	30.8 (29.6;32.0)	8,606 (35.1)	939	10.9 (10.3;11.6)
South	3,105 (15.7)	1,387	44.7 (42.9;46.4)	3,882 (15.8)	304	7.8 (7.0;8.7)
Midwest	1,669 (8.4)	416	24.9 (22.9;27.1)	1,969 (8.0)	89	4.5 (3.7;5.5)
Municipality size (inhabitants)						
Up to 10,000	3,280 (16.6)	1,114	34.0 (32.4;35.6)	3,664 (14.9)	202	5.5 (4.8;6.3)
10,001-30,000	6,833 (34.5)	2,154	31.5 (30.4;32.6)	7,222 (29.4)	431	6.0 (5.4;6.5)
30,001-100,000	4,983 (25.2)	1,763	35.4 (34.1;36.7)	5,439 (22.2)	367	6.8 (6.1;7.4)
100,001-300,000	2,276 (11.5)	878	38.6 (36.6;40.6)	3,010 (12.3)	260	8.6 (7.7;9.6)
Over 300,000	2,421 (12.2)	1,019	42.1 (40.1;44.1)	5,214 (21.4)	674	12.9 (12.0;13.9)
Oral Health Team						
No	4,106 (20.7)	1,246	30.4 (29.0;31.8)	8,131 (33.1)	710	8.7 (8.1;9.4)
Yes	15,687 (79.3)	5,682	36.2 (35.5;37.0)	16,418 (66.9)	1,224	7.5 (7.1;7.9)
Complete minimum teams						
No	3,815 (19.3)	1,317	34.5 (33.0;36.0)	— ^c	— ^c	— ^c
Yes	15,978 (80.7)	5,611	35.1 (34.4;35.9)			
Nutritionist						
No	10,637 (53.7)	3,339	31.4 (30.5;32.3)	12,737 (51.9)	724	5.7 (5.3;6.1)
Yes	9,156 (46.3)	3,589	39.2 (38.2;40.2)	11,812 (48.1)	1,210	10.2 (9.7;10.8)
Family Health Support Group						
No	8,501 (43.0)	2,675	31.5 (30.5;32.5)	10,053 (40.9)	549	5.5 (5.0;5.9)
Yes	11,292 (57.0)	4,253	37.7 (36.8;38.6)	14,496 (59.1)	1,385	9.6 (9.1;10.0)
Population without coverage in the catchment area						
Yes	5,871 (33.9)	1,894	32.3 (31.1;33.5)	7,443 (34.1)	450	6.1 (5.5;6.6)
No	11,433 (66.1)	4,433	38.8 (37.9;39.7)	14,352 (65.9)	1,426	9.9 (9.4;10.4)

a) PMAQ-AB: Program for Primary Health Care Access and Quality Improvement; b) 95%CI: 95% confidence interval; c) Information not available for classifying teams in Module II of the 2nd PMAQ-AB cycle.



a) PHCC: primary health care center; b) PMAQ-AB: Program for Primary Health Care Access and Quality Improvement.

Figure 1 – Percentage distribution of availability of supplies/equipment comprising the structure for food and nutrition actions in PHCCs,^a as per the 2nd PMAQ-AB cycle,^b Brazil, 2014



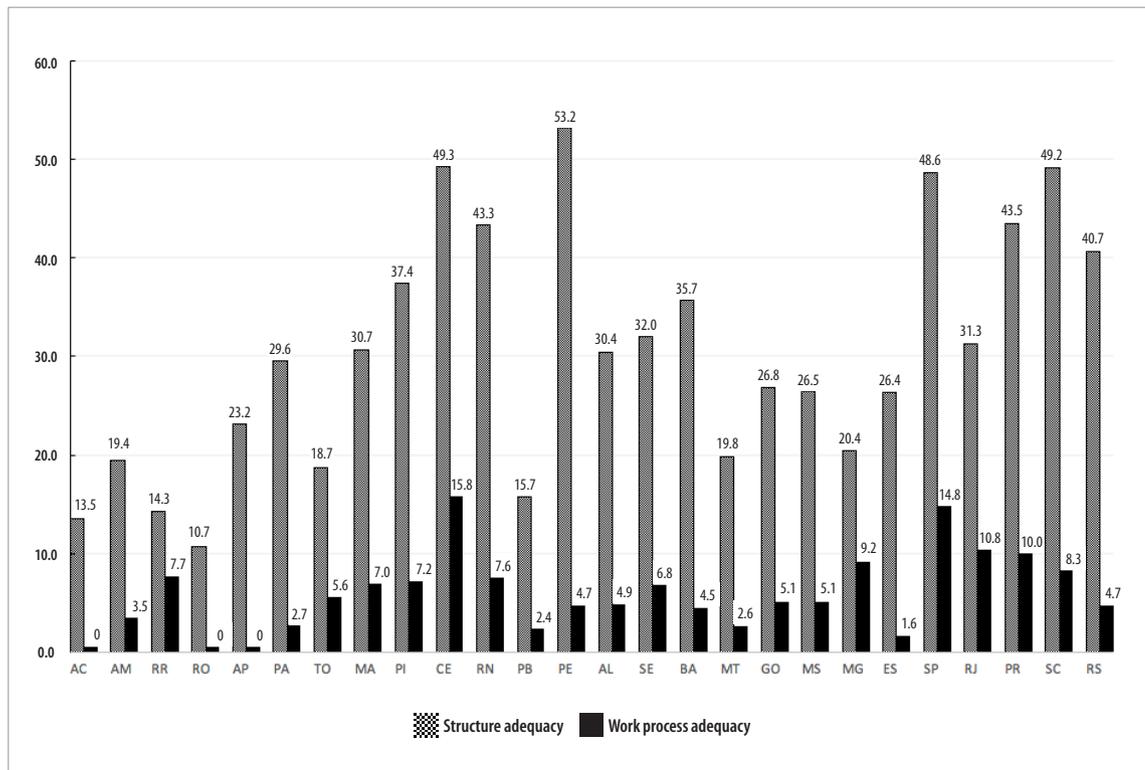
a) PHCC: primary health care center; b) PMAQ-AB: Program for Primary Health Care Access and Quality Improvement; c) SAH: systemic arterial hypertension; d) DM: diabetes mellitus.

Figure 2 Percentage distribution of food and nutrition actions comprising the work process of PHCC^a teams in Primary Health Care, as per the 2nd PMAQ-AB cycle,^b Brazil, 2014

Table 2 – Crude and adjusted analysis of structure adequacy and work process adequacy for food and nutrition actions in Primary Health Care, as per the 2nd PMAQ-AB cycle,^a Brazil, 2014

Variables	Structure adequacy				Work process adequacy			
	PR ^b (95%CI ^c) crude	p-value ^d	PR ^b (95%CI ^c) adjusted ¹	p ^d	PR ^b (95%CI ^c) crude	p ^d	PR ^b (95%CI ^c) adjusted ¹	p-value ^d
Region								
North	1.00	<0.001	1.00	<0.001	1.00	<0.001	1.00	<0.001
Northeast	1.72 (1.55;1.93)		1.76 (1.53;2.02)		2.09 (1.56;2.80)		1.48 (1.10;2.01)	
Southeast	1.38 (1.25;1.55)		1.31 (1.14;1.51)		3.53 (2.64;4.70)		2.08 (1.54;2.80)	
South	2.00 (1.79;2.24)		1.91 (1.65;2.20)		2.53 (1.87;3.42)		1.61 (1.18;2.20)	
Midwest	1.12 (0.98;1.28)		1.15 (0.97;1.36)		1.46 (1.03;2.07)		1.28 (0.89;1.82)	
Municipality size (inhabitants)								
Up to 10,000	1.00	<0.001	1.00		1.00	<0.001	1.00	
10,001-30,000	0.93 (0.87;0.98)		0.91 (0.84;0.98)		1.08 (0.92;1.27)		1.15 (0.96;1.37)	
30,001-100,000	1.04 (0.98;1.11)		1.04 (0.95;1.13)		1.22 (1.04;1.45)		1.21 (1.01;1.46)	
100,001-300,000	1.14 (1.06;1.22)		1.19 (1.08;1.31)		1.57 (1.31;1.87)		1.48 (1.22;1.81)	
Over 300,000	1.24 (1.16;1.32)		1.29 (1.18;1.41)		2.34 (2.02;5.73)		1.75 (1.46;2.09)	
Oral Health Team								
No	1.00	<0.001	1.00		1.00	<0.001	1.00	
Yes	1.19 (1.13;1.26)		1.18 (1.10;1.26)		0.85 (0.78;0.93)		1.07 (0.97;1.19)	
Complete minimum teams								
No	1.00	0.489	–		– ^d		– ^d	
Yes	1.02 (0.97;1.07)							
Nutritionist								
No	1.00	<0.001	1.00		1.00	<0.001	1.00	
Yes	1.25 (1.20;1.30)		1.13 (1.06;1.20)		1.80 (1.64;1.97)		1.31 (1.17;1.47)	
Family Health Support Team								
No	1.00	<0.001	1.00		1.00	<0.001	1.00	
Yes	1.20 (1.15;1.24)		1.03 (0.97;1.10)		1.75 (1.59;1.92)		1.22 (1.07;1.38)	
Population without coverage in the catchment area								
Yes	1.00	<0.001	1.00		1.00	<0.001	1.00	
No	1.20 (1.15;1.26)		1.19 (1.13;1.26)		1.64 (1.48;1.82)		1.52 (1.36;1.69)	
Structure adequacy								
Inadequate	–	–	–		1.00	<0.001	1.00	
Adequate					2.09 (1.92;2.28)		1.70 (1.55;1.87)	

a) PMAQ-AB: Program for Primary Health Care Access and Quality Improvement; b) PR: prevalence ratio; c) 95%CI: 95% confidence interval; d) Wald's test. Nota: The number of health workers needed to classify health teams as being complete was not available in Module II of the 2nd PMAQ-AB cycle.



a) PMAQ-AB: Program for Primary Health Care Access and Quality Improvement.

Figure 3 – Percentage of primary health care centers and health teams with adequate structure and work process for food and nutrition actions, by Federative Units (except the Federal District), as per the 2nd PMAQ-AB cycle, ^a Brazil, 2014

As for work process adequacy, the Southeastern region (PR=3.53 – 95%CI 2.64;4.70) and the Southern region (PR=2.53 – 95%CI 1.87;3.42) had the highest percentage of teams with adequate work process. Work process adequacy was greater among teams located in larger municipalities (PR=2.34 – 95%CI 2.02;5.73), among teams supported by Family Health Support Groups (PR=1.75 – 95%CI 1.59;1.92) and among teams supported by nutritionists (PR=1.80 – 95%CI 1.64;1.97). The frequency of work process adequacy was two times greater (PR=2.09 – 95%CI 1.92;2.28) among health teams working in PHCCs with adequate structure. The adjusted model reduced presence of the outcome in PHCCs supported by Family Health Support Groups, both with regard to structure adequacy (PR=1.03 – 95%CI 0.97;1.10) and work process adequacy (PR=1.22 – 95%CI 1.07;1.38). With regard to the remaining variables, the adjusted analyses reduced the occurrence of both outcomes in some of the

categories analyzed, although they kept the direction of association (p<0.001) (Table 2).

Discussion

This study found low proportions of structure adequacy and work process adequacy for food and nutrition actions, among all PHC health centers and health teams analyzed in Brazil. The limitations of the methodology include use of secondary data from information systems and use of an institutional evaluation program, which may present divergences. The data checking process, as well as the criteria that included municipalities in which almost all health teams adhered to PMAQ, were intended to minimize these aspects.

Likewise, use of data for the year 2014 may have interfered, as a temporal limitation of the analysis, in the face of current reality, given the changes that occurred to aspects of PHC funding, the new edition

of the National Primary Health Care Policy in 2017 and the extinction of financial transfers to the Family Health Support Groups. Notwithstanding, the data used are records of a panorama that existed prior to these changes.

Only 35% of the PHCCs had adequate structure for food and nutrition actions, less than 8% of the health teams had work processes, with regard to the actions selected for this study. They are the same promotion, prevention and care actions related to nutritional disorders of greater magnitude provided for in the 'Framework for Food and Nutrition Actions in Primary Health Care' published in 2009,¹³ and in other documents produced by the Ministry of Health, since the first version of the National Food and Nutrition Policy was published in 1999 – later reformulated in 2012.⁸ The results found therefore indicate low health team adherence to the normative recommendations, whether this is associated or not with inadequate structure, and their incorporation into the work process.

Among the (possibly associated) reasons for few food and nutrition actions being carried out by the health teams, is the lack of continuing education to encourage the incorporation of current guidelines and protocols into the work process, the need for management measures to ensure these actions are carried out and, furthermore, the inexistence of processes for monitoring and evaluating them.¹⁴

Structure and work process in PHC have been examined by different studies as factors that are fundamental for the quality and comprehensiveness of health care,^{15,16} and are consequently associated with the reduction in the rates of ambulatory sensitive hospitalizations.¹⁷ In the case of food and nutrition actions, low structure and work process adequacy can negatively influence aspects of food and nutrition surveillance, in particular making follow-up of child development and investigation of cases of malnutrition precarious.^{18,19}

Among the items analyzed in relation to structure, supplies such as ferrous sulfate, folic acid and oral rehydration salts were not available in approximately 10% of the PHCCs. In Brazil, among micronutrient deficiencies, iron deficiency anemia stands out by having average prevalence of 53% in children age up to 5 years old, and can reach 77.5% in children in this age group in socially vulnerable places.²⁰ Nationwide

programs for iron and folic acid supplementation have existed ever since the SUS came into being. The National Iron Supplementation Program began in 2005 and was updated in 2014. It made ferrous sulfate an obligatory medication in Primary Care, and included it on the National List of Essential Medications, to be provide as prophylaxis and universally to children aged between 6 and 24 months old, pregnant women and women up until the third month after childbirth or miscarriage.²¹

In turn, high prevalence rates of chronic conditions, such as systemic arterial hypertension, diabetes *mellitus* and obesity, require continuous surveillance, to enable preventive actions to be taken for these conditions.²² In addition to health centers not having adequate structure for carrying out food and nutrition surveillance actions (lack of weighing scales, anthropometric rules etc.), recording of data on information systems is not done by all health teams, to the detriment of these actions, when they prioritize measuring the weight and height of pregnant women and children under 2 years old. Almost 30% of PHC teams do not carry out actions to promote healthy eating. This scenario corroborates that described in studies which indicate low coverage rates of the Food and Nutrition Surveillance System, with regard to monitoring the nutritional status of the local population local.²³⁻²⁵ Consequently, the system is underused as a tool for planning and managing food and nutrition actions.¹⁰

PHCC structure and team work process were more adequate in municipalities with large populations. Several studies have associated better PHC services with these municipalities, with services being organized in the form of more comprehensive health networks, receiving more investment and with a greater diversity of services offered, implying greater maintenance and sustainability capacity.^{13,26,27} Spontaneous adherence is a factor that could interfere with this finding, as well as the fact that larger municipalities could select their best health teams to take part in an evaluation program; which would not be possible in smaller municipalities with fewer health teams. This bias was minimized by the study's methodological strategy, i.e. including in the analysis PHCCs and teams located in municipalities in which at least 80% of the teams had adhered to the evaluation program.

Teams and health centers that could count on the support of nutritionists and Family Health Support Groups also had more adequate work processes. The presence of other health professionals in PHC, with

effect from the implementation of the Family Health Support Groups, has encouraged an interdisciplinary form of working and, as such, the possibility of actions being undertaken by different professionals in PHC.²⁸ Matrix-based support activities contribute to increasing the population's access to health care, and are based on the principle of continuing education: for example, clinical care and work process management support activities, as well as interventions within PHCC territories.²⁸ It should be highlighted that although the presence of nutritionists may have interfered in the results, the actions analyzed are those that minimally would be part of the Primary Care routine and would not necessarily depend on the presence of nutritionists. This fact points not only to the opportunity, but also to the need to qualify PHC professionals to provide guidance to the population on adequate and healthy eating habits, as part of the health work process.²⁹

Despite the low prevalence of health team work process adequacy in Brazil, the analysis concluded that the presence of adequate PHCC structure for food and nutrition actions impacts positively on the work process adequacy of the teams that work in them. It is evident that, in order for food and nutrition actions to be carried out better in Brazil, greater investment is needed in PHCC structure, as well as qualifying health teams with emphasis on strategies for health promotion and prevention and control of health conditions. When analyzing structure and work process for other thematic actions in PHC, other studies have also concluded that investment in service structure is needed; and consider the possibility of using resources of PMAQ-AB itself for these improvements.^{13,27}

Work process adequacy was greater among teams where the population in their catchment area was not without coverage. This indicates that PHCC coverage capacity, in view of the population's demand, can interfere with the adequacy of their teams in performing the actions that have been planned.

The growing demand for access to PHC, the scarcity of resources allocated to this level of care, as well as the requirement for health teams to meet targets, may have influenced the findings of this study. Nevertheless, Primary Health Care maintains and reinforces prioritization of care in certain parts of the life cycle, this being a characteristic of fragmented health care models, in the face of the needs of universal access. Progress aimed at breaking away from this programmatic logic is fundamental for qualification of the work process and, consequently, qualification of health care comprehensiveness.

Authors' contributions

Machado PMO and Lacerda JT contributed to the concept and design of the study, analysis and interpretation of the results, drafting and critically reviewing the contents of the manuscript. Colussi CF and Calvo MCM contributed to data analysis and interpretation, drafting and critically reviewing the contents of the manuscript. All the authors have approved the final version of the manuscript and are responsible for all aspects thereof, including the guarantee of its accuracy and integrity.

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