



Publications scenario about Family Health Support Centers

Cenário de publicações sobre o Núcleo de Apoio à Saúde da Família

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ABSTRACT

A systematic review about publications on the Family Health Support Centers (FHSC) and the participation of the Physical Education Professional (PEP) was conducted. Recorded in PROSPERO, following the recommendations of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) in *Pubmed*, *Lilacs*, *Scopus*, *Bireme* and *SciELO*, with the following keywords: Family Health Support Center; FHSC; Primary Health Care; Health Promotion; Intervention Studies; Physical Education; Physical Activity. Sixty studies about NASF were found, most of them about the implementation of the program and about actions undertaken by the teams. Of the total, seven studies in the area of Physical Education. In conclusion, studies about FHSC are qualitative methods and do not address the effectiveness of the developed actions, only describe them. As well as with publications about PEP.

Keywords: Primary Health Care; Health promotion; Physical Education; Training.

RESUMO

Os Núcleos de Apoio à Saúde da Família (NASF) foram criados em 2008 para ampliar a abrangência e as ações das equipes de Saúde da Família. Ainda não há um panorama de estudos sobre o programa e a inserção do Profissional de Educação Física (PEF). O objetivo deste estudo é investigar o cenário de publicações sobre o NASF e a participação do PEF. Conduziu-se revisão sistemática, registrada no PROSPERO, nº CRD42016043650, seguindo as recomendações do Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), nas bases de dados Pubmed, Lilacs, Scopus, Bireme SciELO, com as seguintes palavras-chave: Núcleo de Apoio à Saúde da Família; NASF; Atenção Primária à Saúde; Promoção da Saúde; Estudos de Intervenção; Educação Física; Atividade Física; e suas respectivas palavras na língua inglesa. Foram incluídos estudos publicados entre 2008 e 2015. Foram encontrados 60 estudos sobre o NASF, sendo a maioria no método qualitativo, sobre a implantação do programa e ações desenvolvidas pelas equipes. Dentre estes, sete são da área da Educação Física, realizados principalmente na região Sul (42,8%). Conclui-se que os estudos sobre o NASF, em sua maioria são de caráter qualitativo e não abordam a efetividade das ações desenvolvidas, apenas as descrevem. Bem como acontece com as publicações sobre o PEF.

Palavras-chave: Atenção Primária à Saúde; Promoção da saúde; Educação Física; Treinamento.

Introduction

Primary care (PC) is the first level of attention of the Brazilian health system¹ and the main access to the health system. PC is characterized by a set of health actions, in individual and collective scope, which promotion and protection of health, disease prevention, diagnosis, treatment, rehabilitation and maintenance of health. The aim of PC is to offer universal access and integral care¹.

Aiming to expand, qualify and consolidate primary care, the National Policy of Primary Care (in portuguese: Política Nacional de Atenção Básica) gave rise to the Family Health Strategy (FHS) (in portuguese: Estratégia Saúde da Família)¹. The FHS favors the re-orientation of the work process with the possibility to

deepen the principles, guidelines and foundations of PC. In addition, it expands the impact on health of the population and provides an important cost-effectiveness relationship^{1,2}. Moreover, the FHS replaces the traditional model and improves the quality of life of the population by approaching the families².

The professionals who compose the Family Health teams have general characteristics and, in order to expand the breadth and scope of their actions, in 2008 the Family Health Support Centers (FHSC) (in portuguese: Núcleo de Apoio à Saúde da Família) were created³. The FHSC is configured as a multi-professional team that works seamlessly with the Family Health Teams (FHT) (in portuguese: Equipe Saúde

da Família), primary health care teams (in portuguese: Equipes de Atenção Básica) and with the Community Health and Fitness Program (in portuguese: Programa Academia da Saúde)².

The Physical Education Professional (PEP), in turn, can be part of the FHSC teams and work together with other professionals in order to promote actions for the prevention and control of chronic diseases and to reduce physical inactivity levels. Even though Brazil has occupied the seventh position amongst the countries that contributed the most in research regarding physical activities in 2013⁴ and a thematic edition of the Brazilian Journal of Physical Activity and Health about promotion of physical activity being released in 2016⁵, there is still no panorama of the studies on the program and on the inclusion of PEP on FHSC.

Although there is a systematic review in the literature regarding the insertion and performance of PEP in primary care⁶, no information exclusively related to FHSC is presented and, therefore, there are no data yet on how much the FHSC is searched, or on what types and on which regions of the country the studies are developed. In addition, the increase in the prevalence of Chronic Noncommunicable Diseases (CNCD) signaled the importance of giving attention to the level of physical activity of the populations, since this is an important and modifiable risk factor for such disorders. Furthermore, it is known that if 25% of world physical inactivity were eliminated, up to 1.3 million deaths per year could be prevented⁷. Globally, physical inactivity is responsible for more deaths per year than smoking⁸, which stresses the importance of this construct in public health.

Faced with this reality, the question is: what is the scenario of publications about the FHSC and how does the participation of the PEP in this context? In order to answer this question, this study aimed to systematic review the literature on the FHSC and to describe the participation of the Physical Education Professional in this multi-professional team. In addition, to characterize them regarding year of publication, study method, sample used, profession involved, and region of Brazil where they took place.

Method

Study design

A systematic review of the literature on studies involving the FHSC and the Physical Education in the context of publications was performed.

Database and key-words

The searches were conducted in *Pubmed*, *Lilacs*, *Scopus*, *SciELO* and *Bireme*, using the following keywords: Family Health Support Center; FHSC; Primary Health Care; Health Promotion; Intervention Studies; Physical Education; Physical activity and their respective words in Portuguese, *Núcleo de Apoio à Saúde da Família*; *NASF*; *Atenção Primária à Saúde*; *Promoção da Saúde*; *Estudos de Intervenção*; *Educação Física* and *Atividade Física*.

Search strategy

The review was recorded in the systematic reviews registration base, under registration number CRD42016043650, and follows the recommendations of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)⁹.

Two researchers between December of 2015 and January of 2016 carried out the search independently. Among the combinations, we used the terms Family Health Support Center “OR” FHSC and the operator “AND” to the keywords: 1 – Primary Health Care; 2 – Health Promotion; 3 – Intervention Studies; 4 – Physical Education; 5 – Physical Activity; the same method was applied to all these words in Portuguese.

All articles found were exported to the reference management software *EndNote*, and duplicates were deleted. The references of all papers included in the review were revised with the aim of finding new studies that would fit the inclusion criteria. A full reading of all manuscripts included in this review was accomplished and the information of interest was held. The variables extracted were: year of publication and language, method and type of study, sample, profession involved and region of Brazil where the study took place.

Inclusion and exclusion criteria

There were no constraints regarding language, year of publication or type of study. The inclusion criteria were: 1) Scientific publication (article, thesis, or dissertation); 2) Presenting the expression “Family Health Support Center” in the title, or “FHSC” in the abstract and other keywords in the text. In the *Lilacs* database, there was no search option for abstracts only, so in order to search “FHSC”, we selected the content “words”, considering any text location.

The exclusion of publications occurred 1) when it was not a scientific article, 2) when the subject was about the Primary Care (PC) or the Family Health

Strategy programme (ESF) but without the participation of the Family Health Support Center, 3) when FHSC was not the main theme of the study, 4) in the case of literature review and 5) when the publication was a thesis from which the resulting article arising from it had already been included in the review.

Data analysis

Data were tabulated in the software Excel for Windows and exported to the Stata statistical package version 12.0 for descriptive analysis.

Results

Initially, 467 articles were found. Out of these, 291 were duplicates and 98 were excluded for not meeting the specified requirements. Of the 78 articles selected for abstract reading, 26 were excluded. Therefore, 52 papers remained to be part of the study. By reviewing the references of these 52, 8 other manuscripts were incorporated, totaling 60 studies in this review^{10-13,15-70} (Figure 1).

Regarding the year of publication, we observed that the first article about the FHSC was published a

year after its creation (2009), and in subsequent years (2010 to 2015) one (1.7%), three (5%), 13 (21.6%) 17 (28.3%) 14 (23.3%) and 11 (18.4%) studies were published, respectively.

From the 60 publications, 95% (n= 57) were in Portuguese. Of the total, 16 were theses or dissertations (all published in Portuguese with English abstract). Amongst the scientific articles (n= 44), 6.8% were in English (n= 3).

The methodology most commonly used in studies about FHSC is the qualitative approach, which is found in 81.6% (n= 49) of the publications, followed by the quantitative in 16.6% of the cases (n= 10). Only 1.8% (n= 1) used both qualitative and quantitative methodology.

The sample was composed by professional working in Primary Care (FHSC and FHS) in 75.4% (n= 43) of the studies found, followed by the participation of professionals and managers in 8.8% (n= 5), users 5.2% (n= 3), FHSC coordinators in 3.5% (n= 2), managers, professionals and users in 3.5% (n= 2). One study interviewed professionals and users (1.8%) and another one had households as sample units (1.8%). The sample size of the studies that

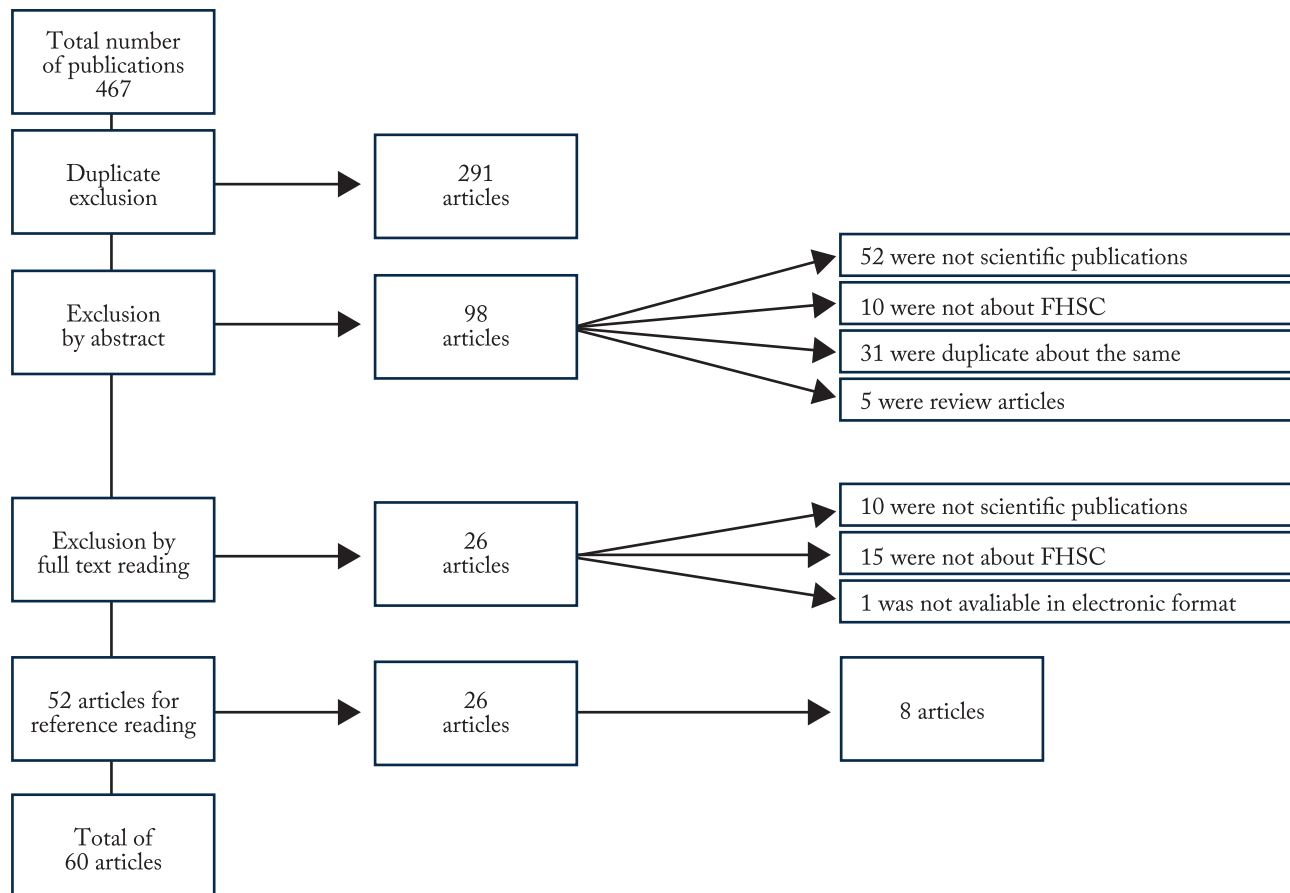


Figure 1 – Flowchart of the search stages of the articles that comprised the review on FHSC.

were part of this review ranged from n= 1¹⁰ to n= 1251 individuals¹¹. There were those who used secondary data from the Department of Primary Care (DPC)¹² and from documents of the Ministry of Health¹³.

It can be noted, when addressing the professional field, that most publications (46.7%) are not specifically related to a profession (n= 28). The distribution of publications per field can be observed in Figure 2.

Regarding the regions of Brazil where researches on FHSC were conducted, it was observed that 40% are from the Northeast (n= 24) and 36.7% (n= 22) from the Southeast. 8.3% (n= 5) took place in the Southern region; and 5% (n= 3) in the Midwest. Six studies were carried out covering the whole country (10%). The states of São Paulo (n= 14) and Pernambuco (n=

7) were most frequently searched with frequency of appearance of 23.3% and 11.7%, respectively. Figure 3 shows a comparison of the publications in different regions of Brazil and the number of FHSC teams in 2015 according to the Department of Primary Care¹⁴.

The role of health professionals in the context of FHSC was the subject of 38.4% of the studies (n= 23). Other themes and their prevalence were: implementation of FHSC 8.3% (n= 5); evaluation of FHSC 8.3% (n= 5); working procedure 8.3% (n= 5); interprofessional relationship 8.3% (n= 5); matrix support 5% (n= 3); evaluation of actions 3.3% (n= 2); professional training 3.3% (n= 2); user satisfaction 3.3% (n= 2); mental health 3.3% (n= 2); food insecurity 1.7% (n= 1); user profile 1.7% (n= 1); professional competences

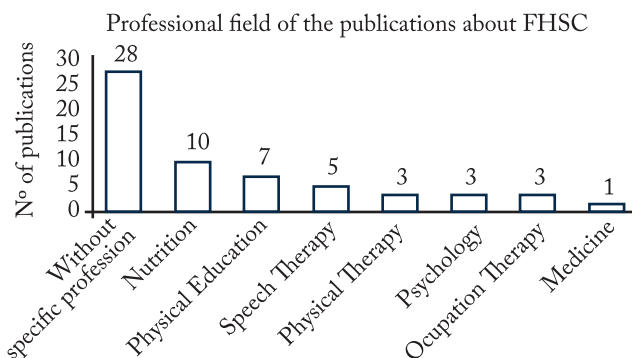


Figure 2 – Distribution of the number of publications about FHSC according to professional field (2009-2015).

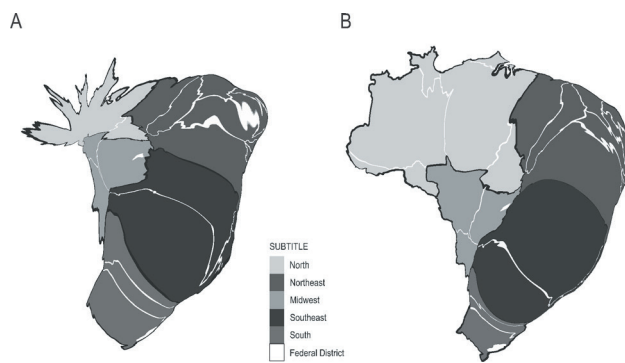


Figure 3 – Density map of number of publications about FHSC (A) and FHSC teams (B) according to the regions of Brazil (2009-2015).

Table 1 – Results of the literature review about Family Health Support Centers with description of method used and study theme.

Variables	Studies
Method of collection and analysis	Qualitative (n= 49) ^{10,16-31,33-42,45-53,56,57,59-61,63,64,66-70}
	Quantitative (n= 10) ^{11,12,29,30,31,15,32,33,28,16}
	Qualitative and quantitative (n= 1) ³⁴
	Training and professional role (n= 1) ²⁹
	Professional role (n= 23) ^{13,35,36,37,38,39,40,41,30,18,42,43,44,33,45,46,16,47,34,48,49,17,50}
	Profile and professional role (n= 1) ²⁸
	Evaluation of actions (n= 2) ^{11,26}
	FHSC evaluation (n= 5) ^{51,52,53,54,55}
	Interprofessional relationship (n= 5) ^{56,57,58,59,60}
	Matrix support (n= 3) ^{61,62,63}
	Professional training (n= 2) ^{64,31}
	Work process (n= 5) ^{10,65,66,25,22}
	Professional competences (n= 1) ²⁴
	Mental health (n= 2) ^{67,69}
	Implementation of FHSC (n= 5) ^{10,12,69,70,71}
Theme	User profile (n= 1) ¹⁵
	Work process and matrix support (n= 1) ⁷²
	User satisfaction (n= 2) ^{73,74}
	Food insecurity (n= 1) ³²

FHSC: Family Health Support Centers.

Table 2 – Results of the literature review on publications about Physical Education in the context of FHSC until the year of 2015. Reference, objective, methodology and results for each study are shown.

Reference	Objective	Methodology	Results
Souza e Loch ⁶⁸	To verify the intervention characteristics of PEP inserted in FHSC in northern Paraná municipalities.	Semi-structured interviews with seven PEP, interpreted with elements of the content analysis.	Intervention carried out through specific groups of physical activities, mini-lectures, home visits, prescription of aerobic and resisted activities.
Santos e Benedetti ¹²	To characterize the implementation of FHSC and analyze the insertion of PEP in Brazil.	Descriptive study with secondary data from CNES/DATASUS. Implementation ceiling Indicators and Expansion Potential (EP) of FHSC.	The FHSC has great EP. Most municipalities did not have FHSC implemented. PE inserted in 49.2% of the teams.
Loch et al. ⁴⁴	To verify the profile of users of the physical activity programs offered by FHSC in Londrina (PR).	Descriptive and quantitative study. Interviews with all participants of physical activities programs offered in five Primary Health units (n= 167).	Participants are mostly female (89.8%), over 50 years old, living close to the sites where the physical activities take place, with BMI above the normal (64.6%), good perceived health (62.3%), that had participated in the program two to three times a week (62.3%) and that move up to class walking (93.4%). Most participants claim to have some disease (78.4%), being hypertension the most prevalent (52.7%).
Gomes et al. ¹¹	To describe the characteristics of the physical activity programs on the Primary Care, accordingly to the presence of FHSC on the city, and by region in Brazil.	Telephone survey with 1,251 coordinators of health units. Questionnaire about the existence of interventions with physical activity and ints characteristics.	Health units without FHSC have less physical activity interventions (32.8%) than those which FHSC (50%), p<0.001. Similar interventions in units with and without FHSC. Mostly walking (81.8%) and stretching (77.3%) groups. Most activities happening in the morning shift (88%), once or twice a week (62.5%), with sessions of 30 minutes to an hour (51,4%).
Rodrigues et al. ⁵⁷	To describe the profile and role of PEP in FHSC of the metropolitan region of João Pessoa, PB.	Semi-structured interviews with 15 PEP that worked for at least six months on a FHSC.	Licensed professionals in PE. The users perform mainly stretching (n= 15) and walking (n= 11). All of them develop specific evaluations such as blood pressure check (n= 10) and body mass index (n= 10). All reported actions directed to hypertension and diabetes.
Furtado e Knuth ³⁶	To understand, alongside with the management and with the PE team, their perception about the particular role of the center and to present elements about its insertion, barriers, and contributions on the FHSC and SUS scenario, on the city of Rio Grande.	Qualitative research guided by the theoretical and methodological Minayo plan. Interviews with management professional and PEP from urban FHSC.	FHSC originated from a matricial network of mental health. The role of the PEP ranges from the clinical approach until the inclusion and humanization. Health promotion is the key element to the PEP. Main barrier is to operate the concept of health promotion in the current healthcare model.
Santos et al. ⁶¹	To present health education practices that are developed by PEP of FHSC in Brazil.	Descriptive and quantitative study, conducted via telephone interviews, with a representative sample of 296 professionals, stratified by Brazilian regions and FHSC modality.	The activities in health education take place in the Primary Health Care Unit (89.5%) and in open sites in the community (92.9%). The main themes addressed are physical activity, health and quality of life (51.4%) and prevention/treatment of comorbidities (32.3%). The users are mostly elderly people (68.8%) and people with hypertension or diabetes (30.9%).

1.7% (n= 1); training and professional role 1.7% (n= 1); work process and matrix support 1.7% (n= 1); profile and role 1.7% (n= 1). Table 1 shows a summary of all publications about FHSC found in this review.

Regarding articles of the Physical Education field in FHSC (n= 7), mostly used the quantitative method (n= 5). Quantitative studies aimed to: a) describe the characteristics of physical activity programs in primary care considering the presence of FHSC¹¹; b) describe the profile of PEP and its performance in FHSC⁶; c) verify the profile of the users participating in physical activity programs offered by FHSC¹⁵; d) characterize

the implementation of FHS Cand analyze the insertion of PEP¹² and; e) report the Health Education practices developed by PEP in FHSC¹⁶. Souza and collaborators⁶⁸, through qualitative methodology, sought to verify the intervention characteristics of PEP inserted in FHSC interviewing seven professionals who worked in northern Paraná. In order to understand the insertion of PEP in FHSC, Furtado & Knuth, using a qualitative methodological strategy, interviewed a management professional and a PE professional from a FHSC¹⁸. Table 2 presents a summary of studies of physical education on FHSC.

Discussion

The main finding of this review was the predominance of studies about FHSC that describe the professional role (38.4%) and 11.7% with PEP. We summarized the information related to the year of publication, the main subjects addressed, the type of method used in the studies, the regions of Brazil where the researches took place, and the language of the publications.

The FHSC was created by the publication of the Decree No. 154 of the Ministry of Health in 2008¹⁹, which explains the fact that the publications about the program start with only a single study in 2009 (1.7%) with progressive increase in the number of publications until 2013 (28.3%). In 2014, 23.3% of the studies were published and in 2015, 18.4% (n= 11). However, this slight decrease of publications is not relevant if we consider that the number of annual publications on a given subject will not always be constant. For instance, a review that searched for studies on promotion of physical activity in SUS published until April 2015, found that the highest number of publications occurred in the years 2014 (n= 5) and 2013 (n= 4) and no studies were published in 2012²⁰. In addition, the annual number of FHSC publications may be related to the percentage of teams deployed each year in Brazil. Excluding 2010, when 30% of the FHSC teams were implanted, 2013 and 2014 were the years that showed greater increase on this number, 18.9% and 25.5% respectively, according to the Department of Primary Care²¹.

It was observed that 93.4% of publications about FHSC are in Portuguese, and even those studies that are published in English, are part of national magazines and were written by authors from Brazilian universities^{11,22,16}. This percentage is justified by the fact that the subject is related to a Brazilian health system program, and corroborates with another study that reviews the literature about publications on professional actions in primary care⁶, which found that all publications were in Portuguese. Nonetheless, publications in another language promote the Brazilian health model, as seen in a recent review on physical activity promotion in SUS that had 58.8% (n= 10) publications in English²⁰. This could improve the internationalization of the Brazilian policy related to FHSC, and serve as a model for other government actions all over the planet.

Regarding the largest number of publications with qualitative methodology, Turato (2005)²³ considers that the qualitative methodology applied to health seeks to understand the individual or collective meaning of a phenomenon to people's lives. By knowing the

meanings, it may be possible to improve the quality of professional-patient-family-institution relationship and to promote greater adherence of the population front to collective measures that are implemented. It can be inferred that the characteristics of the qualitative researches can explain their themes (generally the role of the professionals and the work process) and the use of this method in most publications about FHSC (81.6%). Whereas its creation was less than eight years ago, the studies seek to describe its implementation and characteristics of the professional role. However, since the FHSC is a public health policy, there is a need for quantitative studies that can be extrapolated and assess the impact that these centers are causing to the population's health and, therefore, evaluate its effectiveness.

About the sample number, it is believed that such variation (n= 1 to n= 1,251) can be explained by the methodologies used in the studies. In quantitative research, the number of subjects is statistically defined previously and essential to extrapolate the results, while in the qualitative methods this need is not present and the sample size is defined later²³.

The interviewed subjects were mainly professionals working in primary care (75.4%, n= 43). We believe that this finding is related to the higher prevalence of the researched theme, namely professional role. This result may also be related to the fact that health care workers are more accessible to be part of such studies.

We also found that of the total number of studies, only 7 describe the participation of the PEP in FHSC (11.7%). A similar result was found by Rodrigues et al.⁶ in their review article about integration and performance of the physical education professional in primary care. The fact that 46.7% of the studies about FHSC are not related to a particular profession can be understood by the fact that the studies deal with topics that cover whole teams and not just a single specialty. In addition, the FHSC principles are related to multiprofessional performance and matrix support, where actions are developed with the participation of professionals from different backgrounds prioritizing interdisciplinarity³.

We can verify that the prevalence of studies follows, in part, the prevalence of teams by region, with the Southeast region representing the majority of FHSC teams (28.9%) and researches (36.7%).

Despite the fact that the Southeast region has a higher percentage of publications than FHSC teams, it seems that the number of studies on the FHSC is generally proportional to the number of teams. According to the PMAQ¹¹, in 2015, the distribution of teams in

Brazil is similar to the publications, namely Northeast for 42% with the teams, Southeast with 28.9%, South with 14.6%, North with 7.4%, and Midwest with 7.3% (Figure 3). One fact to be highlighted is that the North region, despite having the fourth highest prevalence among the regions, does not have specific research. Only studies covering the whole country ($n=6$) included it^{11-13,16,24,25} which is not the recommended when trying to verify the particularities of a given region. This shows the lack of research in the north of Brazil.

Two studies were subjectively classified as containing the theme "evaluation of actions". One of them qualitatively evaluates aspects related to the structure and process of speech therapist actions in FHSC²⁶. The other one compares the prevalence of physical activity programs according to the presence of FHSC and describes the characteristics of these actions¹¹. However, in this review, no study was identified as to evaluate the effect of interventions on outcomes of interest, presenting results of pre and post evaluation of FHSC interventions in the population. The main theme of the studies found was the description of the work of the health professionals in the context of FHSC.

It can be understood that this finding on the subject of the published works about FHSC may be related to the "stage" in which the FHSC is now. Created eight years ago and with teams implemented since 2010, FHSC is relatively recent if compared with other programs. However, studies evaluating FHSC actions are fundamental for their improvement, what may turn this into the main shortfall to be addressed in future publications.

In general, studies about PEP have similar characteristics to studies on FHSC, i.e., they mainly demonstrate information about the insertion and performance of the PEP in the teams, but do not evaluate the effect of the interventions developed in the outcomes of interest.

Amongst the studies about PE in FHSC, there was a predominance of publications in the South region ($n=3$, 42.8%). However, Rodrigues and coworkers⁶ have found a predominance of publications in the Southeast. It is believed that these percentages are directly related to the concentration of graduate programs in physical education in these regions and consequently greater number of researchers. These data are strengthened through the research conducted by the Sucupira Platform²⁷ in May 2016, which showed that there was 49 functioning graduate courses throughout the country. Of these, 55.1% ($n=27$) and 20.4% ($n=10$) were in the Southeast and South regions, respectively.

Contrary to the results of the FHSC publications,

most studies about physical education used the quantitative method^{11,12,15,16,28}, but all of them were observational with a descriptive design. Likewise, the studies with qualitative methodology aimed to describe characteristics of PEP and its interventions in the FHSC^{17,18}. Even though we know that descriptive studies are necessary and indispensable to any new subject in the field of public health, these results demonstrate the lack of diagnostic studies that evaluate the effectiveness of the interventions performed by the PEP, so that the insertion of this professional is legitimized. From the creation of the FHSC with PEP as a possible team member, it is of the utmost importance that researchers using quantitative and qualitative methodologies investigate whether the participation of these professionals has an impact on the different health outcomes of their coverage populations.

Brazil has occupied the seventh position among the countries that contributed the most to publications on physical activity and public health in the world in 2013. However, according to data from the Global Observatory of Physical Activity⁴, the share about FHSC is still small in comparison to the world scene of publications on physical activity. According to the present review, only three studies on PE in FSHC had been published by 2013 and, according to the Department of Primary Care, up to 2,767 teams were implemented throughout Brazil²¹. However, to date, there are no data on the number of PE professionals working in the FHSC teams.

These data reinforce the relevance of this review about the FHSC, which included scientific publications on the subject. However, the methodological quality of the included studies was not evaluated, which is a limitation of the present review.

Given the aforementioned findings, it might be observed that the scientific publications about the Family Health Support Center, in most cases, have a qualitative approach concerning the implementation and actions developed by the teams, and on the interprofessional relationships and matrix support. We detected a lack of studies that describe the effectiveness of the actions developed by the teams and the effects of these actions in the population. Regarding the physical education professional, there are only few publications in the literature and these are aimed towards describing the insertion and role of PEP in FHSC teams. We did not find any publication evaluating neither the effect of the actions of the PEP nor the effect of the interventions on the population's health.

Conflict of interest

The authors declared no conflict of interest.

Author's contribution

Seus TL and Siqueira FV participated in the search of publications, article writing and findings interpretation. Freitas MP participated in the article writing and findings interpretation.

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