



## Knowledge about recommendations on physical activity by Primary Care professionals

### *Conhecimento sobre recomendações de atividade física por profissionais da Atenção Primária à Saúde*

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#### **ABSTRACT**

The aim of this study was to examine the knowledge of Primary Health Care (PHC) professionals about physical activity (PA) recommendations for adults. A cross-sectional study was conducted in the PHC in Florianópolis, state of Santa Catarina, in 2018. A questionnaire was applied to the professionals about their knowledge about PA recommendations, their level of PA and professional performance, and sociodemographic information. Data were analyzed using the chi-square test and Poisson Regression. Participants were 587 professionals (85.4% women), of whom 49.1% reported knowing the recommendations and 38.2% reported having a “good” knowledge about the recommendations. However, only 6.6% answered correctly about the recommended volume. In conclusion, there is a need to create actions to spread knowledge about the recommendations and thus optimize the promotion of PA in PHC.

**Keywords:** Knowledge. Physical activity. Primary care.

#### **RESUMO**

O objetivo deste estudo foi analisar o conhecimento dos profissionais da Atenção Primária à Saúde (APS) sobre recomendações de atividade física (AF) para adultos. Realizou-se um estudo transversal na APS de Florianópolis, SC, em 2018. Foi aplicado um questionário com os profissionais sobre seu conhecimento sobre as recomendações de AF, seu nível de AF e atuação profissional, bem como suas informações sociodemográficas. Os dados foram analisados por meio do teste qui-quadrado e Regressão de Poisson. A amostra foi composta por 587 profissionais (85,4% mulheres), dos quais 49,1% declararam conhecer as recomendações e 38,2% relataram possuir um “bom” conhecimento sobre as recomendações. Contudo, apenas 6,6% responderam corretamente sobre o volume recomendado. Conclui-se que existe a necessidade da criação de ações para difundir o conhecimento sobre as recomendações e assim otimizar a promoção de AF na APS.

**Palavras-chaves:** Atenção primária à saúde. Atividade física. Conhecimento.

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## **INTRODUCTION**

Strategies to promote physical activity (PA) have been shown to be

ineffective in the face of the increase in insufficiently active people in the world<sup>1</sup>. In addition to the impact on health problems, physical inactivity is related to the

economic development of countries, especially those with low and middle income<sup>2</sup>. In Brazil, in 2019, 61% residents of Brazilian capitals did not reach a recommended level of moderate physical activity, with higher values of physical inactivity among women (67.6%) than among men (53.3%)<sup>3</sup>.

In order to assist the need to combat physical inactivity and in the absence of guidelines, especially in low- and middle-income countries, the World Health Organization created the Global Physical Activity Recommendations<sup>4</sup>. Its focus is on health and the prevention of chronic diseases in children and adolescents, adults and the elderly through physical activity<sup>4</sup>. Its construction was based on constant scientific advances, which requires updating and constant evaluation<sup>5</sup>. In 2020, a new version was published that, in addition to updating the information regarding the groups already described, also included recommendations for physical activity for pregnant women, people living with chronic conditions or disabilities and encourages the reduction of sedentary behavior<sup>6</sup>. In addition, in 2021, the Ministry of Health of Brazil publishes the first recommendations on physical activity for the Brazilian population<sup>7</sup>. For the adult population, the document guides the engagement of at least 150 minutes in moderate-intensity physical activity or 75 in vigorous activities, and a combination of these dosages is also possible to achieve significant health benefits<sup>7</sup>.

The recommendations must be understood as information based on scientific evidence and that can be transmitted to the population and managers<sup>6</sup>. The Physical Activity Guide for the Brazilian Population has the potential to support actions to promote physical activity carried out by professionals and managers working in public health<sup>7</sup>. However, the benefits of PA go beyond biological factors, making it necessary to promote actions that give meaning to the practice<sup>8</sup>. In other words, only the existence of a guideline makes the fight against physical inactivity ineffective, requiring its use to be accompanied by other strategies for dissemination and promotion of physical activity<sup>6</sup>.

In order to promote health in the population, the National Health Promotion Plan was created in Brazil, which demonstrates the State's commitment to the expansion and qualification of health promotion actions in the services and management of the Unified Health System<sup>9</sup>. In this system, Primary Health Care is the main gateway to the health care network<sup>10</sup>, and acts in health promotion and disease prevention through integrated care practices, and has Family Health as a priority expansion and consolidation strategy, and qualification of services<sup>10</sup>. This performance model, accompanied by users' trust in professionals, provides a favorable environment for the promotion of physical activity through counseling<sup>11</sup>.

Counseling, when applied in the context of Primary Health Care, can be an

important tool and be widely replicated in combating physical inactivity<sup>12</sup>. In Basic Health Units, on average, 60% health professionals report giving advice to the practice of physical activity, however, when investigating users, approximately 35% believe they have been advised<sup>14</sup>. The practice should not be underestimated, as it is only efficient if there is a professional trained<sup>12</sup>. Increasing knowledge about physical activity, especially about physical activity recommendations, can increase the confidence of professionals to carry out physical activity counseling<sup>14</sup>. Primary Care professionals recognize the lack of knowledge about physical activity recommendations as a limitation in the development of physical activity counseling<sup>15</sup>. Thus, this study aimed to analyze the knowledge of primary health care professionals about physical activity recommendations, in order to support the practical development in the performance of these professionals, helping to promote physical activity.

## **METHODOLOGY**

This was a cross-sectional study, derived from the project "Counseling for physical activity in Primary Health Care - Counseling SUS" which proposes to investigate the practice of counseling for physical activity of professionals in Primary Health Care in the city of Florianópolis, state of Santa Catarina. The municipality has approximately 508,000 inhabitants and has a high Municipal Human Development

Index (IDHM) when compared to the national average (0.847 versus 0.755)<sup>16</sup>. The research project followed the ethical principles according to Resolution 466/12 of the National Health Council, and was approved by the Health Research Project Monitoring Committee of the School of Public Health of the Municipal Secretariat of Florianópolis and by the Human Research Ethics Committee from the Federal University of Santa Catarina with opinion 2693520.

The care model of the municipality of Florianópolis is centered on Primary Health Care and the organization is based on four Health Districts that manage 49 Basic Health Units (BHU). The Family Health Teams (FHT), Oral Health Teams (OHT) and the Expanded Nucleus of Family Health and Primary Health Care (ENFH-PHC) work at these BHU.

All public servants and resident professionals from the FHT, OHT, ENFH-PHC of Primary Health Care who were in service between August and November 2018 participated in the survey, totaling 1,056 invited professionals. The resident professionals surveyed belonged to the Family Health Residency Programs of the Federal University of Santa Catarina and the State University of Santa Catarina. Professionals who were absent at the time of application of data collection due to leave, vacation or in an internship period, specifically in the case of residents, were excluded from the study. The FHT is formed by at least one professional from medicine, nursing, nursing technician or

assistant and community health agent, and may also contain oral health professionals of the OHT, such as dentists and oral health assistants or technicians<sup>10</sup>. The ENFH-PHC is formed by several health professionals who work in support of the FHT<sup>10</sup>, and in Florianópolis, they mostly have professionals from social work, nutrition, physical therapy, psychology, pharmacy and physical education.

For this research, a self-administered questionnaire was developed by the researchers of the Counseling SUS Project. It is based on data from a systematic review on the prevalence of counseling for physical activity<sup>13</sup>. The instrument was approved after evaluation by two specialists in the field of Physical Education, a test with graduate students and application of a pilot study in a BHU.

Composed of 49 questions, the instrument is divided into five blocks: 1) counseling for physical activity; 2) knowledge about physical activity recommendations; 3) level of leisure-time physical activity; 4) professional training and performance, and 5) sociodemographic information. For the development of this study, the questions included in blocks 2 to 5 were used.

The perception of knowledge about physical activity recommendations was identified through the question: How do you consider your knowledge about physical activity recommendations? The professional could answer based on a 5-point Likert scale (very bad, bad, moderate, good, very good). The answers were

grouped into very bad and bad, moderate, good and very good.

Knowledge of the recommendations (frequency and weekly duration of physical activity) was identified by the question: Do you know what physical activity recommendations are for apparently healthy adults, regarding moderate or vigorous physical activity?" The answer options were dichotomized (yes; no). Professionals who declared to know the recommendations answered four questions regarding the description of the weekly frequency and minutes: 1) What is the minimum weekly frequency that the individual must perform of MODERATE physical activity to obtain health benefits?; 2) On these days, what is the minimum recommended time of MODERATE physical activity to obtain health benefits?; 3) What is the minimum weekly frequency that the individual must perform of VIGOROUS physical activity to obtain health benefits?; 4) On these days, what is the minimum recommended time of VIGOROUS physical activity to obtain health benefits?" To assess knowledge of the minimum physical activity recommendations, the minimum values recommended by the World Health Organization at the time the study was developed were considered ( $\geq 150$  min/wk of moderate physical activity and 75 minutes of vigorous activity)<sup>4</sup>. The categorization of the response is the result of the product of the weekly frequency and the minimum time in minutes. The answers were organized into two categories (correct description and incorrect description). The

correct description was considered when the professional correctly indicated the minimum recommendations for vigorous and moderate activity.

Sociodemographic variables included sex (male, female), age group (18 to 29 years old, 30 to 49 years old, over 50 years old), skin color (white, non-white), education (does not have complete higher education, complete higher education, graduate studies) and graduate studies in Public Health, with yes or no answer options. Regarding the professional categories, the answer options were grouped into Family Health and Oral Health professionals “FHT/OHT” (community health agent, nurse, physician, nursing technician, oral health assistant/technician and dentist) and “ENFH-PHC” (social worker, nutritionist, physical therapist, psychologist, pharmacist and physical education professional)

Information about the employment relationship was identified by categories (temporary, public servant/effective), length of experience in Primary Health Care ( $\leq 3$  years,  $> 3$  years), workload ( $\leq 30$  hours,  $\geq 40$  hours). About professional performance, it was asked whether the professional received or performed matrix support with the multidisciplinary teams on the topic of PA and health. This questioning was due to the fact that matrix support is recognized by the National Policy for Primary Care as a multidisciplinary strategy in health care, being also among the attributions of professionals<sup>10</sup>.

Finally, to identify the level of physical activity, professionals were asked about the length and frequency of weekly physical activity at moderate and vigorous intensity and walking. The activity performed at work, commuting or in household chores was not considered. The level of physical activity was categorized from the sum of minutes of moderate physical activity and walking with twice the length of vigorous physical activity<sup>17</sup>, being classified according to the values recommended by the World Health Organization<sup>4</sup> ( $\leq 150$  minutes,  $\geq 150$  minutes).

Data collection included four researchers who participated in the entire process of organizing and building the logistics and collection instrument. First, through contact with the Health Districts, the dates of the BHU planning meetings and the contacts of the coordinators were identified to disseminate the research and survey the updated number of professionals. Subsequently, the research was presented to the coordinators of the units at a district meeting. The questionnaire was applied at UBS planning meetings. In order to avoid sample loss, the researchers carried out a second visit to collect questionnaires from professionals who did not participate at the time of collection or were unable to fill in at the time of the meeting. The collected data were checked by two different researchers.

Data were tabulated in the EpiData software and analyzed in the IBM SPSS 20.0 and R softwares. Descriptive (relative and absolute frequency) and inferential

analysis were performed. To check the possible associations of sociodemographic variables, professional performance and level of physical activity with self-reported and described knowledge, the chi-square test was applied. Poisson regression was used to identify the prevalence ratio in the crude and adjusted analysis. In the adjusted analysis, variables with p-value <0.20 in the crude analysis were included in the model. A significance level of 5% was adopted.

## RESULTS

We invited 1,056 professionals from 49 Basic Health Units to participate in the

study. Of these, 273 (25.8%) refused to participate in the study. Due to incomplete data filling (n=23) and absence from work (holidays and leaves) during the collection period (n=173), there was a sample loss of 18.5% (n = 196). Thus, the results reflect the analysis of 587 professionals.

Table 1 lists the characteristics of professionals working in Primary Health Care in Florianópolis. Data highlight a predominance of women, self-declared as white skinned, belonging to the Family Health and Oral Health team (FHT/OHT) and with a weekly workload of at least 40 hours.

**Table 1.** Characteristics of Primary Health Care professionals in Florianópolis, 2018 (n = 587)

Variables	Category	n	%
Sex	Male	80	14.6
	Female	468	85.4
Age group	18 to 29 years	82	14.0
	30 to 49 years	404	68.8
	Above 50 years	101	17.2
Skin color	White	461	83.8
	Non-white	89	16.2
Education	No higher education	223	39.3
	Higher education	94	16.5
	Graduate studies	251	44.2
Graduate studies in PH <sup>1</sup>	No	383	68.5
	Yes	176	31.5
Professional team	FHT <sup>2</sup> / OHT <sup>3</sup>	515	87.7
	ENFH-PHC <sup>4</sup>	72	12.3
Employment relationship	Temporary	218	38.2
	Public servant/effective	353	61.8
Working time on PHC <sup>5</sup>	≤ 3 years	122	22.9
	> 3 years	410	77.1
Workload	≤ 30 hours	111	19.4
	≥ 40 hours	460	80.6
Level of physical activity	< 150 minutes	320	54.5
	≥ 150 minutes	267	45.5

n= frequency; <sup>1</sup>PH= Public Health; <sup>2</sup>FHT = Family Health Team; <sup>3</sup>OHT = Oral Health Team; <sup>4</sup>ENFH-PHC = Expanded Nucleus of Family Health and Primary Health Care; <sup>5</sup>PHC= Primary Health Care.

As for the knowledge of physical activity recommendations for adults in Table 2, most professionals considered having a moderate perception of knowledge of recommendations; 50.9% reported not knowing the recommendations, and 93.4% were unable to correctly describe the minimum weekly PA volume for adults. When compared to the FHT/OHT, there

was a higher frequency of professionals from the ENFH-PHC who claim to have a bad/very bad perception about the recommendations and had a higher percentage of correct description of the minutes and the minimum weekly frequency of physical activity to achieve health benefits.

**Table 2.** Perceived, self-reported and described knowledge about physical activity recommendations for adults by primary care professionals in Florianópolis, 2018 (n = 587)

Variables	TOTAL n (%)	FHT <sup>1</sup> /OHT <sup>2</sup> n (%)	ENFH-PHC <sup>3</sup> n (%)
<b>Perception of knowledge of PA<sup>4</sup> recommendations (n=573)</b>			
Bad/ /Very bad	74 (12.9)	61 (12.2)	13 (18.1)
Moderate	280 (48.9)	254 (50.7)	26 (36.1)
Good/ Very good	219 (38.2)	186 (37.1)	33 (45.8)
<b>Self-reported knowledge of PA<sup>4</sup> recommendations (n=574)</b>			
No	292 (50.9)	256 (51.0)	36 (50.0)
Yes	282 (49.1)	246 (49.0)	36 (50.0)
<b>Description of time and minimum weekly frequency of PA<sup>4</sup> for adults (n=587)</b>			
Incorrectly describes / Did not describe	548 (93.4)	486 (94.4)	62 (86.1)
Correctly describes	39 (6.6)	29 (5.6)	10 (13.9)

n= frequency; <sup>1</sup>FHT = Family Health Team; <sup>2</sup>OHT = Oral Health Team; <sup>3</sup>ENFH-PHC = Expanded Nucleus of Family Health and Primary Health Care; <sup>4</sup>PA= Physical Activity.

According to Table 3, there was an association of self-reported knowledge of the recommendations with the level of physical activity of professionals (p=0.039). Health professionals who are physically active are more likely to report knowing physical activity recommendations than those who are inactive.

As for knowledge correctly described, there was a significant association with education (p=0.032), type of team (p=0.008) and length of experience in Primary Health Care (p=0.01). Those professionals who have completed higher education, linked to the ENFH-PHC and have worked ≤ three years tend to know the recommendations correctly, as shown in Table 3.

**Table 3.** Association between self-reported and described knowledge about physical activity recommendations for adults by primary health care professionals in Florianópolis with sociodemographic factors, professional performance and physical activity (n=587\*\*)

	<b>Know n (%)</b>	<b>p-value</b>	<b>Describe correctly n (%)</b>	<b>p-value</b>
<b>Sex</b>		0.978		0.744
Male	38 (48.3)		5 (6.2)	
Female	223 (48.3)		34 (7.3)	
<b>Education</b>		0.924		0.032*
Incomplete higher education	103 (48.1)		9 (4.0)	
Complete higher education	167 (48.5)		30 <sup>¥</sup> (8.7)	
<b>Team</b>		0.874		0.008*
FHT <sup>1</sup> / OHT <sup>2</sup>	246 (49.0)		29 (5.6)	
ENFH-PHC <sup>3</sup>	36 (50.0)		10 <sup>¥</sup> (13.9)	
<b>Time of Work in PHC<sup>4</sup></b>		0.233		0.008*
≤ 3 years	52 (43.0)		15 <sup>¥</sup> (12.3)	
> 3 years	200(49.1)		22 (5.4)	
<b>Workload</b>		0.699		0.807
≤ 30 hours	52 (46.8)		7 (6.3)	
≥ 40 ho	221 (48.9)		32 (7.0)	
<b>Matrix support</b>		0.324		0.112
Does not perform/Did not receive	90 (44.6)		10 (4.9)	
Perform/received	163 (48.9)		29 (8.6)	
<b>Graduate studies in PH<sup>5</sup></b>		0.244		0.068
No	173 (46.4)		21 (5.5)	
Yes	91 (51.7)		17 (9.7)	
<b>Physical activity</b>		0.039*		0.675
T	139 (45.1)		20 (6.2)	
≥ 150 minutes	143 <sup>¥</sup> (53.8)		19 (7.1)	

<sup>1</sup>FHT= Family Health Team; <sup>2</sup>OHT = Oral Health Team; <sup>3</sup>ENFH-PHC= Expanded Nucleus of Family Health and Primary Health Care <sup>4</sup>PHC= Primary Health Care; <sup>5</sup>PH= Public Health; <sup>¥</sup> = residual adjustment ≥ 2.0; \* = statistically different, p < 0.05, chi-square test. \*\*= Frequencies may not correspond to the total due to missing (omission of respondents in the survey).

Tables 4 and 5 show the regression models for the association of sociodemographic characteristics, professional performance and physical activity with self-reported and described

knowledge. In the model in Table 4, there was a significant prevalence of physically active professionals who report knowing the physical activity recommendations (PR: 1.35; 95%CI: 1.03-1.77).

**Table 4.** Crude and adjusted prevalence ratio for self-reported knowledge about physical activity recommendations for adults by primary health care professionals in Florianópolis with sociodemographic factors, professional performance and physical activity (n = 587)

Variables	Crude analysis		Adjusted analysis	
	PR (95% CI)	p-value	PR (95% CI)	p-value
<b>Sex</b>		0.836		
Male	1			
Female	0.96 (0.68;1.40)			
<b>Education</b>		0.344		
Incomplete higher education	1			
Complete higher education	1.15 (0.86;1.56)			
<b>Team</b>		0.647		
FHT <sup>1</sup> / OHT <sup>2</sup>	1			
ENFH-PHC <sup>3</sup>	1.09 (0.75; 1.54)			
<b>Time of Work in PHC<sup>4</sup></b>		0.450		
≤ 3 years	1			
> 3 years	1.13 (0.83;1.57)			
<b>Workload</b>		0.915		
≤ 30 hours	1			
≥ 40 hours	0.98 (0.72; 1.37)			
<b>Matrix support</b>		0.426		
Does not perform/Did not receive	1			
Perform/received	1.12 (0.85; 1.49)			
<b>Graduate studies in PH<sup>5</sup></b>		0.136		0,189
No	1		1	
Yes	1.23 (0.93; 1.60)		1.20 (0.91; 1.57)	
<b>Physical activity</b>		0.022		0,029
< 150 minutes	1		1	
≥ 150 minutes	1.37 (1.05; 1.80)		1.35 (1.03; 1.77)	

<sup>1</sup>FHT= Family Health Team; <sup>2</sup>OHT = Oral Health Team; <sup>3</sup>ENFH-PHC= Expanded Nucleus of Family Health and Primary Health Care; <sup>4</sup>PHC= Primary Health Care; <sup>5</sup>PH= Public Health; PR= Prevalence ratio; 95% CI= 95% Confidence Interval; \* = statistical significance, p < 0.05, Poisson regression.

The results in Table 5 indicated in the crude analysis a higher prevalence among professionals linked to the ENFH-PHC and correctly described knowledge (PR: 2.19; 95% CI: 1.01-4.41), as well as a

lower prevalence among professionals who work in Primary Health Care for more than three years (PR: 0.50; 95% CI: 0.26-1.00). However, when adjusted in the model, all variables lost significance

**Table 5.** Crude and adjusted prevalence ratio for the knowledge described about physical activity recommendations by primary health care professionals in Florianópolis with sociodemographic factors, professional performance and physical activity (n = 587)

Variables	Crude analysis		Adjusted analysis	
	PR (95% CI)	p-value	PR (95% CI)	p-value
<b>Sex</b>		0.430		
Male	1			
Female	1.52 (0.60; 5.10)			
<b>Education</b>		0.254		
Incomplete higher education	1			
Complete higher education	1.58 (0.75; 3.71)			
<b>Team</b>		0.034*		0,104
FHT <sup>1</sup> / OHT <sup>2</sup>	1		1	
ENFH-PHC <sup>3</sup>	2.19 (1.01; 4.41)		1,88 (0,84; 3,89)	
<b>Time of Work in PHC<sup>4</sup></b>		0.043*		0,118
≤ 3 years	1		1	
> 3 years	0.50 (0.26; 1.00)		0,57 (0,29; 1,18)	
<b>Workload</b>		0.795		
≤ 30 hours	1			
≥ 40 hours	1.12 (0.52; 2.77)			
<b>Matrix support</b>		0.237		
Does not perform/Did not receive	1			
Perform/received	1.55 (0.77; 3.38)			
<b>Graduate studies in PH<sup>5</sup></b>		0.315		
No	1			
Yes	1.40 (0.72; 2.70)			
<b>Physical activity</b>		0.920		
< 150 minutes	1			
≥ 150 minutes	0.97 (0.50; 1.87)			

<sup>1</sup>FHT= Family Health Team; <sup>2</sup>OHT = Oral Health Team; <sup>3</sup>ENFH-PHC= Expanded Nucleus of Family Health and Primary Health Care; <sup>4</sup>PHC= Primary Health Care; <sup>5</sup>PH= Public Health; PR= Prevalence ratio; 95% CI= 95% Confidence Interval; \* = statistical significance, p < 0.05, Poisson regression.

## DISCUSSION

The results of this study show that half of the Primary Health Care professionals declare to know the physical activity recommendations for adults, and two-fifths (40%) report “good” knowledge. Nevertheless, only one in ten correctly identified the recommendations by the World Health Organization. In general, primary care professionals recognize the importance of physical activity and tend to recognize themselves as agents in its promotion<sup>15</sup>. However, without specific

knowledge, actions are limited. It must be ensured that promotion is based on existing guidelines, with the help of support materials and professionals<sup>11</sup>.

Other studies had already reported similar results. A population-based study, carried out with primary health care professionals, identified that even among professionals who practice PA and encourage their patients to practice, it is noticed that professionals do not know the volume and intensity recommended for health<sup>18</sup>. This scenario was also reported by Burdick et al.<sup>19</sup>, where 40% physicians,

nurses and community health agents in Brazil believed that 90 minutes of moderate physical activity per week promoted health benefits, values below the recommendations.

Properly knowing the recommended values is not a result of the effectiveness of a physical activity promotion program, as the promotion depends on the meaning that each individual gives to the practice and, therefore, it goes far beyond reaching or not the minimum time of physical activity<sup>8</sup>. The purpose of the recommendations is due to the importance of establishing a clear message in terms of public health, which is based on scientific evidence and can be established as a goal of health services in the world<sup>4</sup>. For example, counseling is a strategy to promote physical activity that is widely replicable in Primary Care and can reduce physical inactivity in the population, but it is only effective if there is a trained professional<sup>12</sup>.

A study conducted with a significant sample of professionals from the Family Health Strategy identified that those who perceive the lack of knowledge as a barrier to advise physical activity are twice as likely not to do so<sup>20</sup>. In this sense, the Physical Activity Guide for the Brazilian Population can be an important support material for professionals, because in addition to providing recommended values, it also addresses ways that the population can be more physically active and how professionals can encourage the practice<sup>7</sup>.

When analyzing the professional teams, the frequency of professionals who correctly described the physical activity recommendations was higher in the ENFH-PHC teams when compared to the FHT and OHT teams. Even though the National Primary Care Policy recognizes the possibility of the OHT being linked to the FHT<sup>10</sup>, in practice, their actions are poorly integrated, mainly because the demands are large and do not essentially represent the health needs of the population who have difficulty in accessing dental care and seek the family health units for immediate actions, instead of health promotion actions<sup>21</sup>.

Moreover, it is noteworthy that among the ENFH-PHC professionals, the physical education professional is included<sup>10</sup>. This is recognized as the professional trained to develop activities to combat physical inactivity<sup>22</sup>. For example, in Florianópolis, referral to groups managed by physical education professionals is the main form of counseling provided by professionals linked to the ENFH-PHC to promote physical activity<sup>20</sup>.

These results suggest a possible paradigm shift in the role of physical education professionals in Primary Health Care. The role of this professional is often summarized as the guidance of physical activity groups<sup>22</sup>, but it is important to reflect on the impact of these actions in combating physical inactivity within the context of the territory of the BHU. From

this perspective, there is a need for physical education professionals to recognize the complexity of physical activity and teach and discuss aspects of physical activity with other health professionals in Primary Care<sup>24</sup>.

For example, although no statistical significance was found in the present study, matrix support can be an important tool in sharing knowledge related to physical activity. The results show that approximately 1 in 10 professionals who perform or received matrix support correctly know the recommendations. Matrix support can be a strategy for improving knowledge, the way professionals intervene and think, expanding the possibilities for health intervention<sup>25</sup>. Nevertheless, experiences far from this perspective have been developed, being a tool with little problematization, with a focus on fragmented care and with little possibility of transforming health practices<sup>26,27</sup>. It is essential to set strategies, such as, for example, continuing education in health, which promotes collective care and promotes discussions on the potential and limitations that workers have in health care<sup>27</sup>. Thus, by identifying the professional lack of knowledge about physical activity recommendations, discussions that encompass this topic in these spaces should be encouraged.

The results of the present study identified an association between correctly

describing the recommendations and working for less than three years in Primary Care. This may reflect the change in the training of health professionals in recent years. Since the implementation of the SUS, there has been a discussion of interprofessional work based on the principles of universality, equity and integrality, but only recently the country started to include interprofessional education in health education policies<sup>28</sup>. In addition, the Multiprofessional Residency in Family Health, created in 2005 and with greater expansion since 2010, has proven to be an interesting strategy, and its scope is the construction of interdisciplinary practices that oppose a traditional and fragmented model<sup>29</sup>.

Nevertheless, it is important that actions are created to reach all professionals in the network, as there is an association between having completed higher education and correctly describing the recommendations. For example, community health agents are professionals who are not required to have completed higher education, but they have direct contact with community residents and possibly more frequently than professionals, such as physicians and nurses<sup>19</sup>. Florindo et al.<sup>13</sup> demonstrated that including these professionals in moments of training on the promotion of physical activity was effective in increasing knowledge about physical activity recommendations. Moreover, professionals

who participated valued the content learned and felt safer in promoting physical activity<sup>13</sup>. Thus, it is important to include them also in training moments, and among their attributions is also the development of health promotion activities through home visits and individual and collective educational actions<sup>10</sup>.

In this context, in relation to the physical activity of professionals, those who are physically active and report knowing the physical activity recommendations are 35% more prevalent when compared to those who are inactive, but this significance is not found with the correctly described knowledge. Research carried out with Australian adults investigated how different levels of knowledge of physical activity are associated with behavior<sup>30</sup>. The authors identified that there is no association between the level of physical activity and a deeper knowledge of physical activity recommendations, with a significance only with a more superficial knowledge, such as knowing that physical activity promotes health benefits<sup>30</sup>. Thus, promoting PA among professionals would promote their engagement in promoting PA as well. The deepening of this theme promotes new physical activity counseling strategies in order to assess the patient, create a promotion plan and define the goals that can be monitored<sup>11</sup>, leaving a context of only referral to specific groups of the health unit<sup>13</sup>.

The present study has some limitations. The lack of analysis by professional category makes interpretations and analyses difficult, especially with the presence of the Physical Education Professional who may be more familiar with the recommendations. Regarding the measurement of the perception of knowledge, there may have been interpretation biases regarding the recommendations of the World Health Organization. Our findings summarize the knowledge about the recommendations for the adult population and should not be generalized to other age groups, such as children and young. Furthermore, the results reflect the reality of the place studied and may not represent other realities.

## **CONCLUSION**

From the results found, professionals believe they know the physical activity recommendations for the adult population, however few are able to correctly describe the recommended time and frequency. From this, it is suggested that public actions be carried out in order to spread knowledge about physical activity recommendations. Thus, the strategies and responsibilities for the promotion of physical activity in the population are expanded, so that this knowledge is used as support tools for the practical work of the health professional.

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