



Food and nutrition actions in primary health care

Ações de alimentação e nutrição na atenção primária

Acciones de alimentación y nutrición en la atención primaria

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ABSTRACT

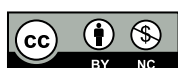
Objective: To characterize food and nutrition actions implemented in primary health care (PHC). **Method:** This quantitative, descriptive, cross-sectional study collected data from professionals working in Primary Health Care Units between July and December 2022 in a municipality located in the metropolitan region of São Paulo, Brazil. Food and nutrition actions were characterized using the Primary Health Care Nutrition Care Assessment Instrument. Knowledge and use of the Dietary Guidelines for the Brazilian Population were assessed using knowledge and self-efficacy measurement scales. Absolute and relative frequencies, means, 95%CI, medians, and 25th and 75th percentiles were calculated. **Results:** A total of 22 health professionals participated in the study, predominantly nurses and unit managers. The absence of nutritionists was identified in all evaluated units, along with limited implementation of food and nutrition surveillance practices among the population. Health promotion actions were mainly focused on physical activity and dietary habit changes, with little or no use of the Dietary Guidelines for the Brazilian Population. **Conclusion:** The implementation of nutrition care actions, particularly regarding knowledge and use of the Dietary Guidelines for the Brazilian Population, was limited, which compromises the quality of health promotion initiatives and the comprehensiveness of health care. The implementation of multidisciplinary teams, investment in continuing education, and the development of health promotion actions based on population needs are necessary.

Descriptors: Primary Health Care; Health Promotion; Nutrition and Food Programs and Policies; Food and Nutritional Surveillance; Nutrition Programs.

RESUMO

Objetivo: Caracterizar ações de alimentação e nutrição implementadas na Atenção Primária à Saúde (APS). **Método:** Estudo quantitativo, descritivo e transversal, com dados levantados junto a profissionais de Unidades Básicas de Saúde, entre julho e dezembro de 2022, no município da região metropolitana de São Paulo, Brasil. A caracterização das ações de alimentação e nutrição foi realizada por meio do Instrumento de Avaliação da Atenção Nutricional na Atenção Primária à Saúde. Quanto ao conhecimento sobre o Guia Alimentar para a População Brasileira e sua utilização, foram empregadas escalas de mensuração de conhecimento e de autoeficácia. Calcularam-se frequências absolutas e relativas, média, IC 95%, mediana, e percentis 25 e 75. **Resultados:** 22 profissionais de saúde participaram do estudo, predominantemente enfermeiras e gerentes das unidades. Identificou-se a ausência de nutricionistas em todas as unidades avaliadas e a prática limitada de vigilância alimentar e nutricional junto à população. As ações de promoção da saúde estão mais voltadas para a prática de atividade física e de mudança dos hábitos alimentares, com pouco ou nenhum uso do Guia Alimentar para a População Brasileira. **Conclusão:** A realização das ações de atenção nutricional, com destaque para o conhecimento e utilização do Guia Alimentar para a População Brasileira, foi exígua, comprometendo a qualidade das ações de promoção da saúde e a integralidade do cuidado em saúde. Faz-se necessária a implementação de equipes multiprofissionais, o investimento em educação permanente e o desenvolvimento de ações de promoção da saúde pautadas nas demandas da população.

Descritores: Atenção Primária à Saúde; Promoção da Saúde; Programas e Políticas de Nutrição e Alimentação; Vigilância Alimentar e Nutricional; Programas de Nutrição.



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RESUMEN

Objetivo: Caracterizar las acciones de alimentación y nutrición implementadas en la Atención Primaria de Salud (APS). **Método:** Estudio cuantitativo, descriptivo y transversal, con datos recolectados junto a profesionales de Unidades Básicas de Salud, entre julio y diciembre de 2022, en un municipio de la región metropolitana de São Paulo, Brasil. La caracterización de las acciones de alimentación y nutrición se realizó mediante el Instrumento de Evaluación de la Atención Nutricional en la Atención Primaria de Salud. En cuanto al conocimiento sobre la Guía Alimentaria para la Población Brasileña y su utilización, se emplearon escalas de medición de conocimiento y de autoeficacia. Se calcularon frecuencias absolutas y relativas, media, IC del 95%, mediana y percentiles 25 y 75. **Resultados:** Participaron 22 profesionales de la salud, predominantemente enfermeras y gestoras de las unidades. Se identificó la ausencia de nutricionistas en todas las unidades evaluadas y una práctica limitada de vigilancia alimentaria y nutricional en la población. Las acciones de promoción de la salud están más orientadas a la práctica de actividad física y al cambio de hábitos alimentarios, con poco o ningún uso de la Guía Alimentaria para la Población Brasileña. **Conclusión:** La realización de acciones de atención nutricional, con énfasis en el conocimiento y uso de la Guía Alimentaria para la Población Brasileña, fue escasa, comprometiendo la calidad de las acciones de promoción de la salud y la integralidad de la atención en salud. Se hace necesaria la implementación de equipos multiprofesionales, la inversión en educación permanente y el desarrollo de acciones de promoción de la salud basadas en las demandas de la población.

Descriptores: Atención Primaria de Salud; Promoción de la Salud; Programas y Políticas de Nutrición y Alimentación; Vigilancia Alimentaria y Nutricional; Programas de Nutrición.

INTRODUCTION

The epidemiological conditions observed nationwide result from the nutritional transition occurring within the broader context of demographic and epidemiological transitions, in which infectious diseases, nutritional deficiencies (e.g., anemia), overweight, obesity, noncommunicable diseases (NCDs), and food and nutrition insecurity (FNI) coexist^(1,2). According to data from the 2023 Brazilian Surveillance System for Risk and Protective Factors for Chronic Diseases by Telephone Survey, 61.4% of Brazilians aged 18 years or older were overweight. In addition, self-reported diagnoses of hypertension and diabetes mellitus were identified in 27.9% and 10.2% of the adult Brazilian population, respectively⁽³⁾. Simultaneously, the National Survey on Food Insecurity conducted during the COVID-19 pandemic in Brazil between 2021 and 2022 found that 58.7% of Brazilians experienced FNI⁽⁴⁾.

Food and nutrition (F&N) actions should be integrated transversally and intersectorally into public health services to ensure comprehensive health care for the Brazilian population^(5,6). Within the Health Care Network, the main nutrition care actions currently implemented include food and nutrition surveillance (FNS), the Promotion of Adequate and Healthy Eating (PAHE), the prevention of nutritional deficiencies, and dietary management of obesity, diabetes mellitus, and hypertension, with primary health care (PHC) serving as the main setting for implementation^(7,8).

The F&N agenda in PHC has gradually consolidated alongside the country's major nutrition-related health conditions. Initially, efforts focused on reducing undernutrition, whereas more recent initiatives have increasingly emphasized obesity and other NCDs across different stages of life^(9,10). The 2011 National Food and Nutrition Policy (PNAN) recognizes PHC as adequately structured to implement the F&N actions proposed by public policies because of its multidisciplinary composition and the matrix support and expanded clinical care strategies formerly represented by the Family Health Support Center (NASF)⁽⁶⁾ and currently by e-Multi teams⁽¹¹⁾. The inclusion of nutritionists in PHC is driven by the epidemiological context and has been identified as a factor that strengthens F&N actions, making their presence essential for the Brazilian Unified Health System (SUS)⁽¹²⁾.

Within nutrition care practice, monitoring and evaluation processes, which are indispensable for planning and sustaining policies and programs, are organized through FNS activities that systematically collect and analyze data on nutritional status and food consumption. These data provide health indicators that support the development of health promotion, disease prevention, and comprehensive care actions aligned with local realities and territorial needs⁽⁶⁾.

Since its implementation, nutrition care has expanded with the advancement of public policies. However, the progressive fragmentation and weakening of SUS have affected the actions performed within the system, making it necessary to assess what is currently being implemented. Furthermore, the universalization of nutrition care actions at the local level remains a challenge. The multiple burden of malnutrition, intensified by changes in the Brazilian dietary pattern, requires intersectoral coordination, another critical issue that must be strengthened within PHC^(8,13).

Because of the importance of F&N actions for public health, their implementation in PHC, and the national epidemiological context, characterizing and evaluating locally implemented actions may provide evidence to support management decision-making and the development of feasible interventions. Beyond the local scope, it is also

important to contribute to the body of evidence describing F&N practices in PHC and to advance discussions regarding national public policies. Thus, the present study aimed to characterize food and nutrition actions implemented in PHC.

MÉTODO

This was a quantitative, cross-sectional study conducted in the city of Francisco Morato, located in the metropolitan region of São Paulo, Brazil, with an estimated population of 171,107 inhabitants⁽¹⁴⁾. In 2023, Francisco Morato reported a hospitalization rate for NCDs of 117 per 10,000 inhabitants and a case fatality rate of 11 deaths per 100 hospitalizations due to NCDs⁽¹⁵⁾.

Between July and December 2022, 11 managers and 11 health professionals from the 12 Family Health Units (FHUs) in Francisco Morato participated in the study. During data collection, an additional FHU was inaugurated; however, it was not yet operational and therefore was not included in the sample. Inclusion criteria were as follows: i) representation of different regions of Francisco Morato (FHUs); ii) inclusion of professionals primarily responsible for food and nutrition actions within the FHUs (health professionals); and iii) inclusion of individuals responsible for managing and organizing the teams' work processes and coordinating actions within the participating units (managers).

After presentation of the study, participants were invited to participate and signed the informed consent form (ICF). In addition, a structured questionnaire was administered in person to the 11 managers. Notably, one FHU did not have a manager available to provide information regarding unit structure and staffing characteristics.

To characterize F&N actions in PHC within Francisco Morato, a section of the Nutrition Care Assessment Instrument for Primary Health Care (IAAN)⁽¹⁶⁾ was used. The IAAN, previously validated for content, was developed to evaluate the organization of F&N actions in PHC. The instrument was self-administered through an online questionnaire made available using Google Forms.

Each manager identified one professional involved in direct patient care activities at the unit to respond to questions regarding the Dietary Guidelines for the Brazilian Population (GAB1 scale). Participants also completed assessments of self-efficacy, which measures confidence in using the guidelines in educational activities, and collective efficacy, which evaluates professionals' perceptions regarding their team's ability to use the guidelines in educational activities (GAB2 scale). Both scales were self-administered and previously validated⁽¹⁷⁾. FHU managers were asked to complete only the collective efficacy section of the GAB2 scale to capture their perceptions regarding the unit team. The scales were provided in printed format for self-administration to improve participant adherence and were collected within a previously agreed-upon timeframe.

The GAB1 scale consisted of 16 questions with the response options "True," "False," and "I do not know." Responses marked as "I do not know" or left unanswered were considered incorrect and combined with incorrect responses. Correct answers were defined according to the content of the dietary guidelines. The GAB2 scales were answered using Likert-type response options: "Not confident," "Somewhat confident," "Confident," and "Very confident" (collective efficacy [12 questions]); and "False," "Sometimes true," "True," and "Very true" (self-efficacy [12 questions]), corresponding to 0, 1, 2, and 3 points, respectively. Final scores for each scale ranged from 0 to 36 points and were analyzed according to mean values and 95% CI, as proposed in the scale validation study⁽¹⁸⁾.

All questionnaires were entered and analyzed using Excel. In summary, frequencies, means, 95% CI, medians, and 25th and 75th percentiles were calculated.

The study was part of the project "Analysis of the organization of the Brazilian unified health system and the care provided by SUS in the city of Francisco Morato," conducted within the Public Health Specialization Program of the Institute of Health, São Paulo State Health Department (SES/SP). The study was approved by the Research Ethics Committee of the Institute of Health (CEPIS) under Opinion No. 5,361,673. All participants received the ICF, either in print or online format, and it was also explained verbally. Participation was voluntary, and all participants provided consent.

RESULTADOS

The questionnaire used to characterize the FHUs was completed by 11 managers and one FHU professional. In addition, the IAAN was completed by six managers. The GAB1 scale was completed by 12 health professionals, whereas the GAB2 scale was completed by 12 health professionals and 10 managers. One FHU did not have a manager, and in two FHUs the manager completed both scales because they also provided direct patient care. Notably, the participating health professionals were selected by the unit managers.

All units (100.0%; n = 12) operated as FHUs and were managed by nurses (100.0%; n = 11), except for the unit that lacked management at the time of the study. The municipality did not have a multidisciplinary team to support the family health teams (at the time, the Family Health Support Center [NASF]), and 100% of the FHUs lacked psychologists, physical therapists, nutritionists, occupational therapists, speech-language pathologists, physical education professionals, and social workers (Table 1).

Table 1 – Characterization of primary health care units in Francisco Morato, São Paulo, Brazil, 2022

Variables	FHUs	
	n	%
FHS teams		
One	2	16.7
Two	7	58.3
Three or more	3	25.0
Complete staffing according to recommended composition	1	8.3
Professional categories available		
Physician – general practitioner	5	41.7
Physician – family physician	9	75.0
Other medical specialties	1	8.3
Nurse	12	100
Nursing assistant and/or technician	11	91.7
Pharmacist	6	50.0
Pharmacy assistant and/or technician	4	33.3
Dentist	5	41.7
Dental assistant	4	33.3
Administrative staff	11	91.7
Psychologist, physical therapist, nutritionist, occupational therapist, speech-language pathologist, physical education professional, social worker	0	0.0
Community health worker	12	100
FHU manager		
Performs both administrative and patient care functions	11	91.7
Performs exclusively administrative functions	0	0.0
No manager	1	8.3

Source: Prepared by the authors (2024).

A complete set of equipment for nutritional assessment (e.g., pediatric and platform scales, anthropometric tape, and vertical and horizontal stadiometers) was available in 66.7% (n = 8) of the FHUs, and 75.0% (n = 9) had rooms designated for group activities. Among the FHUs, 83.3% (n = 10) performed health promotion activities (Table 2).

Among the units participating in the PHC characterization stage, 66.7% (n = 8) assessed food consumption, whereas 58.3% (n = 7) did not record these data in e-SUS or Sisvan. Regarding anthropometric assessment, 50.0% (n = 6) conducted evaluations, and another 50.0% (n = 6) performed assessments using Food and Nutrition Surveillance System (Sisvan) protocols. Finally, 41.7% (n = 5) did not record these data in e-SUS or Sisvan (Table 3).

Table 2 – Equipment, materials, and physical space for nutrition care and health promotion actions in primary health care units in Francisco Morato, São Paulo, Brazil, 2022.

Variables	FHUs	
	N	%
Equipment for nutritional assessment		
Pediatric scale	12	100.0
Platform scale	8	66.7
Vertical stadiometer	10	83.3
Horizontal stadiometer	9	75.0
Anthropometric tape	11	91.7
Has a room for group activities	9	75.0
Uses materials for group activities		
Leaflets, pamphlets, flip charts	6	50.0
Posters, information boards	4	33.3
Educational materials (contraceptives, intrauterine devices [IUDs], synthetic reproductive organs)	3	25.0
Games, slides, multimedia projector	2	16.7
Manuals	1	8.3
Conducts health promotion activities	10	83.3
Among health promotion activities, performs (N = 10)		
Promotion of physical activity practice	4	40.0
Promotion of dietary habit changes	10	100.0

Source: Prepared by the authors (2024).

Table 3 – Food and nutrition surveillance actions conducted in primary health care units in Francisco Morato, São Paulo, Brazil, 2022

Variables	FHUs	
	n	%
Performs food consumption assessment in the following populations (n = 8)		
Infants aged 0-2 years	6	75.0
Children aged 2-10 years	4	50.0
Adolescents aged 10-20 years	2	25.0
Adults aged 20-60 years	3	37.5
Older adults aged > 60 years	4	50.0
Children enrolled in the Health at School Program	4	50.0
Individuals with hypertension, diabetes, and pregnant women	1	12.5
Records food consumption data in e-SUS or Sisvan*	5	41.7
Performs anthropometric assessment in the following populations (n = 6)		
Infants aged 0-2 years	9	75.0
Children aged 2-10 years	10	83.3
Adolescents aged 10-20 years	2	16.7
Adults aged 20-60 years	4	33.3
Older adults aged > 60 years	5	41.7
Children enrolled in the Health at School Program	6	50.0
Individuals with hypertension, diabetes, and pregnant women	1	8.3
Records food consumption data in e-SUS or Sisvan*	7	58.3

*Sisvan = Food and Nutrition Surveillance System.

Source: Prepared by the authors (2024).

Managers from half of the FHUs (N = 6) completed the IAAN. The managers' response rate to the IAAN may be related to the length of the instrument and the high workload associated with management and patient care activities in the units, limiting the time available to complete the questionnaire. When asked about the information systems used to record Food and Nutrition (F&N) care data, none of the managers reported using the Sisvan-Web or the National Vitamin A Supplementation Program Management System.

Regarding the identification of nutrition care needs, according to the IAAAN survey, 66.7% (n = 4) of the FHUs identified these demands during home visits; 50.0% (n = 3) through nutritional status assessments conducted during vaccination campaigns or similar activities; 33.3% (n = 2) through analysis of users' nutritional status data and observation of sanitation conditions within the territory; and 16.7% (n = 1) through weighing censuses conducted in community social facilities and by listening to population demands (either directly from users or through the Local Health Council). Periodic collection of users' food consumption data was not reported by any FHU.

According to the IAAAN assessment of PHC activities, training activities conducted by nutritionists occurred in 66.7% (n = 4) of the FHUs, with the main topic being the Promotion of Adequate and Healthy Eating. Exclusive breastfeeding and educational food and nutrition strategies and methods (EFNS) for obesity were addressed in only 16.7% (n = 1) of the units.

In the absence of nutritionists, 33.3% (n = 2) of the FHUs conducted F&N actions, including group guidance on healthy eating and chronic diseases, weighing activities, and counseling within the Health at School Program (PSE). Most demands related to special dietary needs (8.33%; n = 5) were referred to specialized services.

Dietary guidelines were used in EFNS group activities by 16.7% (N = 1) of the FHUs that responded to the IAAAN. Units reported using the guidelines in EFNS planning, objective development, and health professional documentation.

Assessment of health care professionals' knowledge regarding the dietary guidelines showed a mean of 11.8 correct answers (SD = 2.6) out of 16 questions. The unit that reported using the guidelines for EFNS achieved 14 correct answers. Health professionals obtained a mean score of 16.7 points (95% CI = 12.8 to 20.6) out of the 36 possible points on the scale (Table 4).

Health professionals demonstrated a mean collective efficacy score of 14.8 points (95% CI = 12.2 to 17.4) for the use of the guidelines, whereas managers had a mean score of 16.3 points (95% CI = 12.5 to 20.1) (Table IV).

Table 4 – Results of the application of the knowledge (GAB1), self-efficacy, and collective efficacy (GAB2) scales regarding the use of the Dietary Guidelines for the Brazilian Population among professionals from FHUs in Francisco Morato, São Paulo, Brazil, 2022

Scales	Mean (95% CI)	Median (P25, P75)
Health professionals (n = 12)		
Knowledge regarding the dietary guidelines	11.8 (10.3 to 13.3)	13.0 (10.8; 13.3)
Self-efficacy for using the dietary guidelines in health promotion activities	16.7 (12.8 to 20.6)	16.0 (11.0; 20.5)
Collective efficacy for using the dietary guidelines in health promotion activities	14.8 (12.2 to 17.4)	12.5 (12.0; 17.0)
Managers (n = 11)		
Collective efficacy for using the dietary guidelines in health promotion activities	16.3 (12.5 to 20.1)	15.0 (13.0; 20.0)

Source: Prepared by the authors (2024).

DISCUSSION

This study comprehensively compiles information regarding PHC in Francisco Morato. It presents data ranging from physical infrastructure and unit equipment to team composition and health promotion activities, with emphasis on F&N actions, considering team knowledge and effectiveness in implementing such initiatives.

Health promotion actions produce favorable outcomes in the management of NCDs, and PHC, by fostering a multidisciplinary context and close interaction with individuals, enables the implementation of this strategic approach⁽¹⁹⁾. In the present study, most managers highlighted health promotion activities, demonstrating recognition of this approach. Notably, only one unit reported having the full staffing composition recommended for FHU teams. Furthermore, no unit had a manager dedicated exclusively to management responsibilities, as all divided their time between management duties and direct patient care. This scenario revealed the fragility of PHC in the city, characterized by human resource shortages affecting care delivery for a population in which 78.7% depends on SUS⁽²⁰⁾.

When addressing F&N, the identified weaknesses were even more pronounced. None of the units had nutritionist matrix support or a nutritionist integrated into a multidisciplinary team. During a panel discussion aimed at developing recommendations for F&N in PHC, experts identified human resources as an essential component for strengthening F&N and emphasized the need to ensure adequate numbers of health professionals and nutritionists within multidisciplinary and family health teams⁽⁸⁾.

An evaluation of perspectives from PHC users and professionals in Aracaju, Sergipe, highlighted the importance of nutritionists' work according to both groups. In addition, difficulty accessing nutrition care services was emphasized, with 30.4% of users attributing this limitation to the absence of nutritionists within PHC⁽²¹⁾.

In the city of São Paulo, one study demonstrated an association between the presence of nutritionists and better organization of nutrition care services⁽²²⁾. Another study investigating the presence of nutritionists across 32 cities in southern Brazil suggested that this remains a challenge because nutritionists are not systematically included within multidisciplinary teams⁽²³⁾.

In Francisco Morato, the absence of multidisciplinary teams and nutritionists aligns with the national scenario. Following 2016, progressive changes affected the organization of PHC, particularly Constitutional Amendment No. 95/2016, which established limits on health expenditure growth; the revision of the National Primary Care Policy (PNAB) in 2017; and Ordinance No. 2,979/2019, which reduced incentives for multidisciplinary team integration⁽²⁴⁾. These changes compromised access, continuity of care, and the expansion of comprehensive approaches necessary to promote integrated health care.

In 2023, Ordinance No. 635 established financial incentives for the implementation of multidisciplinary teams (e-Multi). This initiative reinforced the importance of these teams for PHC functioning and for delivering comprehensive and continuous care and health promotion nationwide. However, inclusion of nutritionists remains non-mandatory⁽¹¹⁾.

In Francisco Morato, the use of information systems to generate evaluative reports occurred in fewer than half of the FHUs, corroborating national findings from 2008 to 2013, which showed Sisvan-Web utilization rates of only 22.4%⁽²⁵⁾. On the other hand, anthropometric assessment and food consumption evaluation, two core components of Food and Nutrition Surveillance (FNS), were reported by most FHUs but remained concentrated among populations up to 10 years of age.

FNS encompasses monitoring, assessment, and analysis activities aimed at planning and adapting F&N programs and public policies, thereby generating information necessary to evaluate action effectiveness and guide decision-making⁽²⁶⁾. Thus, incorporating nutritional status assessment and food consumption monitoring into routine PHC activities remains challenging⁽⁷⁾ and is often restricted to indicator-based programs, such as PSE.

In Belo Horizonte, an investigation of factors associated with Sisvan-Web coverage among children under 5 years of age found that 54.1% of participating professionals reported insufficient training for data collection⁽²⁷⁾. Continuing education and permanent education initiatives, which contribute to professional qualification, are associated with improved nutrition care. However, these initiatives remain limited within F&N actions, resulting in professional practices that do not consistently incorporate essential tools and theoretical frameworks, such as Sisvan protocols for data collection^(17,22). Therefore, professional qualification aimed at providing guidance on adequate and healthy eating is urgently needed among PHC professionals, especially physicians and nurses⁽⁷⁾.

In the present study, reported training activities were predominantly focused on single topics, which may contribute to the limited implementation of F&N actions. Work processes within PHC are shaped by multidisciplinary team composition, interprofessional collaboration, and the continuous evolution of knowledge and conceptual frameworks adopted by health professionals⁽⁸⁾.

To address the epidemiological scenario characterized by increasing the incidence of NCDs and overweight prevalence, the PAHE must become a strategy implemented by all PHC professionals, with social participation, even in settings without nutritionists⁽⁶⁾. Furthermore, identifying obesity as a health concern, improving PHC professionals' preparedness to care for individuals with obesity, promoting early interventions before hypertension and diabetes diagnoses, and ensuring continuity of care comparable to other NCDs are priorities requiring advancement, particularly given the high proportion of obesity-related referrals to specialized services⁽⁷⁾.

Food and Nutrition Education (FNE) may occur through group activities, individual consultations, and other settings and is based on official recommendations provided by the Dietary Guidelines for the Brazilian Population (2014) and the Dietary Guidelines for Brazilian Children Under Two Years of Age^(7,17,28). Health promotion within PHC enables dissemination of evidence-based information to strengthen individuals' autonomy and engagement in health care, particularly regarding NCD prevention and management⁽¹⁹⁾.

The dietary guidelines are not used by most FHUs in Francisco Morato. Assessment of guideline implementation by health professionals indicated limited effectiveness, reflecting insufficient dissemination of the guidelines among and by health professionals within the SUS⁽¹²⁾. In a city in the state of Paraná, health professionals achieved a mean score of 10.5 correct answers (SD = 2.8)⁽²⁹⁾ on a 16-item knowledge scale regarding the guidelines⁽¹⁷⁾.

A study involving PHC professionals across Brazil's five macroregions reported mean scores of 14.2 among nutritionists and 11.5 among professionals from other disciplines. In another study involving professionals from the

Family Health Support Center (NASF) in Jundiaí, São Paulo, mean scores were 12.2 in the control group and 10.8 in the intervention group⁽¹⁸⁾. In the present study, health professionals achieved a mean score of 11.8 correct answers, consistent with previous findings.

In the aforementioned study, mean self-efficacy scores were 18.2 in the control group and 16.1 in the intervention group. Mean collective efficacy scores were 23.6 and 25.4, respectively⁽¹⁸⁾. In the present analysis, health professionals' mean self-efficacy score was 16.7, similar to that observed in the intervention group⁽¹⁸⁾.

Regarding collective efficacy, mean scores were 14.8 among health care professionals and 16.3 among unit managers, both lower than findings reported in Jundiaí, São Paulo. Evaluating professionals exclusively involved in patient care separately from those combining management and clinical responsibilities allowed identification of differences in perceptions regarding implemented actions.

Managers' proximity to ongoing activities and their evaluation is essential for organizing and restructuring work processes; however, discrepancies in perceptions were identified. The collective efficacy findings among managers suggest potential unfamiliarity with the dietary guidelines among FHU managers. A scoping review investigating competencies expected of health managers emphasized the importance of professional development and continuing improvement⁽³⁰⁾. However, in contexts characterized by overlapping responsibilities, managers often lack adequate conditions to perform effectively.

Moreover, considering that the maximum possible score for self-efficacy and collective efficacy is 36 points, the scores observed in both groups indicate dissemination and use of the dietary guidelines, as well as professional qualification for FNE and F&N actions based on these guidelines, remain below desirable levels.

CONCLUSION

F&N actions in Francisco Morato are conducted by minimum PHC teams without support from multidisciplinary teams or nutritionists. In this context, anthropometric assessment and food consumption monitoring are performed within municipal health services; however, these data are not consistently recorded in information systems nor systematically used to guide health actions.

Home visits and vaccination campaigns were the most frequently reported activities related to FNE. However, these activities occurred in only a limited proportion of FHUs, indicating weaknesses in the routine incorporation of this practice and in prioritizing the food and nutrition agenda. Furthermore, although health promotion actions are implemented, units do not use the Dietary Guidelines for the Brazilian Population, revealing another limitation in PAHE activities.

Professional qualification delivered by nutritionists focused on PAHE and was identified in only one unit. Other training topics were also rarely reported across FHUs. This finding is reflected in professionals' limited knowledge regarding the dietary guidelines and the frequent referral of patients with nutrition-related demands to specialized care.

Taken together, these findings suggest compromised comprehensiveness of health care and weak implementation of F&N actions in Francisco Morato, São Paulo. The implementation of multidisciplinary teams, investment in continuing education, and development of health promotion actions based on epidemiological health demands may contribute to a more structured response to current nutrition challenges.

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Author Contributions

Leonardo GS contributed to study design, data collection, database preparation, analyses, manuscript writing, and final manuscript review. Garcia MTS contributed to study design, analyses, manuscript writing, and final manuscript review. Neves JA contributed to manuscript writing and final manuscript review.

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Use of Artificial Intelligence

The authors declare that they used the Gemini tool for grammatical accuracy and textual cohesion throughout all sections of the paper.

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