

**PHYSICAL ACTIVITY AND SEDENTARY BEHAVIOR IN PRIMARY HEALTH
CARE WORKERS IN SOCIAL ISOLATION****ATIVIDADE FÍSICA E COMPORTAMENTO SEDENTÁRIO EM
TRABALHADORES DA ATENÇÃO PRIMÁRIA À SAÚDE NO ISOLAMENTO
SOCIAL****ACTIVIDAD FÍSICA Y COMPORTAMIENTO SEDENTARIO EN TRABAJADORES
DE ATENCIÓN PRIMARIA DE SALUD EN AISLAMIENTO SOCIAL**

Camila Fabiana Rossi Squarcini¹, Maria Luisa Dias Cordeiro², Soraya Dantas Santiago dos Anjos³, Daniela Simões Gomes Moscardini⁴, Isabelle Farias Xavier⁵, Danielle de Amaral Macedo⁶, Saulo Vasconcelos Rocha⁷, David Ohara⁸

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¹ Professor of the Department of Health Sciences at the State University of Santa Cruz (UESC), Professor of the Professional Master's Program in Nursing at UESC and the Multiprofessional Residency Program in Family Health at UESC, Ilhéus, Bahia, Brazil. Email: cfrsquarcini@uesc.br, <https://orcid.org/0000-0002-1605-4834>

² Nursing student at the State University of Santa Cruz (UESC), Scientific Initiation scholarship from the Bahia State Research Support Foundation, Ilhéus, Bahia, Brazil. Email: mldcordeiro.efc@uesc.br, <https://orcid.org/0000-0002-4719-7408>

³ Professor at the Department of Health Sciences at the State University of Santa Cruz (UESC), Coordinator of the Multiprofessional Residency Program in Family Health, Ilhéus, Bahia, Brazil. Email: sdsanjos@uesc.br, <https://orcid.org/0000-0003-3598-5658>

⁴ Master in Health Sciences from the State University of Santa Cruz (UESC), Ilhéus, Bahia, Brazil. Email: dsgmoscardini@gmail.com, <https://orcid.org/0000-0002-1321-1654>

⁵ Nursing student from the State University of Santa Cruz (UESC), Scientific Initiation scholarship from UESC, Ilhéus, Bahia, Brazil. Email: isafariasx@gmail.com, <https://orcid.org/0000-0002-9651-8415>

⁶ Master's student in Physical Education from the Federal University of Santa Catarina (UFSC), scholarship holder from the Foundation for Research and Innovation of the State of Santa Catarina, Florianópolis, Santa Catarina, Brazil. Email: daniellemacedo292@gmail.com, <https://orcid.org/0000-0001-7054-2225>

⁷ Professor of the Department of Health II at the State University of Southwest Bahia (UESB), Professor of the Associate Master's Program in Physical Education at UESB/UESC, Jequié, Bahia, Brazil. Email: svrocha@uesb.edu.br, <https://orcid.org/0000-0001-8655-5151>

⁸ Professor of the Department of Health Sciences at the State University of Santa Cruz (UESC), Professor of the Postgraduate Program in Health Sciences (PPGCS/UESC) and Associate Master's Program in Physical Education at UESB/UESC, Ilhéus, Bahia, Brazil. Email: dohara@uesc.br, <https://orcid.org/0000-0003-0477-8234>

ABSTRACT

Objective: to analyze the physical activity level (PA) and sedentary behavior (SB) of Primary Health Care (PHC) workers in the city of Bahia and their association with sociodemographic, professional, and health characteristics during the period of social isolation. **Method:** A cross-sectional study was carried out by 32 workers from a city in Bahia who answered an online questionnaire. Descriptive analysis and Fisher's exact test were performed, with $p < 0.05$. **Results:** There was a predominance of women (86%), aged 37.05 ± 9.22 years, black/brown (69.8%), with up to 40 hours of work per week (76.7%), who presented recommended indices for AF (97.7%) and SB (83.7%). However, an association was found between SB on the weekend and high cholesterol levels ($p=0.03$). **Conclusions:** The workers were physically active and had low SC levels. In addition, SB at the weekend was associated with high cholesterol, emphasizing the need to reduce this behavior.

Keywords: Exercise; Health Personnel; Sedentary Behavior; Primary Health Care.

RESUMO

Objetivo: analisar o nível de atividade física (AF) e comportamento sedentário (CS) de trabalhadores da Atenção Primária à Saúde (APS) de um município da Bahia e sua associação às características sociodemográficas, profissionais e de saúde durante o período de isolamento social. **Método:** De corte transversal, participaram 32 trabalhadores da APS de um município da Bahia que responderam um questionário on-line. Foi realizada análise descritiva e teste Exato de Fisher, sendo $p < 0,05$. **Resultados:** Observou-se predominância de mulheres (86%), com $37,05 \pm 9,22$ anos, preta/pardas (69,8%), com até 40 horas de trabalho semanal (76,7%), que apresentaram índices recomendados para AF (97,7%) e CS (83,7%). Entretanto, foi encontrada associação entre CS no final de semana e alto nível de colesterol ($p=0,03$). **Conclusões:** Os trabalhadores encontravam-se ativos fisicamente e com baixos índices de CS. Ainda, o CS no final de semana apresentou associação com o colesterol alto, enfatizando a necessidade da redução desse comportamento.

Descritores: Exercício Físico; Pessoal de Saúde; Comportamento Sedentário; Atenção Primária à Saúde.

RESUMEN

Objetivo: analizar el nivel de actividad física (AF) y el comportamiento sedentario (CS) de los trabajadores de la Atención Primaria de Salud (APS) en la ciudad de Bahía y su asociación con las características sociodemográficas, profesionales y de salud durante el período de aislamiento social. **Método:** Estudio transversal realizado por 32 trabajadores de un municipio de Bahia que respondieron un cuestionario online. Se realizó análisis descriptivo y prueba exacta de Fisher, con $p < 0,05$. **Resultados:** Predominó el sexo femenino (86%), con edad $37,05 \pm 9,22$ años, negro/moreno (69,8%), con hasta 40 horas de trabajo por semana (76,7%), que presentó índices recomendados para FA (97,7%) y CS (83,7%). Sin embargo, se encontró asociación entre la SB del fin de semana y los niveles elevados de colesterol ($p=0,03$). **Conclusiones:** Los trabajadores eran físicamente activos y presentaban niveles bajos de SC. Además, la cesárea en fin de semana se asoció con el colesterol alto, lo que enfatiza la necesidad de reducir este comportamiento.

Descriptor: Ejercicio; Personal de Salud; Conducta Sedentaria; Atención Primaria de Salud.

INTRODUCTION

Lifestyle behaviors are associated with higher mortality and incidence of

cardiovascular diseases in adults.¹ In

addition to physical inactivity, time spent on SB is also associated with mortality² and

morbidity.^{3,4} Therefore, having an active lifestyle with low time spent on SB is important for health.

Within this scenario, an adult is considered physically active when they perform at least: 150 minutes of physical activity at moderate intensity; 75 minutes a week at vigorous intensity, or a combination of them⁵⁻⁶ while SB consists of the accumulation of more than 8 hours in a sitting, lying or reclining position, resulting in low energy expenditure.⁵

Studies that seek to evaluate the level of physical activity of Primary Health Care (PHC) workers differ in that there are health workers classified as physically active^{7,8} and another study indicating inactive behavior.⁹ Although scarce, studies on SB in this population and published prior to the pandemic period, suggest excessive time spent on this behavior.^{7,8}

In Brazil, during the COVID-19 pandemic, quarantine, social distancing, home confinement, relocation of professional activities to home activities¹⁰, among other actions were examples of measures adopted that reflected a change in people's daily lives.

In this scenario, studies indicate that the daily life of PHC workers was characterized by an exhausting scenario, with increased work overload, inadequate working conditions, inadequate remuneration, physical exhaustion, in

addition to increased exposure to COVID-19.^{11,12} It was also observed that health workers showed a decrease in PA level and an increase in the feeling of unhappiness/sadness and musculoskeletal pain.¹³

In another study, physically active workers had a greater feeling of happiness, with PA being recommended as one of the actions to mitigate the effects of physical and mental overload for workers.¹⁴

However, in Brazil, the question is what would be the level of PA and time spent on SB of PHC workers during this period of social isolation? Furthermore, would sociodemographic, health and professional characteristics be associated with these two behaviors?

Therefore, the objective of this study was to analyze the level of PA and the SB of PHC workers in a municipality in Bahia and its association with sociodemographic, professional and health characteristics during the period of social isolation. The hypothesis of the study is that such workers were physically inactive and spent a lot of time on SB. There is also an association between PA, SB and sociodemographic, professional and health variables.

METHOD

Cross-sectional study, approved by the Research Ethics Committee (CAEE

12741219.8.0000.5526), carried out between August 2020 and April 2021.

The study was conducted in a municipality in the south of Bahia, with an estimated population of 212,740 inhabitants and a Human Development Index (HDI) of 0.712, 6^o among the cities in Bahia and above the state average (HDI= 0.660).¹⁵

Study participants

The municipality's PHC is organized into care modules, consisting of 32 Basic Health Units, with 22 Family Health teams, distributed among four care modules.

The target population considered was PHC workers (N=902) from the municipality participating in the study. PHC workers who were working at the time of data collection were included in the study, and workers who did not adequately fill out the form were excluded.

For this study, we sought to contact all target public workers. However, given the circumstances, the study presented a convenience sample that was not representative of the population. The unit coordinators were contacted via phone call to understand the study and asked what would be the best way to disseminate the study among professionals in their unit, respecting the particularities of the units. Contact with workers was later via WhatsApp social group and/or email. Given

social isolation, collection was not carried out in person, making it impossible to calculate refusals since contact with workers was carried out directly or indirectly (via the coordinator).

Data collection and organization

After signing the Informed Consent Form, a self-administered online questionnaire was administered via the Google Forms® platform containing questions as follows:

Sociodemographic factors

The variables were: age (in years), gender (“female” and “male”), ethnicity (“black/brown”, “indigenous”, “white” and “do not know/did not inform”), education (“with higher education” and “without higher education”), income (“up to 3 minimum wages” and “less than 3 minimum wages”) and marital status (“with” and “without spouse”).

Professionals

Variables used were: working hours (“up to 40 hours” and “less than 40 hours”) and function performed in the unit (health or administrative/others).

Lifestyle

The PA level was assessed according to the Canadian 24-hour Guide⁵ and the Ministry of Health's Vigitel⁶ (“meets” or “does not meet” the criteria); time in

SB(“meets” or “does not meet” the criteria during the week and at the weekend)⁵; tobacco consumption (“yes” or “no”)⁶, regular consumption of fruits and vegetables (“yes” or “no”)⁶, regular consumption of soft drinks (“yes” or “no”)⁶ and classification (underweight, normal weight, overweight and obesity) of nutritional status was calculated based on the weight and height values described by the participants.¹⁶

Health data

The following were assessed: Covid-19 infection (“yes” or “no”), high cholesterol level (“yes” or “no”), type 2 Diabetes Mellitus (“yes” or “no”), high blood pressure (“yes” or “no”) and presence of other chronic non-communicable diseases (“yes” or “no”).

Statistical analysis

A descriptive analysis of the data was carried out with measures of central tendency and dispersion (continuous variables) and percentage frequencies

(categorical variables). Using the Shapiro Wilk test, data distribution was verified. To evaluate the association, the Fisher's Exact test was used. Participants were categorized for PA according to compliance with the recommendations of Vigitel⁶ and the Canadian 24-hour Guideline⁵ (GC24H), and GC24H5 for the SB. The data was analyzed in the program IBM SPSS v.25.0 (IBM Corporation, USA), with $p < 0.05$.

RESULTS

The investigated sample of 43 workers (86% women) presented an average of 37.05 ± 9.22 years of age, predominantly with a higher education level (79.1%), living without a spouse (53.5%), with income below 3 minimum wages, working in the health sector and up to 40 weekly working hours (76.7%) (Table 1).

Around 60% were not infected by Covid-19 and more than 80% participants had good nutrition and practice of PA and SB within the criteria recommended by GC24H (Table 1).⁵⁻⁶

Table 1. Participant characteristics (n=43).

Age, mean(SD)	37.05(9.22)
Gender, n(%)	
Female	37(86)
Male	6(14)
Ethnicity, n(%)	
Black/Brown	30(69.8)
Indigenous	1(2,3)
White	11(25.6)
Do not know/did not say	1(2,3)
Education, n(%)	
With higher education	34(79.1)
No higher education	9(20.9)
Income, n(%)	
Up to 3 salaries	23(53.5)
> 3 salaries	20(46.5)
Marital status, n(%)	
With spouse	20(46.5)
No spouse	23(53.5)
Weekly working hours, n(%)	
Up to 40 hours	33(76.7)
> 40 hours	10(23.3)
Function in unit, n(%)	
Health	33(76.7)
Administrative and others	10(23.3)
Physical Activity Level, n(%)	
Meets	42(97.7)
Does not meet	1(2,3)
Time in Sedentary Behavior	
During the week (h/day), average (SD)	5.481(2.744)
Answer*, n(%)	36(83.7)
Does not answer*, n(%)	7(16.3)
During the weekend (h/day), average (SD)	5,360(2,939)
Answer*, n(%)	37(86)
Does not answer*, n(%)	6(14)
Health data	
Was infected by Covid-19, n(%)	17(39.5)
Smoker, n(%)	0(0)
BMI, n(%)	
Under weight	3(7)
Eutrophic	20(46.5)
Obesity	9(20.9)
Overweight	11(25.6)
Food	
Regular consumption of fruits and vegetables, n(%)	35(81.4)
Regular consumption of soft drinks, n(%)	1(2,3)
High cholesterol level, n(%)	11(25.6)
Diabetes, n(%)	1(2,3)
Arterial Hypertension, n(%)	6(14)
Other chronic non-communicable diseases, n(%)	13(30.2)

SD: Standard deviation. BMI: Body Mass Index. *Compliance with the recommendations of GC24H5 and the Ministry of Health.⁶ Of the 55 participants, 12 were excluded for not completing the questionnaires for this study.

Table 2 presents the association between the study covariates and assistance to the Ministry of Health⁶ and GC24H for PA and SB.⁵ A significant association was found between the SB weekend with high

cholesterol levels ($p= 0.029$). For the other covariates, no association was found.

Table 2. Association between covariates and compliance with GC24H for physical activity and sedentary behavior.

	<i>GC24H</i>								
	PA n(%)			SB (during the week) n(%)			SB (weekend) n(%)		
	Meets	Does not meet	<i>p</i> -value	Meets	Does not meet	<i>p</i> -value	Meets	Does not meet	<i>p</i> -value
Gender									
Female	36(83.7)	(2,3)	1,000 ^a	30(69.8)	7(16.3)	0,567 ^a	32(74.4)	5(11.6)	1,000 ^a
Male	6(14)	0(0)		6(14)	0(0)		5(11.6)	1(2,3)	
Ethnicity									
Black/Brown	29(67.4)	1(2,3)	1,000 ^a	27(62.8)	3(7)	0,160 ^a	27(62.8)	3(7)	0,496 ^a
Indigenous	1(2,3)	0(0)		1(2,3)	0(0)		1(2,3)	0(0)	
White	11(25.6)	0(0)		7(16.3)	4(9,3)		8(18.6)	3(7)	
Do not know/did not say	1(2,3)	0(0)		1(2,3)	0(0)		1(2,3)	0(0)	
Income									
Up to 3 salaries	22(51.2)	1(2,3)	1,000 ^a	20(46.5)	3(7)	0,687 ^a	20(46.5)	3(7)	1,000 ^a
> 3 salaries	20(46.5)	0(0)		16(37.2)	4(9,3)		17(39.5)	3(7)	
Marital status									
With spouse	20(46.5)	0(0)	1,000 ^a	18(41.9)	2(4,7)	0,420 ^a	17(39.5)	3(7)	1,000 ^a
No spouse	22(51.2)	1(2,3)		18(41.9)	5(11.6)		20(46.5)	3(7)	
Education									
With higher education	33(76.7)	1(2,3)	1,000 ^a	28(65.1)	6(14)	1,000 ^a	29(67.4)	5(11.6)	1,000 ^a
No higher education	9(20.9)	0(0)		8(18.6)	1(2,3)		8(18.6)	1(2,3)	
Weekly working hours									
Up to 40 hours	33(76.7)	0(0)	0,233 ^a	28(65.1)	5(11.6)	0,656 ^a	29(67.4)	4(9,3)	0,611 ^a
> 40 hours	9(20.9)	1(2,3)		8(18.6)	2(4,7)		8(18.6)	2(4,7)	
Function in the unit									
Health	32(74.4)	1(2,3)	1,000 ^a	28(65.1)	5(11.6)	0,656 ^a	28(65.1)	5(11.6)	1,000 ^a
Administrative and others	10(23.3)	0(0)		8(18.6)	2(4,7)		9(20.9)	1(2,3)	
Infected by Covid-19									
Yes	16 (37.2)	1(2,3)	0,395 ^a	14(32.6)	3(7)	1,000 ^a	14(32.6)	3(7)	0,666 ^a
No	26 (60.5)	0(0)		22(51.2)	4(9,3)		23(53.5)	3(7)	
BMI									
Under weight	3(7)	0(0)	0,279 ^a	2(4,7)	1(2,3)	0,643 ^a	3(7)	0(0)	0,829 ^a

eutrophic	20(46.5)	0(0)		16(37.2)	4(9,3)		17(39.5)	3(7)	
Obesity	8(18.6)	1(2,3)		8(18.6)	1(2,3)		7(16.3)	2(4,7)	
Overweight	11(25.6)	0(0)		10(23.3)	1(2,3)		10(23.3)	1(2,3)	
Consumption of fruits/vegetables/greens									
Yes	35(81.6)	0(0)	0,186 ^a	30(69.8)	5(11.6)	0,597 ^a	31(72.1)	4(9,3)	0,308 ^a
No	7(16.3)	1(2,3)		6(14)	2(4,7)		6(14)	2(4,7)	
Soda consumption									
Yes	1(2,3)	0(0)	1,000 ^a	1(2,3)	0(0)	1,000 ^a	1(2,3)	0(0)	1,000 ^a
No	41(95.3)	1(2,3)		35(81.6)	7(16.3)		36(83.7)	6(14)	
High cholesterol level									
Yes	11(25.6)	0(0)	1,000 ^a	9(20.9)	2(4,7)	1,000 ^a	7(16.3)	4(9,3)	0,029 ^a
No	31(72.1)	1(2,3)		27(62.8)	5(11.6)		30(69.8)	2(4,7)	
Diabetes									
Yes	0(0)	1(2,3)	1,000 ^a	0(0)	1(2,3)	0,163 ^a	0(0)	1(2,3)	0,140 ^a
No	41(95.3)	1(2,3)		36(83.7)	6(14)		37(86)	5(11.6)	
Arterial hypertension									
Yes	6(14)	0(0)	1,000 ^a	5(11.6)	1(2,3)	1,000 ^a	5(11.6)	1(2,3)	1,000 ^a
No	36(83.7)	1(2,3)		31(72.1)	6(14)		32(74.4)	5(11.6)	
Chronic non-communicable disease									
Yes	13(30.2)	0(0)	1,000 ^a	11(25.6)	2(4,7)	1,000 ^a	9(20.9)	4(9,3)	0,058 ^a
No	29(67.4)	1(2,3)		25(58.1)	5(11.6)		28(65.1)	2(4,7)	
Status for PA									
Meets	-	-	-	35(81.6)	7(16.3)	1,000 ^a	36(83.7)	6(14)	1,000 ^a
Does not meet	-	-		1(2,3)	0(0)		1(2,3)	0(0)	

^a: Fisher's Exact Test. PA: Physical activity. SB: Sedentary behavior. BMI: Body Mass Index.

DISCUSSION

The present study evaluated the lifestyle for PA and the SB in PHC workers and their associations with sociodemographic, professional, lifestyle and disease factors during the period of social isolation resulting from the Covid-19 pandemic in a municipality in southern Bahia. The workers participating in the study presented scores of PA and SB within the recommended standards^{5,6}, with an association observed between the SB on the weekend and high cholesterol levels.

In line with this, Dayoub and Jena¹⁷ found a lower presence of unhealthy behaviors, such as SB, among health professionals compared to the general North American population. This result can be explained by several factors, and it has often been highlighted that this possibly occurs due to the greater knowledge of such professionals about behaviors that are beneficial to health.¹⁷

The results related to PA were similar to what was observed in a study carried out in the period before the pandemic with health professionals, which identified an association between having higher education and adhering to guidelines for PA practice.¹⁸

In the case of PHC health workers, in addition to individual improvement, it stands out the potential to disseminate information

to their patients; therefore, the lack of PA practice and reduction of SB may be related to the reduction in guidance for these practices. In the study by Hidalgo et al.⁸, for example, the need for healthcare workers to exhibit active lifestyle behaviors was observed to feel safer and more prepared to guide their patients. In another study, community agents with healthy behaviors, such as practicing PA and the consumption of healthy food, increased the prevalence of counseling for the PA practice.¹⁹

Regarding the association, the findings of the present study indicate that workers with high cholesterol levels were associated with longer periods of SB on the weekend, corroborating with studies carried out before social isolation on SB and lipid levels⁴, which demonstrate that spending less time in sedentary behaviors, together with regular practice of intense PA, are associated with a more favorable blood cholesterol level. It is noteworthy that low-density lipoprotein (LDL) cholesterol is a global burden as its high values have increased the number of deaths and disability-adjusted life years and, furthermore, that the problems arising from it increase as the increase in age.²⁰

In view of this, it is essential to develop a program that addresses the issue of PA and also the interruption of SB in such professionals, providing them with

knowledge and experience so that they can act as multipliers for their community.

CONCLUSIONS

The results of the present study indicate that, during the period of application of the research questionnaires, PHC workers were physically active and with low levels of SB. Still, that the SB on the weekend was associated with high cholesterol levels, emphasizing the need to reduce sedentary behaviors during this period of the week.

As a limitation of the study, the impossibility of extrapolating the data to the target population stands out given the low number of participants and the application of the questionnaire online. Both limitations may have been due to the historical moment experienced at the time of data collection, where social isolation occurred.

However, the study presents potential such as analyzing the lifestyle behavior of PHC workers at a time not yet experienced before. The second is that it was already a topic that was little investigated even before the pandemic, highlighting the care that such workers take in maintaining standards within the recommended guidelines. And the study evaluated a sample of health workers from a region of the country where information about risk behaviors and their relationships with negative health outcomes

is still scarce, especially when it comes to the pandemic period.

Finally, studies like this contribute to knowledge about the health of health workers, so that there is an expanded view on the subject, enabling the creation of new studies and health promotion strategies and awareness about the benefits of PA and reduction of SB both for workers and for the community that will benefit from such knowledge/behaviors.

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