

Body Practices and Physical Activity Interventions in Primary Health Care: an Integrative Review

Intervenções de Práticas Corporais e Atividade Física na Atenção Primária à Saúde: uma Revisão Integrativa

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Abstract

In recent decades, body practices and physical activities (PCAF) have become part of the public health agenda. Actions to combat sedentary lifestyle in primary care are developed through body practices, physical exercises, physical activities and guided walks. The main objective of this study is to verify which interventions are being carried out by the Physical Education Professional (PEF) in primary care. This study comprises an integrative review. After consulting the databases and applying the search strategies, studies that were duplicated between the databases were identified and excluded. To compose this study, 7 articles were selected. With regard to the types of exercises found in the articles, 3 studies performed only resistance exercise, in which it was the Pilates method and Chinese gymnastics Liang Gong. Still, 4 studies combined aerobic and resistance exercises. Other important findings of this study, that the elderly population are the ones that most participated in the interventions and that the interventions were concentrated in the South and Southeast regions. In the interventions portrayed in this review, the diversification of physical exercises offered in Primary Care was noticed. All interventions brought positive health benefits at the physiological, social and/or psychological levels. This fits into the perspective of health promotion among the population that performs physical activity and/or physical exercise in Primary Care programs.

Keywords: Healthcare Models. Primary Health Care. Health Promotion. Exercise.

Resumo

Nas últimas décadas as práticas corporais e atividades físicas (PCAF) passaram a compor a agenda da saúde pública. As ações para aumentar a prática de atividade física na Atenção Primária, são orientadas e desenvolvidas por meio de práticas corporais, exercícios físicos, atividades físicas e caminhadas. O presente estudo tem como objetivo principal verificar quais intervenções realizadas pelo Profissional de Educação Física (PEF) na Atenção Primária à Saúde. Este estudo compreende uma revisão integrativa. Após a consulta às bases de dados e a aplicação das estratégias de busca, foram identificados e excluídos estudos que apresentavam duplicidade entre as bases e foram selecionados sete artigos para compor este estudo. No que se refere aos tipos de exercícios físicos encontrados nos artigos, o exercício Resistance foi o mais prevalente (OU utilizado) nas intervenções, seguido pelas práticas integrativas e exercícios aeróbicos. Outros achados importantes neste estudo, foi a maior participação da população idosa nas intervenções, concentradas nas regiões do Sul e Sudeste. Nas intervenções retratadas nesta revisão percebeu-se a diversificação dos exercícios físicos oferecidos na Atenção Básica. Todas as intervenções trouxeram benefícios positivos para a saúde, nos níveis fisiológicos, sociais e/ou psicológicos, bem como o ponto de maior destaque foi a utilização do exercício Resistance. O que se enquadra numa perspectiva de promoção da saúde junto à população que realiza atividade física e/ou exercício físico nos programas da Atenção Primária à Saúde.

Palavras-chave: Intervenções não Farmacológicas. Atenção Primária. Promoção da Saúde. Atividade Física.

1 Introdução

In recent decades, corporate bodily practices and physical activities (CBPPA) have become part of the public health agenda, as evidenced by two recent examples: In the first, there was an update to the World Health Organization's (WHO) Global Recommendations in 2020, which increased the minimum amount of time for staying active. In the second, the American Heart Association made some recommendations for healthcare systems and other stakeholders to promote physical activity in healthcare settings, aiming to contribute to the prevention of epigenetic, metabolic, functional, and primarily non-communicable chronic diseases².

At the national level, the existence of the National Health

Promotion Policy (PNPS) stands out, in which CBPPA are one of the priority themes, aiming to promote actions, counseling, and dissemination of these practices, encouraging the improvement of public spaces conditions, considering local culture and incorporating play, games, popular dances, among other activities³.

Brazil is a pioneer in the introduction of CBPPA into public health policies⁴. In 2013, an amendment to Law No. 8,080 included physical activity as a determining and conditioning factor for health⁵, as well as promoting CBPPA in Primary Care programs, such as health academies⁶. In the first semester of 2022, an incentive was also launched for the implementation of actions promoting physical activity⁷.

Physical Education Professionals (PEFs) expanded their scope of practice in PHC in the 2000s, with the creation of the Family Health Support Centers (NASFs), where they were able to provide integrated clinical, health and pedagogical support to professionals in the Family Health and Primary Care teams⁸. The National Primary Care Policy later expanded these centers to Primary Care, renaming them the Family Health and Primary Care Support Center - NASF-AB⁹.

Regarding the role of the Physical Education Professional (PEP) within the NASF-AB team, they are primarily responsible for the strategic area of Physical Activity/Body Practices. However, their role in Primary Care is not limited solely to this function; they also collaborate with other professionals on the team to develop joint actions¹⁰.

Actions to increase physical activity are developed through body practices, physical exercises, and guided walking. The latter is carried out in conjunction with the family health team, with walking and gymnastics classes being the most commonly used actions by PEPs in the NASF and physical activity programs¹¹. Another widely disseminated action in Primary Care is counseling on physical activity, which can be understood as general and structured guidance aimed at encouraging physical activity practice¹².

The general objective of this study is to assess which interventions are being carried out by PEPs in Primary Care, along with the following specific objectives: identify the regions where interventions have taken place, understand the target audience, and determine the types of exercises used.

2 Material and Methods

This study comprises an integrative review, with the method chosen due to its potential to analyze scientific evidence, synthesize results already published on the study subject, allowing the inclusion of quasi-experimental and experimental research¹³. The study consisted of five stages: 1) problem formulation; 2) data collection; 3) data evaluation; 4) data analysis and interpretation; and finally, 5) data dissemination¹⁴.

The PICO (Patient, Intervention, Comparison, Outcome) strategy was used to formulate the guiding question¹⁵ What are the characteristics of physical activity interventions for health promotion in Primary Health Care?

With the purpose of addressing the mentioned inquiry, a search was conducted in the following electronic databases: Scientific Electronic Library Online (SciELO), National Library of Medicine National Center for Biotechnology Information (PubMed), and Google Scholar. The controlled descriptor selected in the Health Science Descriptors/Medical Subject Headings (DeCS/MeSH) was: primary health care, physical exercise, physical activity for the elderly, and health promotion. The uncontrolled descriptor was: physical exercise in primary care.¹⁶

To ensure a comprehensive search, Boolean operators

AND and OR were used. The search also included the application of electronic filters: Randomized Controlled Trial, exclusive articles, and full-text publications¹⁷. The search strategies used in each database are described in Table 1.

Table 1 – Search strategies

Database	Search strategies
SciELO	Search articles: (Primary health care OR atenção primária à saúde) AND (Interventions OR intervenções) AND (Physical activity OR atividade física) AND (Health promotion OR promoção a saúde) AND (Physical exercise OR exercício físico) AND (Elderly OR Idoso).
PubMed	Search: (Primary health care OR atenção primária à saúde) AND (Interventions OR intervenções) AND (Physical activity OR atividade física) AND (Health promotion OR promoção a saúde) AND (Physical exercise OR exercício físico) AND (Elderly OR Idoso). Filters: Free Full Text, Randomized Controlled Trial,
Google Acadêmico	(Primary health care OR atenção primária à saúde) AND (Interventions OR intervenções) AND (Physical activity OR atividade física) AND (Health promotion OR promoção a saúde) AND (Physical exercise OR exercício físico) AND (Elderly OR Idoso). “primary care and physical activity interventions for older adults” “primary care and physical activity for the elderly” “physical exercise in primary care” “physical exercise in health promotion”

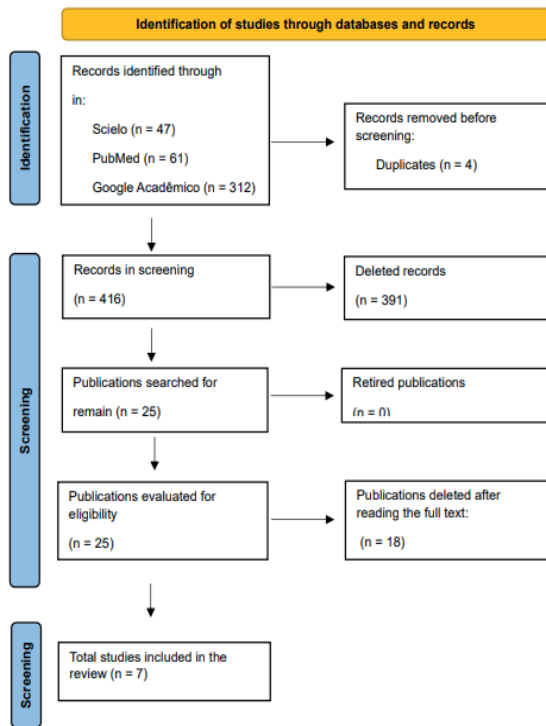
Source: research data.

After consulting the databases and applying the search strategies, studies that presented duplicity between the databases were identified and excluded. Initially, the titles and abstracts of the found articles were read. In cases where reading the abstract was not sufficient to establish whether the article should be included, considering the defined inclusion criteria, the article was read in its entirety to determine whether it would be selected or disregarded, following the eligibility criteria¹⁸.

The inclusion criteria defined for material selection were: 1) articles published from 2015 onwards, 2) interventions involving physical exercise or physical activity, 3) conducted in conjunction with Primary Health Care. The excluded articles from the research were those that did not take place within the national territory, did not involve interventions with physical exercise and physical activity, were not conducted in Primary Care, and were review articles.

Initially, 420 studies were found, distributed as follows: 47 in SciELO, 61 in PubMed, and 312 in Google Scholar. Of these, four were removed due to duplication, with articles from the database with the highest number of studies found being retained. Additionally, 391 were removed after reading the title and abstract, and 18 were excluded after reading the full text, resulting in a total of seven articles for inclusion in this review (Figure 1).

Figure 1 – FlowTable of the article selection process for the integrative review.



Source: research data.

For data extraction from the articles, a spreadsheet was prepared containing the following information: primary author, year of publication, number of individuals, population, objective, interventions, and research outcomes.

A qualitative data analysis was conducted. This type of analysis helps generate hypotheses, as well as understand and investigate data¹⁹. It also enables observation, counting, and classification of variables, with the aim of gathering knowledge produced about the explored topic in the review. The first part covered the sample, population, location where the intervention was conducted, objective, and results indicated in the studies. Meanwhile, the second part involved the intervention variables: type of exercise, materials, and protocol used.

3 Results and Discussion

In Table 2, the set of information extracted from the selected articles for this review is presented. It includes the following data: the population served, the study's objective, and the results contained in the studies.

Table 2 – Characterization of the studies

Study N° First Author	Sample	Population	State	Objective	Resulta
1 Pimentel ²⁰	12 individuals (12 female)	≥ 60 years	PR ^(a)	To investigate perceptions of elderly participants in a CBPPA group about life in old age, the meanings of retirement, and the role of this group in their lives	Improvement in health status, reduction of bodily pains, better sleep, and social belonging.
2 Meurer ²¹	51 individual (41 female)	≥ 60 years	SC ^(c)	To analyze the self-efficacy of elderly beginners in a Physical Exercise Program conducted in a community context.	Self-efficacy contributed to the elderly's retention in the physical exercise program.
3 Brunheroti ²²	50 individual (50 female)	≥ 20 years	SP ^(d)	Effect of two interventions with different volumes of physical exercise on the physical fitness of women using Primary Health Care services ^(c) .	It is highlighted a more pronounced improvement in the flexibility and aerobic endurance components for participants in the intervention with lower volume, and in the strength component. para os participantes da intervenção de maior volume.
4 Duarte ²³	24 individual (19 female)	≥ 60 years	SC ^(c)	To assess the effect of an intervention protocol involving Pilates method and discussion groups on the functional autonomy and quality of life of elderly individuals.	Improvement in levels of functional autonomy and quality of life by reducing body mass index.
5 Bobbo ²⁴	60 individual (55 female)	≥ 60 years	SP ^(d)	To assess the presence of chronic pain in elderly individuals attending a primary care unit in the interior of the state of São Paulo, comparing practitioners of Chinese gymnastics LG ^(f) and sedentary elderly individuals.	Among active individuals, there was a lower consumption of medications and a more positive perception of their own health, particularly with less limitation in performing activities of daily living.
6 Polo ²⁵	31 individual (25 female)	≥ 30 years	MG ^(e)	Effectiveness of two different behavioral change interventions to improve Physical Activity and Reduce Sedentary Behavior in a primary health care setting.	Effectiveness in improving leisure time, levels of physical activity, and reducing sedentary behavior in adults.

Study N° First Author	Sample	Population	State	Objective	Resulta
7 Borges ²⁶	31 individual (26 female)	≥ 60 years	SC ^(c)	Describing and assessing the intensity of Physical Education classes for the elderly conducted by a PEF ^(h) .	Although the elderly participated in a physical exercise program, approximately 20% of the session time consisted of sedentary activities. Light activities also represented a significant portion of the session, thus the time spent on more intense movements was low.

^(a)Paraná; ^(b) Body practices/physical activity; ^(c)Santa Catarina; ^(d)São Paulo; ^(e) Primary Health Care; ^(f)Lian Gong; ^(g)Minas Gerias; ^(h) Physical Exercise Program

Source: research data.

The set of information presented in Table 2 allows us to identify that the population that participated the most in the interventions was the elderly, predominantly women. Analyzing the locations where the studies were conducted, it was noticed that the concentration occurred in two regions, South and Southeast. From the southern states, one was from Paraná²⁰ and three from Santa Catarina^{21,23,26} and from the Southeast, two studies were conducted in São Paulo^{22,24} and

one in Minas Gerais²⁵.

The objectives of the studies were diversified with the intention of identifying the broad contribution of physical exercise in different proposals in basic health units. All results were positive in relation to the objectives and protocols used. Below, in Table 3, we present the details of types of exercises, materials used, and protocols carried out in each study..

Table 3 – Intervention Details

Study	Type of Exercise	Materials Used	Protocol Used
1	Aerobic and Resistance	Not specified	3 times a week, lasting 90 minutes, consisting of joint and muscle warm-up, thirty-minute walking, resistance and muscle strength exercises, stretching, and relaxation.
2	Aerobic and Resistance	Sticks, dumbbells, ankle weights, balls, mats, and hoops.	3 times a week, lasting 60 minutes. The classes were divided into three parts: initial (warm-up); main (development of physical abilities); and final (stretching), consisting mainly of gymnastics activities with light to moderate intensity.
3	Aerobic and Resistance	Free weights, ankle weights, mats, and sticks	(G1= 25 and G2= 25). Intervention 1 (G1) ^(a) was conducted 2 times a week with a duration of 60 minutes per session, and Intervention 2 (G2)(b) was conducted 3 times a week with a duration of 90 minutes per session. The interventions consisted of combined moderate-intensity training, and the sessions were divided into an initial part for warm-up (joint movements), a main part for aerobic and muscle resistance exercises, and a final part for relaxation (with slow walks and final stretching).
4	Resistance	Bodyweight	Intervention with reversal between baseline (A) and intervention (B) periods. The total duration of the study was 20 weeks with 20 discussion groups and Pilates sessions. During phase A, at baseline, participants remained without any intervention for five weeks. In stage B, individuals participated in discussion groups and Pilates intervention sessions also for five weeks, twice a week. In the sessions, there were discussion groups for 30 minutes, followed by Pilates for 45-50 minutes.
5	Resistance	Bodyweight	One group of 30 individuals engaged in group Lian Gong practices, 3 times a week. Another group, also consisting of 30 individuals, who were sedentary and attended the primary health care unit. A comparison of these groups was conducted to evaluate the presence of chronic pain.
6	Aerobic and Resistance	Plastic bottles filled with sand, brooms, cones, and mats	Intervention with combined exercise and health education (EHE) ^(c) and the other intervention was only isolated health education (HE) ^(d) . Both interventions lasted 18 weeks, and in the EHE group, the intervention was carried out twice a week, with a duration of 60 minutes each session. Each session was divided into 40 minutes of exercise and 20 minutes of health education. The sessions were organized as follows: a) warm-up activities (5 minutes); b) main component - aerobic and neuromotor exercises (30 minutes); and c) cool-down - relaxation and stretching activities (5 minutes). In the HE group, the intervention was conducted at the health unit, once a week, lasting 40 minutes.
7	Resistance	Bars, dumbbells, ankle weights, balls, mats, hoops, and body weight.	Three times a week for a period of 3 months, with each session lasting 60 minutes. Each session consisted of three phases: initial (warm-up), main (development of physical skills), and final (stretching).

^(a) Group 1; ^(b) Group 2; ^(c) Exercise combined with health education; ^(d) Isolated health education..

Source: research data.

Regarding the types of exercises used, three studies conducted only resistance exercises^{23,24,26}, which included

the Pilates method and the Chinese gymnastics Lian Gong. Additionally, four studies combined aerobic and resistance

exercises^{20-22,25}.

Regarding the materials used in the interventions, study 1 did not specify²⁰, Studies 4 and 5 used only body weight^{23,24}, in studies 2 and 3, common materials used in physical activity practice^{21,22} were used, such as sticks, dumbbells, ankle weights, balls, mats, among others^{21,22}, still in study 6 used recycled materials²⁵ in its intervention and finally, Study 7 used common materials and body weight²⁶. As for the weekly frequency of interventions, it was established as two^{23,25} or three times^{20-22,24,26} per week. The duration of each session ranged from 45 to 90 minutes.

Our results showed that the population that participated the most in the interventions were the elderly. For this population, physical activity practice emerges as an effective non-pharmacological strategy²⁷. Aging is associated with a decline in physical and cognitive functions in the human body. Physical activity at high levels reduces the impairment of these functions, overall morbidity and mortality, and the risk²⁸. Physical activity is a fundamental practice for promoting the health of the elderly. By regularly engaging in physical activity, it is expected that older adults will achieve health benefits similar to those applicable to adults, including effects on quality of life and well-being, sleep, mental health, among others²⁹.

In a systematic review and meta-analysis on physical activity and successful aging among middle-aged and older adults, a positive effect of physical activity on aging was found³⁰. In a randomized controlled study with 244 participants who underwent a physical exercise program for 24 months, positive results were also found in the quality of life and nutritional status of the elderly³¹. The adult population has low participation in public health physical activity programs³². Nos países desenvolvidos, 70-80% dos adultos, pelo menos uma vez por ano, realizam consultas no clínico geral³³.

In a study conducted with the adult population, where the effectiveness of a physical activity intervention in Primary Care users was verified, difficulties were found in the implementation and scope of initiatives in primary care. The low economic status and education level of the population served, and the lack of spaces for health promotion activities, were some of these difficulties³⁴.

Although research involving physical activity interventions in the North, Northeast, and Midwest regions of the country was not identified, this does not necessarily mean the absence of such offerings in those locations. A cross-sectional study identified the presence of physical exercises being developed in health units linked to the five regions of the country³⁵. According to data from the mentioned study, the North region had a lower proportion of interventions with physical activities. Similarly, in a systematic review of physical activity promotion programs in the Brazilian Unified Health System (Sistema Único de Saúde - SUS), this regional discrepancy was also observed³⁶.

A portion of the physical activities offered in the interventions evaluated in the present study consist of aerobic exercises. Aerobic exercise is an effective treatment for improving quality of life and psychological well-being, promoting primarily cardiovascular improvements³⁷. European and American hypertension guidelines recommend encouraging aerobic exercise as a treatment approach for hypertension³⁸. In a randomized feasibility study, walking was considered one of the most cost-effective exercises in Primary Health Care. In our review, only two studies used this type of exercise^{20,22}.

Another prevalent type of physical exercise in interventions is resistance training. Resistance training improves neuromuscular adaptations, including increased muscle strength⁴⁰, through muscle contraction against resistance. Dumbbells, body weight, ankle weights, and sticks can be used as external resistance⁴¹. Resistance training is an effective intervention for combating loss of muscle strength, loss of muscle mass, physiological vulnerability, and preventing debilitating conditions that may arise in older adults⁴². Finally, resistance training is also prescribed to improve physical conditioning and prevent and rehabilitate orthopedic injuries⁴³. This intervention was used in all studies analyzed in this review and achieved positive results regarding the objectives proposed by each one.

In our research, four studies^{20-22,25} (four studies used combined exercises (aerobic and resistance exercise) in their interventions. In one study, which implemented a home-based comprehensive exercise program, improvements in overall physical fitness in older adults were observed⁴⁴. The program included flexibility exercises, aerobic exercises, and resistance exercises using elastic bands. Another study, conducted to compare the effects of aerobic, resistance, flexibility, balance, and Tai Chi programs on improving functional fitness in older adults, found that aerobic exercises were more effective in improving cardiorespiratory fitness. However, for improvements in upper and lower limb strength, resistance exercises, balance, and Tai Chi had better results⁴⁵.

Since 2006, the Unified Health System (Sistema Único de Saúde - SUS) has made available integrative and complementary practices to be implemented in Basic Health Units⁴⁶. An integrative practice found in our research was Lian Gong (LG). This practice consists of a series of 18 exercises that prevent and treat body pains, involving movements of the neck, shoulders, back, lower back, buttocks, legs, joints, tendons, and internal organs⁴⁷.

In a randomized clinical trial, the effects of Lian Gong (LG) on the impact of dizziness on quality of life and fear of falling in Primary Health Care patients were evaluated⁴⁸. The results showed that LG is an effective balance rehabilitation strategy for reducing the impact of dizziness on quality of life⁴⁸. In another study aimed at identifying the effects of LG practice on quality of life, stress levels, and musculoskeletal

symptoms, statistical significance was found only in the improvement of musculoskeletal symptoms⁴⁹.

Given the various intervention possibilities of body practices and physical activity, it is evident that Physical Education Professionals (PEF) are necessary in Primary Health Care, as they contribute to health promotion and prevention of some diseases, making the population more physically active⁵⁰. Thus, in addition to the competence to coordinate, plan, program, and supervise physical activity interventions⁵¹, Physical Education Professionals (PEF) can participate in multidisciplinary and interdisciplinary teams to expand the scope of actions in Primary Health Care⁵².

3.1 Limitations of the study

The restricted access to some articles and the preference for using only articles with interventions in the Brazilian population may have made it difficult to obtain materials that would add information to the present study. Nevertheless, it is relevant to remember that the objective of the integrative review is not to obtain a high number of studies, but rather those materials that have the potential to answer the research question.

4 Conclusion

In the interventions depicted in the study, a diversification of physical exercises offered in Primary Care was noticed. In addition to aerobic and resistance exercises, integrative practices were present with the Lian Gong practice. However, we also saw that programs with more than one type of physical exercise can effectively contribute to improving components of physical fitness. A major highlight of this study is the use of resistance exercise in all analyzed interventions.

All interventions brought positive benefits to health, at physiological, social, and/or psychological levels. This fits into a perspective of health promotion among the population engaging in physical activity and/or exercise in Primary Care programs. The Physical Education Professional working in this sector can develop different types of body practices/physical activities to promote the health of users of the Unified Health System (SUS).

The actions observed in the studies proved to be multifaceted and have the potential to create bonds between professionals and physical activity practitioners in Primary Care, as the interventions were mainly conducted within the catchment areas of health units.

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