Effectiveness of the physiotherapist's matrix support for community health agents: a quasi-experimental study

Efetividade do apoio matricial do fisioterapeuta para os agentes comunitário de saúde: um estudo quase-experimental

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Abstract

Introduction: Primary health care (PHC) represents the first step of a network of health care processes that have the Family Health Strategy as their foundation for reorganization, expansion and consolidation. **Objective:** To investigate the effectiveness of the matrix support provided by the physical therapist to the community health agents (CHAs) regarding the level of knowledge about health conditions responsive to the performance of physiotherapy in PHC. **Methods:** We conducted a quasi-experimental study with two groups of CHAs, divided into control (n = 6) and intervention (n = 7), totaling 13 professionals belonging to a small municipality. Matrix support took place through educational workshops, addressing the axes of maternal and child health, adult health, health of older people and musculoskeletal disorders. For the initial assessment, a semi-open questionnaire was administered with sociodemographic data and work-related questions, a structured questionnaire containing questions related to the performance of physiotherapy in PHC that presents situations from the CHA's work routine, and a semi-open survey investigating patients to be referred to physiotherapy. For the final assessment, the same instruments were reapplied, except for the sociodemographic questionnaire. **Results:** After the intervention, in the comparison between groups, there was a difference in the risk perception index in the axis of musculoskeletal disorders ($p = 0.032$) and in the identification of cases of childhood changes ($p = 0.012$). In the intragroup comparison, the intervention group showed a difference in risk perception in the health of the older persons and in most of the items of the referral survey ($p < 0.05$ for all). **Conclusion:** Matrix support can contribute to the shared construction of knowledge, as well as to the activation of physiotherapy in PHC by CHAs.

Keywords: Community health agents. Health care support professionals. Physiotherapy. Primary health care.

Resumo

Introdução: *A Atenção Primária à Saúde (APS) representa o primeiro elemento de uma rede de processos de atenção à saúde que tem na Estratégia Saúde da Família o alicerce para a sua reorganização, expansão e consolidação.* ***Objetivo:*** *Investigar a efetividade do apoio matricial (AM) realizado pelos fisioterapeutas para os agentes comunitários de saúde (ACS) em relação ao nível de conhecimento sobre condições de saúde sensíveis à atuação da fisioterapia na APS.* ***Métodos:*** *Trata-se de um estudo quase-experimental realizado com dois grupos de ACS, divididos em controle (n = 6) e intervenção (n = 7), totalizando 13 profissionais pertencentes a um município de pequeno porte. O AM aconteceu por meio de oficinas educativas, abordando os temas materno-infantil, adulto, idoso e desordens musculoesqueléticas. Para a avaliação inicial foram aplicados um questionário semiaberto com dados sociodemográficos e questões relacionadas ao trabalho, um questionário estruturado contendo questões relacionadas à atuação da fisioterapia na APS, que apresentava situações da rotina de trabalho do ACS, e um inquérito semiaberto de investigação de pacientes a serem encaminhados para a fisioterapia. Para a avaliação final, os mesmos instrumentos foram reaplicados, exceto o questionário sociodemográfico.* ***Resultados:*** *Após o AM, na comparação entre os grupos, houve diferença estatística no índice de percepção de risco no eixo das desordens musculoesqueléticas (p = 0,032) e na identificação de casos de alterações infantis (p = 0,012). Na comparação intragrupo, o grupo intervenção apresentou diferença estatística na percepção de risco na saúde do idoso e na maioria dos itens do inquérito de encaminhamentos (p < 0,05 para todos).* ***Conclusão:*** *O AM pode contribuir para a construção compartilhada de saberes, bem como para o acionamento da fisioterapia na APS pelos ACS.*

Palavras-chave: *Agente comunitário de saúde. Profissio-nais de apoio aos cuidados de saúde. Fisioterapia.*

Introduction

Primary health care (PHC) is the first element of a network of health care processes and has the Family Health Strategy (ESF) as the foundation for its reorganization, expansion and consolidation.[1] The current PHC model in the country has family health teams made up of at least one doctor, one nurse, one nursing assistant or technician, one dental surgeon and one assistant,[2] two community health agents (CHAs) and community endemic disease agents, with the possibility of including a physiotherapist and occupational therapist.[3]

In the team, CHAs stands out, as they are the protagonist of the Health Agents Program (PACS), created in 1991,[4] and they are a key part of the ESF, whose numerous and varied responsibilities include registering families, participating in carrying out demographic diagnosis, making periodic home visits, monitoring for and preventing various diseases and health conditions, development of disease prevention, and health promotion activities through individual and collective educational actions, among others.[4-6]

Studies point to the CHAs as central characters in the current health policy and consider them to be the link between the team and the community, playing an important social role, in addition to helping to provide care through light technologies such as communication, welcoming, bonding, dialogue, qualified listening and the development of intersectoral and leadership measures.[6-8] It can be understood that this is a complex profession, and there may be adverse situations in day-to-day work in which professionals must be prepared to act.[7] Furthermore, the CHA is seen as a professional with little technical knowledge in the basic health unit and who possesses knowledge during home visits, justifying the important role of ongoing health education and updates for these professionals.[9,10]

Law No. 13,595 of 2018,[5] as well as the National Primary Care Policy,[2] emphasizes the duty of health professionals to attend continuing education and improvement courses. Such training can be offered by the Ministry of Health itself, as well as by public or private partner institutions, either by agreement between program managers or on the professionals' own initiative.[11] The Ministry of Health also recommends multidisciplinary work, considering the adversities and complexity of the situations encountered in PHC; therefore, comprehensive care requires the presence of different training with shared actions and user-centered health actions. In this scenario, matrix support (MS) must be implemented.[2,12,13]

MS is a health work organization strategy that aims to ensure specialized support for teams and professionals responsible for caring for health problems.[12] Initially, MS was spread throughout the country through the Expanded Family Health and Primary Care Center (NASF-AB) and later, through Technical Note No. 10/2023,[13] it

became a Multidisciplinary team in PHC (e-Multi).[13,14] The e-Multi are made up of health professionals from different areas of knowledge who work in a complementary and integrated manner with the PHC team, offering assistance support and technical pedagogical support.[13,15]

Joint care and interventions between the e-Multi team and some ESF professionals, as well as specific assistance from the core of knowledge of the individual or group supporter, constitute examples of actions encompassed in the assistance rearguard. Technical-pedagogical support occurs through educational support with and for the teams and materializes through the sharing of problems, exchange of knowledge and practices between professionals, facilitating future health actions, assisting in the diagnosis of the community and expanding the scope of clinical practice.[13,16,17] Furthermore, this practice is positive for creating professional bonds through productive meetings between teams, integration of the health-disease process, institution of collective therapeutic projects and support for decentralization and co-responsibility for health.[14,18,19]

The physiotherapist is one of the professionals who most appears in the composition of the NASF-AB[20] multidisciplinary team and should be part of the e-Multi.[15] This professional has been playing an ascending role in PHC through prevention, promotion, recovery and maintenance of health,[21] and it must also act in the logic of MS seeking to build and activate spaces for active communication and sharing of knowledge with ESF professionals. [21,22]

The work of physiotherapists and CHAs is linked to each other. The two professions collaborate to resolve health situations encountered in their work routine. However, the broad role of physiotherapists in the health care of the population considering the PHC team is still little known.[8,22] Taking advantage of the recent inclusion of this professional directly in the ESF,[3] it is opportune that studies with robust methodologies are carried out to strengthen comprehensive health care with the inclusion of physiotherapeutic assistance at this level of care. Considering that CHAs are responsible for identifying health demands during home visits and taking them to the team, it is desirable that these professionals are informed about the different ways in which physiotherapy works in PHC. Therefore, and benefiting from this idea, this study proposed to investigate the effectiveness of MS on the level of knowledge of CHAs in relation to the performance of physiotherapy in PHC.

Methods

A quasi-experimental, non-randomized study was conducted with pre- and post-intervention assessment based on the MS of physiotherapy for CHAs. The study was approved by the Ethics and Research Committee of the Federal University of Vales do Jequitinhonha and Mucurí (CAAE 55071521.0.0000.5108, Approval No. 5.557.474). At the baseline of the study, the objectives, risks, benefits and voluntary nature of participation were clarified and the CHAs signed an informed consent form.

Study scenario

This study was carried out in a municipality located in the Vale do Jequitinhonha mesoregion; it has an area of 952 km² and approximately 4,156 inhabitants. In addition, it has 100% coverage by the ESF and has two family health teams and a basic health unit. The location serves all users in urban and rural areas, in addition to accommodating in its physical structure teams and activities of family health and first aid.[23,24] The Municipal Human Development Index is 0.620.[23] Cases that require more complex care are referred to a reference city in the microregion, located 72.3 km away.

In relation to physiotherapy services, the municipality has a health academy center and a municipal rehabilitation clinic, with the presence of two physiotherapists who were not directly involved in the research.

The study activities were conducted by a professional physiotherapist, specialist in public health, with previous experience working in a health academy, not linked to the services offered by the municipality.

Sample

Respecting the eligibility criteria to participate in the study, it was necessary to act as a CHA linked to the municipality's ESF and agree to collaborate with the study. Exclusion criteria included vacation or sick leave during the intervention period. At the end of the study, attendance of less than 75% in face-to-face meetings and incomplete responses to questionnaires were considered losses.

The sample consisted of 13 CHAs, divided into two teams. Initially, the first team (7 CHAs) was released for the MS workshops, constituting the intervention group (IG). Consequently, the other team (6 CHAs) formed the

control group (CG). The selection of groups was based on the availability of times in the CHA's schedule to participate in the training.

Instruments and data collection

Research participants were invited to answer three instruments: 1) semi-structured questionnaire with sociodemographic data containing personal and work-related information; 2) structured, validated questionnaire termed "Health conditions responsive to physiotherapy intervention in primary health care";[24] 3) semi-structured survey investigating referrals to physiotherapy.

The second instrument consists of 20 questions with hypothetical situations addressing health conditions sensitive to physiotherapy intervention in PHC. All statements began with "Upon arriving at a home", simulating a possible home visit. The health situations presented were divided into four thematic axes: maternal and child health, adult health, older person health and musculoskeletal disorders. The answer options included closed questions, which were repeated for all questions and presented three possibilities: the identification of risks that are possibly resolved in PHC through the physiotherapist's management (14 questions), risks that are not resolved in PHC and require referrals to other levels of complexity (2 questions) and situations that do not pose risks to the user's health (4 questions). Only one of the answer options was to be selected. Below is an example question and answer options:

Upon arriving at a home for a routine visit, after a while of conversation, the resident begins to cough and, embarrassed, reports that she has lost urine, this being a common situation.

a) I do not perceive any risks to the resident's health conditions, as this is a normal situation.

b) I perceive risks in the resident's health conditions, which are not routinely resolved in PHC.

c) I perceive risks in the resident's health conditions, which can be resolved in PHC, and I will take the case to the team.

In the third instrument, prepared by the authors, the CHA was asked whether in its area of coverage, there were possible cases of childhood changes, urinary incontinence, dizziness, venous changes, risks posed by work and risks of falls among the older persons who could be referred to the physiotherapist at PHC. CHAs should select the options "Yes" or "No" and then describe the number of users in the aforementioned condition.

After applying the instruments, the IG was informed about their participation in the MS workshops, while the CG initially would not receive intervention. After carrying out the MS workshops, in the final line of the study, the two teams were reevaluated and after the end of the study, MS was offered to the Beta team.

To analyze the responses, risk perception indices (RPIs) were created, with the purpose of qualifying the CHAs' responses. For each of the CHAs, the RPI was calculated, considering the proportion of correct answers in relation to the total number of questions in each area, with a maximum value of 1.0. The aspects listed in questions 2, 10, 16, 18 and 20 were considered RPI for older people's health (RPIO), and questions 3, 11 and 19 were related to maternal and child health (RPIMC), questions 1, 4, 6 and 13 for adult health (RPIA), and questions 5, 9, 14 and 17 for musculoskeletal disorders (RPIMD). Total RPI considered corresponded to the arithmetic mean of the RPIO, RPIMC, RPIA and RPIMD indices: RPI = number of correct answers/total questions in the thematic axis.

Intervention

The MS workshops were held in the meeting room of the professionals' work health unit during office hours. Four meetings were held on consecutive days, with four hours in person and two hours of activities to be carried out at home. The themes and dynamics covered are detailed in Chart 1. As a learning process, active methodologies were used and forms of identification, prevention, rehabilitation and possible management of users with conditions responsive to physiotherapy in PHC were addressed.

Data analysis

SPSS statistical software version 22.0 was used and a descriptive analysis was carried out for categorical variables and measures of central tendency and dispersion of continuous variables. The Shapiro-Wilk test was used to verify normality of continuous variables. The hypothesis was tested that MS performed by physiotherapy is capable of increasing the perception of CHAs regarding the role of physiotherapy in PHC. Therefore, RPI were compared before and after the intervention period in both groups using the Wilcoxon test and between the IG and CG using the Mann-Whitney test, considering $p \leq 0.05$.

Chart 1 - Content and schedule of matrix support workshops (themes and dynamics covered in the workshops)

Thematic axis	Theoretical focus I	Didactic strategies I	Theoretical focus II	Didactic strategies II	Home
Child health	Child development monitoring	- Videos illustrating child development milestones; - Videos illustrating typical and atypical development	Respiratory disorders	- Simulation of mouth breathing using a clothespin on the nose; - Themed game of seven errors with images of the repercussions of mouth breathing	Analysis of the child's health record
Women's health	- Women with multiple roles and their care; -Pelvic floor (PF) and urinary incontinence (UI)	- Images with the female and male pelvic floor; - Simulation of the functioning of the pelvic floor with a balloon; - Myths and truths	Pregnancy and its repercussions	- Exercises to strengthen the PF; - Preparatory exercises for childbirth and positioning the baby inside the uterus	Identification of clinical cases of women and men (relatives or friends) who present with UI
Adults' health	Chronic venous disease	- Images with the stages of the disease; - Evaluation of a volunteer participant; - Exercise demonstration; - Word search	- Workers' health; - Musculo-skeletal pain	- Staging cases; - Exercises and stretches at work, work postures that prevent pain	Identification of clinical cases
Older people's health	- Aging process and most common diseases; - Risk of falling	Simulation of difficulties experienced by older people with reduced senses	Changes in the vestibular system	- Simulation of vertigo with a volunteer; - Labyrinthine stimulation exercises	Identification of clinical cases

Results

Thirteen CHAs participated in the study, 53% of whom were male, with an average age of 43.2 ± 10.7 years and an average time in the profession of 16.3 ± 6.9 years. Approximately 70% of the sample worked and lived in rural areas and had high school education. Table 1 describes the demographic characteristics of the participants. The groups were similar in terms of sex, age, area of residence and activity and were different in terms of length of experience and education. All participants reported having already taken training courses and completed an average of four courses. During the study, there were no losses of volunteers and training attendance was 100%.

The RPI for health responsive to physiotherapy, according to thematic axes, and the identification of cases of health conditions to be referred to physiotherapy at the beginning and end of the study can be viewed in Table 2. When analyzing the baseline of the study regarding the perception of risks found in the questions, it can be seen that both groups were similar. Still at baseline, the identification of risk of falls in older people was significantly lower in the IG (p = 0.023) when compared to the CG. There was no identification of cases of urinary incontinence in members of the CG, while in the IG there was a small number of identifications, thus presenting a statistically significant difference (p = 0.001).

Table 1 - Demographic characteristics of the control (CG) and intervention (IG) groups at study baseline

Variable	CG (n = 6)	IG (n = 7)	p-value
Sex			
Female	2 (33.3)	4 (57.1)	0.54
Male	4 (66.7)	3 (42.9)	
Age	43 ± 10	43 ± 11	0.74
Zone			
Urban	2(33.3)	2 (28.6)	0.74
Rural	4 (66.7)	5 (71.4)	
Education			
High school	3 (50.0)	6 (85.7)	0.04 *
Higher education	3 (50.0)	1 (14.3)	
Time working	16 ± 4	15 ± 8	0.01*

Note: Data expressed as n (%), except for age and time working (years), expressed as mean ± standard deviation. *p ≤ 0.05

Regarding the identification of children to be referred for physiotherapy in PHC, no cases were identified in either group (Table 2).

A significant difference can be observed between the CHAs who participated in the MS workshops when compared to those who did not participate in relation to the RPIMD (p = 0.032) and in the identification of cases of child changes in their territory of coverage (p = 0.012). In relation to the survey to identify demands for physiotherapy in PHC in its area of coverage, the IG was able to identify a greater number of possible cases to be referred for physiotherapy treatment in all items questioned (Table 2).

When comparing the same participants before and after the intervention, a statistically significant increase in RPIO was obtained in the IG and a worsening of RPIA in the CG (Figure 1). Furthermore, there was a greater identification of users with possible vestibular changes (p = 0.05), venous changes (p = 0.05), risk of falls (p = 0.02) and urinary incontinence (p = 0. 02) in relation to the responses before the intervention in the group that participated in MS (Figure 2).

Table 2 - The indices of health risk perception sensitive to the performance of physiotherapy and the identification of cases of health conditions to be referred to physiotherapy before and after of matrix support workshops

Conditions	Before matrix support workshops						p-value
	Control group (n = 6)			Intervention group (n = 7)			
	1	2	3	1	2	3	
RPIMD	0.5	0.5 - 1.0	0.60 ± 0.08	0.7	0.2 - 1.0	0.70 ± 1.11	0.24
RPIO	0.8	0.4 - 1.0	0.70 ± 1.11	0.6	0.2 - 1.0	0.60 ± 0.11	0.60
RPIA	0.7	0.5 - 1.0	0.70 ± 0.06	0.7	0.5 - 1.0	0.80 ± 0.08	0.15
RPIMC	1.0	0.0 - 1.0	0.70 ± 0.18	0.6	0.0 - 1.0	0.70 ± 0.14	0.48
IDVC	1.5	0.0 - 3.0	1.30 ± 0.49	2.0	0.0 - 4.0	2.10 ± 0.50	0.95
IDRF	2.0	0.0 - 10.0	3.80 ± 1.68	2.0	0.0 - 5.0	1.70 ± 0.71	0.02*
IDWH	3.0	0.0 - 15.0	4.60 ± 2.24	5.0	4.0 - 25.0	11.00 ± 3.36	0.06
IDCVC	1.0	0.0 - 3.0	1.20 ± 0.54	3.0	0.0 - 4.0	2.40 ± 0.68	0.35
IDUI	0.0	0.0 - 0.0	0.00 ± 0.00	0.0	0.0 - 2.0	0.60 ± 0.29	0.01*
IDCC	0.0	0.0 - 0.0	0.00 ± 0.00	0.0	0.0 - 0.0	0.00 ± 0.00	0.00
Conditions	**After matrix support workshops**						p-value
	Control group (n = 6)			Intervention group (n = 7)			
	1	2	3	1	2	3	
RPIMD	0.6	0.0 - 1.0	0.50 ± 0.36	1.0	0.7 - 1.0	0.90 ± 0.13	0.03*
RPIO	0.6	0.2 - 1.0	0.50 ± 0.32	0.8	0.6 - 1.0	0.80 ± 0.17	0.21
RPIA	0.5	0.5 - 0.7	0.60 ± 0.12	0.7	0.7 - 1.0	0.80 ± 0.12	0.74
RPIMC	0.7	0.3 - 1.0	0.70 ± 0.25	1.0	0.6 - 1.0	0.90 ± 0.12	0.14
IDVC	2.5	1.0 - 5.0	2.80 ± 1.47	5.0	1.0 - 6.0	4.10 ± 1.67	0.84
IDRF	10.0	0.0 - 25.0	10.80 ± 8.40	10.0	4.0 - 30.0	13.40 ± 8.20	0.96
IDWH	2.5	2.0 - 12.0	4.30 ± 3.90	5.0	3.0 - 8.0	5.70 ± 1.97	0.29
IDCVC	3.0	0.0 - 8.0	3.20 ± 3.12	4.0	3.0 - 10.0	5.40 ± 2.87	0.83
IDUI	0.0	0.0 - 2.0	0.50 ± 0.83	3.0	1.0 - 20.0	5.60 ± 6.47	0.10
IDCC	2.0	0.0 - 3.0	1.70 ± 1.50	3.0	1.0 - 15.0	5.60 ± 5.53	0.01*

Note: Risk perception index in musculoskeletal disorders (RPIMD), to health of older people (RPIO), to health of adults (RPIA), and to mother and child health (RPIMC); identification of vestibular changes (IDVC), risk of falling (IDRF), worker's health (IDWH), chronic venous changes (IDCVC), urinary incontinence (IDUI), and child changes (IDCC). *p ≤ 0.05.

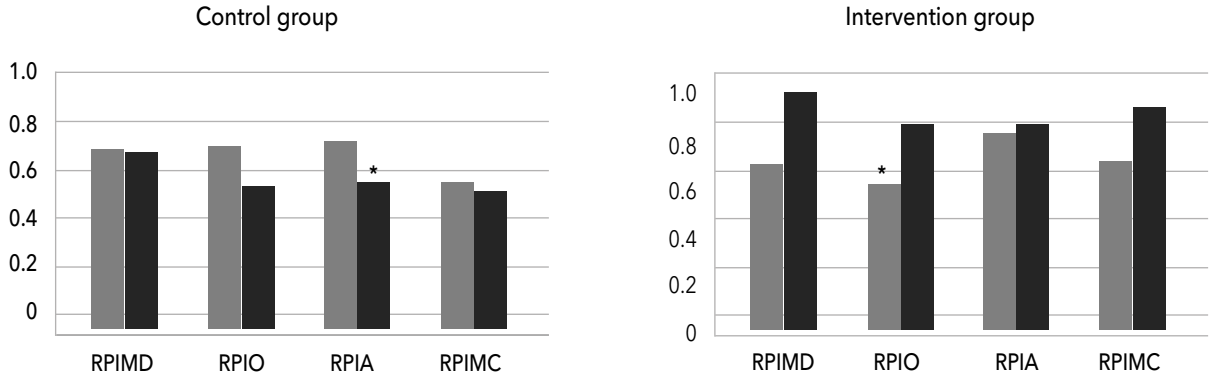

Figure 1 - Pre- (grey columns) and post-intragroup (black columns) risk perception indices.

Note: Risk perception index in musculoskeletal disorders (RPIMD), to health of older people (RPIO), to health of adults (RPIA), and to mother and child health (RPIMC). *p ≤ 0.05.

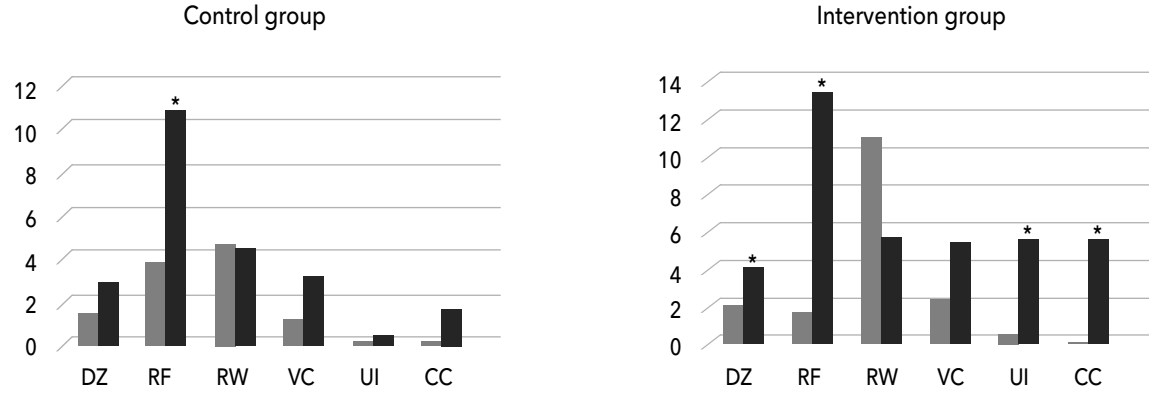

Figure 2 - Intragroup analysis of the identification of possible cases to be referred to physiotherapy in primary health care pre- (grey columns) and post-intervention (black columns).

Note: *Statistically significant difference between pre- and post-intervention moments p ≤ 0.05. DZ = dizziness; RF = risks of falls; RW = risks by work; VC = venous changes; UI = urinary incontinence; CC = childhood changes.

Discussion

The present study demonstrated that MS was effective in terms of greater perception of CHAs in relation to health conditions responsive to physiotherapy intervention in PHC. During the practice, it was possible to carry out joint construction of knowledge and care guidelines between ESF professionals and physiotherapists (matrix supporters).[14] The agents were informed about the activation of physiotherapists' support in PHC, as well as about the possibilities of action of this specialist in the level of care.

A quasi-experimental design was chosen as this is a viable field research design for the municipality where the study was carried out. Although individuals were not randomized to the intervention and control groups, the variables gender, age and area of activity were similar. The CG members, however, had longer experience and education. Despite the difference found, the majority of CHAs had worked in the position for more than a decade and met the minimum education requirements (69% with high school education). The literature suggests that the vast majority of CHAs do not have higher education and their experience derives, mostly, from their time working

in the role and in the community. A systematic review of the CHA profile in several countries identified three main patterns in training, namely: 1) individuals with little/no formal education and who underwent a few weeks of job training; 2) individuals with high school education, with some qualification course; and 3) individuals with high school education and who have qualified for months or more than a year to carry out the work.[25] No different, in Brazil, studies show that the majority of CHAs have completed high school to perform the job.[26,27] It is worth mentioning that Brazilian legislation states the need to complete secondary education for professionals, with technical courses also being offered for CHAs and community endemic disease agents, in addition to encouraging continued education.[5]

When analyzing the RPI on health conditions responsive to physiotherapy intervention in PHC, no differences were found between the IG and CG at the study baseline (Table 2). Therefore, the study participants had similar knowledge regarding the topics of older persons' health, adult health, maternal and child health and musculoskeletal disorders, which was not influenced by other training received in the course of these workers. It is common to find reports in the literature of training processes directed at CHAs by nurses,[28-31] psychologists,[32-34] speech therapists,[35,36] dentists,[37] as well as by the multidisciplinary team that is part of the NASF-AB,[38] however without specifying the professionals who carried out the study. Furthermore, publications describing training led by physiotherapists are less common,[39,40] and it is possible to observe the existence of a conception of the physiotherapist restricted to the universe of rehabilitation with individual and home care.[41,42]

After the MS, it was possible to notice an increase in knowledge measured by the RPI in all axes covered by the MS on the part of the IG participants when compared to the CG (Table 2). However, the only index that increased was that of musculoskeletal disorders, which included situations involving chronic pain, such as osteoarthritis and tendinitis, chronic venous disease and topics related to worker health. There may have been contamination of one group with the other, as those who work together and did not stay apart at times not covered by the intervention.

In relation to RPIMC, a significant increase was observed when analyzing the values before and after the intervention (Table 2). In a technical note prepared by the Ministry of Health, in 2018,[43] on women's health during pregnancy, childbirth and the postpartum period, the physiotherapist's duties and the encouragement of sharing care are included; however, the professional is not mentioned in the notebooks of Prenatal Care, which are widely used in basic health units. From this perspective, studies indicate the need for training on the subject as this is an important ally in the health strategy for pregnant women.[44]

Regarding children's health, the main milestones of neuropsychomotor development, respiratory health and postural changes were addressed, using the Child Health Handbook, as the instrument is part of the National Policy for Comprehensive Child Health Care. The results are in line with the literature when it is observed that the CHA professional is generally insecure about the items covered in the booklet, reinforcing the need for training on the different themes encountered and on multidisciplinary work in the PHC.[31]

After MS, an increase in the perception of RPIO by members of the IG was observed when compared to the CG (Table 2). The professionals were more familiar with issues relating to hypertension and diabetes, a fact that is justified by the high prevalence of these health conditions among users.[2] Other conditions, such as chronic obstructive pulmonary disease (COPD), vestibular changes and factors related to the risk of falling proved to be less familiar to the CHA. COPD is among the main causes of morbidity and mortality in the country,[45] as well as vestibulopathies are highly found in PHC, negatively affecting the quality of life of users[46] and the physiotherapist can be an important ally in the prevention and management of cases.

As for the identification of cases of urinary incontinence, this did not happen in the CG and few cases were mentioned by the participants in the IG, which can be justified by the fact that many people think the loss of urine is normal, having the false impression that there is little or none demand and also because they are unaware of the types of treatment, not relating physiotherapy to this pathology.[47]

When comparing the RPI of the same group at study baseline and in the reevaluation, it was observed that there was a considerable increase in the RPI and issues related to the health of older persons, and greater identification of cases of venous alterations, risk of falls, vestibular alterations, childhood changes and urinary incontinence, which confirms that MS is essential to

increase health knowledge among teams.[13] In addition to the information presented, a small reduction in the RPI of the CG was observed in the reevaluation, a difference that is not statistically significant, which may is justified by natural variability, that is, random fluctuations in the data.

The essence of this study was to carry out dialogical interaction between physiotherapy professionals (secondary care) and CHAs (primary care) regarding the actions that can be worked on in PHC, expanding the possibilities of increasing the effectiveness of work in health. It was observed that physiotherapy MS workshops for CHAs present themselves as a strong working tool, capable of generating health knowledge, enabling the identification of cases and generating, if necessary, a therapeutic plan.[13,16]

The number of volunteers stands out as a limitation of this study, as it was carried out in a small municipality. This fact leads to the inspiration that studies with a larger number of participants are carried out to compare the results found. Another point to be mentioned is the study design, with the suggestion of carrying out a randomized clinical trial. It is worth mentioning that the workshops took place during office hours and at the professionals' workplace, with the possibility of sharing information by IG members, however, they were instructed to maintain confidentiality regarding all activities and topics covered beforehand. beginning of activities.

Conclusion

The study, despite its limitations, is important for pointing out positive effects of MS for PHC teams. The intervention was effective in raising awareness among CHAs about the health conditions that could be addressed by physiotherapy in PHC, and proved to be fruitful in sharing an environment where knowledge was exchanged between professional classes. Therefore, it is hoped that this study can support further research to prove the positive effect of MS carried out by physiotherapy for the PHC team, as well as ensuring its role in the first level of care.

Authors' contribution

SMNB and GBMS worked on the investigation and data collection, formal analysis, methodology and writing of the original draft. ACB and DFMV worked on the methodology, data analysis and review of the manuscript. HSC and JNS were responsible for the supervision, review and administration of the project.

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