Structure and adequacy of work processes in the care of obesity in Brazilian Primary Care

Estrutura e adequação dos processos de trabalho no cuidado à obesidade na Atenção Básica brasileira

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ABSTRACT *This article analyzes the availability of structure and adequacy of the work process in the care of obesity in Primary Care (PC) in Brazil and regions. To this end, a descriptive, cross-sectional study with a quantitative approach was carried out based on secondary data from the external evaluation component available in the NPIAQ-PC, cycle 2. Data analysis started from three dimensions: food and nutritional surveillance; coordination of care and assistance; and health promotion and education actions. The results point to high values regarding the availability of infrastructure to care for obesity, although in none of the variables it reaches 100%. Regarding the adequacy of care work processes to obesity, however, smaller proportions were identified, indicating an incipient performance in the three dimensions. The analysis suggest that obesity care has been benefited from the provision of resources for structuring Basic Health Units and that sustaining this investment in PC is relevant for maintaining the structure and for qualifying work processes. The development of evaluative studies on this theme can play an important role in the planning of actions.*

KEYWORDS *Obesity. Primary Health Care. Health evaluation. Integrality in health.*

RESUMO *Este artigo analisa a disponibilidade de estrutura e adequação do processo de trabalho no cuidado à obesidade na Atenção Básica (AB) no Brasil e regiões. Para tanto, realizou-se um estudo descritivo, transversal, de abordagem quantitativa a partir dos dados secundários do componente da avaliação externa disponíveis no PMAQ-AB, ciclo 2. A análise de dados partiu de três dimensões: vigilância alimentar e nutricional; coordenação do cuidado e assistência; e ações de promoção e educação em saúde. Os resultados revelam valores elevados no que se refere à disponibilidade de infraestrutura para cuidado à obesidade, embora nenhuma das variáveis atinja 100%. Quanto à adequação de processos de trabalho no cuidado à obesidade, no entanto, identificaram-se proporções mais reduzidas, indicando um desempenho incipiente nas três dimensões. As análises sugerem que o cuidado à obesidade se beneficiou do provimento de recursos para estruturação de Unidades Básicas de Saúde e que sustentar esse investimento na AB é relevante para a manutenção da estrutura e para a qualificação de processos de trabalho. O desenvolvimento de estudos avaliativos nesta temática pode cumprir papel importante para o planejamento de ações.*

PALAVRAS-CHAVES *Obesidade. Atenção Primária à Saúde. Avaliação em saúde. Integralidade em saúde.*

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Introduction

The Primary Care (PC) network is strategic for providing obesity care, given its high capillarity and greater proximity to individuals and their families in their social context, providing a snapshot of their potential to cope with this epidemiological situation through the consolidation of a care model based on the population's health needs and on an integral approach to health[1,2].

Comprehensive care for overweight individuals in the Single Health System (SUS) must guarantee a set of care measures including prevention, protection and health promotion actions and this encompasses diagnostic and treatment procedures to be offered by means of articulating three spheres of government on different sites of the Health Care Network (HCN).

The agreement on the line of Obesity Care to be provided plays a strategic role as it is responsible for keeping records on the organization of services as well as for coordinating the referral and counter-referral flows when providing care for overweight and obese network users. The construction of an integrated, problem solving and humanized network is essential in this case and PC is deemed to occupy the role of care coordinator[3].

In addition to organizing care, PC duties include preventing and treating overweight and obesity in the specific HCN for people with chronic diseases. Such duties include adequate welcoming, Food and Nutrition Surveillance (FNS); prevention and health promotion actions; self-care support; and multidisciplinary therapeutic assistance for overweight and obese adults and network users undergoing surgery to treat obesity[4].

When defining PC attributions in the care of overweight and obesity, it is necessary, however, to remember that there are historical obstacles and difficulties inherent to the process of consolidation of PC in Brazil. The organization and management of services varies much from one part of the country to another and it is acknowledged that improving care processes and integrating PC with the points of the HCN are important challenges for consolidating the National Primary Care Policy (NPCP)[5].

Since the 2000s there has been an increase in the efforts to evaluate PC in its various aspects, an effort undertaken by academic centers and strongly encouraged by the Ministry of Health (MS) through funding, support and research in the monitoring and evaluation area[6]. This investment in institutuionalizing the evaluation must be understood as a decisive contribution made and aims to qualify PC through the construction of structured and systematic processes, consistent with the principles of the SHS and comprehensive in their various dimensions of management, care and impact on the epidemiological profile[7].

With the purpose of monitoring the conditions of health units and teams in terms of access and quality, by means of inductive policies, the National Program for Improvement of Access and Quality on Primary Care (NPIAQ-PC) was implemented by initiative of the the Ministry of Health, in partnership with Brazilian universities acknowledged for their experience in the evaluation of public health policies. The Program includes gathering information from participating municipalities and PC teams through visits made by the external evaluation and certification team[8]. Regarding external evaluation, it should that this is done according to specific standards for assessment of the infrastructure of the Basic Health Units (BHU), of the work processes and of user satisfaction.

The expansion of PC and of multiprofessional teams implies expanding access to health, this being a relevant aspect in making care available. However, it should be noted that the work process of the teams and the structure of the BHUs are essential for the configuration of an effective, quality driven and comprehensive care model that may allow for territorial planning based on health determinants and on the demographic and

epidemiological framework of the population receiving this care. In that sense, this article aims to analyze the availability of structures and the adequacy of work processes in the care of obesity provided in Primary Care units in Brazil and its regions.

Methodology

This is a nationwide study focusing on the country's regions and with a descriptive, cross-sectional and quantitative approach based on secondary data. The investigation technique was based on the analysis of secondary data from the External Evaluation component available at the NPIAQ-PC, where information from Cycle 2 of the program, carried out from 2013 to 2014. Its database is freely accessible and available on the website of the Secretariat of Primary Health Care of the Ministry of Health (Saps/MS). In order to systematize analyses in the light of obesity care, the following reference documents for obesity care were considered: Ordinance No. 424 of 2013[9]; Instruction Manual for the regional organization of the Care Line for Overweight and Obesity in the health care network for people with chronic diseases[3]; Ordinance No. 483 of 2014[10], 'Primary Care book' – 'Strategies for providing care for people with chronic disease: obesity'[11]; 'Intersectoral Strategy for Obesity Prevention and Control'[12]; Reference Framework for Food and Nutrition Surveillance in Primary Care[13]. This reading led to identifying dimensions and subdimensions of the work processes to be developed in PC and aspects of the BHU structure related to them, as described in *chart 1*.

Chart 1. Dimensions and subdimensions of work processo analysis for obesity and overweight care in Primary Care

Dimensions	Subdimensions
1. Food and Nutrition Surveillance	- Performance of Anthropometric and Food Consumption Evaluation - Individual and collective situation analysis and risk stratification - Identification of actions in individual and collective care - Follow-up of agreed upon outcomes and goals
2. Care and assistance coordination	- Multiprofessional Therapeutica Assistance to individuals with BMI between 25 and 40 kg/m² - Care coordination of adults with BMI above 30kg/m² with co-morbidities com comorbidades or BMI above 40kg/m² - Multiprofessional therapeutic assistance to users in obesity post-op treatment
3. Actions for health promotion and education	- Collective actions to support selfcare, like shared consultations, Therapeutic Groups - Intersectoral articulation of activities within social equipment in territory, like schools, daycare centers,, Referral Centers in Social Assistance, sports and leisure centers, neighborhood associations, among others - Promotion of bodily practices and physical activity.

Soure: Elaborated by authors.

In order to define the analysis variables, the NPIAQ-PC instrument, which consists of modules, was used. This article analyzes the data coming from Module I, composed of observation BHU infrastructure issues. Module II consists of interviews with professionals about the work processes of the PC team, as well as oral health standards and document verification at the BHU.

Variables related to obesity care actions were selected based on the dimensions and subdimensions described in *chart 1*. After this step, a descriptive analysis was performed using the single-frequency of the variables

selected for each region in Brazil. Softwares SPSS 22.0 and Microsoft Excel® version 2010 were used for the analyses.

The analysis considered the concepts of availability and suitability. According to Penchansky and Thomas[14], availability is understood as the volume and type of services offered by health services, whereas adequacy refers to the way work processes are organized within the scope of health services so as to serve users. In order to assess availability, a selection was made of variables related to equipment, materials and inputs considered necessary for obesity care in the BHU, the parameter for such being the presence of 100% of the analyzed variable. For the perspective of the adequacy of work processes, there was a selection of the present variables that could reflect the obesity care provided by the BHU professionals.These variables were analyzed according to what is expected to be

carried out within this scope of care, as described by national and official documents on the theme. The results and discussion were organized according to the availability of structure and the adequacy of the work processes developed in the obesity care provided and based on the three dimensions proposed in *chart 1*.

Result and discussion

Regarding the data from Module I of the NPIAQ-PC, what stands out is the number of 24,501 BHUs, though only 24.055 of them have information available. As for Module II, 30,523 registered units were identified, whereas 29,778 had information available. Table 1 displays the distribution of the units shown in modules 1 and 2 of the NPIAQ-PC per region in Brazil.

Table 1. Distribution of units evaluated in modules 1 and 2 do PIAQ-PC per region in Brazil, 2013-2014

Region	Module 1	Module 2
	n (%)	n (%)
North	1,690 (7.0)	2,160 (7.3)
Northeast	9,704 (40.3)	10,768 (36.2)
Center West	1,889 (7.9)	2,241 (7.5)
Southeast	7,165 (29.8)	10,100 (33.9)
South	3,607 (15.0)	4,509 (15.1)
Total	**24,055 (100.0)**	**29,778 (100.0)**

Soure: Elaborated by authors.

It must be considered that in 2014, the year when the NPIAQ-PC data were collected, the PC coverage in Brazil was of 78.4% in the Northeast region; 62.9% in the South region; 60.7% in the North region; 58.7% in the Center-West region; and 49.7% in the Southeast. Regions displaying widest adherence to Modules 1 and 2 were Northeast and Southeast, precisely those with biggest and smallest coverage, respectively.

Food and Nutrition Surveillance (FNS)

FNS is understood as the monitoring of food and nutrition conditions of a chosen population. Regarding overweight and obesity, the fact that the FNS actions are continuous and systematic stands out and allows better case identification, risk stratification and care provision organization. Its execution is associated

to both spontaneous and programmed BHU demands[11,13].

The availability of equipment and materials, as well as the existence of role assignment routines for the execution of FNS actions, has a major impact on the work processes developed in the care provided. Data related to this dimension are displayed on *table 2*.

Table 2. Structure availability and work process adequation measurements, according to the Food and Nutrition Surveillance dimension, made by the Primary Health Team, related to obesity. Variables are from modules 1 tond 2 of NPIAQ-PC from regions in Brazil, 2013-2014

	Variable	North	Northeast	Center West	Southeast	South	Brazil
		n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
	150 kg antrhopometric scale (n=24055)						
	Yes	1422 (84,1)	8572 (88,3)	1514 (80,1)	5747 (80,2)	2807 (77,8)	20062 (83,4)
	No	268 (15,9)	1132 (11,7)	375 (19,9)	1418 (19,8)	800 (22,2)	3993 (16,6)
	How many in proper conditions of use? (n=20062)						
	Nenhuma	20 (1,4)	113 (1,3)	16 (1,0)	52 (0,9)	18 (0,7)	219 (1,1)
	1 a 5	1394 (98,0)	8387 (97,8)	1474 (97,4)	5250 (91,4)	2732 (97,3)	19237 (95,9)
	6 ou mais	8 (0,6)	72 (0,9)	24 (1,6)	445 (7,7)	57 (9,4)	606 (3,0)
	Antrhopometric scale de 200kg (n=24055)						
	Yes	235 (13,9)	1228 (12,7)	495 (26,2)	2332 (32,5)	1278 (35,4)	5568 (23,1)
	No	1455 (86,1)	8476 (87,3)	1394 (73,8)	4833 (67,5)	2329 (64,6)	18487 (76,9)
	How many in proper conditions of use? (n=5568)						
	None	4 (1,7)	29 (2,4)	9 (1,8)	41 (1,8)	23 (1,8)	106 (1,9)
	1 to 5	229 (97,4)	1169 (95,2)	484 (97,8)	2180 (93,4)	1236 (96,7)	5298 (95,2)
	6 or more	2 (0,9)	30 (2,5)	2 (0,4)	111 (4,8)	19 (1,5)	164 (2,9)
Availability	**Child scale (n=24055)**						
	Yes	1394 (82,5)	8768 (90,4)	1747 (92,5)	6927 (96,7)	3515 (97,4)	22351 (92,9)
	No	296 (17,5)	936 (9,6)	142 (7,5)	238 (3,3)	2,6)	1704 (7,1)
	How many in proper conditions of use? (n=22351)						
	None	41 (2,9)	121 (1,4)	31 (1,8)	43 (0,6)	8 (0,2)	244 (1,1)
	1 to 5	1346 (96,6)	8611 (98,2)	1695 (97,0)	6502 (93,9)	3460 (98,4)	21614 (96,7)
	6 or more	7 (0,5)	36 (0,4)	21 (1,2)	382 (5,5)	47 (1,4)	493 (2,2)
	Antrhopometric ruler (n=24055)						
	Yes	1177 (69,6)	8266 (85,2)	1626 (86,1)	6852 (95,6)	3471 (96,2)	21392 (88,9)
	No	513 (30,4)	1438 (14,8)	263 (13,9)	313 (4,4)	136 (3,8)	2663 (11,1)
	How many in proper conditions of use? (n=21392)						
	None	5 (0,4)	60 (0,7)	17 (1,0)	28 (0,4)	4 (0,1)	114 (0,5)
	1 to 5	1164 (98,9)	8130 (98,4)	1593 (98,0)	6396 (93,3)	3413 (98,3)	20696 (96,8)
	6 or more	8 (0,7)	76 (0,9)	16 (1,0)	428 (6,3)	54 (1,6)	582 (2,7)
	Measuring tape (n=24055)						
	Always available	1591 (94,1)	9364 (96,5)	1806 (95,6)	6917 (96,5)	3554 (98,5)	23232 (96,6)
	Sometimes available	53 (3,1)	169 (1,7)	43 (2,3)	123 (1,7)	20 (0,6)	408 (1,7)
	Never available	46 (2,7)	171 (1,8)	40 (2,1)	125 (1,8)	33 (0,9)	415 (1,7)
	Does not apply	-	-	-	-	-	-

Table 2. (cont.)

	Variable	North	Northeast	Center West	Southeast	South	Brazil
		n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Adequation	**Does team have records of people with obesity within its territory (n=29778)**						
	Yes	412 (9,1)	3921 (36,4)	594 (26,5)	4274 (42,3)	1631 (36,2)	10832 (36,4)
	No	1748 (80,9)	6847 (63,6)	1647 (73,5)	5826 (57,7)	2878 (63,8)	18946 (63,6)
	Does team perform weight and height measurements of the following users in a systematic way: (n=29778)						
	Among children under five years of age (n=29778)						
	Yes	2021 (93,6)	10428 (96,8)	2107 (94,0)	9708 (96,1)	4304 (95,5)	28568 (95,9)
	No	139 (6,4)	340 (3,2)	134 (6,0)	392 (3,9)	205 (4,5)	1210 (4,1)
	Among children below ten years of age (n=29778)						
	Yes	1703 (78,8)	77719 (71,7)	1737 (77,5)	8055 (79,8)	3291 (73,0)	22505 (75,6)
	No	457 (21,2)	3049 (28,3)	504 (22,5)	2045 (20,2)	1218 (27,0)	7273 (27,4)
	Among pregnant women (n=29778)						
	Yes	2076 (96,1)	10504 (97,5)	2137 (95,4)	9593 (95,0)	4244 (94,1)	28554 (95,9)
	No	84 (3,9)	264 (2,5)	104 (4,6)	507 (5,0)	265 (5,9)	1224 (4,1)
	Among adults with hypertension and diabetes (n=29778)						
	Yes	2025 (93,8)	10192 (94,7)	2020 (90,1)	9009 (89,2)	3798 (84,2)	27044 (90,8)
	No	135 (6,3)	576 (5,3)	22 (9,9)	1091 (10,8)	711 (15,8)	2734 (9,2)
	Among users receiving care at the Primary Care Unit (n=29778)						
	Yes	1801 (83,4)	6865 (63,8)	1699 (75,8)	6854 (68,4)	3332 (73,9)	20551 (69,0)
	No	359 (16,6)	3903 (36,2)	542 (24,2)	3246 (32,1)	1177 (26,1)	9227 (31,0)
	Others (n=29778)						
	Yes	339 (15,7)	2062 (19,1)	400 (17,8)	1738 (17,2)	903 (20,0)	5442 (18,3)
	No	1821 (84,3)	8706 (80,9)	1841 (82,2)	8362 (82,8)	3606 (80,0)	24336 (81,7)
	Does not perform (n=29778)						
	Yes	43 (2,0)	78 (0,7)	39 (1,7)	105 (1,0)	54 (1,2)	319 (1,1)
	No	2117 (98,0)	10690 (99,3)	2202 (98,3)	9995 (99,0)	4455 (98,8)	29459 (98,9)
	Does the team record data on weight and height on medical records, booklet, information system and others (n=29778)						
	Yes	2121 (98,2)	10583 (98,3)	2178 (97,2)	9928 (98,3)	4434 (98,3)	29244 (98,2)
	No	39 (1,8)	185 (1,7)	63 (2,8)	172 (1,7)	75 (1,7)	534 (1,8)
	Does team perform nutrition evaluation (n=29778)						
	Yes	1255 (58,1)	8031 (74,6)	1474 (58,8)	5561 (55,1)	2777 (61,6)	19098 (64,1)
	No	524 (24,3)	1662 (15,4)	410 (18,3)	2391 (23,7)	989 (21,9)	5976 (20,1)
	Does not apply	381 (17,6)	1075 (10,0)	357 (715,9)	2148 (21,3)	743 (16,5)	4704 (15,8)

Soure: Elaborated by authors.

Regarding the availability, nine NPIAQ-PC variables relating to FNS evaluation in obesity care were identified. Amongst them stands out the presence of three kinds of scale: one for children, another one reaching 150kg and the last one reaching 200 kg. Regarding the latter, no federal state displayed 100% availability.

It must be remarked, however, that the scale for children is found in 92.9% of the interviewed BHUs, with a predominance of it in the South region, where 97.4% of the BHUs have one. On the other hand, anthropometric rulers could only be found in 88.9% of units, the site of lowest availability being the North region, where only 30.4% of units have them.

The prioritization of the childhood population during the initial FNS phase in Brazil (the 1970s) and its association to assistential actions and programs that took place later on, such as 'Milk is Health' (in the 1990s)[1,15], can,

to an extent, explain the high availability of this kind of scale in the BHUs. Historically, children were prioritized by FNS actions according to the profile of health vulnerability, the elevated prevalence of childhood malnutrition and the identification of its correlation with avoidable diseases.

Nascimento et al.[15], when evaluating the coverage of the National Food and Nutritional Surveillance System (Sisvan), confirmed the predominance of information for the maternal and child public when compared to other age groups. Their study emphasizes that such a coverage profile could be considered coherent in contexts of high prevalence of child malnutrition, being inconsistent with the current scenario of increasing obesity, above all among adolescents and adults. Scales for 150 kg are present in 83.4% of the Brazilian BHUs, reaching a level of 88.3% in the Northeast region. When it comes to 200 kg anthropometric scales, data encompassing Brazil show their availability in only 23.1% of units, with highest prevalence in the South region, where they can be found in 35.4% of Units.The low presence of a 200 kg scale is worrying, since this equipment is listed among the aspects of BHU infrastructure necessary for the diagnostic and therapeutic support to obesity[3]. Although one can consider the fact that, in the organization of the HCN, there are other sites responsible for providing care for these users and that the local network characteristics may have an influence when evaluating the impacts of this low availability, it should be noted that the change in the epidemiological profile makes it paramount to have this piece of equipment in diagnostic activities and risk classification when it comes to PC. Completing this scenario, it is observed that the measuring tape, used for the measurement of circumferences, is highly available in each of the regions. It is important to note that the conditions of maintenance and use are similar for all items evaluated, revealing that almost all of the existing equipment at

the BHUs was in condition to be used. This stands out as a relevant point for continuous monitoring, since wear and tear is foreseeable in the case of the items listed. Thus, it is emphasized that the need for replacement and maintenance must be foreseen continuously on the PC budget.From this point of view, the Ministry of Health, especially between years 2006 and 2011, has been working in the sense of standardizing the matters related to physical structure, equipment and supplies necessary for the development of actions within the scope of PC in the national territory. Such regulations include: the PNAB (2006), which highlights the structural aspects of the health units as well as the items necessary to carry out the PC actions, defining a list of pieces of equipment and materials suitable for quality PC[16]; the 2008 BHU Physical Structure Manual, providing guidance to professionals and municipal health managers in planning, programming and preparing projects for the proper functioning of basic units[17]; Ordinance No. 2,226 of 2009, which creates the National BHU Implementation Plan for the Family Health Strategy (FHS)[18]; and, in 2011, the BHU Requalification Program, which proposes the appropriate physical structure for the functioning of the BHUs and the development of actions, in addition to creating financial incentives for this purpose[19].

With regard to adequacy, the data show that there are still many challenges related to the NHF work processes. The registration of obesity in the territories is performed by only 36.4% of teams in Brazil, whereas in the North region, by 9.1% of teams.

As in the trend related to equipment availability, the measurement of weight and height prevails among the age brackets linked as well to other national programs, such as the Bolsa Família Program (PBF) and Sisvan. The measurements of children under two years of age and of pregnant women show equal values (95.9%) in Brazil

and without significant differences between regions. In the case of measuring weight and height of hypertensive and diabetic patients, there is also a high prevalence (90.8% in Brazil), which might relate to the activities of Hiperdia, a national program aimed at registering and monitoring arterial hypertension or diabetes mellitus patients being provided care[20,21]. Among other age groups, such measurements are far less common when compared to cases mentioned above.The records of weight and height data showed a 98.2% rate of completion by Units in the country. The question asked by interviewers encompasses medical records, information systems, booklets or 'others' , and this may add dificulty to making a proper analysis. Thus, the way the question is formulated does not clarify whether registration, for the purposes of individual assessment and inclusion in information systems, is made simultaneously for all consultations. It is worth mentioning that, from the point of view of obesity care, the simultaneity in registration is very relevant as it indicates concern with the FNS processes, management and care coordination support and self-care support.

The increase in FNS coverage is related to the larger financial investment in

> equipment, materials, unit structure, dynamization of computerized systems, training in all phases of care provision and management cycle[15].

In 2011, through Ordinance No. 2975, financial support was established for the acquisition of anthropometric equipment and, therefore, for structuring the FNS in the municipalities[22]. The focus of the investments were the Academia de Saúde and BHU centers counting on Primary Care Teams (PCT) with adherence to the NPIAQ-PC, whose data reveal that, in general, teams have basic equipment for anthropometric assessment. On the other hand, challenges

related to work processes remain. It is worth mentioning that most of the data are recorded yet not evaluated. Nutritional assessment is performed by only 64.1% of teams in Brazil. This activity is essential for diagnosing obesity and coordinating care. It is also noteworthy that, unlike the anthropometric evaluation, the evaluation of food consumption is less traditional in health services. The forms to be filled in with food consumption markers, intended for daily use in BHUs, only became available in 2008[23]. None of the NPIAQ-PC activities deals with the food component of FNS. It must be said that 319 units in the country (1.1%) do not perform any type of measurement of weight and height and that there are 3,993 (16.6%) units where no 150 kg scale is available. Likewise, 18,487 (76.9%) units are in lack of a 200 kg scale. Among the units where they can actually be found, the scales in 1.1% and 1.9% of them, respectively, are in no condition of use. The Northeast is the region where the proportion of units with scales unable to be used is highest. On one hand, data from individual and collective FNS diagnostics must provide input for therapeutical assistance actions required for each case to have practical results; on the other hand, the same data must help in making decisions affecting territory and community, involving intersectoral articulations and actions of health promotion and education[12]. From this point of view, the FNS dimension is inextricably associated with the debates on the two dimensions of analysis addressed in the following topics: coordinating care and assistance and health promotion and education actions.

Care and assistance coordination

Care coordination is an essencial attribute of PC and one of the NPCP guidelines. Its effectivation represents a strategic challenge for consolidating the intergrality of care. Care coordination implies organizing and following

up the path taken by the user of the Health Assistance Network and implies PCTs being capable of decision making, communication and accountability[24]. Data related to this dimension are shown on *table 3*.

Table 3. Structure availability and work process adequation measurement made according to the Multiprofessional Care Coordination and Therapeutic Assistance dimension by Primary Care Teams related to obesity, according to variables found in modules 1 and 2 of the PIAQ- PC of the widest regions in Brazil, 2013-2014

	Variable	North	Northeast	Center West	Southeast	South	Brazil
		n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Availability	**Adult pressure device (n=24055)**						
	Yes	1667 (98,6)	9615 (99,1)	1870 (99,0)	7121 (99,4)	3599 (99,8)	23872 (99,2)
	No	23 (1,4)	89 (0,9)	19 (1,0)	44 (0,6)	8 (0,2)	183 (0,8)
	How many in adequate use condition (n=23872)						
	None	10 (0,6)	47 0,5)	13 (0,7)	12 (0,2)	3 (0,1)	85 (0,4)
	1 to 5	1577 (94,6)	9300 (96,7)	1734 (92,7)	5655 (79,4)	2895 (80,4)	21161 (88,6)
	6 or more	80 (4,8)	268 (2,8)	123 (6,6)	1454 (20,4)	701 (19,5)	2626 (11,0)
	Glucometer (n=24055)						
	Yes	1504 (89,0)	9306 (95,9)	1811 (95,9)	6950 (97,0)	3533 (97,9)	23104 (96,0)
	No	186 (11,0)	398 (4,1)	78 (4,1)	215 (3,0)	74 (2,1)	951 (4,0)
	How many in adequate use condition (n=23104)						
	None	18 (1,2)	80 (0,9)	6 (0,3)	12 (0,2)	1 (0,0)	117 (0,5)
	1 to 5	1471 (97,8)	9134 (98,1)	1768 (97,6)	6523 (94,0)	3368 (95,3)	22264 (96,4)
	6 or more	15 (1,0)	92 (1,0)	37 (2,1)	415 (6,0)	164 (4,7)	723 3,1)
	Reactive test strips for capillary blood glucose measurement (n=24055)						
	Always available	1317 (77,9)	8621 (88,8)	1688 (89,5)	6552 (91,4)	3506 (97,2)	21684 (90,1)
	Sometimes available	222 (13,1)	716 (7,4)	175 (9,3)	385 (5,4)	69 (1,9)	1567 (6,5)
	Never available	151 (8,9)	367 (3,8)	26 (1,4)	228 (3,2)	32 (0,9)	804 (3,4)
	Does not apply	-	-	-	-	-	-
	Which of these tests is ordered by your team and are performed by the health service network						
	Creatinine (n=29778)						
	Yes	2028 (93,8)	10456 (97,1)	2139 (95,4)	9965 (98,7)	4452 (98,7)	29037 (97,5)
	No	135 (6,3)	312 (2,9)	102 (4,6)	135 (1,3)	57 (1,3)	741 (2,5)
	Lipid profile (n=29778)						
	Yes	1771 (82,0)	9566 (88,8)	2050 (91,5)	9766 (96,7)	4334 (96,1)	27487 (92,3)
	No	389 (18,0)	1202 (11,2)	191 (8,5)	334 (3,3)	175 (3,9)	2291 (7,7)
	Glucose haemoglobin (n=29778)						
	Yes	1732 (80,2)	9712 (90,2)	1902 (84,9)	9757 (96,6)	4316 (95,7)	27419 (92,1)
	No	428 (19,8)	1056 (9,8)	339 (15,1)	343 (3,4)	193 (4,3)	2359 (7,9)
Adequation	**To which groups does team offer actions. Obesity (n=29778)**						
	Yes	916 (42,4)	6444 (59,8)	1125 (50,2)	6125 (606)	2400 (53,2)	17010 (57,1)
	No	1244 (57,6)	4324 (40,2)	1116 (49,8)	3975 (39,4)	2109 (46,8)	12768 (42,9)
	For what situations teams programs offering of consultation. Obesity (n=29778)						
	Yes	819 (37,9)	4670 (43,4)	1002 (44,7)	5238 (51,9)	2053 (45,5)	13782 (46,3)
	No	1341 (62,1)	6098 (56,6)	1239 (55,3)	4862 (48,1)	2456 (54,5)	15996 (53,7)

Table 3. (cont.)

	Variable	North	Northeast	Center West	Southeast	South	Brazil
		n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
	Is team schedule programmed according to classified risk andfor what kind of situation. Obesity (n=29778)						
	Yes	530 (24,5)	3833 (35,6)	667 (29,8)	4069 (40,3)	1579 (35,0)	10678 (35,9)
	No	1630 (75,5)	6935 (64,4)	1574 (70,2)	6031 (59,7)	2930 (65,0)	19100 (64,1)
	Does team keep records of higher risk users referred to other care points. Obesity (n=29778)						
	Yes	526 (24,4)	3793 (35,2)	737 (32,9)	4634 (45,9)	1918 (42,5)	11608 (39,0)
	No	1634 (75,6)	6975 (64,8)	1504 (67,1)	5466 (54,1)	2591 (57,5)	18170 (61,0)
	After identifying adult user with obesity (IMC≥ 30 kg/m2), what conduct is followe by team. (n=29778)						
	Are follow-up consultations organized for this user at the PCU (n=29778)						
	Yes	905 (41,9)	5831 (54,2)	987 (44,0)	6643 (65,8)	2775 (61,5)	17141 (57,6)
	No	1255 (58,1)	4937 (45,8)	1254 (56,0)	3457 (34,2)	1734 (38,5)	12637 (42,4)
	Are users invited to take part in collective activities meant for healthy eating and physical activity. (n=29778)						
Adequation	Yes	716 (33,1)	5492 (51,0)	1016 (45,3)	6744 (66,8)	2502 (55,5)	16470 (55,3)
	No	1444 (66,9)	5276 (49,0)	1225 (54,7)	3356 33,2)	2007 (44,5)	13308 (44,7)
	Is Matricial Support team called (NASF and others) to support follow-up of user at the PCU (n=29778)						
	Yes	825 (38,2)	6920 (64,3)	895 (39,9)	5924 (58,7)	2303 (51,1)	16867 (56,6)
	No	1335 (61,8)	3848 (35,7)	1346 (60,1)	4176 (41,3)	2206 (48,9)	12911 (43,4)
	Refer to specialized service (n=29778)						
	Yes	1372 (63,5)	8119 (75,4)	1768 (78,9)	8248 (81,7)	3686 (81,7)	23193 (77,9)
	No	788 (36,5)	2649 (24,6)	473 (21,1)	1852 (18,3)	823 (18,3)	6585 (22,1)
	Other(s)						
	Yes	228 (10,6)	1277 (11,9)	255 (11,4)	1162 (11,5)	560 (12,4)	3482 (11,7)
	No	1932 (89,4)	9491 (88,1)	198688,6)	8938 (88,5)	3949 (87,6)	26296 (88,3)
	No specific conduct is performed (n=29778)						
	Yes	210 (9,7)	304 (2,8)	106 (4,7)	167 (1,7)	139 (3,1)	926 (3,1)
	No	1950 (90,3)	10464 (97,2)	2135 (95,3)	9933 (98,3)	4370 (96,9)	28852 (96,9)

Soure: Elaborated by authors.

Regarding equipment and supplies, such as pressure measurement device, glucometer and reagent strips to measure capillary blood glucose, availability is high in the country, with the North region having the least amount of mentioned items. As for the availability of tests either ordered or performed by the network nationwide, a high percentage is found, coming close to 100% of the offer of this item (97.5% creatinine, 92.3% lipid profile and 92, 1% glycosylated hemoglobin). However, it is noteworthy that the worst region, regarding all tests mentioned, is again the North region (93.8% creatinine, 82% lipid profile and 80.2% glycosylated hemoglobin). These data reveal that, as observed by FNS, the availability of equipment and supplies is compatible in most of the BHUs throughout the country. Once again, this high availability of structure can be related to conditions necessary for carrying out the Hiperdia program and be influenced by them. Regarding the work processes related to assistance, when the offer of obesity actions is verified, it is observed that, in the country, about 42.9% of the teams do not perform these actions, 53.7% of them do not perform consultations for the obese and 64.1% do not schedule their agenda according to the obesity risk classification. With reference to the activities carried out, 57.6% of the teams claim to organize follow-up visits to the obese and 55.3% of the teams invite obese users to participate

in collective activities aimed at promoting healthy eating and physical activity.Taking into account the high prevalence of overweight and obesity, as well as the association of such with the development of other Chronic Non-Communicable Diseases (NTCDs), it is noteworthy that so many teams register the non-holding of consultations, the non-programming of the agenda according to risk classification or even the non referral of patients to collective activities. Regarding the coordination of care, 61.0% of teams in the country do not keep records of obese patients referred to other points of care, although 77.9% of teams report the referral of the obese to a specialized service. It is also noteworthy that there are teams that do not perform any conduct aimed at obese users. They represent 3.1% of units in Brazil and 9.7% of units in the North region.With regard to the performance of the Extended Family Health Center (EFHC), it is emphasized that it is activated by only 56.6% of the teams in the country in order to support the monitoring of obese users. This data is revealing, since the purpose of the EFHC is that of expanding the scope and the capacity to solve problems related to the actions performed by the ESF teams, in addition to providing the specialized support to them through the sharing of responsibilities and lessons learnt from various areas of knowledge involved in dealing with life and health situations in the community and the complexity related to this[25]. The set of data suggests frailty in monitoring users, thus compromising a longitudinal approach and the coordination of care, which is to say that the challenges identified relate even to essential attributes of Primary Health Care, as postulated by Starfield[26]. The conditions in which teams keep their records suggest there are deficiencies in providing continuity of care due to low quality of information, since the records of health professionals must be considered a key point to inform about the process and an immediate result speaks of the quality and problem-solving aspects of care. It is worth mentioning that it was not possible to evaluate important infrastructure issues related to the reception, diagnosis and treatment of obese users when it comes to proper furniture (more stretchers and chairs specific for patients above 200 kg of weight) and infrastructure such as access ramps and wide doors.

Actions for health promotion and education

Health promotion and education actions are considered tasks shared by all members of PC[24] teams and should be guided not only by the health sector, but by other sectors committed to the theme[12]. In this scenario, Food and Nutrition Education (FNE) is an important and challenging strategy related to health promotion and education focused on the theme of overweight and obesity[11]. With the publication of the Food and Nutritional Education Framework for Public Policies[27], the guidance for proposing practices based on problem raising and active educational resources was reinforced, stressing the transdisciplinary, intersectoral and multiprofessional character of FNS. This perspective, which is being gradually incorporated into PC, is highlighted among efforts to recognize the complexity of the relationship between health, food and nutrition. Regarding this, taking this attribution of PC in the care of overweight and obesity, the invitation to take a careful look at environments and territories, considering their potentialities and weaknesses, is made evident. In this sense, the official documents have highlighted the importance of paying attention to the opportunities generated by the existence of public facilities (daycare centers, schools, sports and leisure centers, residents associations[39]), be them government related or not, existing in each location, and to opportunities of carrying out intersectoral actions[12,13]. *Table 4* displays the data for this dimension.

Table 4. Adequation of work processes according to dimension of health education and promotion actions performed by Primary Care Teams working on obesity, according to variables found in module 2 of PIAQ-PC of wider regions in Brazil, 2013-2014

Variable	North	Northeast	Center West	Southeast	South	Brazil
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Does team offer health education and promotion actions related to: Healthy eating (n=29778)						
Yes	1533 (71,0)	7967 (74,0)	1633 (72,8)	6756 (66,9)	3001 (66,5)	20890 (70,2)
No	520 (24,0)	2489 (23,1)	492 (22,0)	2920 (28,9)	1268 (28,1)	7689 (25,8)
Does not apply	107 (5,0)	312 (2,9)	116 (5,2)	424 (4,2)	240 (5,4)	1199 (4,0)
Does team offer health education and promotion actions related to: group activities with the purpose to support selfcare in case of chronic disease (n=29778)						
Yes	1231 (57,0)	7223 (67,0)	1475 (65,8)	7351 (72,8)	3162 (70,1)	20442 (68,7)
No	822 (38,0)	3233 (30,0)	650 (29,0)	2325 (23,0)	1107 (24,5)	8137 (27,3)
Does team encourage and develop in the Primary Care Unit and/or in the territory: Bodily practices (n=29778)						
Yes	597 (27,6)	4028 (37,4)	813 (36,3)	5325 (52,7)	1871 (41,5)	12634 (42,5)
No	1456 (67,4)	6428 (59,7)	1312 (58,5)	4351 (43,1)	2398 (53,2)	15945 (53,5)
Does team encourage and develop in the Primary Care Unit and/or in the territory: physical activity (n=29778)						
Yes	1035 (47,9)	6795 (63,1)	1332 (59,4)	7623 (75,5)	2879 (63,8)	19664 (66,1)
No	1018 (47,1)	3661 (34,0)	793 (35,4)	2053 (20,3)	1390 (30,8)	8915 (29,9)
What are the promotion and prevention activities performed by the team? FNS and healhy eating promotion actions (n=29778)						
Yes	1347 (62,4)	8159 (75,8)	1471 (65,6)	5546 (54,9)	2679 (59,4)	19202 (64,5)
No	432 (20,0)	1564 (14,2)	413 (18,4)	2406 (23,8)	1087 (24,1)	5872 (19,7)
Does not apply	381 (17,6)	1075 (10,0)	357 (15,9)	2148 (21,3)	743 (16,5)	4704 (15,8)
What are the promotion and prevention activities performed by team? Promotion of bodily and physical activities at schools (n=29778)						
Yes	886 (41,0)	5478 (50,9)	996 (44,4)	3687 (36,5)	1731 (38,4)	12778 (42,9)
No	893 (41,3)	4215 (39,1)	888 (39,6)	4265 (42,2)	2035 (45,1)	12296 (41,3)
Does not apply	381 (17,6)	1075 (10,0)	357 (15,9)	2148 (21,3)	743 (16,5)	4704 (15,8)

Row label (side, vertical): Health promotion and education actions / Adequation

Soure: Elaborated by authors.

Among the NPIAQ-PC issues, six were highlighted as being capable of contributing to the debates on health promotion and education actions in the care of obesity. In the two matters related to educational actions and health promotion, items identified as relevant were 'healthy eating' and 'supporting self-care in chronic diseases'. Considering the national data, records show that the answer was affirmative for 70.2% of the teams with respect to healthy eating; and 68.7% for supporting chronic disease self-care. The finding that about 30% of the teams do not address these issues by means of collective actions is worrying and reveals the need for reflections and investigations that may allow mapping the barriers and difficulties to carry out actions recommended in the various guidance documents for care of overweight and obese patients[11,12]. As for the incentive and development in BHUs or territories of 'physical practices' and 'physical activities', the situation generally worsens in the country: 53.5% and 29.9% of the teams do not perform these activities, respectively. Regarding the intersectoral activities developed through the ESF action and the Health at School Program (HSP), 19.7% of the teams do not perform food and nutrition surveillance (FNS) activities and 41.3% of the teams do not perform activities of physical practices and physical activity at schools. In spite of these activities being considered

a priority, when considering the increase in childhood obesity, it should be noted that HSP is not the only opportunity to offer this type of action, since, through programs such as the National School Feeding Program (NSFP) and activities foreseen in the school curriculum, activities with that objective are already foreseen[28]. The number of questions of the NPIAQ-PC adressing health promotion and education actions is small, and this undermines the analysis of this dimension. In addition, the data presented captures the quantitative aspects and not the qualitative ones, that is, they only allow to identify the percentage of teams and BHUs that claim to carry out such actions, not allowing inferences about how they carried out – assumptions, dynamics, methodologies, periodicity etc. However, the quantitative data are sufficient to indicate the need to invest in strategies to support and encourage the performance of collective actions in order to qualify the processes of obesity prevention and care. Collective actions play a significant role in adhering to recommendations related to changes in eating habits and physical activity practices[29,31], representing a proper space for the exchange of experiences, mutual support and sharing of difficulties, sufferings and strategies related to the care of obesity and other NCDs[32] Potent aspects that relate collective actions to care are precious on this path, highlighting possibilities of (re) cognition of stigmas and prejudices related to obesity, as well as the unveiling of the potentials and barriers present in the territory that are related to prevention processes.

Final Remarks

Among the great challenges of the SHS, we highlight the consolidation of a HAN capable of supporting the policies and actions based on the assumptions of universality, equity and integrality of care. The analysis of the NPIAQ-PC data shows that the availability of structure (equipment, materials and supplies) in the BHUs observed is capable of sustaining actions for obesity care. This outcome relates to a history of three decades dedicated to creating the conditions necessary for assuring the right to health in Brazil. It is worth mentioning that the actions that were reinforced as a public policy, by means of the implementation of programs, as in the case of Hiperdia and Sisvan, had a positive impact on assuring the availability of inputs and equipment. The adequacy of the work processes supporting the care actions recommended by technical instruments is out of step with the availability of structure. Analyzed items are not capable of explaining, in an isolated manner, the low adequacy of the work processes. In that sense, an in-depth approach to this debate should take into account issues such as employment status and remuneration of health professionals; training opportunities within and without the services; compliance of team size in relation to demands; among other aspects that can decisively interfere in the work processes and harm the offer of care as a whole. The gathering of anthropometric data carried out in PC can represent an important strategy both in terms of prevention and of treatment of overweight. For such, it is necessary not only to perform but also to keep records of nutritional diagnosis actions and of provision of both individual care (consultations in the PC and or referrals to other points in the HAN) as well as collective care (health promotion and education actions). The NPIAQ-PC data suggest the need to improve work processes in order to improve the performance of the teams with regard to coordination and guarantee of longitudinality of the integral care provided to overweight and obese individuals. No other nationwide studies were found in the literature analyzing the availability of structure and the adequacy of the work process in the obesity care provided in PC. Although there is an explanatory limit for analyses performed exclusively by using secondary data, it is important to note, however, that the data in this study can guide and support new research and evaluative

studies in order to direct the planning work done by managers towards organizing food and nutrition service actions, especially in obesity care. This also provides input for the discussion of actions of permanent education of the professionals already encompassed by the PC scope, besides the discussion on how to prepare future professionals.

Collaborators

Brandão AL (0000-0002-7148-2268)* contributed to the conception, planning, analysis and interpretation of data and took part in the approval of the final version of the manuscript. Reis EC (0000-0003-4459-9345)* contributed to the conception, planning, analysis and interpretation of data and took part in the approval of the final version of the manuscript. Silva CVC (0000-0003-4939-5106)* contributed to the analysis and interpretation of data. Seixas CM (0000-0003-2630-9746)* contributed to the critical revision of content. Casemiro JP (0000-0001-6940-2479)* contributed to the conception, planning, analysis and interpretation of data and took part in the approval of the final version of the manuscript. ∎

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